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

January 12, 2021

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

RE: Notice of Exempt Modification
500 Moose Hill Rd., Monroe, CT 06468
Latitude: 41.320966
Longitude: -73.201422
T-Mobile Site #: CT11664C_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 121-foot level of the existing 150-foot Monopole Tower at 500 Moose Hill Rd., Monroe, CT. The 150-foot tower is owned by SBA Towers II LLC. The property is owned by St. John's Greek Catholic Cemetery Association, Inc. T-Mobile now intends to remove and replace all nine (9) antennas with new 700/600/1900/2100/2500 MHz antennas.

The new antennas support 5G services and would be installed at the 121-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) Ericsson AIR21 B2P/B4A (2100 MHz) antenna (Remove) – (3) Ericsson AIR32 KRD901146-1 (2100/1900 MHz) antenna (Replace)
- (3) Ericsson AIR21 B2P/B4P (1900/2100 MHz) antenna (Remove) – (3) Ericsson AIR6449 B41 (2500 MHz) antenna (Replace)
- (3) LNX-6515DS-A1M (700 MHz) antenna (Remove) – (3) RFS APXVAALL24_43-U-NA20 (700/600/1900/2100 MHz) antenna (Replace)
- (3) Ericsson S11B12 RRU (Remove) – (3) Ericsson 4415 B25 RRU (Replace)

Install New:

- (3) Commscope SDX1926Q-43 –Quadplexers
- (3) Ericsson Radio 4449 B71+B12 RRUs
- Handrail Kit (SitePro HRK12)
- (2) 1-5/8" Fiber

Existing Equipment to Remain:

- (3) Ericsson KRY 112 144/2 – TMAs
- Low Profile Platform w/Kicker
- (6) 1-5/8" coax
- (1) 1-5/8" fiber

Entitlements:

- (6) 1-5/8" fiber

GROUND

Install New:

- Ericsson B160 Battery Cabinet on existing concrete pad
- Radio Equipment within existing RBS6131 Equipment Cabinet

Remain:

- 1/2" Coax for GPS
- RBS 6131 Equipment Cabinet

Entitlements:

- (1) 1-5/8: coax for GPS antenna

This facility was approved by the Council under Docket No. 207 on March 21, 2002. Approval was given for a monopole not to exceed a height of 130 feet above ground level. Under Petition No. 628T dated June 19, 2003, approval was given to Sprint Spectrum L.P. to extend the Tower by twenty-feet (attached). The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration. If the facility does not initially provide or ceases to provide cellular services, the tower shall be dismantled along with all associated equipment. 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 Monroe's First Selectman, Ken Kellogg, and Chief Building Official Gunner Gaylord, as well as to the property owner, St. John's Greek Catholic Cemetery Association, Inc. (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, 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
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
508.868.6000 + C
GShepherd@sbasite.com

Attachments
cc: Ken Kellogg, First Selectman / with attachments
Monroe Town Hall, 7 Fan Hill Rd., Monroe, CT 06468
Gunner Gaylord, Chief Building Official / with attachments
Monroe Town Hall, 7 Fan Hill Rd., Monroe, CT 06468
St. John's Greek Catholic Cemetery Association, Inc. / with attachments
50 Paradise Green Place Stratford, CT 06614

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	Cert. of Occupancy Town of Monroe dated 9/4/02, CSC Docket NO. 207 dated 3/21/02, Town of Monroe P&Z Permits 13-75-S & 34-95-S dated 6/6/02. Petition 628T
Exhibit 6	Construction Drawings	Chappell Engineering 12/14/20
Exhibit 7	Structural Analysis	TES 12/9/20
Exhibit 8	Mount Analysis	TES 1/12/21
Exhibit 9	EME Report	Transcom Engineering 12/31/20

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

500 MOOSE HILL RD

Location	500 MOOSE HILL RD	**Map/Lot**	051/ 067/ 0C/ /
Acct#	0510670C	**Owner**	ST JOHN THE BAPTIST GREEK CATHOLIC CEM
Assessment	$928,000	**Appraisal**	$1,325,700
PID	8045	**Building Count**	1
Survey	2806 2859	**Affordable**	

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$97,300	$1,228,400	$1,325,700

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$68,100	$859,900	$928,000

Owner of Record

Owner	ST JOHN THE BAPTIST GREEK CATHOLIC CEM	**Sale Price**	$0
Co-Owner	ASSOC INC	**Certificate**	1
Address	50 PARADISE GREEN PL STRATFORD, CT 33487	**Book & Page**	176/ 349
		Sale Date	08/01/1978
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
ST JOHN THE BAPTIST GREEK CATHOLIC CEM	$0	1	176/ 349		08/01/1978

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0

Building Attributes

Field	Description
Style	Vacant Land
Model	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces	
Wdstv Flues	
Basement Gar.	
Attic	
Basement	
In Law Apt	

Building Photo

(http://images.vgsi.com/photos/MonroeCTPhotos//\00\01\37/67.jpg)

Building Layout

(http://images.vgsi.com/photos/MonroeCTPhotos//Sketches/8045_8045.jpg

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	906V
Description	Church

Land Line Valuation

Size (Acres)	52.42
Appraised Value	$1,228,400

Zone	RF1
Neighborhood	Monroe
Alt Land Approved	No
Category	

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR7	Garage +.5s Fin			1920 S.F.	$66,200	1
PA1	ASPHALT PARKING			6000 S.F.	$9,000	1
RS1	Frame Utility Shed			360 S.F.	$8,100	1
RS1	Frame Utility Shed			240 S.F.	$5,400	1
RS1	Frame Utility Shed			216 S.F.	$4,900	1
FN1	FENCE CHAIN			350 L.F.	$3,700	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$97,300	$1,228,400	$1,325,700
2019	$97,300	$1,228,400	$1,325,700
2018	$60,500	$1,228,400	$1,288,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$68,100	$859,900	$928,000
2019	$68,100	$859,900	$928,000
2018	$42,400	$859,900	$902,300

EXHIBIT 4

Town of Monroe

Map Title

Legend

- Parcels
- Streetname
- Roadways
  - Local
  - Collector
  - Minor Collector
  - Minor Arterial
  - Major Collector
  - PA Other
  - PA Other Expwy
  - PA Interstate

1,135.6 0 567.79 1,135.6 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

METROCOG
Connecticut Metropolitan Council of Governments

EXHIBIT 5

SITE NAME: MOOSEHILL SITE ID: CT13056-A

Transaction: Optasite 002-0002

ZONING/PERMITTING COMPLETION FORM

Address: 500 Moosehill Rd., Monroe, CT 6468

Jurisdiction: Town of Monroe Zoning District: RD

Zoning Approval Type: Special Exception Permit Case #:

Approval Date: 6/6/2002 Approved Height: 130' Tower Build Date:

If tower is destroyed or drop/swap required, tower can likely be rebuilt? ☐ YES ☐ NO

Conditions of Approval:

	Yes	No	N/A
Removal Bond	☐	☑	☐
Site Plan Submittal	☐	☑	☐
Fall Zone	☐	☑	☐
Periodic Inspections	☐	☑	☐
Periodic Reporting	☐	☑	☐
Approval Renewal	☐	☑	☐
Additional Conditions North side of compound to be landscaped; fence - pressure treated wood set in concrete or black vinyl weave chain link Mylar copy of plans to be provided. Tower owner to notify PZ Dept of ownership change.	☑	☐	☐

JURISDICTION POC/DEPT.

Planning/Zoning:

Phone: Fax:

Bldg./Code Enforcement: Jack Brandt

Phone: 203-452-5470 Fax:

Submitted by: Date:

Zoning Compliance

TO BE COMPLETED BY CORPORATE

	Yes	No	N/A	
Zoning Approval Attached (required)	☑	☐	☐	
Ordinance Attached (required)	☐	☑	☐	
Building Permit Attached (required) #7642	☑	☐	☐	Date Recd 6/7/2002
Certificate of Occupancy or Compliance (CO) attached (required)	☑	☐	☐	8/4/02

Zoning Manager Approval: DE Borchardt Date 8/20/2008

Diane E. Borchardt, AICP

April 27, 2007

BUILDING INSPECTION DEPARTMENT

MONROE, CONNECTICUT

CERTIFICATE OF OCCUPANCY OR USE

Zone PC Dated 9/4/2002

This is to certify that the building or structure at 500 Moose Hill Road

as Constructed under permit number # 7642 LOT number # 5

conforms substantially to the requirements of the Building Code of the Town of Monroe and is hereby approved for occupancy or use as indicated below.

Approved for occupancy or use Erect 190 Foot Tall Tower and Block Utility Building and Fence

Building Use Group U Date typed 8/8/2002 P&Z # 11021

Below are each individual Town Department's acknowledgments of satisfactory completion of requirements when applicable.

Planning & Zoning ..... **Dated** .....

Sanitarian ..... **Dated** 8/16/02

Public Works ..... **Dated** .....

Fire Marshal ..... **Dated** 8/30/02

Inland/Wetlands ..... **Dated** 9/4/02

Historic Comm. ..... **Dated** .....

Building Official .....

Notice--If this certificate is lost or destroyed, a duplicate may be obtained from the Building Department. Any changes or extension of the use herein approved requires a new certificate of occupancy.

co2.doc

Petition No. 628T
Sprint Spectrum L.P.
500 Moose Hill Road
Monroe, Connecticut
June 19, 2003
***Revised* Staff Report**
~~~

On May 16, 2003, Sprint Spectrum L.P. (Sprint) submitted a petition to the Connecticut Siting Council (Council) for a determination that no Certificate of Environmental Compatibility and Public Need would be required for the proposed extension of this tower by 20 feet because this proposed modification would not have an substantial adverse environmental effect. On May 27, 2003, Edward S. Wilensky of the Council and Robert K. Erling of the Council staff met Laura A. McGeachy of Cacace, Tusch and Santagata, Christopher K. Daddi of Dewberry-Goodkind, Inc., Tony Wells of Sprint and Tom Nolan of Connecticut Architectural Towers (CAT) for a field review of this petition.

Sprint proposes to extend the height of this tower, which is owned by CAT, and approved by the Council in Docket No. 207, from its existing height of 130 feet to a new height of 150 feet in order to accommodate Sprint antennas at a centerline level of 147.5 feet above ground level (AGL). AT&T currently has its antennas at 127.5 feet AGL and Voicestream at 117.5 feet AGL on this tower. If Sprint's petition is approved by the Council, another telecommunications provider may be interested in co-locating at 140 feet AGL.

During the field review, members of the field review team requested that Sprint notify all abutting property owners of St. John's Cemetery of this petition and also provide radio frequency propagation plots for antennas mounted at 107.5 feet and 137.5 feet for this tower. On May 29, 2003, Sprint sent all abutting property owners notice of this petition. To date, Sprint has received one telephone response on the petition, from a resident who was not opposed to the project but had concerns about a right-of-way adjacent to his property on Wheeler Road. Sprint informed him that it would not use this right-of-way, but rather use the existing access way to the tower from Moose Hill Road.

Sprint's coverage maps indicate coverage from antennas mounted at 107.5 feet AGL would leave coverage gaps along Route 110 and Route 111. Antennas mounted at 137.5 feet AGL would leave some gaps along Route 111 north of Route 110 and Route 110 north of the site. Coverage from antennas mounted 147.5 feet AGL would be satisfactory in these areas.

Sprint also performed a visual analysis of how the 20-foot extension would be perceived from surrounding areas. The nearest home is approximately 600 feet to the east. The tower itself sits on a 53.27-acre parcel of land owned by the St. John the Baptist Greek Catholic Cemetery Association, Inc. The viewshed analysis indicates the 130 foot tower is currently visible over an area of approximately 25 acres, while the proposed 150-foot tower would be visible to approximately 28 acres. The extension would be partially visible during the winter months from intermittent areas along Wheeler Road, Moose Hill Road, and Cross Hill Road.

Sprint would add its equipment cabinets inside the existing fenced 80-foot by 100-foot compound. During the field review, staff noted that the previous owner of the tower had left the 20-foot extension of the tower on the ground outside the fenced compound, along with barrels of equipment for the tower. Staff recommends that all of this material be removed from this area as soon as possible, regardless of the disposition of his petition.

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Daniel F. Caruso,
Chairman

S. Derek Phelps,
Executive Director

Phone: (860) 827-2935
Fax: (860) 827-2950

E-mail Address:
siting.council
@ct.gov

DOCKET NO 207 - James E Dwyer Co., Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a cellular telecommunications facility at 500 Moose Hill Road, Monroe, Connecticut. MOOSE HILL	Connecticut Siting Council March 21, 2002

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility at the proposed site in Monroe, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to James E Dwyer Co., Inc. for the construction, maintenance and operation of a cellular telecommunications facility at the proposed site located at 500 Moose Hill Road, Monroe, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole facility, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T and other entities, both public and private, but such tower shall not exceed a height of 130 feet above ground level (AGL).

2. The Certificate Holder shall prepare a D&M Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for site development to include the location and specifications for the tower foundation, placement of carrier antennas, tower height, provisions for tower extension, equipment buildings, security fence, access road, and utility line; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; landscaping and provisions to protect the existing vegetative buffer that would extend around the facility compound; a tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies. The applicant must have commitments from at least two carriers prior to commencement of construction of the facility.

3. The Certificate Holder shall, prior to the commencement of operation,

provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or Federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. If the facility does not initially provide, or permanently ceases to provide cellular services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antenna becomes obsolete and ceases to function.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed and the site in operation as a telecommunications facility within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant and The Advocate.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

James E. Dwyer Co., Inc.
(Dwyer)
Dennis Morrissey, P.E
Attorney at Law
106 Sherman Street
Fairfield, CT 06430

Town of Monroe

PLANNING AND ZONING DEPARTMENT
- Planning and Zoning Commission
- Zoning Board of Appeals
- Zoning Enforcement Officer

FILE COPY

June 21, 2002

Mr. Richard Adzima
St. John the Baptist Greek Cemetery Association, Inc.
50 Paradise Green Place
Stratford, CT 06414

Mr. John Dwyer
James E. Dwyer Company, Inc.
106 Sherman Street
Fairfield, CT 06430

Re: **Special Exception Permit - 500 Moose Hill Road**

Gentlemen:

Please be advised that the Town Planning & Zoning Commission, at its regular meeting of June 6, 2002, voted **to approve** your application for James E. Dwyer Company, Inc., and St. John The Baptist Church, for a special exception permit at 500 Moose Hill Road.

The Commission has voted to approve the application for modification of special exception permit numbers 13-75-S ands 34-95-S, for revision of approved site improvements plan to incorporate a wireless communication facility ("Facility") at 500 Moose Hill Road as presented at the public hearing of May 30, 2002. This action was taken based upon the following reasons, conclusions and appended conditions.

The Commission finds that the applicant has demonstrated that the proposed modification meets the standards and conditions for such found in Article XVIII of the Zoning Regulations of the Town of Monroe. The following more specifically supports such finding:

1. The Commission finds in regard to the general conditions for a special exception permit in the zone and at the location the applicants have minimally sustained a burden of proof by the following reasons::

    a) the proposal is generally consistent with the intent of §8-2, CGS, and the requirements of the zoning regulations pertaining to the conditions of Article 18 for a special exception permit.

2. The Commission finds in regard to the specific conditions for a special exception permit in the zone and at the location the applicants have minimally sustained a burden of proof by the following:

   a) the Commission recognizes that no Facility incorporating a tower structure is either architecturally or aesthetically pleasing and understands the conclusions and opinions of the general public regarding location and appearance. The Commission also recognizes its obligations under state and federal law that such Facilities must be permitted and provided for. The process of location of facilities represents a delicate balancing act, which will result in a degree of public dissatisfaction; however, the end result must weigh considerably to benefit the substantial public interest, which in the pending application it does, therefore, with that realization in mind the Commission finds that the use, building, structures and improvements will not be detrimental to the health safety, and welfare in the neighborhood and will be in harmony with and conform to the appropriate orderly development of the town, and further, upon completion of improvements the proposal will have no significant detrimental impact upon the environment,

   b) due to the low volume of activity associated with the modification the streets serving the use are adequate to carry prospective traffic and provision is made, both through the application and the following conditions of approval, for entering and leaving the property in such a manner that no new traffic hazards will be created and existing off street parking facilities are provided,

   c) with the incorporation of additional requested buffer the property (Facility) will be suitably landscaped, and the proposed design of buildings, structures and appurtenances will be adequate to preserve the appearance and character of the neighborhood,

   d) the lot is of sufficient size and adequate dimension to permit construction of facilities and conduct of the use in such a manner as will not be detrimental to the neighborhood,

   e) the area for the maneuvering of vehicles will be paved to the satisfaction of the Commission, and,

   f) as no exterior lighting is proposed it is not a factor in consideration of the proposal.

FURTHER, the approval is given subject to the following specific conditions:

1. The following plans presented at the hearing May 30, 2002, including revisions and additions herein specified by the Commission, shall be the approved plans of record and basis of approval:

   "Zoning Location Survey, prepared for John G. Dwyer, Moose Hill Road, Monroe, Connecticut," dated 4/5/02, by Paul A. Brautigam, RLS.

   "Site Plan, Notes, and Details," dated 4/8/02, by Mark E. Lancor, PE.

2. The approval of this special exception permit shall not be substituted for or supersede previous permit approvals related to this facility. All previous permits remain in full force and effect except as herein modified.

3. Along the north side of the facility fence the applicants shall install a landscape buffer meeting the following specification:

   Two rows of evergreen white pine trees of a minimum one and on half (1½) inches caliper, or five (5) feet in height (whichever is greater) planted fifteen (15) feet apart, staggered in adjoining rows.

4. No lighting shall be shall be placed within the facility except emergency work lights to be used only when active maintenance is being performed.

5. Install a gate or other lockable, movable barrier at the present end of pavement which shall be locked at all times when the facility is not actively being worked on.

6. The gravel access drive beyond the gate shall give access only to the facility.

7. The fence detail shall provide for pressure treated wood set in concrete with a concrete or paved "wash" to minimize rot and deterioration. In the alternative, a chain link fence may be installed utilizing a vinyl weave colored black.

8. The plans shall be revised to incorporate and address all conditions specified herein. A mylar copy of the plan shall be provided for endorsement by the Commission and recording in the Monroe Land Records both reflecting the said conditions and improvements when constructed ("as-built").

9. Provision of copies of plans, details and/or specifications, as may be required by Town and State agencies from time to time.

10. Should this action be the subject of appeal to the courts, no time limit specified herein shall begin to run until such litigation is fully concluded (date of final court action).

11. The effective date of the modified special exception permit shall be the date of recording in the Monroe Land Records. It shall be the responsibility of the applicant to record the special exception permit document (prepared by the Planning and Zoning Department) in the Monroe Land Records. Failure to record said document within ninety (90) days of the date of approval shall render the approval null and void.

12. Failure to meet any specified condition of this approval or maintain compliance with applicable local, state or federal ordinance, regulation or laws may result in the ordered suspension of construction authorizations until such time as such failure or noncompliance has been satisfactorily resolved.

13. Should any changes in site plan be contemplated, they shall be submitted to the Commission for review. Should any changes be considered as major or substantial changes, they shall be applied for under a special exception permit application to modify the approved site plan. Minor changes are considered by the Commission as those, which do not change the substance, impact, or general locations involved in the proposal and may be authorized by the Commission after appropriate review.

Mr. Richard Adzima
Mr. John Dwyer
June 21, 2002

14. It is the responsibility of the owner/developer to notify the Planning and Zoning Department of any change in the status of ownership and/or contractor(s) and/or professional design or inspection consultant involved in the proposal. Additionally, it is the responsibility of the owner/developer to notify any new owner and/or contractor(s) and/or consultants of all construction requirements including all job meeting notes and inspection notes produced up to the date of any such change in project related personnel.

15. This permit and all conditions specified herein shall be binding in perpetuity upon the applicant and property owner and his (their) heirs, assigns and successors unless otherwise amended by a subsequent act of the Commission.

16. This permit and all conditions specified herein shall be binding in perpetuity upon this parcel and premises unless otherwise amended or invalidated under the terms of this approval or a subsequent act of the Commission.

A notice of special exception will be prepared by this office for filing in the Monroe Land Records. That document will be held in this office until such time as you or your representative appear to file it with the Monroe Town Clerk.

Enclosed please find a copy of the legal notice of decision.

Very truly yours,

Daniel A. Tuba
Town Planner
Clerk of the Commission

DAT:cd
Enclosure

cc: St. John the Baptist Cemetery Assoc.
Dymar, Inc.
Frank Kascak, Assessor
James Sandor, Chief Building Official
Jack Brandt, Zoning Enforcement Officer
Sherwood Lovejoy, D.P.W.
John Salvatore, Chief of Police

CMRRR: 7099 3220 0008 3393 5728 (Dwyer)
CMRRR: 7099 3220 0008 3393 5445 (Adzima)

EXHIBIT 6

ST. JOHN'S CEMETARY

500 MOOSE HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

SITE NO.: CT11664C

RF DESIGN GUIDELINE: 67D5A997DB OUTDOOR

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

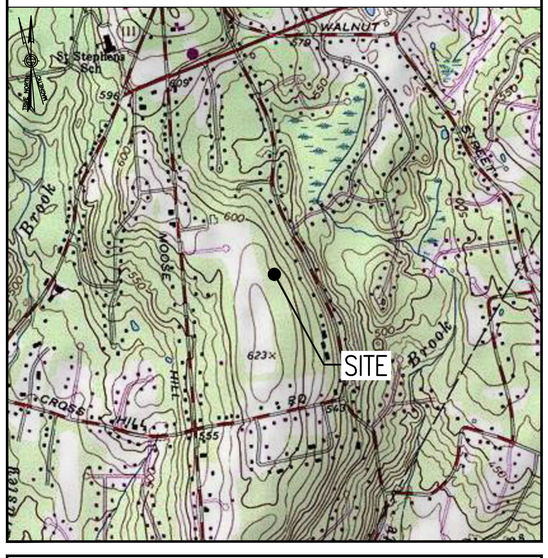
GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

TURN LEFT ONTO S WASHINGTON ST. TURN RIGHT ONTO MA-123 E. TURN LEFT TO MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. MERGE ONTO I-495 NORTH. TAKE EXIT 13B TO MERGE ONTO I-95 SOUTH TOWARD PROVIDENCE RI. KEEP LEFT TO STAY ON I-95 SOUTH. TAKE EXIT 38 FOR STATE 15 TOWARD MERRITT PARKWAY/WILBUR CROSS PARKWAY. MERGE ONTO MILFORD PARKWAY. TAKE CT-15 SOUTH EXIT ON THE LEFT. MERGE ONTO CT-15 SOUTH/MERRITT PARKWAY. TAKE EXIT 49 TO MERGE ONTO CT-25 NORTH TOWARD DANBURY. TAKE EXIT 9 FOR DANIELS FARM ROAD. TURN RIGHT ONTO DANIELS FARM ROAD. SLIGHT LEFT ONTO MOOSE HILL ROAD. SITE WILL BE ON THE RIGHT.

SHEET INDEX

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT SUMMARY

SITE NUMBER:	CT11664C
SBA SITE NUMBER:	CT13056-A
SBA SITE NAME:	MOOSEHILL
SITE ADDRESS:	500 MOOSE HILL ROAD MONROE, CT 06468
PROPERTY OWNER:	ST. JOHN THE BAPTIST GREEK CATHOLIC CEM. 50 PARADISE GREEN PLACE. STRATFORD, CT 33487
TOWER OWNER:	SBA INFRASTRUCTURE, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	FAIRFIELD
ZONING DISTRICT:	RF1 (RESIDENTIAL & FARMING DISTRICT 1)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	150'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SRoth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.321249° N41°19'16.50" LONGITUDE W.73.201355° W73°12'04.88"

SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

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

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
12/4/20

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/14/20	ISSUED FOR CONSTRUCTION	CMC
0	12/02/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11664C

SITE ADDRESS:
500 MOOSE HILL ROAD
MONROE, CT 06468

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.163

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

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.

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

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

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 FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND 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 AND/OR LANDLORD PRIOR TO CONSTRUCTION.

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 THE OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. 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.

17. THE EXISTING CELL SITES ARE 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.

18. IF THE EXISTING 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 TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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No. 25937
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PROFESSIONAL CIVIL ENGINEER
12/14/20

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/14/20	ISSUED FOR CONSTRUCTION	CMC
0	12/02/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11664C

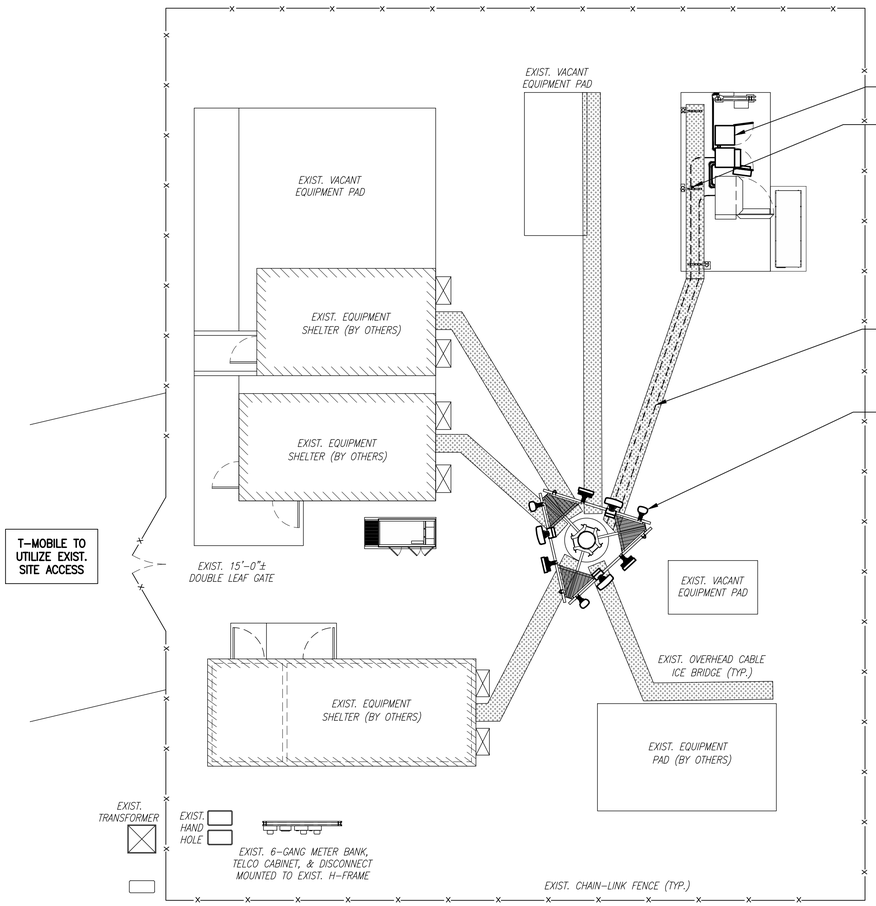
SITE ADDRESS:
500 MOOSE HILL ROAD
MONROE, CT 06468

SHEET TITLE
GENERAL NOTES

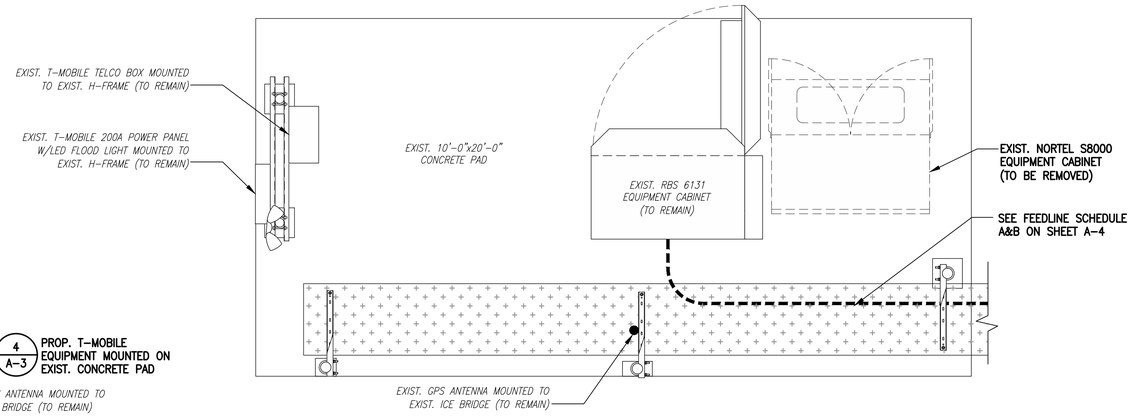
SHEET NUMBER
GN-1

1815.163

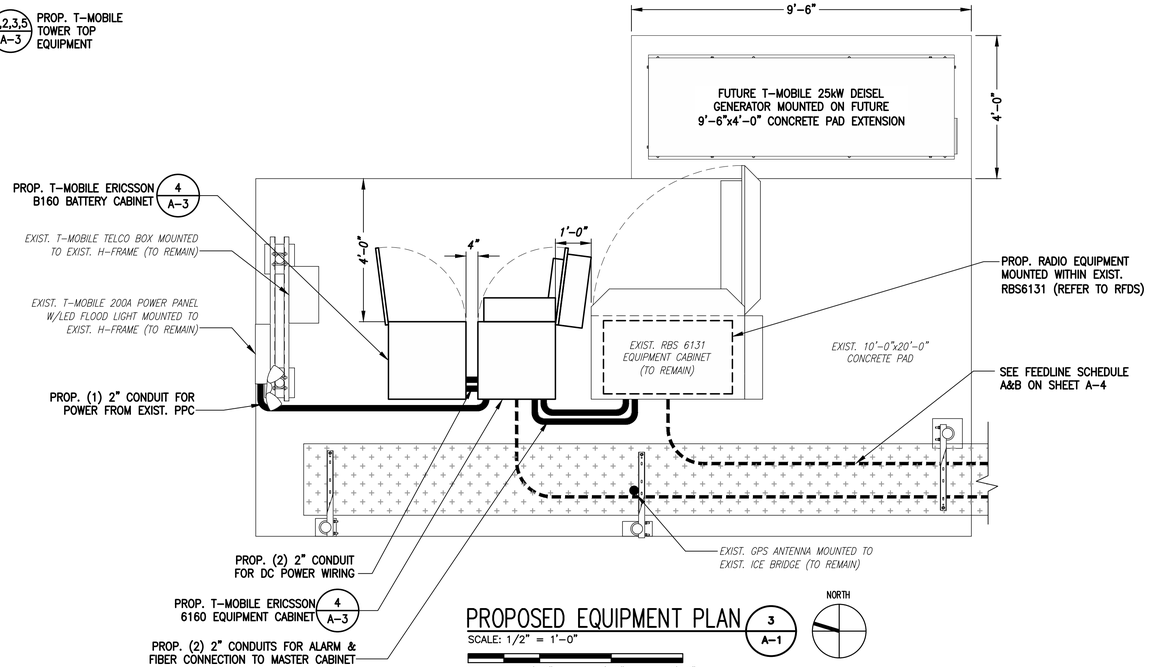
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY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



COMPOUND PLAN 1 A-1
SCALE: 1" = 8'-0"
0 8'-0" 16'-0 24'-0"



EXISTING EQUIPMENT PLAN 2 A-1
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 6'-0"
NORTH



PROPOSED EQUIPMENT PLAN 3 A-1
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 6'-0"
NORTH

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
12/14/20

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

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1	12/14/20	ISSUED FOR CONSTRUCTION	CMC
0	12/02/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
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SITE ADDRESS:
500 MOOSE HILL ROAD
MONROE, CT 06468

SHEET TITLE
COMPOUND & EQUIPMENT PLAN

SHEET NUMBER
A-1

1815.163

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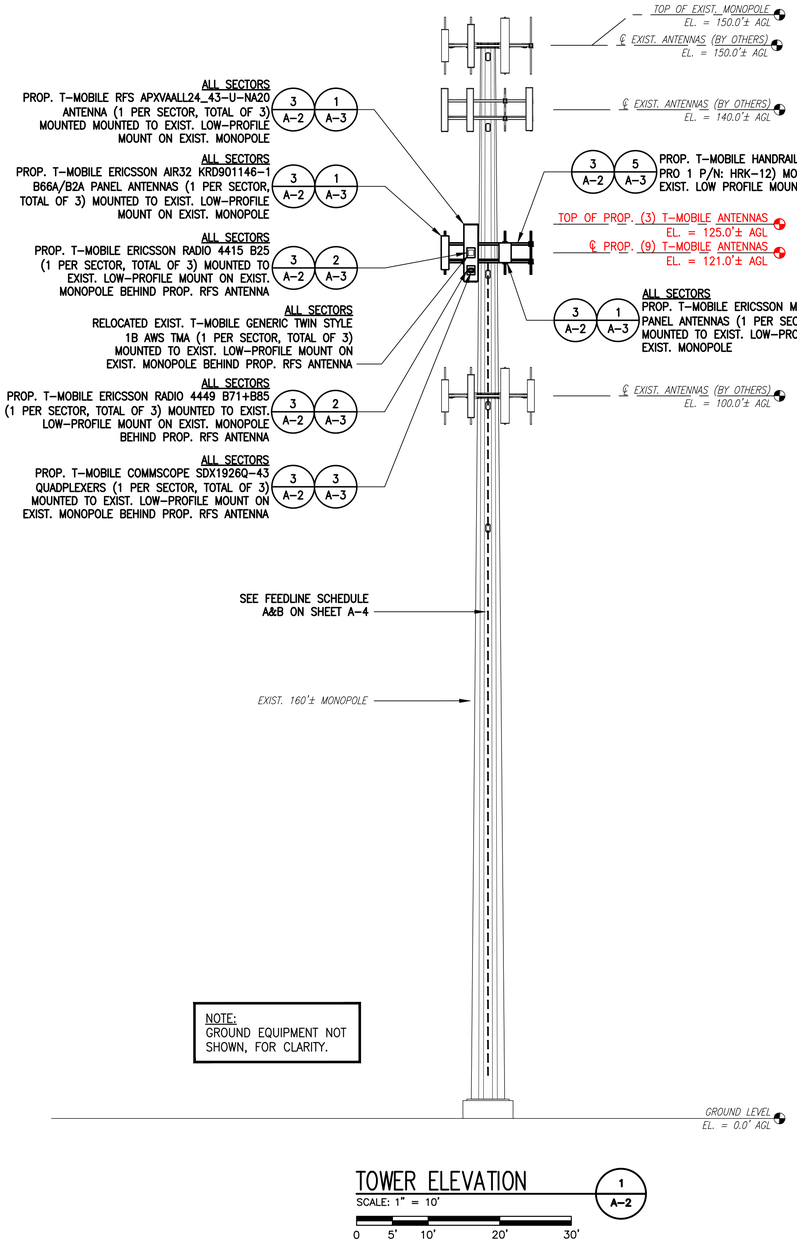
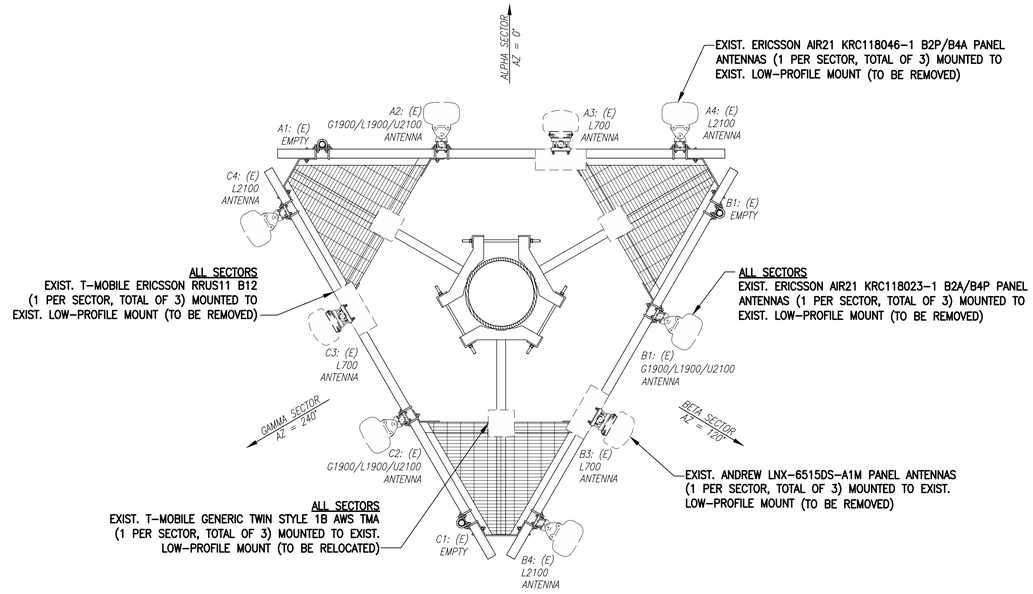
RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.

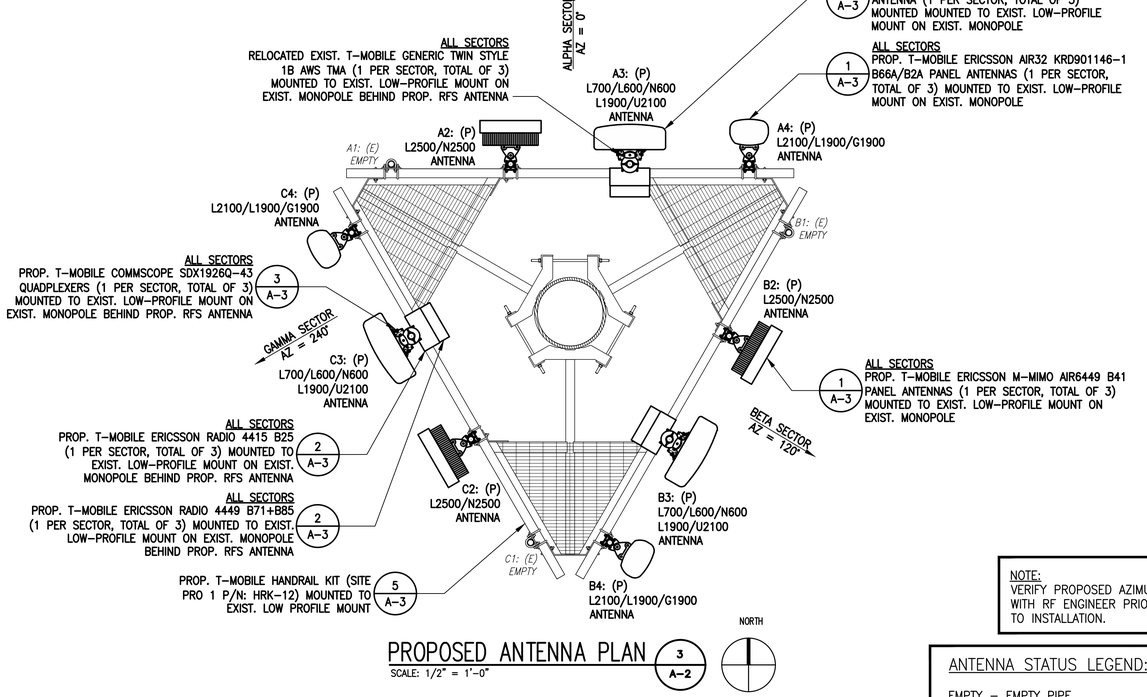


NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION 1 A-2
SCALE: 1" = 10'
0 5' 10' 20' 30'



EXISTING ANTENNA PLAN 2 A-2
SCALE: 1/2" = 1'-0"
NORTH



PROPOSED ANTENNA PLAN 3 A-2
SCALE: 1/2" = 1'-0"
NORTH

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

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STATE OF CONNECTICUT ★ JAMES M. FITZGERALD ★ No. 25997 LICENSED PROFESSIONAL CIVIL ENGINEER
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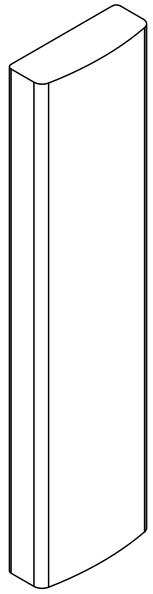
SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

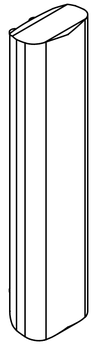
SHEET NUMBER
A-2

1815.163



RFS APXVAALL24_43-U-NA20 ANTENNA

DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
WEIGHT: 128.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3



ERICSSON AIR32 KRD901146-1
B66A/B2A ANTENNA

DIMENSIONS: 56.6"H x 12.9"W x 8.7"D
WEIGHT: 132.2 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ERICSSON M-MIMO AIR6449
B41 ANTENNA

DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS
SCALE: N.T.S.
1 / A-3

ERICSSON RADIO 4415 B25

DIMENSIONS: 16.5"H x 13.4"W x 5.9"D
WEIGHT: 46.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ERICSSON RADIO 4449 B71+B85

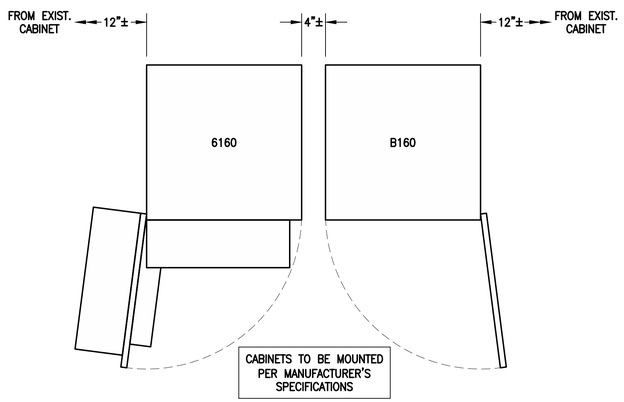
DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
WEIGHT: 74.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS
SCALE: N.T.S.
2 / A-3

COMMSCOPE SDX1926Q-43
QUADPLEXER

DIMENSIONS: 4.2"H x 6.9"W x 2.9"D
WEIGHT: 6.2 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

DIPLEXER DETAIL
SCALE: N.T.S.
3 / A-3



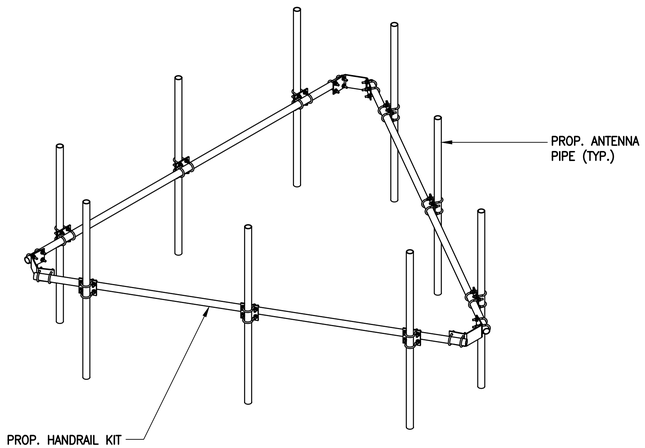
ERICSSON 6160 SITE
SUPPORT CABINET

DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

ERICSSON B160
BATTERY CABINET

DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL
SCALE: N.T.S.
4 / A-3



NOTE:
ANTENNAS & ANTENNA MOUNT NOT SHOWN, FOR CLARITY.

SITE-PRO HANDRAIL KIT
PART NUMBER: HRK12

HANDRAIL DETAIL
SCALE: N.T.S.
5 / A-3

T-MOBILE
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SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.163

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 ERICSSON M-MIMO AIR6449 B41	121'± AGL	0°	0°	10°	L2500/N2500	–	(6) 1-5/8" COAX CABLES (1) 1-5/8" (6x12) HCS FIBER CABLES **(2) 1-5/8" (6x12) HCS FIBER CABLES**
	A2 RFS APXVAALL24_43-U-NA20	121'± AGL	0°	0°	10°	L700/L600/N600	RADIO 4449 B71+B85	
					10°	L1900/U2100	RADIO 4415 B25	
							SDX1926Q-43 QUADPLEXER	
							GENERIC TWIN STYLE 1B AWS TMA	
	A3 ERICSSON AIR32 KRD901146-1 B66A/B2A	121'± AGL	0°	0°	10°	L2100/G1900/L1900	–	
BETA	B1 ERICSSON M-MIMO AIR6449 B41	121'± AGL	120°	0°	6°	L2500/N2500	–	
	B2 RFS APXVAALL24_43-U-NA20	121'± AGL	120°	0°	6°	L700/L600/N600	RADIO 4449 B71+B85	
					6°	L1900/U2100	RADIO 4415 B25	
							SDX1926Q-43 QUADPLEXER	
							GENERIC TWIN STYLE 1B AWS TMA	
	B3 ERICSSON AIR32 KRD901146-1 B66A/B2A	121'± AGL	120°	0°	6°	L2100/G1900/L1900	–	
GAMMA	C1 ERICSSON M-MIMO AIR6449 B41	121'± AGL	240°	0°	4°	L2500/N2500	–	
	C2 RFS APXVAALL24_43-U-NA20	121'± AGL	240°	0°	4°	L700/L600/N600	RADIO 4449 B71+B85	
					4°	L1900/U2100	RADIO 4415 B25	
							SDX1926Q-43 QUADPLEXER	
							GENERIC TWIN STYLE 1B AWS TMA	
	C3 ERICSSON AIR32 KRD901146-1 B66A/B2A	121'± AGL	240°	0°	4°	L2100/G1900/L1900	–	

CABLE NOTE: (E)(6) 1-5/8" COAX CABLES & (1) 1-1/4" (9x18) HCS FIBER CABLE TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV6 – 09/25/20

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES		LOCATION
A	EXISTING TO REMAIN:	(6) 1-5/8" COAX CABLES (1) 1-5/8" (6x12) HCS FIBER CABLES (1) 1/2" COAX CABLE FOR GPS ANTENNA	ROUTED PER STRUCTURAL ANALYSIS
	EXISTING TO BE REMOVED:	(6) 1-5/8" COAX CABLES (1) 1-1/4" (9x18) HCS FIBER CABLE	
B	PROPOSED:	(2) 1-5/8" (6x12) HCS FIBER CABLES	

NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
12/14/20

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/14/20	ISSUED FOR CONSTRUCTION	CMC
0	12/02/20	ISSUED FOR REVIEW	JRV

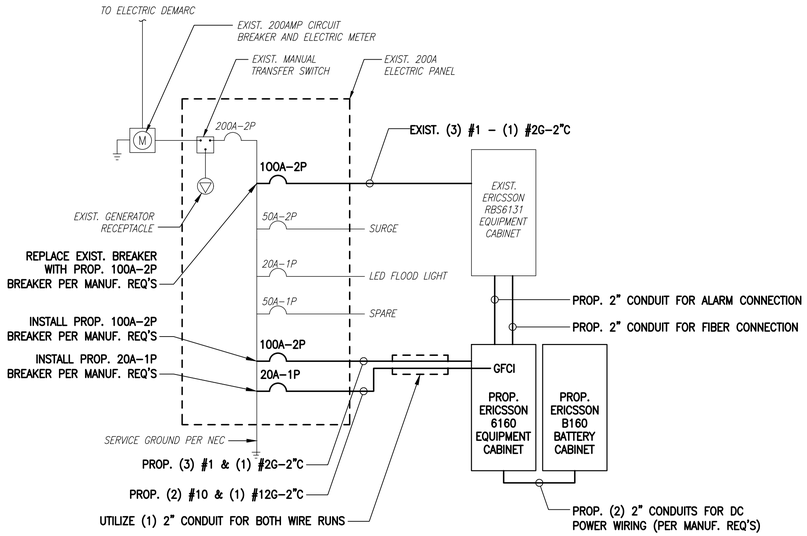
SITE NUMBER:
CT11664C

SITE ADDRESS:
500 MOOSE HILL ROAD
MONROE, CT 06468

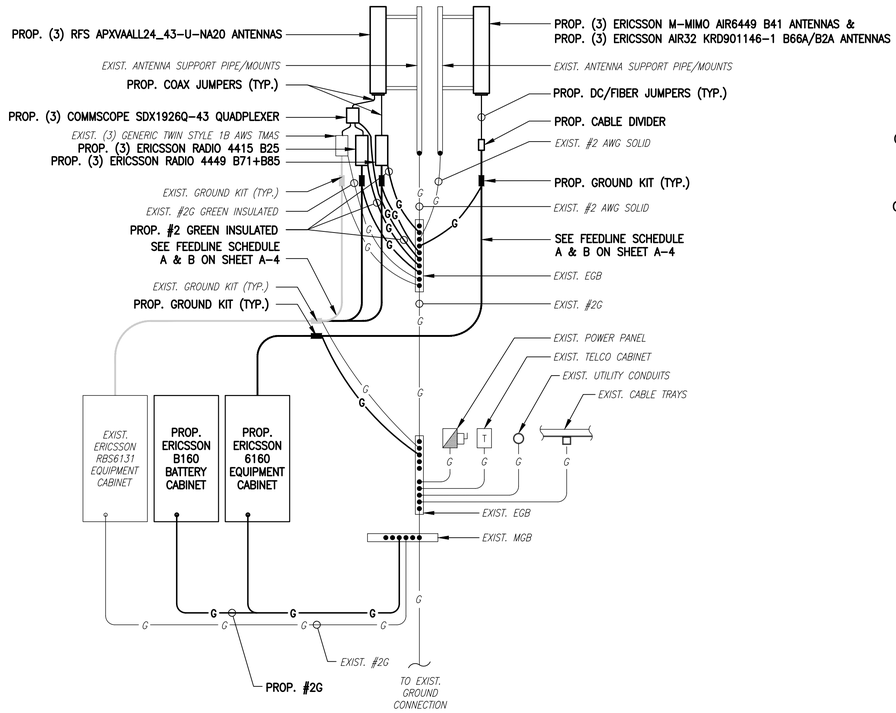
SHEET TITLE
ANTENNA & FEEDLINE CHARTS

SHEET NUMBER
A-4

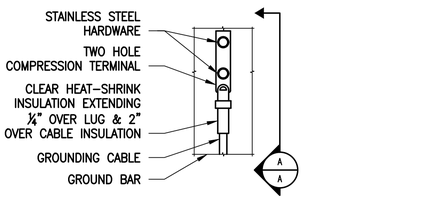
1815.163



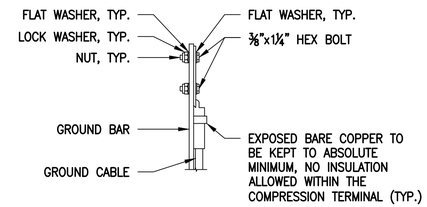
ONE LINE DIAGRAM
SCALE: NOT TO SCALE — 1 / E-1



GROUNDING RISER DIAGRAM
SCALE: NOT TO SCALE — 2 / E-1



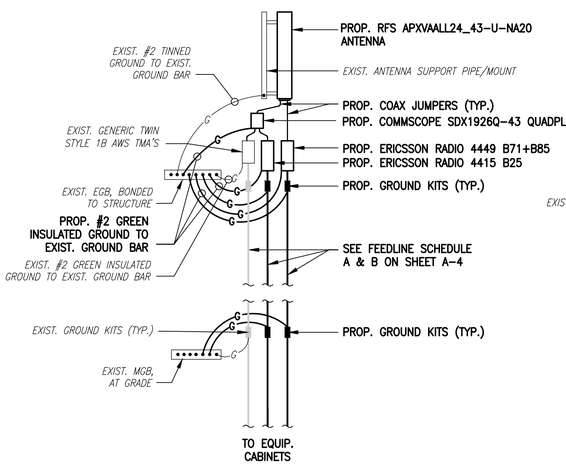
ELEVATION



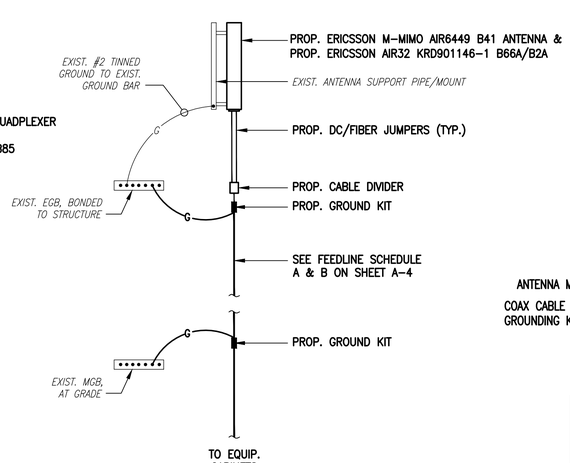
SECTION A-A

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

TYPICAL GROUND BAR CONNECTIONS DETAIL
SCALE: NOT TO SCALE — 3 / E-1

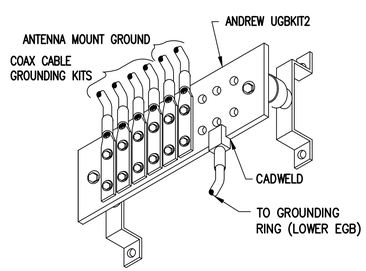


L700/L600/N600/L1900/U2100 ANTENNA



L2500/N2500 ANTENNA & L2100/L1900/G1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL
SCALE: NOT TO SCALE — 4 / E-1



GROUND BAR (EGB)
SCALE: NOT TO SCALE — 5 / E-1

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 8" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

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

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
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MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

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SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.163

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 149 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13056-A

Customer Site Name: Moosehill

Carrier Name: T-Mobile (App#: 141529, V1)

Carrier Site ID / Name: CT11664C / Moosehill

Site Location: 500 Moosehill Road

Monroe, Connecticut

Fairfield County

Latitude: 41.320966

Longitude: -73.201422

Analysis Result:

Max Structural Usage: 74.6% [Pass]

Max Foundation Usage: 70.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: +0.8%

Report Prepared By : Dipika Dhungana

Introduction

The purpose of this report is to summarize the analysis results on the 149 ft SABRE 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	Structural design report prepared by Sabre communication corporation. job #: 02-03107. dated 04/03/2002.
Foundation Drawing	Foundation report prepared by Sabre communication corporation. job #: 02-03107. dated 04/03/2002.
Geotechnical Report	Geotechnical report prepared by ST. Johns Cemetary. dated 03/20/2002.
Modification Drawings	N/A
Mount Analysis	MA by TES, Project# 99139, dated 11/25/2020

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 Vult = 120.0mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 93.0 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 = 0.204, 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	152.5	1	Decibel DB404-B - Whip	Pipe Mount	(1) 7/8"	Town of Monroe
2	147.0	1	Andrew VHLP2-11 - Dish	12.5' Low Profile Platform	(4) 1 1/4" (2) 1/2" (6) 5/16"	Sprint/ Clearwire
3		1	Andrew VHLP800-11-DW1 - Dish			
4		3	Argus LLPX310R - Panel			
5		4	RFS ACU-A20-N			
6		3	RFS APXVSPP18-C-A20 - Panel			
7		3	RFS APXVTM14-C-120 - Panel			
8		3	ALU 800MHz RRH w/ filter			
9		3	ALU 1900MHz RRH			
10		3	ALU 800MHz RRH			
11		3	ALU TD-RRH8x20-25			
12		3	U-RAS Flexible RRH ODUs			
13	139.0	3	Powerwave 7770	Low Profile Platform	(12) 1-1/4" (2) 1/2" Fiber (4) 3/4" DC	AT&T
14		3	Cci DMP65R-BU6DA			
15		3	Cci HPA-65R-BUU-H6			
16		6	Powerwave LGP13519 Diplexer			
17		6	Powerwave LGP21901 Diplexer			
18		12	Powerwave 7020.00 RET			
19		3	Ericsson RRUS 32 B2			
20		3	Ericsson 4449 B5/B12			
21		3	Ericsson 4415 B30			
22		2	Raycap DC6-48-60-18-8F			
23		3	Commscope ABT-DFDM-ADBH			
24		1	Commscope WCS-IMFQ-AMT-R40			
25	128.0	-	-	12.5' Low Profile Platform	-	-
-	121.0	3	Commscope LNX-6515DS - Panel	Low Profile Platform w/kicker	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson Air 21 B2A/B4P - Panel			
-		3	Ericsson AIR21 B4A/B12P - Panel			
-		3	Ericsson KRY 112 144/1			
-		3	Ericsson S11B12			
33	99.0	2	Amphenol LPA-80063-6CF-EDIN-2 - Panel	Modified 12.5' Low Profile Platform W/ (3) Quintel AS-005245	(6) 1 5/8" (1) 1 5/8" Fiber	Verizon
34		4	Celwave APL866513-42TD - Panel			
35		6	Quintel QS6656-5D - Panel			
36		1	Antel BXA-70063/6CF_4			
37		1	Antel BXA-171063-12CF-EDIN-X			
38		1	Swedcom SLCP 2x6014			
39		3	Samsung B2/B66A RRH-BR049 (RFV01U-D1A)			
40		3	Samsung B5/B13 RRH-BR04C (RFV01U-D2A)			
41		1	RFS DB-C1-12C-24AB-OZ			
42	65.5	1	Decibel 26OB	3' Standoff @ 64.0	(1) 1/2"	Sprint

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
26	121.0	3	Ericsson AIR6449 B41	Low Profile Platform w/ kicker and handrail kit SitePro HRK12	(10) 1 5/8" (3) 1 5/8" Fiber	T-Mobile
27		3	Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)			
28		3	RFS APXVAALL24-43-U-NA20			
29		3	Ericsson KRY 112 144/1			
30		3	Commscope SDX1926Q-43			
31		3	Ericsson 4449 B71 + B85			
32		3	Ericsson 4415 B25			

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	Flange Connection
Max. Usage:	**74.6%**	**71.9%**	**61.6%**	**58.2%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	3899.9	35.8

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 1.2423 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 74.73% at 53.3ft

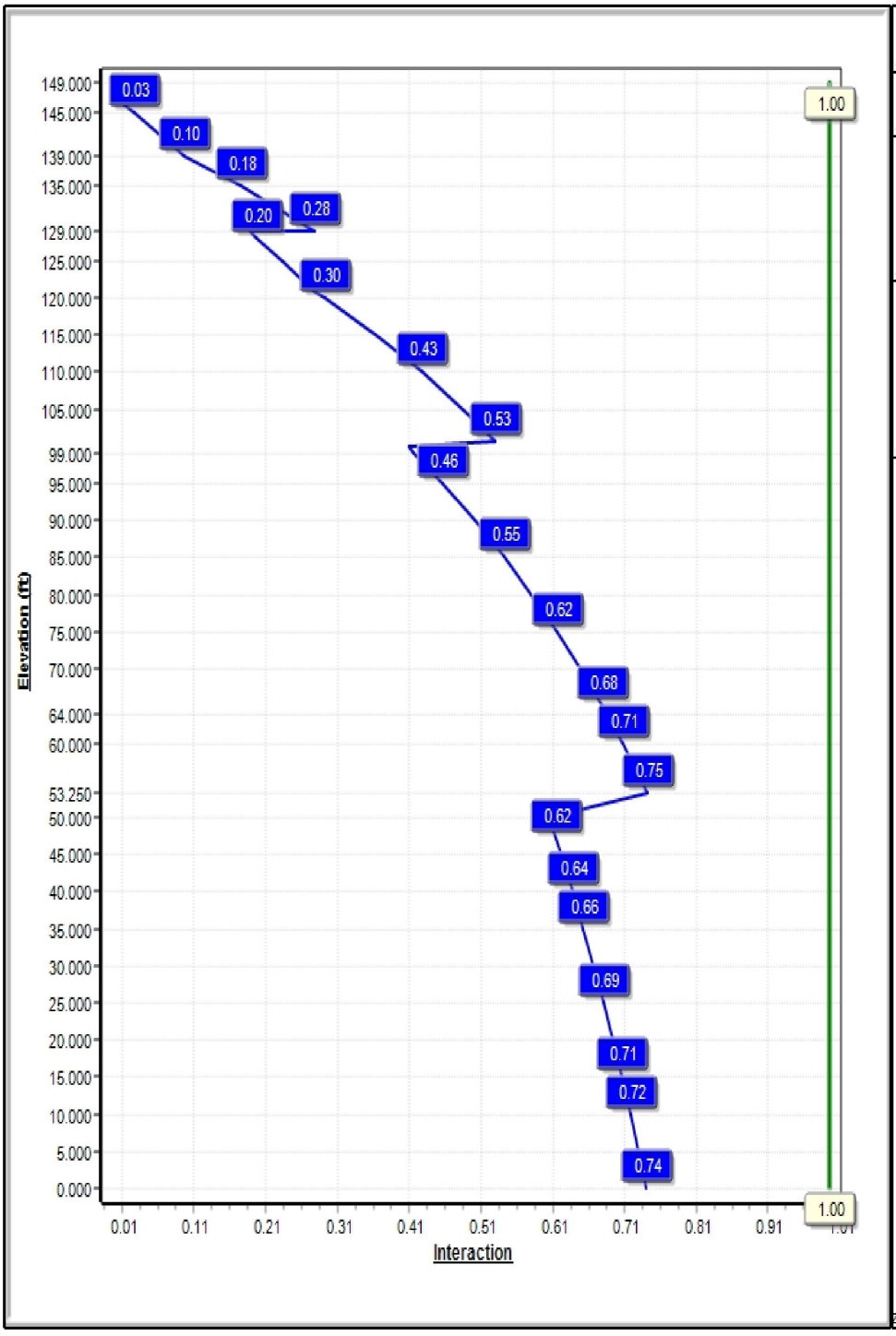
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill	**Exposure:**	C	
Height:	149.00 (ft)	**Gh:**	1.1	
Base Elev:	1.000 (ft)			Page: 1

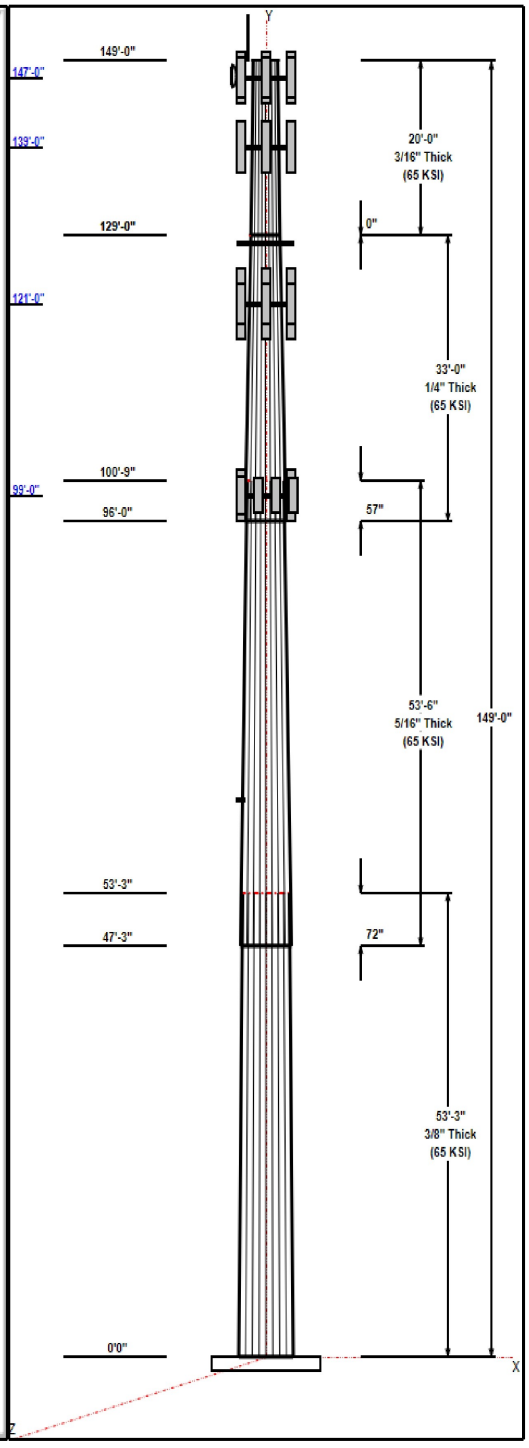
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 93 mph Wind

Iterations: 24





Structure: CT13056-A-SBA

Type: Tapered
Site Name: Moosehill
Height: 149.00 (ft)
Base Elev: 1.00 (ft)

Base Shape: 18 Sided
Taper: 0.24185

12/9/2020

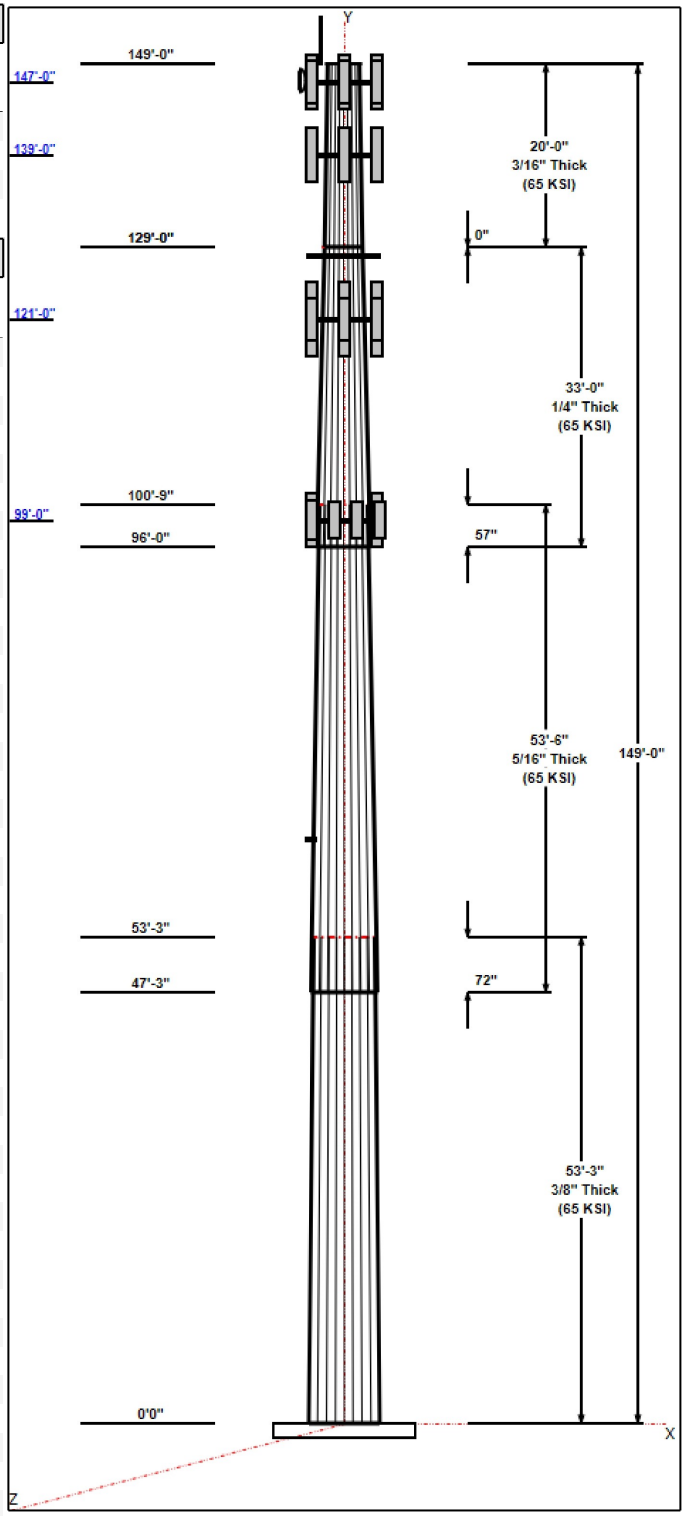
Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	46.03	58.91	0.375		0.24185	65
2	53.50	35.17	48.11	0.313	Slip	0.24185	65
3	33.00	28.84	36.82	0.250	Slip	0.24185	65
4	20.00	24.00	28.84	0.188	Butt	0.24185	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	151.50	1	Decibel DB404-B	Town of Monroe
149.00	149.00	1	Pipe Mount	Town of Monroe
147.00	147.00	3	RFS APXVTM14-C-120	Sprint/Clearwire
147.00	147.00	3	ALU TD-RRH8x20-25	Sprint/Clearwire
147.00	147.00	3	RFS APXVSPP18-C-A20	Sprint/Clearwire
147.00	147.00	3	ALU 1900MHz RRH	Sprint/Clearwire
147.00	147.00	3	ALU 800MHz RRH	Sprint/Clearwire
147.00	147.00	3	800MHz RRH w/ filter	Sprint/Clearwire
147.00	147.00	4	RFS ACU-A20-N	Sprint/Clearwire
147.00	147.00	3	Argus LLPX310R	Sprint/Clearwire
147.00	147.00	1	Andrew VHLP2-11	Sprint/Clearwire
147.00	147.00	1	Andrew VHLP800-11-DW1	Sprint/Clearwire
147.00	147.00	3	U-RAS Flexible RRH	Sprint/Clearwire
147.00	147.00	1	12.5' Low Profile Platform	Sprint/Clearwire
139.00	139.00	3	7770	AT&T
139.00	139.00	3	HPA-65R-BUU-H6	AT&T
139.00	139.00	2	Raycap DC6-48-60-18-8F	AT&T
139.00	139.00	3	Commscope	AT&T
139.00	139.00	1	Low Profile Platform	AT&T
139.00	139.00	6	Powerwave LGP13519	AT&T
139.00	139.00	12	Powerwave 7020.00 RET	AT&T
139.00	139.00	3	Ericsson RRUS-32 B2s	AT&T
139.00	139.00	6	Powerawve LGP21901	AT&T
139.00	139.00	3	DMP65R-BU6DA	AT&T
139.00	139.00	3	4415 B30	AT&T
139.00	139.00	3	4449 B5/B12	AT&T
139.00	139.00	1	WCS-IMFQ-AMT	AT&T
128.00	128.00	1	Low Profile Platform	Unknown
121.00	121.00	3	4449 B71 + B85	T-Mobile
121.00	121.00	3	RRUS 4415 B25	T-Mobile
121.00	121.00	1	HRK12 (Handrail Kit)	T-Mobile
121.00	121.00	1	PRK-1245 (kicker kit)	T-Mobile
121.00	121.00	3	KRD 9011461-B66A-B2A	T-Mobile
121.00	121.00	3	AIR6449 B41	T-Mobile
121.00	121.00	3	APXVAALL24_43-U-NA20	T-Mobile
121.00	121.00	3	SDX1926Q-43	T-Mobile
121.00	121.00	3	Ericsson KRY 112 144/1	T-Mobile
121.00	121.00	1	Low Profile Platform	T-Mobile
99.00	99.00	4	RFS APL866513-42T0	Verizon
99.00	99.00	2	Antel LPA-80063-6CF	Verizon
99.00	99.00	1	12.5' Low Profile Platform	Verizon
99.00	99.00	6	QS6656-5D	Verizon
99.00	99.00	3	AS-005245	Verizon
99.00	99.00	3	B2/B66A RRH-BR049	Verizon
99.00	99.00	3	B5/B13 RRH-BR04C	Verizon



99.00	99.00	1	DB-C1-12C-24AB-OZ	Verizon
99.00	99.00	1	BXA-70063/6CF_4	Verizon
99.00	99.00	1	BXA-171063-12CF-EDIN-X	Verizon
99.00	99.00	1	SLCP 2x6014	Verizon
65.50	65.50	1	Decibel 26OB	Sprint
64.00	64.00	1	3 ft Standoff	Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	152.50	Inside	7/8" Coax	Town of Monroe
0.00	147.00	Outside	1 1/4" Coax	Sprint/Clearwire
0.00	147.00	Inside	1/2" Coax	Sprint/Clearwire
0.00	147.00	Inside	5/16" Coax	Sprint/Clearwire
0.00	139.00	Inside	1-1/4" Coax	AT&T
0.00	139.00	Inside	1/2" Fiber	AT&T
0.00	139.00	Inside	3/4" DC	AT&T
0.00	121.00	Inside	1 5/8" Coax	T-Mobile
0.00	121.00	Inside	1 5/8" Fiber	T-Mobile
0.00	99.00	Outside	1 5/8" Coax	Verizon
0.00	99.00	Inside	1 5/8" Fiber	Verizon
0.00	64.00	Outside	1/2" Coax	Sprint

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	64.0	60.0	Clipped

Reactions

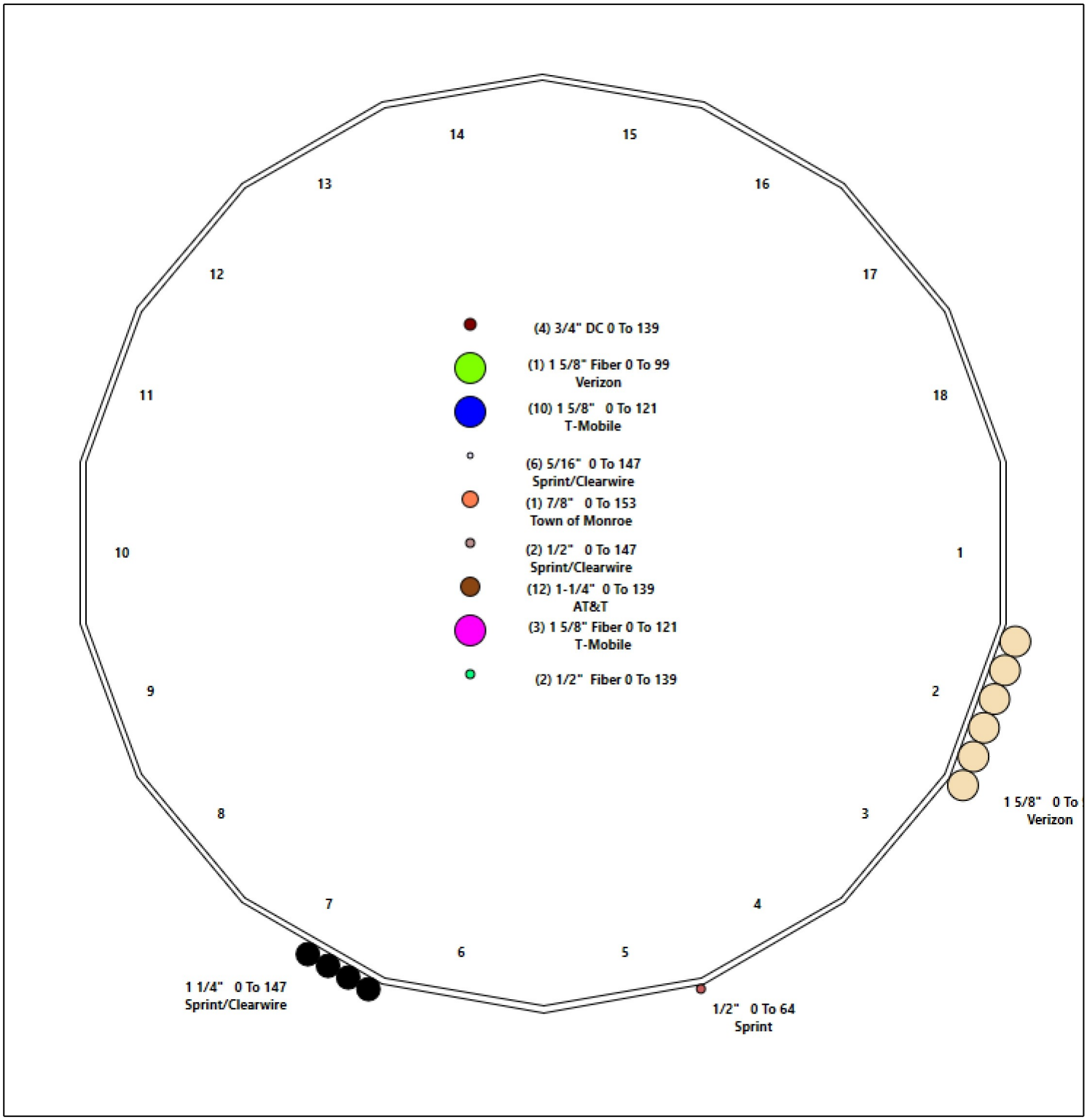
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	3907.4	35.9	49.7
0.9D + 1.6W 93 mph Wind	3867.7	35.9	37.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1170.3	10.8	82.0
1.2D + 1.0E	271.0	2.2	49.8
0.9D + 1.0E	268.0	2.2	37.3
1.0D + 1.0W 60 mph Wind	1010.6	9.3	41.5

Structure: CT13056-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Moosehill
Height: 149.00 (ft)

12/9/2020

Tower Engineering Solutions



Shaft Properties

Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3750	65		0.00	11,235
2	18	53.500	0.3125	65	Slip	72.00	7,462
3	18	33.000	0.2500	65	Slip	57.00	2,903
4	18	20.000	0.1875	65	Flange	0.00	1,062
					Total Shaft Weight:		**22,662**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	58.91	0.00	69.67	30159.39	26.29	157.09	46.03	53.25	54.34	14311.6	20.23	122.7	0.241846
2	48.11	47.25	47.41	13682.01	25.73	153.94	35.17	100.75	34.57	5306.98	18.43	112.5	0.241846
3	36.82	96.00	29.02	4902.09	24.56	147.27	28.84	129.00	22.68	2342.00	18.93	115.3	0.241846
4	28.84	129.0	17.05	1768.04	25.71	153.80	24.00	149.00	14.17	1015.22	21.16	128.0	0.241846

Load Summary

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	149.00	Decibel DB404-B	1	14.00	1.03	1.00	46.46	3.838	1.00	0.00	2.50
2	149.00	Pipe Mount	1	350.00	5.00	1.00	643.20	8.490	1.00	0.00	0.00
3	147.00	RFS APXVTM14-C-120	3	56.00	6.34	0.79	216.15	7.452	0.79	0.00	0.00
4	147.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	180.28	4.862	0.67	0.00	0.00
5	147.00	RFS APXVSPP18-C-A20	3	57.00	8.02	0.83	229.62	10.810	0.83	0.00	0.00
6	147.00	ALU 1900MHz RRH	3	44.00	3.80	0.67	153.02	5.188	0.67	0.00	0.00
7	147.00	ALU 800MHz RRH	3	59.50	2.64	0.67	137.40	3.796	0.67	0.00	0.00
8	147.00	800MHz RRH w/ filter	3	68.30	3.46	1.00	158.63	4.772	1.00	0.00	0.00
9	147.00	RFS ACU-A20-N	4	1.00	0.14	0.79	5.29	0.436	0.79	0.00	0.00
10	147.00	Argus LLPX310R	3	28.60	4.30	0.69	118.78	5.958	0.69	0.00	0.00
11	147.00	Andrew VHLP2-11	1	27.00	4.68	1.00	124.73	5.952	1.00	0.00	0.00
12	147.00	Andrew VHLP800-11-DW1	1	49.00	6.70	1.00	186.97	8.223	1.00	0.00	0.00
13	147.00	U-RAS Flexible RRH ODUs	3	50.70	2.23	0.78	109.41	3.290	0.78	0.00	0.00
14	147.00	12.5' Low Profile Platform	1	1500.00	22.00	1.00	2807.16	39.638	1.00	0.00	0.00
15	139.00	7770	3	35.00	5.50	0.73	169.03	6.557	0.73	0.00	0.00
16	139.00	HPA-65R-BUU-H6	3	51.00	9.66	0.85	297.12	11.016	0.85	0.00	0.00
17	139.00	Raycap DC6-48-60-18-8F DC Surge	2	32.80	1.47	1.00	94.20	2.165	1.00	0.00	0.00
18	139.00	Commscope ABT-DRDM-ADBH Bias	3	1.60	0.05	0.98	4.82	0.241	0.98	0.00	0.00
19	139.00	Low Profile Platform	1	1500.00	22.00	1.00	2799.91	39.540	1.00	0.00	0.00
20	139.00	Powerwave LGP13519 TMAs	6	5.30	0.34	1.00	14.73	0.791	1.00	0.00	0.00
21	139.00	Powerwave 7020.00 RET	12	2.20	0.40	0.67	12.37	0.881	0.67	0.00	0.00
22	139.00	Ericsson RRUS-32 B2s RRUs	3	60.00	2.74	0.67	147.26	3.463	0.67	0.00	0.00
23	139.00	Powerawve LGP21901 Diplexer	6	5.50	0.23	0.75	13.14	0.596	0.75	0.00	0.00
24	139.00	DMP65R-BU6DA	3	79.40	12.71	0.73	364.60	14.187	0.73	0.00	0.00
25	139.00	4415 B30	3	46.00	1.64	0.67	86.82	2.152	0.67	0.00	0.00
26	139.00	4449 B5/B12	3	71.00	1.97	0.67	124.01	2.514	0.67	0.00	0.00
27	139.00	WCS-IMFQ-AMT	1	34.50	0.99	0.50	77.26	1.415	0.50	0.00	0.00
28	128.00	Low Profile Platform	1	1500.00	22.00	1.00	2789.32	39.397	1.00	0.00	0.00
29	121.00	4449 B71 + B85	3	73.20	1.97	0.67	129.76	2.528	0.67	0.00	0.00
30	121.00	RRUS 4415 B25	3	46.00	1.64	0.67	86.26	2.145	0.67	0.00	0.00
31	121.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	565.96	13.212	1.00	0.00	0.00
32	121.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	782.82	19.244	1.00	0.00	0.00
33	121.00	KRD 9011461-B66A-B2A	3	132.20	6.51	0.87	311.02	7.607	0.87	0.00	0.00
34	121.00	AIR6449 B41	3	103.00	5.65	0.71	237.31	6.581	0.71	0.00	0.00
35	121.00	APXVAALL24_43-U-NA20	3	128.00	20.24	0.70	536.32	22.100	0.70	0.00	0.00
36	121.00	SDX1926Q-43	3	4.30	0.52	0.67	15.39	1.041	0.67	0.00	0.00
37	121.00	Ericsson KRY 112 144/1	3	11.00	0.41	0.67	21.56	0.875	0.67	0.00	0.00
38	121.00	Low Profile Platform	1	1500.00	22.00	1.00	2782.14	39.300	1.00	0.00	0.00
39	99.00	RFS APL866513-42T0	4	15.70	4.05	0.93	120.57	5.839	0.93	0.00	0.00
40	99.00	Antel LPA-80063-6CF	2	27.00	9.76	0.93	278.09	12.403	0.93	0.00	0.00
41	99.00	12.5' Low Profile Platform	1	1500.00	22.00	1.00	2756.90	38.960	1.00	0.00	0.00
42	99.00	QS6656-5D	6	65.00	8.13	0.93	281.74	9.374	0.93	0.00	0.00
43	99.00	AS-005245	3	35.00	0.60	1.00	67.85	1.324	1.00	0.00	0.00
44	99.00	B2/B66A RRH-BR049	3	84.50	1.88	0.67	133.72	2.409	0.67	0.00	0.00
45	99.00	B5/B13 RRH-BR04C (RFV01U-D2A	3	84.50	1.88	0.67	133.72	2.409	0.67	0.00	0.00
46	99.00	DB-C1-12C-24AB-OZ	1	32.00	4.06	1.00	141.40	4.849	1.00	0.00	0.00
47	99.00	BXA-70063/6CF_4	1	17.00	7.57	1.00	153.08	10.224	1.00	0.00	0.00
48	99.00	BXA-171063-12CF-EDIN-X	1	15.00	4.78	0.84	107.02	7.045	0.84	0.00	0.00
49	99.00	SLCP 2x6014	1	20.00	6.49	0.89	189.24	8.483	0.89	0.00	0.00
50	65.50	Decibel 26OB	1	50.00	2.00	1.00	210.89	5.218	1.00	0.00	0.00

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
51	64.00	3 ft Standoff	1	40.00	2.63	1.00	113.84	8.120	1.00	0.00	0.00
		Totals:	**135**	**13,982.13**			**33,041.98**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	152.50	(1) 7/8" Coax	0.00	Inside
0.00	147.00	(4) 1 1/4" Coax	0.00	Outside
0.00	147.00	(2) 1/2" Coax	0.00	Inside
0.00	147.00	(6) 5/16" Coax	0.00	Inside
0.00	139.00	(12) 1-1/4" Coax	0.00	Inside
0.00	139.00	(2) 1/2" Fiber	0.00	Inside
0.00	139.00	(4) 3/4" DC	0.00	Inside
0.00	121.00	(10) 1 5/8" Coax	0.00	Inside
0.00	121.00	(3) 1 5/8" Fiber	0.00	Inside
0.00	99.00	(6) 1 5/8" Coax	0.00	Outside
0.00	99.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	64.00	(1) 1/2" Coax	0.00	Outside

Shaft Section Properties

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	58.910	69.669	30159.4	26.29	157.09	70.5	1008.	0.0
5.00		0.3750	57.701	68.230	28328.6	25.72	153.87	71.1	967.0	1173.1
10.00		0.3750	56.492	66.790	26573.5	25.15	150.64	71.8	926.5	1148.6
15.00		0.3750	55.282	65.351	24892.4	24.58	147.42	72.5	886.9	1124.1
20.00		0.3750	54.073	63.912	23283.7	24.01	144.19	73.2	848.1	1099.6
25.00		0.3750	52.864	62.473	21745.9	23.45	140.97	73.8	810.2	1075.1
30.00		0.3750	51.655	61.033	20277.3	22.88	137.75	74.5	773.2	1050.7
35.00		0.3750	50.445	59.594	18876.4	22.31	134.52	75.2	737.0	1026.2
40.00		0.3750	49.236	58.155	17541.5	21.74	131.30	75.8	701.7	1001.7
45.00		0.3750	48.027	56.716	16271.1	21.17	128.07	76.5	667.3	977.2
47.25	Bot - Section 2	0.3750	47.483	56.068	15720.1	20.92	126.62	76.8	652.1	431.8
50.00		0.3750	46.818	55.276	15063.6	20.60	124.85	77.2	633.7	961.5
53.25	Top - Section 1	0.3125	46.657	45.966	12473.3	24.92	149.30	0.0	0.0	1118.8
55.00		0.3125	46.233	45.546	12134.7	24.68	147.95	72.4	517.0	272.5
60.00		0.3125	45.024	44.347	11201.1	23.99	144.08	73.2	490.0	764.7
64.00		0.3125	44.057	43.387	10489.7	23.45	140.98	73.8	469.0	597.1
65.00		0.3125	43.815	43.148	10316.6	23.31	140.21	74.0	463.8	147.2
65.50		0.3125	43.694	43.028	10230.8	23.24	139.82	74.1	461.2	73.3
70.00		0.3125	42.606	41.948	9480.0	22.63	136.34	74.8	438.3	650.6
75.00		0.3125	41.397	40.749	8689.9	21.95	132.47	75.6	413.5	703.5
80.00		0.3125	40.187	39.549	7945.0	21.26	128.60	76.4	389.4	683.1
85.00		0.3125	38.978	38.350	7243.8	20.58	124.73	77.2	366.0	662.7
90.00		0.3125	37.769	37.151	6585.2	19.90	120.86	78.0	343.4	642.3
95.00		0.3125	36.560	35.951	5967.8	19.22	116.99	78.8	321.5	621.9
96.00	Bot - Section 3	0.3125	36.318	35.711	5849.2	19.08	116.22	79.0	317.2	121.9
99.00		0.3125	35.592	34.992	5502.7	18.67	113.90	79.4	304.5	654.1
100.00		0.3125	35.350	34.752	5390.3	18.54	113.12	79.6	300.3	215.1
100.75	Top - Section 2	0.2500	35.669	28.104	4454.5	23.75	142.68	0.0	0.0	160.4
105.00		0.2500	34.641	27.288	4077.8	23.02	138.56	74.3	231.9	400.5
110.00		0.2500	33.432	26.329	3662.6	22.17	133.73	75.3	215.8	456.1
115.00		0.2500	32.223	25.369	3276.6	21.32	128.89	76.3	200.3	439.8
120.00		0.2500	31.014	24.410	2918.7	20.46	124.05	77.3	185.4	423.5
121.00		0.2500	30.772	24.218	2850.4	20.29	123.09	77.5	182.4	82.7
125.00		0.2500	29.804	23.450	2587.9	19.61	119.22	78.3	171.0	324.4
128.00		0.2500	29.079	22.875	2401.9	19.10	116.32	78.9	162.7	236.5
129.00	Top - Section 3	0.2500	28.837	22.683	2342.0	18.93	115.35	79.1	160.0	77.5
129.00	Bot - Section 4	0.1875	28.837	17.049	1768.0	25.24	153.80	71.2	120.8	
130.00		0.1875	28.595	16.905	1723.6	25.48	152.51	71.4	118.7	57.8
135.00		0.1875	27.386	16.186	1512.8	24.34	146.06	72.8	108.8	281.5
139.00		0.1875	26.418	15.610	1357.0	23.43	140.90	73.8	101.2	216.4
140.00		0.1875	26.177	15.466	1319.8	23.21	139.61	74.1	99.3	52.9
145.00		0.1875	24.967	14.747	1144.0	22.07	133.16	75.4	90.3	257.0
147.00		0.1875	24.484	14.459	1078.4	21.61	130.58	76.0	86.7	99.4
149.00		0.1875	24.000	14.171	1015.2	21.16	128.00	76.5	83.3	97.4
										22662.1

Wind Loading - Shaft

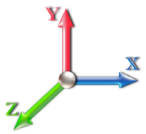
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 93 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	17.879	19.67	427.41	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	418.64	0.650	0.000	5.00	24.669	16.03	504.6	0.0	1407.7
10.00		1.00	0.85	17.879	19.67	409.87	0.650	0.000	5.00	24.157	15.70	494.1	0.0	1378.3
15.00		1.00	0.86	18.100	19.91	403.56	0.650	0.000	5.00	23.645	15.37	489.6	0.0	1348.9
20.00		1.00	0.91	19.166	21.08	406.20	0.650	0.000	5.00	23.134	15.04	507.2	0.0	1319.6
25.00		1.00	0.95	20.048	22.05	406.14	0.650	0.000	5.00	22.622	14.70	518.8	0.0	1290.2
30.00		1.00	0.99	20.804	22.88	404.27	0.650	0.000	5.00	22.111	14.37	526.2	0.0	1260.8
35.00		1.00	1.02	21.470	23.62	401.07	0.650	0.000	5.00	21.599	14.04	530.5	0.0	1231.4
40.00		1.00	1.05	22.065	24.27	396.85	0.650	0.000	5.00	21.087	13.71	532.3	0.0	1202.0
45.00		1.00	1.07	22.607	24.87	391.82	0.650	0.000	5.00	20.576	13.37	532.1	0.0	1172.6
47.25	Bot - Section 2	1.00	1.09	22.835	25.12	389.33	0.650	0.000	2.25	9.092	5.91	237.5	0.0	518.1
50.00		1.00	1.10	23.103	25.41	386.13	0.650	0.000	2.75	11.117	7.23	293.8	0.0	1153.8
53.25	Top - Section 1	1.00	1.11	23.405	25.75	382.12	0.650	0.000	3.25	12.939	8.41	346.5	0.0	1342.5
55.00		1.00	1.12	23.562	25.92	385.08	0.650	0.000	1.75	6.878	4.47	185.4	0.0	327.0
60.00		1.00	1.14	23.990	26.39	378.40	0.650	0.000	5.00	19.305	12.55	529.8	0.0	917.7
64.00	Appurtenance(s)	1.00	1.16	24.313	26.74	372.75	0.650	0.000	4.00	15.076	9.80	419.3	0.0	716.5
65.00		1.00	1.16	24.392	26.83	371.30	0.650	0.000	1.00	3.718	2.42	103.7	0.0	176.7
65.50	Appurtenance(s)	1.00	1.16	24.430	26.87	370.57	0.650	0.000	0.50	1.851	1.20	51.7	0.0	88.0
70.00		1.00	1.18	24.770	27.25	363.84	0.650	0.000	4.50	16.431	10.68	465.6	0.0	780.7
75.00		1.00	1.19	25.127	27.64	356.06	0.650	0.000	5.00	17.770	11.55	510.8	0.0	844.2
80.00		1.00	1.21	25.466	28.01	347.98	0.650	0.000	5.00	17.259	11.22	502.8	0.0	819.7
85.00		1.00	1.23	25.789	28.37	339.65	0.650	0.000	5.00	16.747	10.89	494.1	0.0	795.2
90.00		1.00	1.24	26.098	28.71	331.07	0.650	0.000	5.00	16.236	10.55	484.7	0.0	770.7
95.00		1.00	1.25	26.394	29.03	322.28	0.650	0.000	5.00	15.724	10.22	474.8	0.0	746.3
96.00	Bot - Section 3	1.00	1.26	26.451	29.10	320.50	0.650	0.000	1.00	3.083	2.00	93.3	0.0	146.3
99.00	Appurtenance(s)	1.00	1.27	26.621	29.28	315.11	0.650	0.000	3.00	9.254	6.02	281.8	0.0	785.0
100.00		1.00	1.27	26.677	29.35	313.29	0.650	0.000	1.00	3.044	1.98	92.9	0.0	258.1
100.75	Top - Section 2	1.00	1.27	26.719	29.39	311.93	0.650	0.000	0.75	2.269	1.48	69.4	0.0	192.4
105.00		1.00	1.28	26.950	29.65	308.57	0.650	0.000	4.25	12.643	8.22	389.8	0.0	480.6
110.00		1.00	1.29	27.213	29.93	299.25	0.650	0.000	5.00	14.401	9.36	448.3	0.0	547.3
115.00		1.00	1.31	27.466	30.21	289.77	0.650	0.000	5.00	13.889	9.03	436.4	0.0	527.8
120.00		1.00	1.32	27.712	30.48	280.13	0.650	0.000	5.00	13.377	8.70	424.1	0.0	508.2
121.00	Appurtenance(s)	1.00	1.32	27.760	30.54	278.19	0.650	0.000	1.00	2.614	1.70	83.0	0.0	99.3
125.00		1.00	1.33	27.949	30.74	270.36	0.650	0.000	4.00	10.252	6.66	327.8	0.0	389.3
128.00	Appurtenance(s)	1.00	1.34	28.088	30.90	264.43	0.650	0.000	3.00	7.474	4.86	240.2	0.0	283.7
129.00	Top - Section 3	1.00	1.34	28.133	30.95	262.45	0.650	0.000	1.00	2.450	1.59	78.9	0.0	93.0
130.00		1.00	1.34	28.179	31.00	260.46	0.650	0.000	1.00	2.430	1.58	78.3	0.0	69.3
135.00		1.00	1.35	28.402	31.24	250.43	0.650	0.000	5.00	11.843	7.70	384.8	0.0	337.8
139.00	Appurtenance(s)	1.00	1.36	28.576	31.43	242.32	0.650	0.000	4.00	9.106	5.92	297.7	0.0	259.7
140.00		1.00	1.36	28.619	31.48	240.28	0.650	0.000	1.00	2.225	1.45	72.9	0.0	63.4
145.00		1.00	1.37	28.829	31.71	230.02	0.650	0.000	5.00	10.819	7.03	356.8	0.0	308.4
147.00	Appurtenance(s)	1.00	1.37	28.912	31.80	225.89	0.650	0.000	2.00	4.184	2.72	138.4	0.0	119.3
149.00	Appurtenance(s)	1.00	1.38	28.994	31.89	221.74	0.650	0.000	2.00	4.103	2.67	136.1	0.0	116.9
								Totals:	**149.00**			**14,167.0**		**27,194.5**

Discrete Appurtenance Forces

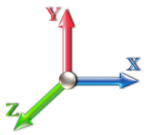
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 93 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	149.00	Decibel DB404-B	1	29.095	32.004	1.00	1.00	1.03	16.80	0.000	2.500	52.74	0.00	131.86
2	149.00	Pipe Mount	1	28.994	31.893	1.00	1.00	5.00	420.00	0.000	0.000	255.14	0.00	0.00
3	147.00	800MHz RRH w/ filter	3	28.912	31.803	0.90	0.90	9.34	245.88	0.000	0.000	475.37	0.00	0.00
4	147.00	RFS APXVTM14-C-120	3	28.912	31.803	0.71	0.90	13.52	201.60	0.000	0.000	688.13	0.00	0.00
5	147.00	RFS APXVSPP18-C-A20	3	28.912	31.803	0.75	0.90	17.97	205.20	0.000	0.000	914.55	0.00	0.00
6	147.00	ALU 1900MHz RRH	3	28.912	31.803	0.60	0.90	6.87	158.40	0.000	0.000	349.79	0.00	0.00
7	147.00	ALU 800MHz RRH	3	28.912	31.803	0.60	0.90	4.78	214.20	0.000	0.000	243.01	0.00	0.00
8	147.00	ALU TD-RRH8x20-25	3	28.912	31.803	0.60	0.90	7.33	252.00	0.000	0.000	372.81	0.00	0.00
9	147.00	RFS ACU-A20-N	4	28.912	31.803	0.71	0.90	0.40	4.80	0.000	0.000	20.26	0.00	0.00
10	147.00	Argus LLPX310R	3	28.912	31.803	0.62	0.90	8.01	102.96	0.000	0.000	407.63	0.00	0.00
11	147.00	Andrew VHLP2-11	1	28.912	31.803	1.00	1.00	4.68	32.40	0.000	0.000	238.14	0.00	0.00
12	147.00	Andrew VHLP800-11-DW1	1	28.912	31.803	1.00	1.00	6.70	58.80	0.000	0.000	340.93	0.00	0.00
13	147.00	U-RAS Flexible RRH	3	28.912	31.803	0.78	1.00	5.22	182.52	0.000	0.000	265.53	0.00	0.00
14	147.00	12.5' Low Profile Platform	1	28.912	31.803	1.00	1.00	22.00	1800.00	0.000	0.000	1119.47	0.00	0.00
15	139.00	Powerwave 7020.00 RET	12	28.576	31.433	0.54	0.80	2.57	31.68	0.000	0.000	129.39	0.00	0.00
16	139.00	Powerwave LGP13519	6	28.576	31.433	0.80	0.80	1.63	38.16	0.000	0.000	82.08	0.00	0.00
17	139.00	Ericsson RRUS-32 B2s	3	28.576	31.433	0.54	0.80	4.41	216.00	0.000	0.000	221.59	0.00	0.00
18	139.00	Low Profile Platform	1	28.576	31.433	1.00	1.00	22.00	1800.00	0.000	0.000	1106.45	0.00	0.00
19	139.00	4449 B5/B12	3	28.576	31.433	0.54	0.80	3.17	255.60	0.000	0.000	159.32	0.00	0.00
20	139.00	HPA-65R-BUU-H6	3	28.576	31.433	0.68	0.80	19.71	183.60	0.000	0.000	991.10	0.00	0.00
21	139.00	Powerawve LGP21901	6	28.576	31.433	0.60	0.80	0.83	39.60	0.000	0.000	41.64	0.00	0.00
22	139.00	WCS-IMFQ-AMT	1	28.576	31.433	0.40	0.80	0.40	41.40	0.000	0.000	19.92	0.00	0.00
23	139.00	7770	3	28.576	31.433	0.58	0.80	9.64	126.00	0.000	0.000	484.62	0.00	0.00
24	139.00	Raycap DC6-48-60-18-8F	2	28.576	31.433	0.80	0.80	2.35	78.72	0.000	0.000	118.29	0.00	0.00
25	139.00	Commscope	3	28.576	31.433	0.78	0.80	0.12	5.76	0.000	0.000	5.91	0.00	0.00
26	139.00	4415 B30	3	28.576	31.433	0.54	0.80	2.64	165.60	0.000	0.000	132.63	0.00	0.00
27	139.00	DMP65R-BU6DA	3	28.576	31.433	0.58	0.80	22.27	285.84	0.000	0.000	1119.92	0.00	0.00
28	128.00	Low Profile Platform	1	28.088	30.896	1.00	1.00	22.00	1800.00	0.000	0.000	1087.55	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	27.760	30.536	0.50	0.75	0.62	39.60	0.000	0.000	30.20	0.00	0.00
30	121.00	KRD 9011461-B66A-B2A	3	27.760	30.536	0.65	0.75	12.74	475.92	0.000	0.000	622.60	0.00	0.00
31	121.00	AIR6449 B41	3	27.760	30.536	0.53	0.75	9.03	370.80	0.000	0.000	440.98	0.00	0.00
32	121.00	APXVAALL24_43-U-NA20	3	27.760	30.536	0.52	0.75	31.88	460.80	0.000	0.000	1557.46	0.00	0.00
33	121.00	SDX1926Q-43	3	27.760	30.536	0.50	0.75	0.78	15.48	0.000	0.000	38.30	0.00	0.00
34	121.00	Low Profile Platform	1	27.760	30.536	1.00	1.00	22.00	1800.00	0.000	0.000	1074.85	0.00	0.00
35	121.00	4449 B71 + B85	3	27.760	30.536	0.50	0.75	2.97	263.52	0.000	0.000	145.09	0.00	0.00
36	121.00	RRUS 4415 B25	3	27.760	30.536	0.50	0.75	2.47	165.60	0.000	0.000	120.79	0.00	0.00
37	121.00	HRK12 (Handrail Kit)	1	27.760	30.536	1.00	1.00	6.75	314.06	0.000	0.000	329.78	0.00	0.00
38	121.00	PRK-1245 (kicker kit)	1	27.760	30.536	1.00	1.00	9.50	557.89	0.000	0.000	464.14	0.00	0.00
39	99.00	B5/B13 RRH-BR04C	3	26.621	29.284	0.54	0.80	3.02	304.20	0.000	0.000	141.64	0.00	0.00
40	99.00	B2/B66A RRH-BR049	3	26.621	29.284	0.54	0.80	3.02	304.20	0.000	0.000	141.64	0.00	0.00
41	99.00	DB-C1-12C-24AB-OZ	1	26.621	29.284	1.00	1.00	4.06	38.40	0.000	0.000	190.23	0.00	0.00
42	99.00	AS-005245	3	26.621	29.284	1.00	1.00	1.80	126.00	0.000	0.000	84.34	0.00	0.00
43	99.00	QS6656-5D	6	26.621	29.284	0.74	0.80	36.29	468.00	0.000	0.000	1700.43	0.00	0.00
44	99.00	12.5' Low Profile Platform	1	26.621	29.284	1.00	1.00	22.00	1800.00	0.000	0.000	1030.78	0.00	0.00
45	99.00	BXA-70063/6CF_4	1	26.621	29.284	0.80	0.80	6.06	20.40	0.000	0.000	283.75	0.00	0.00
46	99.00	BXA-171063-12CF-EDIN-	1	26.621	29.284	0.67	0.80	3.21	18.00	0.000	0.000	150.50	0.00	0.00
47	99.00	SLCP 2x6014	1	26.621	29.284	0.71	0.80	4.62	24.00	0.000	0.000	216.51	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

48	99.00	RFS APL866513-42T0	4	26.621	29.284	0.74	0.80	12.05	75.36	0.000	0.000	564.72	0.00	0.00
49	99.00	Antel LPA-80063-6CF	2	26.621	29.284	0.74	0.80	14.52	64.80	0.000	0.000	680.45	0.00	0.00
50	65.50	Decibel 26OB	1	24.430	26.874	0.80	0.80	1.60	60.00	0.000	0.000	68.80	0.00	0.00
51	64.00	3 ft Standoff	1	24.313	26.745	1.00	1.00	2.63	48.00	0.000	0.000	112.54	0.00	0.00
							Totals:		**16,778.56**			**21,634.44**		

Total Applied Force Summary

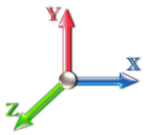
Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 12

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 93 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		504.57	1638.88	0.00	0.00
10.00		494.10	1609.50	0.00	0.00
15.00		489.61	1580.11	0.00	0.00
20.00		507.24	1550.73	0.00	0.00
25.00		518.84	1521.34	0.00	0.00
30.00		526.23	1491.96	0.00	0.00
35.00		530.50	1462.57	0.00	0.00
40.00		532.31	1433.19	0.00	0.00
45.00		532.13	1403.81	0.00	0.00
47.25		237.52	622.13	0.00	0.00
50.00		293.83	1280.91	0.00	0.00
53.25		346.46	1492.80	0.00	0.00
55.00		185.39	407.87	0.00	0.00
60.00		529.84	1148.83	0.00	0.00
64.00	(1) attachments	531.87	949.43	0.00	0.00
65.00		103.74	222.72	0.00	0.00
65.50	(1) attachments	120.54	170.99	0.00	0.00
70.00		465.59	987.90	0.00	0.00
75.00		510.82	1074.41	0.00	0.00
80.00		502.81	1049.92	0.00	0.00
85.00		494.10	1025.43	0.00	0.00
90.00		484.73	1000.95	0.00	0.00
95.00		474.78	976.46	0.00	0.00
96.00		93.30	192.35	0.00	0.00
99.00	(26) attachments	5466.83	4166.46	0.00	0.00
100.00		92.89	295.36	0.00	0.00
100.75		69.37	220.37	0.00	0.00
105.00		389.79	638.89	0.00	0.00
110.00		448.32	733.51	0.00	0.00
115.00		436.42	713.92	0.00	0.00
120.00		424.09	694.33	0.00	0.00
121.00	(24) attachments	4907.21	4600.19	0.00	0.00
125.00		327.78	472.47	0.00	0.00
128.00	(1) attachments	1327.71	2146.12	0.00	0.00
129.00		78.86	113.81	0.00	0.00
130.00		78.33	90.12	0.00	0.00
135.00		384.79	441.77	0.00	0.00
139.00	(49) attachments	4910.53	3610.80	0.00	0.00
140.00		72.85	68.20	0.00	0.00
145.00		356.83	332.18	0.00	0.00
147.00	(31) attachments	5574.02	3587.52	0.00	0.00
149.00	(2) attachments	443.97	554.95	0.00	131.86
	Totals:	**35,801.43**	**49,776.16**	**0.00**	**131.86**

Linear Appurtenance Segment Forces (Factored)

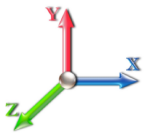
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 93 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 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	15.84
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	37.44
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	0.96
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	15.84
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	37.44
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	0.96
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.100	0.00	15.84
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.100	0.00	37.44
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.100	0.00	0.96
20.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.166	0.00	15.84
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.166	0.00	37.44
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.166	0.00	0.96
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.048	0.00	15.84
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.048	0.00	37.44
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.048	0.00	0.96
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.804	0.00	15.84
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.804	0.00	37.44
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.804	0.00	0.96
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.470	0.00	15.84
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.470	0.00	37.44
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.470	0.00	0.96
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.065	0.00	15.84
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.065	0.00	37.44
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.065	0.00	0.96
45.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.607	0.00	15.84
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.607	0.00	37.44
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.607	0.00	0.96
47.25	1 1/4" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	22.835	0.00	7.13
47.25	1 5/8" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	22.835	0.00	16.85
47.25	1/2" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	22.835	0.00	0.43
50.00	1 1/4" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	23.103	0.00	8.71
50.00	1 5/8" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	23.103	0.00	20.59
50.00	1/2" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	23.103	0.00	0.53
53.25	1 1/4" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.405	0.00	10.30
53.25	1 5/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.405	0.00	24.34
53.25	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.405	0.00	0.62
55.00	1 1/4" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.562	0.00	5.54
55.00	1 5/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.562	0.00	13.10
55.00	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.562	0.00	0.34
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.990	0.00	15.84
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.990	0.00	37.44
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.990	0.00	0.96
64.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	12.67
64.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	29.95
64.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	0.77
65.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.392	0.00	3.17
65.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.392	0.00	7.49

Linear Appurtenance Segment Forces (Factored)

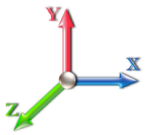
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 93 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)
65.50	1 1/4" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	24.430	0.00	1.58
65.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	24.430	0.00	3.74
70.00	1 1/4" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	24.770	0.00	14.26
70.00	1 5/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	24.770	0.00	33.70
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.127	0.00	15.84
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.127	0.00	37.44
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.466	0.00	15.84
80.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.466	0.00	37.44
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.789	0.00	15.84
85.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.789	0.00	37.44
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.098	0.00	15.84
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.098	0.00	37.44
95.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.394	0.00	15.84
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.394	0.00	37.44
96.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	3.17
96.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	7.49
99.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	9.50
99.00	1 5/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	22.46
100.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.677	0.00	3.17
100.75	1 1/4" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.000	0.000	26.719	0.00	2.38
105.00	1 1/4" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.000	0.000	26.950	0.00	13.46
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.213	0.00	15.84
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.466	0.00	15.84
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.712	0.00	15.84
121.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.760	0.00	3.17
125.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	27.949	0.00	12.67
128.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	28.088	0.00	9.50
129.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.133	0.00	3.17
130.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.179	0.00	3.17
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.402	0.00	15.84
139.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	28.576	0.00	12.67
140.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.619	0.00	3.17
145.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.829	0.00	15.84
147.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.912	0.00	6.34
									Totals:		**0.0**	**1,219.3**

Calculated Forces

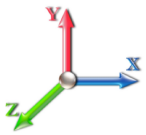
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 93 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	-49.72	-35.88	0.00	-3907.4	0.00	3907.42	4419.23	2209.62	10644.5	5330.19	0.00	0.000	0.000	0.745
5.00	-47.97	-35.53	0.00	-3728.0	0.00	3728.02	4369.00	2184.50	10304.7	5160.05	0.10	-0.180	0.000	0.734
10.00	-46.25	-35.17	0.00	-3550.3	0.00	3550.39	4317.04	2158.52	9966.05	4990.43	0.38	-0.363	0.000	0.722
15.00	-44.56	-34.82	0.00	-3374.5	0.00	3374.53	4263.35	2131.68	9628.61	4821.46	0.86	-0.548	0.000	0.711
20.00	-42.90	-34.43	0.00	-3200.4	0.00	3200.45	4207.92	2103.96	9292.72	4653.26	1.54	-0.736	0.000	0.698
25.00	-41.27	-34.03	0.00	-3028.2	0.00	3028.29	4150.77	2075.38	8958.64	4485.98	2.41	-0.926	0.000	0.685
30.00	-39.68	-33.61	0.00	-2858.1	0.00	2858.14	4091.88	2045.94	8626.63	4319.73	3.49	-1.119	0.000	0.672
35.00	-38.11	-33.18	0.00	-2690.0	0.00	2690.08	4031.25	2015.63	8296.96	4154.65	4.76	-1.313	0.000	0.657
40.00	-36.58	-32.74	0.00	-2524.1	0.00	2524.18	3968.90	1984.45	7969.88	3990.86	6.25	-1.510	0.000	0.642
45.00	-35.11	-32.26	0.00	-2360.4	0.00	2360.48	3904.81	1952.40	7645.65	3828.51	7.93	-1.708	0.000	0.626
47.25	-34.44	-32.06	0.00	-2287.9	0.00	2287.90	3875.40	1937.70	7500.75	3755.95	8.76	-1.799	0.000	0.618
50.00	-33.10	-31.80	0.00	-2199.7	0.00	2199.74	3838.99	1919.49	7324.54	3667.71	9.83	-1.911	0.000	0.609
53.25	-31.57	-31.45	0.00	-2096.4	0.00	2096.40	2982.57	1491.28	5685.98	2847.22	11.18	-2.043	0.000	0.747
55.00	-31.08	-31.34	0.00	-2041.3	0.00	2041.36	2966.84	1483.42	5604.01	2806.17	11.94	-2.115	0.000	0.738
60.00	-29.84	-30.87	0.00	-1884.6	0.00	1884.67	2920.75	1460.37	5370.68	2689.33	14.28	-2.345	0.000	0.711
64.00	-28.86	-30.36	0.00	-1761.1	0.00	1761.19	2882.62	1441.31	5185.10	2596.40	16.32	-2.530	0.000	0.689
65.00	-28.62	-30.26	0.00	-1730.8	0.00	1730.83	2872.92	1436.46	5138.87	2573.25	16.86	-2.578	0.000	0.683
65.50	-28.39	-30.19	0.00	-1715.7	0.00	1715.70	2868.04	1434.02	5115.78	2561.69	17.13	-2.601	0.000	0.680
70.00	-27.32	-29.78	0.00	-1579.8	0.00	1579.84	2823.36	1411.68	4908.84	2458.07	19.68	-2.808	0.000	0.653
75.00	-26.15	-29.32	0.00	-1430.9	0.00	1430.92	2772.06	1386.03	4680.84	2343.90	22.74	-3.033	0.000	0.620
80.00	-25.02	-28.86	0.00	-1284.3	0.00	1284.32	2719.04	1359.52	4455.15	2230.89	26.04	-3.256	0.000	0.585
85.00	-23.92	-28.39	0.00	-1140.0	0.00	1140.04	2664.28	1332.14	4232.01	2119.15	29.57	-3.473	0.000	0.547
90.00	-22.85	-27.93	0.00	-998.07	0.00	998.07	2607.79	1303.89	4011.70	2008.83	33.32	-3.683	0.000	0.506
95.00	-21.85	-27.44	0.00	-858.43	0.00	858.43	2549.57	1274.78	3794.46	1900.05	37.28	-3.883	0.000	0.461
96.00	-21.63	-27.36	0.00	-830.99	0.00	830.99	2537.71	1268.86	3751.41	1878.49	38.10	-3.923	0.000	0.451
99.00	-17.83	-21.64	0.00	-748.91	0.00	748.91	2501.74	1250.87	3623.07	1814.23	40.60	-4.039	0.000	0.420
100.00	-17.53	-21.54	0.00	-727.27	0.00	727.27	2489.61	1244.80	3580.57	1792.94	41.45	-4.077	0.000	0.413
100.75	-17.28	-21.48	0.00	-711.12	0.00	711.12	1858.32	929.16	2706.71	1355.36	42.09	-4.105	0.000	0.535
105.00	-16.60	-21.10	0.00	-619.84	0.00	619.84	1825.33	912.67	2580.97	1292.40	45.81	-4.257	0.000	0.489
110.00	-15.84	-20.64	0.00	-514.36	0.00	514.36	1784.92	892.46	2434.45	1219.03	50.38	-4.455	0.000	0.431
115.00	-15.10	-20.20	0.00	-411.14	0.00	411.14	1742.78	871.39	2289.70	1146.55	55.14	-4.635	0.000	0.368
120.00	-14.41	-19.74	0.00	-310.15	0.00	310.15	1698.90	849.45	2146.98	1075.09	60.08	-4.791	0.000	0.298
121.00	-10.22	-14.48	0.00	-290.41	0.00	290.41	1689.92	844.96	2118.70	1060.93	61.08	-4.820	0.000	0.280
125.00	-9.76	-14.13	0.00	-232.51	0.00	232.51	1653.30	826.65	2006.56	1004.77	65.16	-4.925	0.000	0.238
128.00	-7.73	-12.62	0.00	-190.13	0.00	190.13	1625.10	812.55	1923.51	963.18	68.28	-4.994	0.000	0.202
129.00	-7.62	-12.54	0.00	-177.51	0.00	177.51	1615.56	807.78	1896.04	949.43	69.32	-5.016	0.000	0.192
129.00	-7.62	-12.54	0.00	-177.51	0.00	177.51	1091.97	545.98	1287.15	644.53	69.32	-5.016	0.000	0.283
130.00	-7.52	-12.46	0.00	-164.97	0.00	164.97	1086.82	543.41	1270.20	636.04	70.38	-5.037	0.000	0.267
135.00	-7.09	-12.05	0.00	-102.67	0.00	102.67	1060.04	530.02	1185.82	593.79	75.71	-5.147	0.000	0.180
139.00	-3.94	-6.83	0.00	-54.48	0.00	54.48	1037.37	518.68	1118.90	560.28	80.05	-5.207	0.000	0.101
140.00	-3.87	-6.76	0.00	-47.64	0.00	47.64	1031.53	515.76	1102.27	551.95	81.14	-5.217	0.000	0.090
145.00	-3.57	-6.37	0.00	-13.86	0.00	13.86	1001.28	500.64	1019.81	510.66	86.61	-5.250	0.000	0.031
147.00	-0.51	-0.49	0.00	-1.12	0.00	1.12	988.70	494.35	987.19	494.33	88.81	-5.254	0.000	0.003
149.00	0.00	-0.44	0.00	-0.13	0.00	0.13	975.84	487.92	954.81	478.11	91.01	-5.254	0.000	0.000

Wind Loading - Shaft

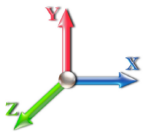
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	17.879	19.67	427.41	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	418.64	0.650	0.000	5.00	24.669	16.03	504.6	0.0	1055.8
10.00		1.00	0.85	17.879	19.67	409.87	0.650	0.000	5.00	24.157	15.70	494.1	0.0	1033.7
15.00		1.00	0.86	18.100	19.91	403.56	0.650	0.000	5.00	23.645	15.37	489.6	0.0	1011.7
20.00		1.00	0.91	19.166	21.08	406.20	0.650	0.000	5.00	23.134	15.04	507.2	0.0	989.7
25.00		1.00	0.95	20.048	22.05	406.14	0.650	0.000	5.00	22.622	14.70	518.8	0.0	967.6
30.00		1.00	0.99	20.804	22.88	404.27	0.650	0.000	5.00	22.111	14.37	526.2	0.0	945.6
35.00		1.00	1.02	21.470	23.62	401.07	0.650	0.000	5.00	21.599	14.04	530.5	0.0	923.6
40.00		1.00	1.05	22.065	24.27	396.85	0.650	0.000	5.00	21.087	13.71	532.3	0.0	901.5
45.00		1.00	1.07	22.607	24.87	391.82	0.650	0.000	5.00	20.576	13.37	532.1	0.0	879.5
47.25	Bot - Section 2	1.00	1.09	22.835	25.12	389.33	0.650	0.000	2.25	9.092	5.91	237.5	0.0	388.6
50.00		1.00	1.10	23.103	25.41	386.13	0.650	0.000	2.75	11.117	7.23	293.8	0.0	865.3
53.25	Top - Section 1	1.00	1.11	23.405	25.75	382.12	0.650	0.000	3.25	12.939	8.41	346.5	0.0	1006.9
55.00		1.00	1.12	23.562	25.92	385.08	0.650	0.000	1.75	6.878	4.47	185.4	0.0	245.2
60.00		1.00	1.14	23.990	26.39	378.40	0.650	0.000	5.00	19.305	12.55	529.8	0.0	688.2
64.00	Appurtenance(s)	1.00	1.16	24.313	26.74	372.75	0.650	0.000	4.00	15.076	9.80	419.3	0.0	537.4
65.00		1.00	1.16	24.392	26.83	371.30	0.650	0.000	1.00	3.718	2.42	103.7	0.0	132.5
65.50	Appurtenance(s)	1.00	1.16	24.430	26.87	370.57	0.650	0.000	0.50	1.851	1.20	51.7	0.0	66.0
70.00		1.00	1.18	24.770	27.25	363.84	0.650	0.000	4.50	16.431	10.68	465.6	0.0	585.5
75.00		1.00	1.19	25.127	27.64	356.06	0.650	0.000	5.00	17.770	11.55	510.8	0.0	633.1
80.00		1.00	1.21	25.466	28.01	347.98	0.650	0.000	5.00	17.259	11.22	502.8	0.0	614.8
85.00		1.00	1.23	25.789	28.37	339.65	0.650	0.000	5.00	16.747	10.89	494.1	0.0	596.4
90.00		1.00	1.24	26.098	28.71	331.07	0.650	0.000	5.00	16.236	10.55	484.7	0.0	578.1
95.00		1.00	1.25	26.394	29.03	322.28	0.650	0.000	5.00	15.724	10.22	474.8	0.0	559.7
96.00	Bot - Section 3	1.00	1.26	26.451	29.10	320.50	0.650	0.000	1.00	3.083	2.00	93.3	0.0	109.7
99.00	Appurtenance(s)	1.00	1.27	26.621	29.28	315.11	0.650	0.000	3.00	9.254	6.02	281.8	0.0	588.7
100.00		1.00	1.27	26.677	29.35	313.29	0.650	0.000	1.00	3.044	1.98	92.9	0.0	193.6
100.75	Top - Section 2	1.00	1.27	26.719	29.39	311.93	0.650	0.000	0.75	2.269	1.48	69.4	0.0	144.3
105.00		1.00	1.28	26.950	29.65	308.57	0.650	0.000	4.25	12.643	8.22	389.8	0.0	360.5
110.00		1.00	1.29	27.213	29.93	299.25	0.650	0.000	5.00	14.401	9.36	448.3	0.0	410.5
115.00		1.00	1.31	27.466	30.21	289.77	0.650	0.000	5.00	13.889	9.03	436.4	0.0	395.8
120.00		1.00	1.32	27.712	30.48	280.13	0.650	0.000	5.00	13.377	8.70	424.1	0.0	381.1
121.00	Appurtenance(s)	1.00	1.32	27.760	30.54	278.19	0.650	0.000	1.00	2.614	1.70	83.0	0.0	74.5
125.00		1.00	1.33	27.949	30.74	270.36	0.650	0.000	4.00	10.252	6.66	327.8	0.0	292.0
128.00	Appurtenance(s)	1.00	1.34	28.088	30.90	264.43	0.650	0.000	3.00	7.474	4.86	240.2	0.0	212.8
129.00	Top - Section 3	1.00	1.34	28.133	30.95	262.45	0.650	0.000	1.00	2.450	1.59	78.9	0.0	69.8
130.00		1.00	1.34	28.179	31.00	260.46	0.650	0.000	1.00	2.430	1.58	78.3	0.0	52.0
135.00		1.00	1.35	28.402	31.24	250.43	0.650	0.000	5.00	11.843	7.70	384.8	0.0	253.4
139.00	Appurtenance(s)	1.00	1.36	28.576	31.43	242.32	0.650	0.000	4.00	9.106	5.92	297.7	0.0	194.8
140.00		1.00	1.36	28.619	31.48	240.28	0.650	0.000	1.00	2.225	1.45	72.9	0.0	47.6
145.00		1.00	1.37	28.829	31.71	230.02	0.650	0.000	5.00	10.819	7.03	356.8	0.0	231.3
147.00	Appurtenance(s)	1.00	1.37	28.912	31.80	225.89	0.650	0.000	2.00	4.184	2.72	138.4	0.0	89.4
149.00	Appurtenance(s)	1.00	1.38	28.994	31.89	221.74	0.650	0.000	2.00	4.103	2.67	136.1	0.0	87.7
								Totals:	**149.00**			**14,167.0**		**20,395.9**

Discrete Appurtenance Forces

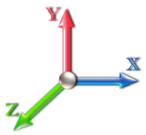
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	149.00	Decibel DB404-B	1	29.095	32.004	1.00	1.00	1.03	12.60	0.000	2.500	52.74	0.00	131.86
2	149.00	Pipe Mount	1	28.994	31.893	1.00	1.00	5.00	315.00	0.000	0.000	255.14	0.00	0.00
3	147.00	800MHz RRH w/ filter	3	28.912	31.803	0.90	0.90	9.34	184.41	0.000	0.000	475.37	0.00	0.00
4	147.00	RFS APXVTM14-C-120	3	28.912	31.803	0.71	0.90	13.52	151.20	0.000	0.000	688.13	0.00	0.00
5	147.00	RFS APXVSPP18-C-A20	3	28.912	31.803	0.75	0.90	17.97	153.90	0.000	0.000	914.55	0.00	0.00
6	147.00	ALU 1900MHz RRH	3	28.912	31.803	0.60	0.90	6.87	118.80	0.000	0.000	349.79	0.00	0.00
7	147.00	ALU 800MHz RRH	3	28.912	31.803	0.60	0.90	4.78	160.65	0.000	0.000	243.01	0.00	0.00
8	147.00	ALU TD-RRH8x20-25	3	28.912	31.803	0.60	0.90	7.33	189.00	0.000	0.000	372.81	0.00	0.00
9	147.00	RFS ACU-A20-N	4	28.912	31.803	0.71	0.90	0.40	3.60	0.000	0.000	20.26	0.00	0.00
10	147.00	Argus LLPX310R	3	28.912	31.803	0.62	0.90	8.01	77.22	0.000	0.000	407.63	0.00	0.00
11	147.00	Andrew VHLP2-11	1	28.912	31.803	1.00	1.00	4.68	24.30	0.000	0.000	238.14	0.00	0.00
12	147.00	Andrew VHLP800-11-DW1	1	28.912	31.803	1.00	1.00	6.70	44.10	0.000	0.000	340.93	0.00	0.00
13	147.00	U-RAS Flexible RRH	3	28.912	31.803	0.78	1.00	5.22	136.89	0.000	0.000	265.53	0.00	0.00
14	147.00	12.5' Low Profile Platform	1	28.912	31.803	1.00	1.00	22.00	1350.00	0.000	0.000	1119.47	0.00	0.00
15	139.00	Powerwave 7020.00 RET	12	28.576	31.433	0.54	0.80	2.57	23.76	0.000	0.000	129.39	0.00	0.00
16	139.00	Powerwave LGP13519	6	28.576	31.433	0.80	0.80	1.63	28.62	0.000	0.000	82.08	0.00	0.00
17	139.00	Ericsson RRUS-32 B2s	3	28.576	31.433	0.54	0.80	4.41	162.00	0.000	0.000	221.59	0.00	0.00
18	139.00	Low Profile Platform	1	28.576	31.433	1.00	1.00	22.00	1350.00	0.000	0.000	1106.45	0.00	0.00
19	139.00	4449 B5/B12	3	28.576	31.433	0.54	0.80	3.17	191.70	0.000	0.000	159.32	0.00	0.00
20	139.00	HPA-65R-BUU-H6	3	28.576	31.433	0.68	0.80	19.71	137.70	0.000	0.000	991.10	0.00	0.00
21	139.00	Powerawve LGP21901	6	28.576	31.433	0.60	0.80	0.83	29.70	0.000	0.000	41.64	0.00	0.00
22	139.00	WCS-IMFQ-AMT	1	28.576	31.433	0.40	0.80	0.40	31.05	0.000	0.000	19.92	0.00	0.00
23	139.00	7770	3	28.576	31.433	0.58	0.80	9.64	94.50	0.000	0.000	484.62	0.00	0.00
24	139.00	Raycap DC6-48-60-18-8F	2	28.576	31.433	0.80	0.80	2.35	59.04	0.000	0.000	118.29	0.00	0.00
25	139.00	Commscope	3	28.576	31.433	0.78	0.80	0.12	4.32	0.000	0.000	5.91	0.00	0.00
26	139.00	4415 B30	3	28.576	31.433	0.54	0.80	2.64	124.20	0.000	0.000	132.63	0.00	0.00
27	139.00	DMP65R-BU6DA	3	28.576	31.433	0.58	0.80	22.27	214.38	0.000	0.000	1119.92	0.00	0.00
28	128.00	Low Profile Platform	1	28.088	30.896	1.00	1.00	22.00	1350.00	0.000	0.000	1087.55	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	27.760	30.536	0.50	0.75	0.62	29.70	0.000	0.000	30.20	0.00	0.00
30	121.00	KRD 9011461-B66A-B2A	3	27.760	30.536	0.65	0.75	12.74	356.94	0.000	0.000	622.60	0.00	0.00
31	121.00	AIR6449 B41	3	27.760	30.536	0.53	0.75	9.03	278.10	0.000	0.000	440.98	0.00	0.00
32	121.00	APXVAALL24_43-U-NA20	3	27.760	30.536	0.52	0.75	31.88	345.60	0.000	0.000	1557.46	0.00	0.00
33	121.00	SDX1926Q-43	3	27.760	30.536	0.50	0.75	0.78	11.61	0.000	0.000	38.30	0.00	0.00
34	121.00	Low Profile Platform	1	27.760	30.536	1.00	1.00	22.00	1350.00	0.000	0.000	1074.85	0.00	0.00
35	121.00	4449 B71 + B85	3	27.760	30.536	0.50	0.75	2.97	197.64	0.000	0.000	145.09	0.00	0.00
36	121.00	RRUS 4415 B25	3	27.760	30.536	0.50	0.75	2.47	124.20	0.000	0.000	120.79	0.00	0.00
37	121.00	HRK12 (Handrail Kit)	1	27.760	30.536	1.00	1.00	6.75	235.55	0.000	0.000	329.78	0.00	0.00
38	121.00	PRK-1245 (kicker kit)	1	27.760	30.536	1.00	1.00	9.50	418.42	0.000	0.000	464.14	0.00	0.00
39	99.00	B5/B13 RRH-BR04C	3	26.621	29.284	0.54	0.80	3.02	228.15	0.000	0.000	141.64	0.00	0.00
40	99.00	B2/B66A RRH-BR049	3	26.621	29.284	0.54	0.80	3.02	228.15	0.000	0.000	141.64	0.00	0.00
41	99.00	DB-C1-12C-24AB-OZ	1	26.621	29.284	1.00	1.00	4.06	28.80	0.000	0.000	190.23	0.00	0.00
42	99.00	AS-005245	3	26.621	29.284	1.00	1.00	1.80	94.50	0.000	0.000	84.34	0.00	0.00
43	99.00	QS6656-5D	6	26.621	29.284	0.74	0.80	36.29	351.00	0.000	0.000	1700.43	0.00	0.00
44	99.00	12.5' Low Profile Platform	1	26.621	29.284	1.00	1.00	22.00	1350.00	0.000	0.000	1030.78	0.00	0.00
45	99.00	BXA-70063/6CF_4	1	26.621	29.284	0.80	0.80	6.06	15.30	0.000	0.000	283.75	0.00	0.00
46	99.00	BXA-171063-12CF-EDIN-	1	26.621	29.284	0.67	0.80	3.21	13.50	0.000	0.000	150.50	0.00	0.00
47	99.00	SLCP 2x6014	1	26.621	29.284	0.71	0.80	4.62	18.00	0.000	0.000	216.51	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

48	99.00	RFS APL866513-42T0	4	26.621	29.284	0.74	0.80	12.05	56.52	0.000	0.000	564.72	0.00	0.00
49	99.00	Antel LPA-80063-6CF	2	26.621	29.284	0.74	0.80	14.52	48.60	0.000	0.000	680.45	0.00	0.00
50	65.50	Decibel 26OB	1	24.430	26.874	0.80	0.80	1.60	45.00	0.000	0.000	68.80	0.00	0.00
51	64.00	3 ft Standoff	1	24.313	26.745	1.00	1.00	2.63	36.00	0.000	0.000	112.54	0.00	0.00
							Totals:		**12,583.92**			**21,634.44**		

Total Applied Force Summary

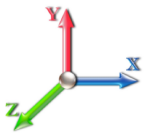
Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 19

IES Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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		504.57	1229.16	0.00	0.00
10.00		494.10	1207.12	0.00	0.00
15.00		489.61	1185.08	0.00	0.00
20.00		507.24	1163.05	0.00	0.00
25.00		518.84	1141.01	0.00	0.00
30.00		526.23	1118.97	0.00	0.00
35.00		530.50	1096.93	0.00	0.00
40.00		532.31	1074.89	0.00	0.00
45.00		532.13	1052.85	0.00	0.00
47.25		237.52	466.59	0.00	0.00
50.00		293.83	960.68	0.00	0.00
53.25		346.46	1119.60	0.00	0.00
55.00		185.39	305.91	0.00	0.00
60.00		529.84	861.62	0.00	0.00
64.00	(1) attachments	531.87	712.07	0.00	0.00
65.00		103.74	167.04	0.00	0.00
65.50	(1) attachments	120.54	128.24	0.00	0.00
70.00		465.59	740.93	0.00	0.00
75.00		510.82	805.80	0.00	0.00
80.00		502.81	787.44	0.00	0.00
85.00		494.10	769.07	0.00	0.00
90.00		484.73	750.71	0.00	0.00
95.00		474.78	732.34	0.00	0.00
96.00		93.30	144.26	0.00	0.00
99.00	(26) attachments	5466.83	3124.84	0.00	0.00
100.00		92.89	221.52	0.00	0.00
100.75		69.37	165.27	0.00	0.00
105.00		389.79	479.17	0.00	0.00
110.00		448.32	550.13	0.00	0.00
115.00		436.42	535.44	0.00	0.00
120.00		424.09	520.75	0.00	0.00
121.00	(24) attachments	4907.21	3450.14	0.00	0.00
125.00		327.78	354.35	0.00	0.00
128.00	(1) attachments	1327.71	1609.59	0.00	0.00
129.00		78.86	85.36	0.00	0.00
130.00		78.33	67.59	0.00	0.00
135.00		384.79	331.33	0.00	0.00
139.00	(49) attachments	4910.53	2708.10	0.00	0.00
140.00		72.85	51.15	0.00	0.00
145.00		356.83	249.14	0.00	0.00
147.00	(31) attachments	5574.02	2690.64	0.00	0.00
149.00	(2) attachments	443.97	416.21	0.00	131.86
	Totals:	**35,801.43**	**37,332.12**	**0.00**	**131.86**

Linear Appurtenance Segment Forces (Factored)

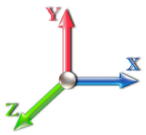
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	11.88
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	28.08
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	0.72
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	11.88
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	28.08
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	0.72
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.100	0.00	11.88
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.100	0.00	28.08
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.100	0.00	0.72
20.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.166	0.00	11.88
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.166	0.00	28.08
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.166	0.00	0.72
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.048	0.00	11.88
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.048	0.00	28.08
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.048	0.00	0.72
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.804	0.00	11.88
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.804	0.00	28.08
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.804	0.00	0.72
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.470	0.00	11.88
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.470	0.00	28.08
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.470	0.00	0.72
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.065	0.00	11.88
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.065	0.00	28.08
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.065	0.00	0.72
45.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.607	0.00	11.88
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.607	0.00	28.08
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.607	0.00	0.72
47.25	1 1/4" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	22.835	0.00	5.35
47.25	1 5/8" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	22.835	0.00	12.64
47.25	1/2" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	22.835	0.00	0.32
50.00	1 1/4" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	23.103	0.00	6.53
50.00	1 5/8" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	23.103	0.00	15.44
50.00	1/2" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	23.103	0.00	0.40
53.25	1 1/4" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.405	0.00	7.72
53.25	1 5/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.405	0.00	18.25
53.25	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.405	0.00	0.47
55.00	1 1/4" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.562	0.00	4.16
55.00	1 5/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.562	0.00	9.83
55.00	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.562	0.00	0.25
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.990	0.00	11.88
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.990	0.00	28.08
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.990	0.00	0.72
64.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	9.50
64.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	22.46
64.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	0.58
65.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.392	0.00	2.38
65.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	24.392	0.00	5.62

Linear Appurtenance Segment Forces (Factored)

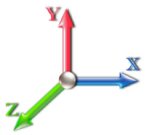
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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)
65.50	1 1/4" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	24.430	0.00	1.19
65.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	24.430	0.00	2.81
70.00	1 1/4" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	24.770	0.00	10.69
70.00	1 5/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	24.770	0.00	25.27
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.127	0.00	11.88
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.127	0.00	28.08
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.466	0.00	11.88
80.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.466	0.00	28.08
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.789	0.00	11.88
85.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.789	0.00	28.08
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.098	0.00	11.88
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.098	0.00	28.08
95.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.394	0.00	11.88
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.394	0.00	28.08
96.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	2.38
96.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	5.62
99.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	7.13
99.00	1 5/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	16.85
100.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	26.677	0.00	2.38
100.75	1 1/4" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.000	0.000	26.719	0.00	1.78
105.00	1 1/4" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.000	0.000	26.950	0.00	10.10
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.213	0.00	11.88
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.466	0.00	11.88
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.712	0.00	11.88
121.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	27.760	0.00	2.38
125.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	27.949	0.00	9.50
128.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	28.088	0.00	7.13
129.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.133	0.00	2.38
130.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.179	0.00	2.38
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.402	0.00	11.88
139.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	28.576	0.00	9.50
140.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	28.619	0.00	2.38
145.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.829	0.00	11.88
147.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.912	0.00	4.75
									Totals:		**0.0**	**914.5**

Calculated Forces

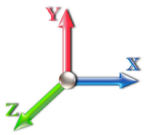
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-37.27	-35.86	0.00	-3867.7	0.00	3867.72	4419.23	2209.62	10644.5	5330.19	0.00	0.000	0.000	0.734
5.00	-35.94	-35.47	0.00	-3688.4	0.00	3688.42	4369.00	2184.50	10304.7	5160.05	0.10	-0.178	0.000	0.723
10.00	-34.62	-35.08	0.00	-3511.1	0.00	3511.10	4317.04	2158.52	9966.05	4990.43	0.38	-0.359	0.000	0.712
15.00	-33.33	-34.68	0.00	-3335.7	0.00	3335.72	4263.35	2131.68	9628.61	4821.46	0.86	-0.542	0.000	0.700
20.00	-32.06	-34.27	0.00	-3162.3	0.00	3162.30	4207.92	2103.96	9292.72	4653.26	1.52	-0.728	0.000	0.687
25.00	-30.81	-33.84	0.00	-2990.9	0.00	2990.95	4150.77	2075.38	8958.64	4485.98	2.39	-0.916	0.000	0.674
30.00	-29.59	-33.39	0.00	-2821.7	0.00	2821.78	4091.88	2045.94	8626.63	4319.73	3.45	-1.106	0.000	0.661
35.00	-28.40	-32.93	0.00	-2654.8	0.00	2654.83	4031.25	2015.63	8296.96	4154.65	4.71	-1.298	0.000	0.646
40.00	-27.22	-32.47	0.00	-2490.1	0.00	2490.18	3968.90	1984.45	7969.88	3990.86	6.17	-1.492	0.000	0.631
45.00	-26.11	-31.97	0.00	-2327.8	0.00	2327.85	3904.81	1952.40	7645.65	3828.51	7.84	-1.687	0.000	0.615
47.25	-25.59	-31.76	0.00	-2255.9	0.00	2255.92	3875.40	1937.70	7500.75	3755.95	8.66	-1.777	0.000	0.607
50.00	-24.58	-31.49	0.00	-2168.5	0.00	2168.58	3838.99	1919.49	7324.54	3667.71	9.72	-1.888	0.000	0.598
53.25	-23.41	-31.15	0.00	-2066.2	0.00	2066.24	2982.57	1491.28	5685.98	2847.22	11.05	-2.018	0.000	0.734
55.00	-23.03	-31.01	0.00	-2011.7	0.00	2011.73	2966.84	1483.42	5604.01	2806.17	11.80	-2.088	0.000	0.725
60.00	-22.08	-30.53	0.00	-1856.6	0.00	1856.68	2920.75	1460.37	5370.68	2689.33	14.11	-2.315	0.000	0.698
64.00	-21.34	-30.01	0.00	-1734.5	0.00	1734.57	2882.62	1441.31	5185.10	2596.40	16.13	-2.498	0.000	0.676
65.00	-21.16	-29.91	0.00	-1704.5	0.00	1704.56	2872.92	1436.46	5138.87	2573.25	16.66	-2.544	0.000	0.670
65.50	-20.97	-29.83	0.00	-1689.6	0.00	1689.61	2868.04	1434.02	5115.78	2561.69	16.92	-2.568	0.000	0.667
70.00	-20.15	-29.40	0.00	-1555.4	0.00	1555.40	2823.36	1411.68	4908.84	2458.07	19.44	-2.771	0.000	0.640
75.00	-19.26	-28.93	0.00	-1408.3	0.00	1408.39	2772.06	1386.03	4680.84	2343.90	22.46	-2.993	0.000	0.608
80.00	-18.39	-28.45	0.00	-1263.7	0.00	1263.77	2719.04	1359.52	4455.15	2230.89	25.72	-3.212	0.000	0.574
85.00	-17.55	-27.98	0.00	-1121.5	0.00	1121.52	2664.28	1332.14	4232.01	2119.15	29.20	-3.425	0.000	0.536
90.00	-16.73	-27.51	0.00	-981.64	0.00	981.64	2607.79	1303.89	4011.70	2008.83	32.89	-3.632	0.000	0.496
95.00	-15.98	-27.02	0.00	-844.11	0.00	844.11	2549.57	1274.78	3794.46	1900.05	36.80	-3.829	0.000	0.451
96.00	-15.80	-26.94	0.00	-817.09	0.00	817.09	2537.71	1268.86	3751.41	1878.49	37.61	-3.869	0.000	0.442
99.00	-13.03	-21.28	0.00	-736.29	0.00	736.29	2501.74	1250.87	3623.07	1814.23	40.08	-3.982	0.000	0.411
100.00	-12.81	-21.18	0.00	-715.00	0.00	715.00	2489.61	1244.80	3580.57	1792.94	40.91	-4.019	0.000	0.404
100.75	-12.61	-21.12	0.00	-699.12	0.00	699.12	1858.32	929.16	2706.71	1355.36	41.55	-4.047	0.000	0.523
105.00	-12.10	-20.74	0.00	-609.35	0.00	609.35	1825.33	912.67	2580.97	1292.40	45.22	-4.197	0.000	0.479
110.00	-11.52	-20.29	0.00	-505.67	0.00	505.67	1784.92	892.46	2434.45	1219.03	49.72	-4.391	0.000	0.422
115.00	-10.96	-19.84	0.00	-404.24	0.00	404.24	1742.78	871.39	2289.70	1146.55	54.41	-4.568	0.000	0.359
120.00	-10.45	-19.39	0.00	-305.04	0.00	305.04	1698.90	849.45	2146.98	1075.09	59.27	-4.722	0.000	0.290
121.00	-7.40	-14.22	0.00	-285.65	0.00	285.65	1689.92	844.96	2118.70	1060.93	60.26	-4.750	0.000	0.274
125.00	-7.05	-13.88	0.00	-228.75	0.00	228.75	1653.30	826.65	2006.56	1004.77	64.29	-4.853	0.000	0.232
128.00	-5.55	-12.42	0.00	-187.12	0.00	187.12	1625.10	812.55	1923.51	963.18	67.36	-4.922	0.000	0.198
129.00	-5.47	-12.34	0.00	-174.69	0.00	174.69	1615.56	807.78	1896.04	949.43	68.39	-4.943	0.000	0.188
129.00	-5.47	-12.34	0.00	-174.69	0.00	174.69	1091.97	545.98	1287.15	644.53	68.39	-4.943	0.000	0.277
130.00	-5.39	-12.26	0.00	-162.35	0.00	162.35	1086.82	543.41	1270.20	636.04	69.42	-4.964	0.000	0.261
135.00	-5.08	-11.86	0.00	-101.05	0.00	101.05	1060.04	530.02	1185.82	593.79	74.68	-5.072	0.000	0.175
139.00	-2.82	-6.73	0.00	-53.62	0.00	53.62	1037.37	518.68	1118.90	560.28	78.95	-5.131	0.000	0.099
140.00	-2.77	-6.65	0.00	-46.89	0.00	46.89	1031.53	515.76	1102.27	551.95	80.03	-5.141	0.000	0.088
145.00	-2.55	-6.27	0.00	-13.64	0.00	13.64	1001.28	500.64	1019.81	510.66	85.43	-5.174	0.000	0.029
147.00	-0.37	-0.48	0.00	-1.09	0.00	1.09	988.70	494.35	987.19	494.33	87.59	-5.177	0.000	0.003
149.00	0.00	-0.44	0.00	-0.13	0.00	0.13	975.84	487.92	954.81	478.11	89.76	-5.178	0.000	0.000

Wind Loading - Shaft

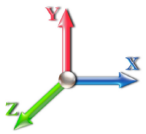
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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	1.057	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	1.265	5.00	25.723	30.87	175.5	467.2	1875.0
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.344	5.00	25.277	30.33	172.4	486.9	1865.2
15.00		1.00	0.86	5.232	5.76	0.00	1.200	1.395	5.00	24.808	29.77	171.3	495.4	1844.3
20.00		1.00	0.91	5.540	6.09	0.00	1.200	1.434	5.00	24.329	29.19	177.9	498.5	1818.1
25.00		1.00	0.95	5.795	6.37	0.00	1.200	1.465	5.00	23.843	28.61	182.4	498.5	1788.6
30.00		1.00	0.99	6.013	6.61	0.00	1.200	1.491	5.00	23.353	28.02	185.4	496.2	1757.0
35.00		1.00	1.02	6.206	6.83	0.00	1.200	1.513	5.00	22.860	27.43	187.3	492.5	1723.9
40.00		1.00	1.05	6.378	7.02	0.00	1.200	1.533	5.00	22.365	26.84	188.3	487.5	1689.5
45.00		1.00	1.07	6.534	7.19	0.00	1.200	1.551	5.00	21.868	26.24	188.6	481.5	1654.2
47.25	Bot - Section 2	1.00	1.09	6.600	7.26	0.00	1.200	1.558	2.25	9.676	11.61	84.3	215.4	733.5
50.00		1.00	1.10	6.678	7.35	0.00	1.200	1.567	2.75	11.835	14.20	104.3	264.5	1418.3
53.25	Top - Section 1	1.00	1.11	6.765	7.44	0.00	1.200	1.576	3.25	13.793	16.55	123.2	309.6	1652.1
55.00		1.00	1.12	6.811	7.49	0.00	1.200	1.581	1.75	7.339	8.81	66.0	165.8	492.7
60.00		1.00	1.14	6.934	7.63	0.00	1.200	1.595	5.00	20.635	24.76	188.9	465.7	1383.4
64.00	Appurtenance(s)	1.00	1.16	7.028	7.73	0.00	1.200	1.605	4.00	16.146	19.38	149.8	367.3	1083.8
65.00		1.00	1.16	7.050	7.76	0.00	1.200	1.608	1.00	3.986	4.78	37.1	91.5	268.1
65.50	Appurtenance(s)	1.00	1.16	7.062	7.77	0.00	1.200	1.609	0.50	1.985	2.38	18.5	45.7	133.6
70.00		1.00	1.18	7.160	7.88	0.00	1.200	1.619	4.50	17.645	21.17	166.8	403.7	1184.4
75.00		1.00	1.19	7.263	7.99	0.00	1.200	1.631	5.00	19.129	22.96	183.4	439.4	1283.6
80.00		1.00	1.21	7.361	8.10	0.00	1.200	1.641	5.00	18.626	22.35	181.0	429.9	1249.6
85.00		1.00	1.23	7.454	8.20	0.00	1.200	1.651	5.00	18.123	21.75	178.3	420.0	1215.3
90.00		1.00	1.24	7.544	8.30	0.00	1.200	1.660	5.00	17.619	21.14	175.4	409.9	1180.7
95.00		1.00	1.25	7.629	8.39	0.00	1.200	1.669	5.00	17.115	20.54	172.4	399.6	1145.8
96.00	Bot - Section 3	1.00	1.26	7.646	8.41	0.00	1.200	1.671	1.00	3.362	4.03	33.9	79.5	225.8
99.00	Appurtenance(s)	1.00	1.27	7.695	8.46	0.00	1.200	1.676	3.00	10.092	12.11	102.5	237.8	1022.8
100.00		1.00	1.27	7.711	8.48	0.00	1.200	1.678	1.00	3.323	3.99	33.8	78.8	337.0
100.75	Top - Section 2	1.00	1.27	7.723	8.50	0.00	1.200	1.679	0.75	2.479	2.98	25.3	58.9	251.3
105.00		1.00	1.28	7.790	8.57	0.00	1.200	1.686	4.25	13.837	16.60	142.3	325.9	806.6
110.00		1.00	1.29	7.866	8.65	0.00	1.200	1.693	5.00	15.812	18.97	164.2	372.5	919.8
115.00		1.00	1.31	7.939	8.73	0.00	1.200	1.701	5.00	15.307	18.37	160.4	361.3	889.1
120.00		1.00	1.32	8.010	8.81	0.00	1.200	1.708	5.00	14.801	17.76	156.5	350.0	858.1
121.00	Appurtenance(s)	1.00	1.32	8.024	8.83	0.00	1.200	1.710	1.00	2.899	3.48	30.7	69.5	168.8
125.00		1.00	1.33	8.079	8.89	0.00	1.200	1.715	4.00	11.395	13.67	121.5	270.8	660.1
128.00	Appurtenance(s)	1.00	1.34	8.119	8.93	0.00	1.200	1.719	3.00	8.333	10.00	89.3	198.9	482.6
129.00	Top - Section 3	1.00	1.34	8.132	8.95	0.00	1.200	1.720	1.00	2.737	3.28	29.4	65.8	158.8
130.00		1.00	1.34	8.145	8.96	0.00	1.200	1.722	1.00	2.717	3.26	29.2	65.4	134.7
135.00		1.00	1.35	8.210	9.03	0.00	1.200	1.728	5.00	13.283	15.94	143.9	315.0	652.8
139.00	Appurtenance(s)	1.00	1.36	8.260	9.09	0.00	1.200	1.733	4.00	10.261	12.31	111.9	244.4	504.1
140.00		1.00	1.36	8.272	9.10	0.00	1.200	1.734	1.00	2.514	3.02	27.5	60.6	124.1
145.00		1.00	1.37	8.333	9.17	0.00	1.200	1.741	5.00	12.270	14.72	135.0	291.0	599.4
147.00	Appurtenance(s)	1.00	1.37	8.357	9.19	0.00	1.200	1.743	2.00	4.765	5.72	52.6	114.5	233.7
149.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	1.745	2.00	4.684	5.62	51.8	112.5	229.4
								Totals:	**149.00**			**5,100.0**		**39,699.9**

Discrete Appurtenance Forces

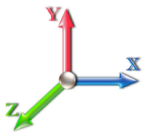
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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	149.00	Decibel DB404-B	1	8.410	9.251	1.00	1.00	3.84	39.96	0.000	2.500	35.50	0.00	88.76
2	149.00	Pipe Mount	1	8.381	9.219	1.00	1.00	8.49	613.20	0.000	0.000	78.27	0.00	0.00
3	147.00	800MHz RRH w/ filter	3	8.357	9.193	0.90	0.90	12.88	439.16	0.000	0.000	118.45	0.00	0.00
4	147.00	RFS APXVTM14-C-120	3	8.357	9.193	0.71	0.90	15.89	682.06	0.000	0.000	146.12	0.00	0.00
5	147.00	RFS APXVSPP18-C-A20	3	8.357	9.193	0.75	0.90	24.23	574.56	0.000	0.000	222.69	0.00	0.00
6	147.00	ALU 1900MHz RRH	3	8.357	9.193	0.60	0.90	9.39	391.85	0.000	0.000	86.28	0.00	0.00
7	147.00	ALU 800MHz RRH	3	8.357	9.193	0.60	0.90	6.87	380.70	0.000	0.000	63.12	0.00	0.00
8	147.00	ALU TD-RRH8x20-25	3	8.357	9.193	0.60	0.90	8.80	582.85	0.000	0.000	80.85	0.00	0.00
9	147.00	RFS ACU-A20-N	4	8.357	9.193	0.71	0.90	1.24	16.76	0.000	0.000	11.41	0.00	0.00
10	147.00	Argus LLPX310R	3	8.357	9.193	0.62	0.90	11.10	295.81	0.000	0.000	102.03	0.00	0.00
11	147.00	Andrew VHLP2-11	1	8.357	9.193	1.00	1.00	5.95	102.13	0.000	0.000	54.72	0.00	0.00
12	147.00	Andrew VHLP800-11-DW1	1	8.357	9.193	1.00	1.00	8.22	157.27	0.000	0.000	75.59	0.00	0.00
13	147.00	U-RAS Flexible RRH	3	8.357	9.193	0.78	1.00	7.70	308.25	0.000	0.000	70.78	0.00	0.00
14	147.00	12.5' Low Profile Platform	1	8.357	9.193	1.00	1.00	39.64	2807.16	0.000	0.000	364.38	0.00	0.00
15	139.00	Powerwave 7020.00 RET	12	8.260	9.086	0.54	0.80	5.66	118.87	0.000	0.000	51.46	0.00	0.00
16	139.00	Powerwave LGP13519	6	8.260	9.086	0.80	0.80	3.80	78.55	0.000	0.000	34.49	0.00	0.00
17	139.00	Ericsson RRUS-32 B2s	3	8.260	9.086	0.54	0.80	5.57	477.77	0.000	0.000	50.60	0.00	0.00
18	139.00	Low Profile Platform	1	8.260	9.086	1.00	1.00	39.54	2799.91	0.000	0.000	359.25	0.00	0.00
19	139.00	4449 B5/B12	3	8.260	9.086	0.54	0.80	4.04	373.84	0.000	0.000	36.72	0.00	0.00
20	139.00	HPA-65R-BUU-H6	3	8.260	9.086	0.68	0.80	22.47	921.96	0.000	0.000	204.19	0.00	0.00
21	139.00	Powerawve LGP21901	6	8.260	9.086	0.60	0.80	2.14	72.23	0.000	0.000	19.48	0.00	0.00
22	139.00	WCS-IMFQ-AMT	1	8.260	9.086	0.40	0.80	0.57	84.16	0.000	0.000	5.14	0.00	0.00
23	139.00	7770	3	8.260	9.086	0.58	0.80	11.49	528.10	0.000	0.000	104.38	0.00	0.00
24	139.00	Raycap DC6-48-60-18-8F	2	8.260	9.086	0.80	0.80	3.46	166.11	0.000	0.000	31.47	0.00	0.00
25	139.00	Commscope	3	8.260	9.086	0.78	0.80	0.57	14.83	0.000	0.000	5.15	0.00	0.00
26	139.00	4415 B30	3	8.260	9.086	0.54	0.80	3.46	259.86	0.000	0.000	31.44	0.00	0.00
27	139.00	DMP65R-BU6DA	3	8.260	9.086	0.58	0.80	24.86	1141.43	0.000	0.000	225.84	0.00	0.00
28	128.00	Low Profile Platform	1	8.119	8.931	1.00	1.00	39.40	2789.32	0.000	0.000	351.84	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	8.024	8.826	0.50	0.75	1.32	61.98	0.000	0.000	11.65	0.00	0.00
30	121.00	KRD 9011461-B66A-B2A	3	8.024	8.826	0.65	0.75	14.89	1012.38	0.000	0.000	131.43	0.00	0.00
31	121.00	AIR6449 B41	3	8.024	8.826	0.53	0.75	10.51	678.64	0.000	0.000	92.79	0.00	0.00
32	121.00	APXVAALL24_43-U-NA20	3	8.024	8.826	0.52	0.75	34.81	1685.76	0.000	0.000	307.22	0.00	0.00
33	121.00	SDX1926Q-43	3	8.024	8.826	0.50	0.75	1.57	39.15	0.000	0.000	13.85	0.00	0.00
34	121.00	Low Profile Platform	1	8.024	8.826	1.00	1.00	39.30	2782.14	0.000	0.000	346.88	0.00	0.00
35	121.00	4449 B71 + B85	3	8.024	8.826	0.50	0.75	3.81	258.01	0.000	0.000	33.63	0.00	0.00
36	121.00	RRUS 4415 B25	3	8.024	8.826	0.50	0.75	3.23	258.19	0.000	0.000	28.54	0.00	0.00
37	121.00	HRK12 (Handrail Kit)	1	8.024	8.826	1.00	1.00	13.21	880.03	0.000	0.000	116.61	0.00	0.00
38	121.00	PRK-1245 (kicker kit)	1	8.024	8.826	1.00	1.00	19.24	780.71	0.000	0.000	169.86	0.00	0.00
39	99.00	B5/B13 RRH-BR04C	3	7.695	8.464	0.54	0.80	3.87	414.37	0.000	0.000	32.79	0.00	0.00
40	99.00	B2/B66A RRH-BR049	3	7.695	8.464	0.54	0.80	3.87	414.37	0.000	0.000	32.79	0.00	0.00
41	99.00	DB-C1-12C-24AB-OZ	1	7.695	8.464	1.00	1.00	4.85	119.20	0.000	0.000	41.05	0.00	0.00
42	99.00	AS-005245	3	7.695	8.464	1.00	1.00	3.97	164.54	0.000	0.000	33.62	0.00	0.00
43	99.00	QS6656-5D	6	7.695	8.464	0.74	0.80	41.85	1768.43	0.000	0.000	354.21	0.00	0.00
44	99.00	12.5' Low Profile Platform	1	7.695	8.464	1.00	1.00	38.96	2756.90	0.000	0.000	329.77	0.00	0.00
45	99.00	BXA-70063/6CF_4	1	7.695	8.464	0.80	0.80	8.18	115.88	0.000	0.000	69.23	0.00	0.00
46	99.00	BXA-171063-12CF-EDIN-	1	7.695	8.464	0.67	0.80	4.73	82.52	0.000	0.000	40.08	0.00	0.00
47	99.00	SLCP 2x6014	1	7.695	8.464	0.71	0.80	6.04	142.84	0.000	0.000	51.12	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 25

Tower Engineering Solutions

48	99.00	RFS APL866513-42T0	4	7.695	8.464	0.74	0.80	17.38	369.62	0.000	0.000	147.09	0.00	0.00
49	99.00	Antel LPA-80063-6CF	2	7.695	8.464	0.74	0.80	18.46	417.19	0.000	0.000	156.22	0.00	0.00
50	65.50	Decibel 26OB	1	7.062	7.768	0.80	0.80	4.17	170.89	0.000	0.000	32.42	0.00	0.00
51	64.00	3 ft Standoff	1	7.028	7.731	1.00	1.00	8.12	98.84	0.000	0.000	62.77	0.00	0.00
							Totals:		**32,691.23**			**5,657.28**		

Total Applied Force Summary

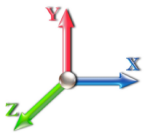
Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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		175.47	2241.58	0.00	0.00
10.00		172.43	2241.41	0.00	0.00
15.00		171.33	2226.79	0.00	0.00
20.00		177.91	2205.34	0.00	0.00
25.00		182.38	2179.79	0.00	0.00
30.00		185.37	2151.50	0.00	0.00
35.00		187.26	2121.21	0.00	0.00
40.00		188.29	2089.39	0.00	0.00
45.00		188.62	2056.36	0.00	0.00
47.25		84.31	914.89	0.00	0.00
50.00		104.33	1640.64	0.00	0.00
53.25		123.18	1915.71	0.00	0.00
55.00		65.98	634.90	0.00	0.00
60.00		188.88	1791.38	0.00	0.00
64.00	(1) attachments	212.55	1510.05	0.00	0.00
65.00		37.09	345.88	0.00	0.00
65.50	(1) attachments	50.93	343.39	0.00	0.00
70.00		166.76	1535.37	0.00	0.00
75.00		183.39	1674.74	0.00	0.00
80.00		180.98	1641.88	0.00	0.00
85.00		178.33	1608.66	0.00	0.00
90.00		175.44	1575.11	0.00	0.00
95.00		172.35	1541.25	0.00	0.00
96.00		33.93	304.93	0.00	0.00
99.00	(26) attachments	1390.48	8026.36	0.00	0.00
100.00		33.83	386.54	0.00	0.00
100.75		25.28	288.52	0.00	0.00
105.00		142.28	1017.54	0.00	0.00
110.00		164.17	1168.36	0.00	0.00
115.00		160.41	1137.94	0.00	0.00
120.00		156.49	1107.33	0.00	0.00
121.00	(24) attachments	1283.16	8655.67	0.00	0.00
125.00		121.51	793.91	0.00	0.00
128.00	(1) attachments	441.15	3372.45	0.00	0.00
129.00		29.38	192.35	0.00	0.00
130.00		29.21	168.21	0.00	0.00
135.00		143.94	820.72	0.00	0.00
139.00	(49) attachments	1271.50	7676.18	0.00	0.00
140.00		27.45	141.66	0.00	0.00
145.00		134.96	687.68	0.00	0.00
147.00	(31) attachments	1448.98	7007.61	0.00	0.00
149.00	(2) attachments	165.59	883.82	0.00	88.76
	Totals:	**10,757.31**	**82,025.00**	**0.00**	**88.76**

Linear Appurtenance Segment Forces (Factored)

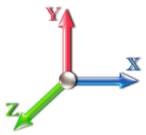
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 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 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	60.12
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	115.47
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	14.11
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	63.29
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	120.38
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	15.57
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.232	0.00	65.38
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.232	0.00	123.61
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.232	0.00	16.56
20.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.540	0.00	66.97
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.540	0.00	126.05
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.540	0.00	17.32
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.795	0.00	68.27
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.795	0.00	128.03
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.795	0.00	17.94
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.013	0.00	69.37
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.013	0.00	129.70
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.013	0.00	18.48
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	70.32
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	131.15
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.206	0.00	18.95
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.378	0.00	71.16
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.378	0.00	132.43
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.378	0.00	19.37
45.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.534	0.00	71.93
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.534	0.00	133.58
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.534	0.00	19.74
47.25	1 1/4" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	6.600	0.00	32.51
47.25	1 5/8" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	6.600	0.00	60.33
47.25	1/2" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	6.600	0.00	8.96
50.00	1 1/4" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	6.678	0.00	39.94
50.00	1 5/8" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	6.678	0.00	74.05
50.00	1/2" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	6.678	0.00	11.05
53.25	1 1/4" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	6.765	0.00	47.48
53.25	1 5/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	6.765	0.00	87.92
53.25	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	6.765	0.00	13.20
55.00	1 1/4" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	6.811	0.00	25.64
55.00	1 5/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	6.811	0.00	47.46
55.00	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	6.811	0.00	7.14
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.934	0.00	73.85
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.934	0.00	136.49
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.934	0.00	20.71
64.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	59.43
64.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	109.72
64.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	16.75
65.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.050	0.00	14.88
65.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.050	0.00	27.46

Linear Appurtenance Segment Forces (Factored)

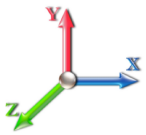
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 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)
65.50	1 1/4" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	7.062	0.00	7.45
65.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	7.062	0.00	13.74
70.00	1 1/4" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	7.160	0.00	67.43
70.00	1 5/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	7.160	0.00	124.28
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.263	0.00	75.40
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.263	0.00	138.82
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.361	0.00	75.86
80.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.361	0.00	139.51
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.454	0.00	76.30
85.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.454	0.00	140.17
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.544	0.00	76.71
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.544	0.00	140.79
95.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.629	0.00	77.11
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.629	0.00	141.38
96.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.646	0.00	15.44
96.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.646	0.00	28.30
99.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	46.45
99.00	1 5/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	85.10
100.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.711	0.00	15.50
100.75	1 1/4" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.000	0.000	7.723	0.00	11.63
105.00	1 1/4" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.000	0.000	7.790	0.00	66.17
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.866	0.00	78.20
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.939	0.00	78.53
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.010	0.00	78.86
121.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.024	0.00	15.78
125.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.079	0.00	63.34
128.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.119	0.00	47.61
129.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	15.88
130.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.145	0.00	15.89
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.210	0.00	79.76
139.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	63.99
140.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.272	0.00	16.01
145.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.333	0.00	80.32
147.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.357	0.00	32.17
										Totals:	**0.0**	**5,050.1**

Calculated Forces

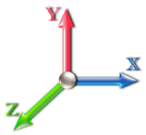
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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	-82.02	-10.80	0.00	-1170.2	0.00	1170.26	4419.23	2209.62	10644.5	5330.19	0.00	0.000	0.000	0.238
5.00	-79.77	-10.70	0.00	-1116.2	0.00	1116.28	4369.00	2184.50	10304.7	5160.05	0.03	-0.054	0.000	0.235
10.00	-77.52	-10.59	0.00	-1062.8	0.00	1062.81	4317.04	2158.52	9966.05	4990.43	0.12	-0.109	0.000	0.231
15.00	-75.28	-10.49	0.00	-1009.8	0.00	1009.84	4263.35	2131.68	9628.61	4821.46	0.26	-0.164	0.000	0.227
20.00	-73.07	-10.38	0.00	-957.38	0.00	957.38	4207.92	2103.96	9292.72	4653.26	0.46	-0.220	0.000	0.223
25.00	-70.88	-10.26	0.00	-905.49	0.00	905.49	4150.77	2075.38	8958.64	4485.98	0.72	-0.277	0.000	0.219
30.00	-68.72	-10.13	0.00	-854.21	0.00	854.21	4091.88	2045.94	8626.63	4319.73	1.04	-0.335	0.000	0.215
35.00	-66.59	-10.00	0.00	-803.57	0.00	803.57	4031.25	2015.63	8296.96	4154.65	1.43	-0.393	0.000	0.210
40.00	-64.49	-9.86	0.00	-753.59	0.00	753.59	3968.90	1984.45	7969.88	3990.86	1.87	-0.452	0.000	0.205
45.00	-62.43	-9.70	0.00	-704.29	0.00	704.29	3904.81	1952.40	7645.65	3828.51	2.37	-0.511	0.000	0.200
47.25	-61.51	-9.64	0.00	-682.47	0.00	682.47	3875.40	1937.70	7500.75	3755.95	2.62	-0.538	0.000	0.198
50.00	-59.86	-9.56	0.00	-655.96	0.00	655.96	3838.99	1919.49	7324.54	3667.71	2.94	-0.571	0.000	0.194
53.25	-57.94	-9.45	0.00	-624.90	0.00	624.90	2982.57	1491.28	5685.98	2847.22	3.34	-0.611	0.000	0.239
55.00	-57.30	-9.42	0.00	-608.37	0.00	608.37	2966.84	1483.42	5604.01	2806.17	3.57	-0.632	0.000	0.236
60.00	-55.50	-9.27	0.00	-561.28	0.00	561.28	2920.75	1460.37	5370.68	2689.33	4.27	-0.701	0.000	0.228
64.00	-53.99	-9.07	0.00	-524.21	0.00	524.21	2882.62	1441.31	5185.10	2596.40	4.88	-0.756	0.000	0.221
65.00	-53.64	-9.04	0.00	-515.14	0.00	515.14	2872.92	1436.46	5138.87	2573.25	5.04	-0.770	0.000	0.219
65.50	-53.29	-9.01	0.00	-510.62	0.00	510.62	2868.04	1434.02	5115.78	2561.69	5.12	-0.777	0.000	0.218
70.00	-51.75	-8.88	0.00	-470.06	0.00	470.06	2823.36	1411.68	4908.84	2458.07	5.89	-0.838	0.000	0.210
75.00	-50.07	-8.73	0.00	-425.65	0.00	425.65	2772.06	1386.03	4680.84	2343.90	6.80	-0.905	0.000	0.200
80.00	-48.42	-8.58	0.00	-381.99	0.00	381.99	2719.04	1359.52	4455.15	2230.89	7.78	-0.972	0.000	0.189
85.00	-46.81	-8.43	0.00	-339.09	0.00	339.09	2664.28	1332.14	4232.01	2119.15	8.84	-1.036	0.000	0.178
90.00	-45.22	-8.27	0.00	-296.96	0.00	296.96	2607.79	1303.89	4011.70	2008.83	9.96	-1.099	0.000	0.165
95.00	-43.68	-8.09	0.00	-255.62	0.00	255.62	2549.57	1274.78	3794.46	1900.05	11.14	-1.158	0.000	0.152
96.00	-43.37	-8.07	0.00	-247.52	0.00	247.52	2537.71	1268.86	3751.41	1878.49	11.38	-1.170	0.000	0.149
99.00	-35.38	-6.53	0.00	-223.31	0.00	223.31	2501.74	1250.87	3623.07	1814.23	12.13	-1.205	0.000	0.137
100.00	-34.99	-6.49	0.00	-216.78	0.00	216.78	2489.61	1244.80	3580.57	1792.94	12.38	-1.216	0.000	0.135
100.75	-34.70	-6.48	0.00	-211.92	0.00	211.92	1858.32	929.16	2706.71	1355.36	12.58	-1.224	0.000	0.175
105.00	-33.68	-6.34	0.00	-184.39	0.00	184.39	1825.33	912.67	2580.97	1292.40	13.69	-1.270	0.000	0.161
110.00	-32.51	-6.18	0.00	-152.67	0.00	152.67	1784.92	892.46	2434.45	1219.03	15.05	-1.328	0.000	0.144
115.00	-31.37	-6.02	0.00	-121.75	0.00	121.75	1742.78	871.39	2289.70	1146.55	16.47	-1.382	0.000	0.124
120.00	-30.26	-5.86	0.00	-91.62	0.00	91.62	1698.90	849.45	2146.98	1075.09	17.94	-1.428	0.000	0.103
121.00	-21.64	-4.36	0.00	-85.77	0.00	85.77	1689.92	844.96	2118.70	1060.93	18.24	-1.437	0.000	0.094
125.00	-20.85	-4.23	0.00	-68.32	0.00	68.32	1653.30	826.65	2006.56	1004.77	19.46	-1.467	0.000	0.081
128.00	-17.49	-3.71	0.00	-55.62	0.00	55.62	1625.10	812.55	1923.51	963.18	20.39	-1.488	0.000	0.069
129.00	-17.30	-3.67	0.00	-51.92	0.00	51.92	1615.56	807.78	1896.04	949.43	20.70	-1.494	0.000	0.065
129.00	-17.30	-3.67	0.00	-51.92	0.00	51.92	1091.97	545.98	1287.15	644.53	20.70	-1.494	0.000	0.096
130.00	-17.13	-3.65	0.00	-48.24	0.00	48.24	1086.82	543.41	1270.20	636.04	21.02	-1.500	0.000	0.092
135.00	-16.31	-3.49	0.00	-30.00	0.00	30.00	1060.04	530.02	1185.82	593.79	22.61	-1.533	0.000	0.066
139.00	-8.67	-2.01	0.00	-16.05	0.00	16.05	1037.37	518.68	1118.90	560.28	23.90	-1.550	0.000	0.037
140.00	-8.53	-1.98	0.00	-14.04	0.00	14.04	1031.53	515.76	1102.27	551.95	24.22	-1.553	0.000	0.034
145.00	-7.84	-1.83	0.00	-4.13	0.00	4.13	1001.28	500.64	1019.81	510.66	25.86	-1.563	0.000	0.016
147.00	-0.88	-0.19	0.00	-0.47	0.00	0.47	988.70	494.35	987.19	494.33	26.51	-1.564	0.000	0.002
149.00	0.00	-0.17	0.00	-0.09	0.00	0.09	975.84	487.92	954.81	478.11	27.17	-1.564	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E					**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.22	**Ss**	0.20
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**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	0.01	0.00	0.00	
5.00		1173.0	0.00	0.04	0.02	28.12	
10.00		1148.6	0.01	0.06	0.03	36.92	
15.00		1124.1	0.02	0.06	0.04	40.67	
20.00		1099.6	0.04	0.07	0.04	42.09	
25.00		1075.1	0.06	0.07	0.04	42.51	
30.00		1050.6	0.08	0.07	0.04	42.60	
35.00		1026.1	0.11	0.07	0.04	42.62	
40.00		1001.6	0.14	0.07	0.03	42.53	
45.00		977.20	0.18	0.07	0.03	42.08	
47.25	Bot - Section 2	431.75	0.20	0.06	0.02	18.61	
50.00		961.48	0.22	0.06	0.02	41.19	
53.25	Top - Section 1	1118.7	0.25	0.06	0.02	46.90	
55.00		272.47	0.26	0.05	0.02	11.19	
60.00		764.72	0.31	0.04	0.01	28.17	
64.00	Appurtenance(s)	637.08	0.35	0.03	0.01	19.80	
65.00		147.23	0.37	0.03	0.01	4.31	
65.50	Appurtenance(s)	123.31	0.37	0.03	0.01	3.49	
70.00		650.60	0.42	0.01	0.01	11.59	
75.00		703.50	0.49	-0.01	0.01	2.17	
80.00		683.09	0.55	-0.03	0.01	-8.88	
85.00		662.69	0.62	-0.06	0.02	-18.28	
90.00		642.28	0.70	-0.09	0.03	-24.50	
95.00		621.88	0.77	-0.11	0.05	-26.89	
96.00	Bot - Section 3	121.93	0.79	-0.11	0.05	-5.31	
99.00	Appurtenance(s)	3356.9	0.84	-0.12	0.07	-144.54	
100.00		215.11	0.86	-0.12	0.07	-9.12	
100.75	Top - Section 2	160.37	0.87	-0.12	0.08	-6.70	
105.00		400.54	0.94	-0.12	0.11	-14.29	
110.00		456.12	1.03	-0.10	0.15	-10.56	
115.00		439.80	1.13	-0.05	0.21	-2.18	
120.00		423.47	1.23	0.03	0.28	8.01	
121.00	Appurtenance(s)	3802.4	1.25	0.06	0.29	92.65	
125.00		324.41	1.33	0.17	0.37	15.73	
128.00	Appurtenance(s)	1736.4	1.40	0.28	0.43	119.80	
129.00	Top - Section 3	77.51	1.42	0.32	0.45	5.91	
130.00		57.77	1.44	0.37	0.48	4.84	
135.00		281.51	1.55	0.64	0.61	35.22	
139.00	Appurtenance(s)	2939.6	1.65	0.93	0.73	477.57	
140.00		52.87	1.67	1.01	0.77	9.12	
145.00		257.02	1.79	1.50	0.96	58.06	
147.00	Appurtenance(s)	2981.6	1.84	1.73	1.05	742.61	
149.00	Appurtenance(s)	461.42	1.89	1.98	1.14	126.08	
	Totals:	**36,644.2**				**1,971.9**	**Total Wind:** **35,801.4**

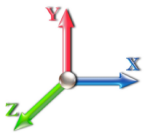
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E



Gust Response Factor	1.10			**Sds**	0.22			**Iterations**	21
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**SA**	0.04			**S1**	0.07
								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	-49.78	-2.25	0.00	-271.02	0.00	271.02	4419.23	2209.62	10644.5	5330.19		0.00	0.00	0.062
5.00	-48.14	-2.23	0.00	-259.78	0.00	259.78	4369.00	2184.50	10304.7	5160.05		0.01	-0.01	0.061
10.00	-46.53	-2.20	0.00	-248.63	0.00	248.63	4317.04	2158.52	9966.05	4990.43		0.03	-0.03	0.061
15.00	-44.95	-2.17	0.00	-237.62	0.00	237.62	4263.35	2131.68	9628.61	4821.46		0.06	-0.04	0.060
20.00	-43.39	-2.14	0.00	-226.77	0.00	226.77	4207.92	2103.96	9292.72	4653.26		0.11	-0.05	0.059
25.00	-41.87	-2.10	0.00	-216.08	0.00	216.08	4150.77	2075.38	8958.64	4485.98		0.17	-0.07	0.058
30.00	-40.38	-2.07	0.00	-205.55	0.00	205.55	4091.88	2045.94	8626.63	4319.73		0.24	-0.08	0.057
35.00	-38.92	-2.03	0.00	-195.21	0.00	195.21	4031.25	2015.63	8296.96	4154.65		0.33	-0.09	0.057
40.00	-37.48	-2.00	0.00	-185.04	0.00	185.04	3968.90	1984.45	7969.88	3990.86		0.44	-0.11	0.056
45.00	-36.08	-1.96	0.00	-175.04	0.00	175.04	3904.81	1952.40	7645.65	3828.51		0.56	-0.12	0.055
47.25	-35.46	-1.95	0.00	-170.63	0.00	170.63	3875.40	1937.70	7500.75	3755.95		0.62	-0.13	0.055
50.00	-34.18	-1.91	0.00	-165.28	0.00	165.28	3838.99	1919.49	7324.54	3667.71		0.70	-0.14	0.054
53.25	-32.68	-1.86	0.00	-159.09	0.00	159.09	2982.57	1491.28	5685.98	2847.22		0.79	-0.15	0.067
55.00	-32.28	-1.85	0.00	-155.83	0.00	155.83	2966.84	1483.42	5604.01	2806.17		0.85	-0.15	0.066
60.00	-31.13	-1.83	0.00	-146.56	0.00	146.56	2920.75	1460.37	5370.68	2689.33		1.02	-0.17	0.065
64.00	-30.18	-1.81	0.00	-139.23	0.00	139.23	2882.62	1441.31	5185.10	2596.40		1.17	-0.18	0.064
65.00	-29.95	-1.81	0.00	-137.42	0.00	137.42	2872.92	1436.46	5138.87	2573.25		1.20	-0.19	0.064
65.50	-29.78	-1.81	0.00	-136.51	0.00	136.51	2868.04	1434.02	5115.78	2561.69		1.22	-0.19	0.064
70.00	-28.79	-1.81	0.00	-128.36	0.00	128.36	2823.36	1411.68	4908.84	2458.07		1.41	-0.21	0.062
75.00	-27.72	-1.81	0.00	-119.33	0.00	119.33	2772.06	1386.03	4680.84	2343.90		1.64	-0.23	0.061
80.00	-26.67	-1.81	0.00	-110.29	0.00	110.29	2719.04	1359.52	4455.15	2230.89		1.88	-0.24	0.059
85.00	-25.64	-1.82	0.00	-101.23	0.00	101.23	2664.28	1332.14	4232.01	2119.15		2.15	-0.26	0.057
90.00	-24.64	-1.82	0.00	-92.15	0.00	92.15	2607.79	1303.89	4011.70	2008.83		2.44	-0.28	0.055
95.00	-23.66	-1.82	0.00	-83.05	0.00	83.05	2549.57	1274.78	3794.46	1900.05		2.74	-0.30	0.053
96.00	-23.47	-1.82	0.00	-81.23	0.00	81.23	2537.71	1268.86	3751.41	1878.49		2.81	-0.31	0.052
99.00	-19.30	-1.80	0.00	-75.76	0.00	75.76	2501.74	1250.87	3623.07	1814.23		3.00	-0.32	0.049
100.00	-19.01	-1.80	0.00	-73.96	0.00	73.96	2489.61	1244.80	3580.57	1792.94		3.07	-0.32	0.049
100.75	-18.79	-1.80	0.00	-72.61	0.00	72.61	1858.32	929.16	2706.71	1355.36		3.12	-0.32	0.064
105.00	-18.15	-1.81	0.00	-64.95	0.00	64.95	1825.33	912.67	2580.97	1292.40		3.41	-0.34	0.060
110.00	-17.42	-1.81	0.00	-55.92	0.00	55.92	1784.92	892.46	2434.45	1219.03		3.78	-0.36	0.056
115.00	-16.70	-1.81	0.00	-46.88	0.00	46.88	1742.78	871.39	2289.70	1146.55		4.17	-0.38	0.050
120.00	-16.01	-1.80	0.00	-37.84	0.00	37.84	1698.90	849.45	2146.98	1075.09		4.58	-0.40	0.045
121.00	-11.41	-1.68	0.00	-36.04	0.00	36.04	1689.92	844.96	2118.70	1060.93		4.66	-0.40	0.041
125.00	-10.93	-1.66	0.00	-29.34	0.00	29.34	1653.30	826.65	2006.56	1004.77		5.00	-0.42	0.036
128.00	-8.79	-1.52	0.00	-24.36	0.00	24.36	1625.10	812.55	1923.51	963.18		5.27	-0.42	0.031
129.00	-8.67	-1.52	0.00	-22.84	0.00	22.84	1615.56	807.78	1896.04	949.43		5.36	-0.43	0.029
129.00	-8.67	-1.52	0.00	-22.84	0.00	22.84	1091.97	545.98	1287.15	644.53		5.36	-0.43	0.043
130.00	-8.58	-1.51	0.00	-21.32	0.00	21.32	1086.82	543.41	1270.20	636.04		5.45	-0.43	0.041
135.00	-8.14	-1.48	0.00	-13.75	0.00	13.75	1060.04	530.02	1185.82	593.79		5.90	-0.44	0.031
139.00	-4.54	-0.97	0.00	-7.85	0.00	7.85	1037.37	518.68	1118.90	560.28		6.28	-0.45	0.018
140.00	-4.47	-0.96	0.00	-6.87	0.00	6.87	1031.53	515.76	1102.27	551.95		6.37	-0.45	0.017
145.00	-4.14	-0.90	0.00	-2.06	0.00	2.06	1001.28	500.64	1019.81	510.66		6.85	-0.46	0.008
147.00	-0.55	-0.13	0.00	-0.26	0.00	0.26	988.70	494.35	987.19	494.33		7.04	-0.46	0.001
149.00	0.00	-0.13	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11		7.24	-0.46	0.000

Seismic Segment Forces (Factored)

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E					**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.22	**Ss**	0.20
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**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	0.01	0.00	0.00	
5.00		1173.0	0.00	0.04	0.02	28.12	
10.00		1148.6	0.01	0.06	0.03	36.92	
15.00		1124.1	0.02	0.06	0.04	40.67	
20.00		1099.6	0.04	0.07	0.04	42.09	
25.00		1075.1	0.06	0.07	0.04	42.51	
30.00		1050.6	0.08	0.07	0.04	42.60	
35.00		1026.1	0.11	0.07	0.04	42.62	
40.00		1001.6	0.14	0.07	0.03	42.53	
45.00		977.20	0.18	0.07	0.03	42.08	
47.25	Bot - Section 2	431.75	0.20	0.06	0.02	18.61	
50.00		961.48	0.22	0.06	0.02	41.19	
53.25	Top - Section 1	1118.7	0.25	0.06	0.02	46.90	
55.00		272.47	0.26	0.05	0.02	11.19	
60.00		764.72	0.31	0.04	0.01	28.17	
64.00	Appurtenance(s)	637.08	0.35	0.03	0.01	19.80	
65.00		147.23	0.37	0.03	0.01	4.31	
65.50	Appurtenance(s)	123.31	0.37	0.03	0.01	3.49	
70.00		650.60	0.42	0.01	0.01	11.59	
75.00		703.50	0.49	-0.01	0.01	2.17	
80.00		683.09	0.55	-0.03	0.01	-8.88	
85.00		662.69	0.62	-0.06	0.02	-18.28	
90.00		642.28	0.70	-0.09	0.03	-24.50	
95.00		621.88	0.77	-0.11	0.05	-26.89	
96.00	Bot - Section 3	121.93	0.79	-0.11	0.05	-5.31	
99.00	Appurtenance(s)	3356.9	0.84	-0.12	0.07	-144.54	
100.00		215.11	0.86	-0.12	0.07	-9.12	
100.75	Top - Section 2	160.37	0.87	-0.12	0.08	-6.70	
105.00		400.54	0.94	-0.12	0.11	-14.29	
110.00		456.12	1.03	-0.10	0.15	-10.56	
115.00		439.80	1.13	-0.05	0.21	-2.18	
120.00		423.47	1.23	0.03	0.28	8.01	
121.00	Appurtenance(s)	3802.4	1.25	0.06	0.29	92.65	
125.00		324.41	1.33	0.17	0.37	15.73	
128.00	Appurtenance(s)	1736.4	1.40	0.28	0.43	119.80	
129.00	Top - Section 3	77.51	1.42	0.32	0.45	5.91	
130.00		57.77	1.44	0.37	0.48	4.84	
135.00		281.51	1.55	0.64	0.61	35.22	
139.00	Appurtenance(s)	2939.6	1.65	0.93	0.73	477.57	
140.00		52.87	1.67	1.01	0.77	9.12	
145.00		257.02	1.79	1.50	0.96	58.06	
147.00	Appurtenance(s)	2981.6	1.84	1.73	1.05	742.61	
149.00	Appurtenance(s)	461.42	1.89	1.98	1.14	126.08	
	Totals:	**36,644.2**				**1,971.9**	**Total Wind:** **35,801.4**

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

Calculated Forces

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.22			**Ss**	0.20
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.07
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**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	-37.33	-2.25	0.00	-267.99	0.00	267.99	4419.23	2209.62	10644.5	5330.19		0.00	0.00	0.059
5.00	-36.10	-2.23	0.00	-256.77	0.00	256.77	4369.00	2184.50	10304.7	5160.05		0.01	-0.01	0.058
10.00	-34.89	-2.20	0.00	-245.64	0.00	245.64	4317.04	2158.52	9966.05	4990.43		0.03	-0.02	0.057
15.00	-33.71	-2.16	0.00	-234.66	0.00	234.66	4263.35	2131.68	9628.61	4821.46		0.06	-0.04	0.057
20.00	-32.55	-2.13	0.00	-223.85	0.00	223.85	4207.92	2103.96	9292.72	4653.26		0.11	-0.05	0.056
25.00	-31.40	-2.09	0.00	-213.21	0.00	213.21	4150.77	2075.38	8958.64	4485.98		0.17	-0.06	0.055
30.00	-30.28	-2.05	0.00	-202.76	0.00	202.76	4091.88	2045.94	8626.63	4319.73		0.24	-0.08	0.054
35.00	-29.19	-2.02	0.00	-192.49	0.00	192.49	4031.25	2015.63	8296.96	4154.65		0.33	-0.09	0.054
40.00	-28.11	-1.98	0.00	-182.41	0.00	182.41	3968.90	1984.45	7969.88	3990.86		0.43	-0.11	0.053
45.00	-27.06	-1.94	0.00	-172.51	0.00	172.51	3904.81	1952.40	7645.65	3828.51		0.55	-0.12	0.052
47.25	-26.59	-1.92	0.00	-168.15	0.00	168.15	3875.40	1937.70	7500.75	3755.95		0.61	-0.13	0.052
50.00	-25.63	-1.88	0.00	-162.86	0.00	162.86	3838.99	1919.49	7324.54	3667.71		0.69	-0.14	0.051
53.25	-24.51	-1.84	0.00	-156.73	0.00	156.73	2982.57	1491.28	5685.98	2847.22		0.78	-0.15	0.063
55.00	-24.21	-1.83	0.00	-153.51	0.00	153.51	2966.84	1483.42	5604.01	2806.17		0.84	-0.15	0.063
60.00	-23.34	-1.81	0.00	-144.36	0.00	144.36	2920.75	1460.37	5370.68	2689.33		1.00	-0.17	0.062
64.00	-22.63	-1.79	0.00	-137.13	0.00	137.13	2882.62	1441.31	5185.10	2596.40		1.15	-0.18	0.061
65.00	-22.46	-1.78	0.00	-135.34	0.00	135.34	2872.92	1436.46	5138.87	2573.25		1.19	-0.19	0.060
65.50	-22.34	-1.78	0.00	-134.45	0.00	134.45	2868.04	1434.02	5115.78	2561.69		1.21	-0.19	0.060
70.00	-21.59	-1.78	0.00	-126.42	0.00	126.42	2823.36	1411.68	4908.84	2458.07		1.39	-0.20	0.059
75.00	-20.79	-1.78	0.00	-117.53	0.00	117.53	2772.06	1386.03	4680.84	2343.90		1.62	-0.22	0.058
80.00	-20.00	-1.78	0.00	-108.64	0.00	108.64	2719.04	1359.52	4455.15	2230.89		1.86	-0.24	0.056
85.00	-19.23	-1.78	0.00	-99.73	0.00	99.73	2664.28	1332.14	4232.01	2119.15		2.12	-0.26	0.054
90.00	-18.48	-1.79	0.00	-90.81	0.00	90.81	2607.79	1303.89	4011.70	2008.83		2.40	-0.28	0.052
95.00	-17.75	-1.79	0.00	-81.87	0.00	81.87	2549.57	1274.78	3794.46	1900.05		2.71	-0.30	0.050
96.00	-17.60	-1.79	0.00	-80.09	0.00	80.09	2537.71	1268.86	3751.41	1878.49		2.77	-0.30	0.050
99.00	-14.48	-1.77	0.00	-74.72	0.00	74.72	2501.74	1250.87	3623.07	1814.23		2.96	-0.31	0.047
100.00	-14.25	-1.77	0.00	-72.95	0.00	72.95	2489.61	1244.80	3580.57	1792.94		3.03	-0.32	0.046
100.75	-14.09	-1.78	0.00	-71.62	0.00	71.62	1858.32	929.16	2706.71	1355.36		3.08	-0.32	0.060
105.00	-13.61	-1.78	0.00	-64.07	0.00	64.07	1825.33	912.67	2580.97	1292.40		3.37	-0.33	0.057
110.00	-13.06	-1.78	0.00	-55.19	0.00	55.19	1784.92	892.46	2434.45	1219.03		3.73	-0.35	0.053
115.00	-12.52	-1.78	0.00	-46.30	0.00	46.30	1742.78	871.39	2289.70	1146.55		4.11	-0.37	0.048
120.00	-12.00	-1.77	0.00	-37.40	0.00	37.40	1698.90	849.45	2146.98	1075.09		4.51	-0.39	0.042
121.00	-8.55	-1.65	0.00	-35.63	0.00	35.63	1689.92	844.96	2118.70	1060.93		4.60	-0.40	0.039
125.00	-8.20	-1.64	0.00	-29.02	0.00	29.02	1653.30	826.65	2006.56	1004.77		4.93	-0.41	0.034
128.00	-6.59	-1.51	0.00	-24.10	0.00	24.10	1625.10	812.55	1923.51	963.18		5.19	-0.42	0.029
129.00	-6.50	-1.50	0.00	-22.60	0.00	22.60	1615.56	807.78	1896.04	949.43		5.28	-0.42	0.028
129.00	-6.50	-1.50	0.00	-22.60	0.00	22.60	1091.97	545.98	1287.15	644.53		5.28	-0.42	0.041
130.00	-6.44	-1.50	0.00	-21.10	0.00	21.10	1086.82	543.41	1270.20	636.04		5.37	-0.42	0.039
135.00	-6.10	-1.46	0.00	-13.61	0.00	13.61	1060.04	530.02	1185.82	593.79		5.82	-0.44	0.029
139.00	-3.40	-0.96	0.00	-7.77	0.00	7.77	1037.37	518.68	1118.90	560.28		6.19	-0.45	0.017
140.00	-3.35	-0.95	0.00	-6.81	0.00	6.81	1031.53	515.76	1102.27	551.95		6.29	-0.45	0.016
145.00	-3.10	-0.89	0.00	-2.04	0.00	2.04	1001.28	500.64	1019.81	510.66		6.76	-0.45	0.007
147.00	-0.42	-0.13	0.00	-0.26	0.00	0.26	988.70	494.35	987.19	494.33		6.95	-0.45	0.001
149.00	0.00	-0.13	0.00	0.00	0.00	0.00	975.84	487.92	954.81	478.11		7.14	-0.45	0.000

Wind Loading - Shaft

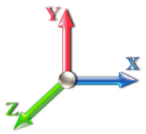
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	275.75	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	270.09	0.650	0.000	5.00	24.669	16.03	131.3	0.0	1173.1
10.00		1.00	0.85	7.442	8.19	264.43	0.650	0.000	5.00	24.157	15.70	128.5	0.0	1148.6
15.00		1.00	0.86	7.534	8.29	260.36	0.650	0.000	5.00	23.645	15.37	127.4	0.0	1124.1
20.00		1.00	0.91	7.978	8.78	262.06	0.650	0.000	5.00	23.134	15.04	132.0	0.0	1099.6
25.00		1.00	0.95	8.345	9.18	262.03	0.650	0.000	5.00	22.622	14.70	135.0	0.0	1075.1
30.00		1.00	0.99	8.659	9.53	260.82	0.650	0.000	5.00	22.111	14.37	136.9	0.0	1050.7
35.00		1.00	1.02	8.936	9.83	258.75	0.650	0.000	5.00	21.599	14.04	138.0	0.0	1026.2
40.00		1.00	1.05	9.184	10.10	256.03	0.650	0.000	5.00	21.087	13.71	138.5	0.0	1001.7
45.00		1.00	1.07	9.410	10.35	252.79	0.650	0.000	5.00	20.576	13.37	138.4	0.0	977.2
47.25	Bot - Section 2	1.00	1.09	9.505	10.46	251.18	0.650	0.000	2.25	9.092	5.91	61.8	0.0	431.8
50.00		1.00	1.10	9.616	10.58	249.11	0.650	0.000	2.75	11.117	7.23	76.4	0.0	961.5
53.25	Top - Section 1	1.00	1.11	9.742	10.72	246.53	0.650	0.000	3.25	12.939	8.41	90.1	0.0	1118.8
55.00		1.00	1.12	9.807	10.79	248.44	0.650	0.000	1.75	6.878	4.47	48.2	0.0	272.5
60.00		1.00	1.14	9.986	10.98	244.13	0.650	0.000	5.00	19.305	12.55	137.8	0.0	764.7
64.00	Appurtenance(s)	1.00	1.16	10.120	11.13	240.49	0.650	0.000	4.00	15.076	9.80	109.1	0.0	597.1
65.00		1.00	1.16	10.153	11.17	239.55	0.650	0.000	1.00	3.718	2.42	27.0	0.0	147.2
65.50	Appurtenance(s)	1.00	1.16	10.169	11.19	239.08	0.650	0.000	0.50	1.851	1.20	13.5	0.0	73.3
70.00		1.00	1.18	10.310	11.34	234.74	0.650	0.000	4.50	16.431	10.68	121.1	0.0	650.6
75.00		1.00	1.19	10.459	11.50	229.71	0.650	0.000	5.00	17.770	11.55	132.9	0.0	703.5
80.00		1.00	1.21	10.600	11.66	224.51	0.650	0.000	5.00	17.259	11.22	130.8	0.0	683.1
85.00		1.00	1.23	10.734	11.81	219.13	0.650	0.000	5.00	16.747	10.89	128.5	0.0	662.7
90.00		1.00	1.24	10.863	11.95	213.60	0.650	0.000	5.00	16.236	10.55	126.1	0.0	642.3
95.00		1.00	1.25	10.986	12.08	207.92	0.650	0.000	5.00	15.724	10.22	123.5	0.0	621.9
96.00	Bot - Section 3	1.00	1.26	11.010	12.11	206.77	0.650	0.000	1.00	3.083	2.00	24.3	0.0	121.9
99.00	Appurtenance(s)	1.00	1.27	11.081	12.19	203.29	0.650	0.000	3.00	9.254	6.02	73.3	0.0	654.1
100.00		1.00	1.27	11.104	12.21	202.12	0.650	0.000	1.00	3.044	1.98	24.2	0.0	215.1
100.75	Top - Section 2	1.00	1.27	11.121	12.23	201.24	0.650	0.000	0.75	2.269	1.48	18.0	0.0	160.4
105.00		1.00	1.28	11.218	12.34	199.08	0.650	0.000	4.25	12.643	8.22	101.4	0.0	400.5
110.00		1.00	1.29	11.327	12.46	193.06	0.650	0.000	5.00	14.401	9.36	116.6	0.0	456.1
115.00		1.00	1.31	11.432	12.58	186.95	0.650	0.000	5.00	13.889	9.03	113.5	0.0	439.8
120.00		1.00	1.32	11.534	12.69	180.73	0.650	0.000	5.00	13.377	8.70	110.3	0.0	423.5
121.00	Appurtenance(s)	1.00	1.32	11.554	12.71	179.48	0.650	0.000	1.00	2.614	1.70	21.6	0.0	82.7
125.00		1.00	1.33	11.633	12.80	174.43	0.650	0.000	4.00	10.252	6.66	85.3	0.0	324.4
128.00	Appurtenance(s)	1.00	1.34	11.691	12.86	170.60	0.650	0.000	3.00	7.474	4.86	62.5	0.0	236.5
129.00	Top - Section 3	1.00	1.34	11.710	12.88	169.32	0.650	0.000	1.00	2.450	1.59	20.5	0.0	77.5
130.00		1.00	1.34	11.729	12.90	168.04	0.650	0.000	1.00	2.430	1.58	20.4	0.0	57.8
135.00		1.00	1.35	11.822	13.00	161.57	0.650	0.000	5.00	11.843	7.70	100.1	0.0	281.5
139.00	Appurtenance(s)	1.00	1.36	11.894	13.08	156.34	0.650	0.000	4.00	9.106	5.92	77.4	0.0	216.4
140.00		1.00	1.36	11.912	13.10	155.02	0.650	0.000	1.00	2.225	1.45	19.0	0.0	52.9
145.00		1.00	1.37	12.000	13.20	148.40	0.650	0.000	5.00	10.819	7.03	92.8	0.0	257.0
147.00	Appurtenance(s)	1.00	1.37	12.034	13.24	145.74	0.650	0.000	2.00	4.184	2.72	36.0	0.0	99.4
149.00	Appurtenance(s)	1.00	1.38	12.068	13.27	143.06	0.650	0.000	2.00	4.103	2.67	35.4	0.0	97.4
								Totals:	**149.00**			**3,685.5**		**22,662.1**

Discrete Appurtenance Forces

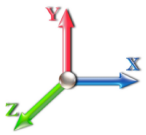
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	149.00	Decibel DB404-B	1	12.110	13.321	1.00	1.00	1.03	14.00	0.000	2.500	13.72	0.00	34.30
2	149.00	Pipe Mount	1	12.068	13.275	1.00	1.00	5.00	350.00	0.000	0.000	66.37	0.00	0.00
3	147.00	800MHz RRH w/ filter	3	12.034	13.238	0.90	0.90	9.34	204.90	0.000	0.000	123.66	0.00	0.00
4	147.00	RFS APXVTM14-C-120	3	12.034	13.238	0.71	0.90	13.52	168.00	0.000	0.000	179.01	0.00	0.00
5	147.00	RFS APXVSPP18-C-A20	3	12.034	13.238	0.75	0.90	17.97	171.00	0.000	0.000	237.92	0.00	0.00
6	147.00	ALU 1900MHz RRH	3	12.034	13.238	0.60	0.90	6.87	132.00	0.000	0.000	91.00	0.00	0.00
7	147.00	ALU 800MHz RRH	3	12.034	13.238	0.60	0.90	4.78	178.50	0.000	0.000	63.22	0.00	0.00
8	147.00	ALU TD-RRH8x20-25	3	12.034	13.238	0.60	0.90	7.33	210.00	0.000	0.000	96.98	0.00	0.00
9	147.00	RFS ACU-A20-N	4	12.034	13.238	0.71	0.90	0.40	4.00	0.000	0.000	5.27	0.00	0.00
10	147.00	Argus LLPX310R	3	12.034	13.238	0.62	0.90	8.01	85.80	0.000	0.000	106.04	0.00	0.00
11	147.00	Andrew VHLP2-11	1	12.034	13.238	1.00	1.00	4.68	27.00	0.000	0.000	61.95	0.00	0.00
12	147.00	Andrew VHLP800-11-DW1	1	12.034	13.238	1.00	1.00	6.70	49.00	0.000	0.000	88.69	0.00	0.00
13	147.00	U-RAS Flexible RRH	3	12.034	13.238	0.78	1.00	5.22	152.10	0.000	0.000	69.08	0.00	0.00
14	147.00	12.5' Low Profile Platform	1	12.034	13.238	1.00	1.00	22.00	1500.00	0.000	0.000	291.23	0.00	0.00
15	139.00	Powerwave 7020.00 RET	12	11.894	13.084	0.54	0.80	2.57	26.40	0.000	0.000	33.66	0.00	0.00
16	139.00	Powerwave LGP13519	6	11.894	13.084	0.80	0.80	1.63	31.80	0.000	0.000	21.35	0.00	0.00
17	139.00	Ericsson RRUS-32 B2s	3	11.894	13.084	0.54	0.80	4.41	180.00	0.000	0.000	57.65	0.00	0.00
18	139.00	Low Profile Platform	1	11.894	13.084	1.00	1.00	22.00	1500.00	0.000	0.000	287.84	0.00	0.00
19	139.00	4449 B5/B12	3	11.894	13.084	0.54	0.80	3.17	213.00	0.000	0.000	41.45	0.00	0.00
20	139.00	HPA-65R-BUU-H6	3	11.894	13.084	0.68	0.80	19.71	153.00	0.000	0.000	257.83	0.00	0.00
21	139.00	Powerawve LGP21901	6	11.894	13.084	0.60	0.80	0.83	33.00	0.000	0.000	10.83	0.00	0.00
22	139.00	WCS-IMFQ-AMT	1	11.894	13.084	0.40	0.80	0.40	34.50	0.000	0.000	5.18	0.00	0.00
23	139.00	7770	3	11.894	13.084	0.58	0.80	9.64	105.00	0.000	0.000	126.07	0.00	0.00
24	139.00	Raycap DC6-48-60-18-8F	2	11.894	13.084	0.80	0.80	2.35	65.60	0.000	0.000	30.77	0.00	0.00
25	139.00	Commscope	3	11.894	13.084	0.78	0.80	0.12	4.80	0.000	0.000	1.54	0.00	0.00
26	139.00	4415 B30	3	11.894	13.084	0.54	0.80	2.64	138.00	0.000	0.000	34.50	0.00	0.00
27	139.00	DMP65R-BU6DA	3	11.894	13.084	0.58	0.80	22.27	238.20	0.000	0.000	291.34	0.00	0.00
28	128.00	Low Profile Platform	1	11.691	12.860	1.00	1.00	22.00	1500.00	0.000	0.000	282.92	0.00	0.00
29	121.00	Ericsson KRY 112 144/1	3	11.554	12.710	0.50	0.75	0.62	33.00	0.000	0.000	7.86	0.00	0.00
30	121.00	KRD 9011461-B66A-B2A	3	11.554	12.710	0.65	0.75	12.74	396.60	0.000	0.000	161.97	0.00	0.00
31	121.00	AIR6449 B41	3	11.554	12.710	0.53	0.75	9.03	309.00	0.000	0.000	114.72	0.00	0.00
32	121.00	APXVAALL24_43-U-NA20	3	11.554	12.710	0.52	0.75	31.88	384.00	0.000	0.000	405.17	0.00	0.00
33	121.00	SDX1926Q-43	3	11.554	12.710	0.50	0.75	0.78	12.90	0.000	0.000	9.96	0.00	0.00
34	121.00	Low Profile Platform	1	11.554	12.710	1.00	1.00	22.00	1500.00	0.000	0.000	279.62	0.00	0.00
35	121.00	4449 B71 + B85	3	11.554	12.710	0.50	0.75	2.97	219.60	0.000	0.000	37.75	0.00	0.00
36	121.00	RRUS 4415 B25	3	11.554	12.710	0.50	0.75	2.47	138.00	0.000	0.000	31.42	0.00	0.00
37	121.00	HRK12 (Handrail Kit)	1	11.554	12.710	1.00	1.00	6.75	261.72	0.000	0.000	85.79	0.00	0.00
38	121.00	PRK-1245 (kicker kit)	1	11.554	12.710	1.00	1.00	9.50	464.91	0.000	0.000	120.74	0.00	0.00
39	99.00	B5/B13 RRH-BR04C	3	11.081	12.189	0.54	0.80	3.02	253.50	0.000	0.000	36.85	0.00	0.00
40	99.00	B2/B66A RRH-BR049	3	11.081	12.189	0.54	0.80	3.02	253.50	0.000	0.000	36.85	0.00	0.00
41	99.00	DB-C1-12C-24AB-OZ	1	11.081	12.189	1.00	1.00	4.06	32.00	0.000	0.000	49.49	0.00	0.00
42	99.00	AS-005245	3	11.081	12.189	1.00	1.00	1.80	105.00	0.000	0.000	21.94	0.00	0.00
43	99.00	QS6656-5D	6	11.081	12.189	0.74	0.80	36.29	390.00	0.000	0.000	442.36	0.00	0.00
44	99.00	12.5' Low Profile Platform	1	11.081	12.189	1.00	1.00	22.00	1500.00	0.000	0.000	268.15	0.00	0.00
45	99.00	BXA-70063/6CF_4	1	11.081	12.189	0.80	0.80	6.06	17.00	0.000	0.000	73.82	0.00	0.00
46	99.00	BXA-171063-12CF-EDIN-	1	11.081	12.189	0.67	0.80	3.21	15.00	0.000	0.000	39.15	0.00	0.00
47	99.00	SLCP 2x6014	1	11.081	12.189	0.71	0.80	4.62	20.00	0.000	0.000	56.32	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 36

48	99.00	RFS APL866513-42T0	4	11.081	12.189	0.74	0.80	12.05	62.80	0.000	0.000	146.91	0.00	0.00
49	99.00	Antel LPA-80063-6CF	2	11.081	12.189	0.74	0.80	14.52	54.00	0.000	0.000	177.02	0.00	0.00
50	65.50	Decibel 26OB	1	10.169	11.186	0.80	0.80	1.60	50.00	0.000	0.000	17.90	0.00	0.00
51	64.00	3 ft Standoff	1	10.120	11.132	1.00	1.00	2.63	40.00	0.000	0.000	29.28	0.00	0.00
							Totals:		**13,982.13**			**5,628.11**		

Total Applied Force Summary

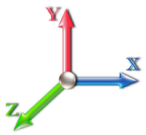
Structure:	CT13056-A-SBA		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 37

TES Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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		131.26	1365.73	0.00	0.00
10.00		128.54	1341.25	0.00	0.00
15.00		127.37	1316.76	0.00	0.00
20.00		131.96	1292.27	0.00	0.00
25.00		134.97	1267.79	0.00	0.00
30.00		136.90	1243.30	0.00	0.00
35.00		138.01	1218.81	0.00	0.00
40.00		138.48	1194.32	0.00	0.00
45.00		138.43	1169.84	0.00	0.00
47.25		61.79	518.44	0.00	0.00
50.00		76.44	1067.43	0.00	0.00
53.25		90.13	1244.00	0.00	0.00
55.00		48.23	339.90	0.00	0.00
60.00		137.83	957.36	0.00	0.00
64.00	(1) attachments	138.36	791.19	0.00	0.00
65.00		26.99	185.60	0.00	0.00
65.50	(1) attachments	31.36	142.49	0.00	0.00
70.00		121.12	823.25	0.00	0.00
75.00		132.89	895.34	0.00	0.00
80.00		130.80	874.93	0.00	0.00
85.00		128.54	854.53	0.00	0.00
90.00		126.10	834.12	0.00	0.00
95.00		123.51	813.72	0.00	0.00
96.00		24.27	160.29	0.00	0.00
99.00	(26) attachments	1422.17	3472.05	0.00	0.00
100.00		24.17	246.14	0.00	0.00
100.75		18.05	183.64	0.00	0.00
105.00		101.40	532.41	0.00	0.00
110.00		116.63	611.26	0.00	0.00
115.00		113.53	594.94	0.00	0.00
120.00		110.33	578.61	0.00	0.00
121.00	(24) attachments	1276.59	3833.49	0.00	0.00
125.00		85.27	393.72	0.00	0.00
128.00	(1) attachments	345.40	1788.44	0.00	0.00
129.00		20.52	94.84	0.00	0.00
130.00		20.38	75.10	0.00	0.00
135.00		100.10	368.15	0.00	0.00
139.00	(49) attachments	1277.45	3009.00	0.00	0.00
140.00		18.95	56.83	0.00	0.00
145.00		92.83	276.82	0.00	0.00
147.00	(31) attachments	1450.06	2989.60	0.00	0.00
149.00	(2) attachments	115.50	462.46	0.00	34.30
	Totals:	**9,313.59**	**41,480.13**	**0.00**	**34.30**

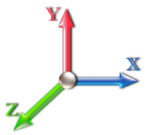
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 38	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	13.20
5.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	31.20
5.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	0.80
10.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	13.20
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	31.20
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	0.80
15.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.534	0.00	13.20
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.534	0.00	31.20
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.534	0.00	0.80
20.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.978	0.00	13.20
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.978	0.00	31.20
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.978	0.00	0.80
25.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.345	0.00	13.20
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.345	0.00	31.20
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.345	0.00	0.80
30.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.659	0.00	13.20
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.659	0.00	31.20
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.659	0.00	0.80
35.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.936	0.00	13.20
35.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.936	0.00	31.20
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.936	0.00	0.80
40.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.184	0.00	13.20
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.184	0.00	31.20
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.184	0.00	0.80
45.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.410	0.00	13.20
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.410	0.00	31.20
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.410	0.00	0.80
47.25	1 1/4" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	9.505	0.00	5.94
47.25	1 5/8" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	9.505	0.00	14.04
47.25	1/2" Coax	Yes	2.25	0.000	0.00	0.00	0.00	0.000	0.000	9.505	0.00	0.36
50.00	1 1/4" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	9.616	0.00	7.26
50.00	1 5/8" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	9.616	0.00	17.16
50.00	1/2" Coax	Yes	2.75	0.000	0.00	0.00	0.00	0.000	0.000	9.616	0.00	0.44
53.25	1 1/4" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	9.742	0.00	8.58
53.25	1 5/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	9.742	0.00	20.28
53.25	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	9.742	0.00	0.52
55.00	1 1/4" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	9.807	0.00	4.62
55.00	1 5/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	9.807	0.00	10.92
55.00	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	9.807	0.00	0.28
60.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.986	0.00	13.20
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.986	0.00	31.20
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.986	0.00	0.80
64.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	10.56
64.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	24.96
64.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	0.64
65.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.153	0.00	2.64
65.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.153	0.00	6.24

Linear Appurtenance Segment Forces (Factored)

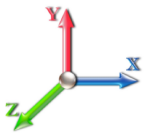
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 39	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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)
65.50	1 1/4" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	10.169	0.00	1.32
65.50	1 5/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	10.169	0.00	3.12
70.00	1 1/4" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	10.310	0.00	11.88
70.00	1 5/8" Coax	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	10.310	0.00	28.08
75.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.459	0.00	13.20
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.459	0.00	31.20
80.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.600	0.00	13.20
80.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.600	0.00	31.20
85.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.734	0.00	13.20
85.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.734	0.00	31.20
90.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.863	0.00	13.20
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.863	0.00	31.20
95.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.986	0.00	13.20
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.986	0.00	31.20
96.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.010	0.00	2.64
96.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.010	0.00	6.24
99.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	7.92
99.00	1 5/8" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	18.72
100.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.104	0.00	2.64
100.75	1 1/4" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.000	0.000	11.121	0.00	1.98
105.00	1 1/4" Coax	Yes	4.25	0.000	0.00	0.00	0.00	0.000	0.000	11.218	0.00	11.22
110.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.327	0.00	13.20
115.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.432	0.00	13.20
120.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.534	0.00	13.20
121.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.554	0.00	2.64
125.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	11.633	0.00	10.56
128.00	1 1/4" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.691	0.00	7.92
129.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	2.64
130.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.729	0.00	2.64
135.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.822	0.00	13.20
139.00	1 1/4" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	11.894	0.00	10.56
140.00	1 1/4" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	11.912	0.00	2.64
145.00	1 1/4" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.000	0.00	13.20
147.00	1 1/4" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.034	0.00	5.28
									Totals:		**0.0**	**1,016.1**

Calculated Forces

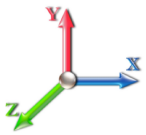
Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

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	-41.48	-9.33	0.00	-1010.6	0.00	1010.61	4419.23	2209.62	10644.5	5330.19	0.00	0.000	0.000	0.199
5.00	-40.10	-9.23	0.00	-963.97	0.00	963.97	4369.00	2184.50	10304.7	5160.05	0.03	-0.047	0.000	0.196
10.00	-38.75	-9.13	0.00	-917.82	0.00	917.82	4317.04	2158.52	9966.05	4990.43	0.10	-0.094	0.000	0.193
15.00	-37.43	-9.03	0.00	-872.15	0.00	872.15	4263.35	2131.68	9628.61	4821.46	0.22	-0.142	0.000	0.190
20.00	-36.13	-8.93	0.00	-826.99	0.00	826.99	4207.92	2103.96	9292.72	4653.26	0.40	-0.190	0.000	0.186
25.00	-34.86	-8.82	0.00	-782.34	0.00	782.34	4150.77	2075.38	8958.64	4485.98	0.62	-0.239	0.000	0.183
30.00	-33.61	-8.71	0.00	-738.25	0.00	738.25	4091.88	2045.94	8626.63	4319.73	0.90	-0.289	0.000	0.179
35.00	-32.38	-8.59	0.00	-694.72	0.00	694.72	4031.25	2015.63	8296.96	4154.65	1.23	-0.339	0.000	0.175
40.00	-31.18	-8.47	0.00	-651.77	0.00	651.77	3968.90	1984.45	7969.88	3990.86	1.61	-0.390	0.000	0.171
45.00	-30.00	-8.34	0.00	-609.41	0.00	609.41	3904.81	1952.40	7645.65	3828.51	2.05	-0.441	0.000	0.167
47.25	-29.48	-8.29	0.00	-590.64	0.00	590.64	3875.40	1937.70	7500.75	3755.95	2.26	-0.465	0.000	0.165
50.00	-28.41	-8.22	0.00	-567.83	0.00	567.83	3838.99	1919.49	7324.54	3667.71	2.54	-0.494	0.000	0.162
53.25	-27.17	-8.13	0.00	-541.11	0.00	541.11	2982.57	1491.28	5685.98	2847.22	2.89	-0.528	0.000	0.199
55.00	-26.82	-8.10	0.00	-526.88	0.00	526.88	2966.84	1483.42	5604.01	2806.17	3.09	-0.546	0.000	0.197
60.00	-25.86	-7.98	0.00	-486.38	0.00	486.38	2920.75	1460.37	5370.68	2689.33	3.69	-0.606	0.000	0.190
64.00	-25.06	-7.84	0.00	-454.47	0.00	454.47	2882.62	1441.31	5185.10	2596.40	4.22	-0.654	0.000	0.184
65.00	-24.88	-7.82	0.00	-446.63	0.00	446.63	2872.92	1436.46	5138.87	2573.25	4.36	-0.666	0.000	0.182
65.50	-24.73	-7.80	0.00	-442.72	0.00	442.72	2868.04	1434.02	5115.78	2561.69	4.43	-0.672	0.000	0.181
70.00	-23.90	-7.69	0.00	-407.63	0.00	407.63	2823.36	1411.68	4908.84	2458.07	5.09	-0.725	0.000	0.174
75.00	-23.00	-7.57	0.00	-369.18	0.00	369.18	2772.06	1386.03	4680.84	2343.90	5.88	-0.783	0.000	0.166
80.00	-22.12	-7.45	0.00	-331.34	0.00	331.34	2719.04	1359.52	4455.15	2230.89	6.73	-0.841	0.000	0.157
85.00	-21.26	-7.33	0.00	-294.11	0.00	294.11	2664.28	1332.14	4232.01	2119.15	7.64	-0.897	0.000	0.147
90.00	-20.42	-7.21	0.00	-257.48	0.00	257.48	2607.79	1303.89	4011.70	2008.83	8.61	-0.951	0.000	0.136
95.00	-19.61	-7.08	0.00	-221.45	0.00	221.45	2549.57	1274.78	3794.46	1900.05	9.63	-1.003	0.000	0.124
96.00	-19.44	-7.06	0.00	-214.37	0.00	214.37	2537.71	1268.86	3751.41	1878.49	9.84	-1.013	0.000	0.122
99.00	-16.00	-5.58	0.00	-193.19	0.00	193.19	2501.74	1250.87	3623.07	1814.23	10.49	-1.043	0.000	0.113
100.00	-15.75	-5.55	0.00	-187.61	0.00	187.61	2489.61	1244.80	3580.57	1792.94	10.71	-1.053	0.000	0.111
100.75	-15.56	-5.54	0.00	-183.45	0.00	183.45	1858.32	929.16	2706.71	1355.36	10.88	-1.060	0.000	0.144
105.00	-15.03	-5.44	0.00	-159.91	0.00	159.91	1825.33	912.67	2580.97	1292.40	11.84	-1.099	0.000	0.132
110.00	-14.42	-5.32	0.00	-132.72	0.00	132.72	1784.92	892.46	2434.45	1219.03	13.02	-1.150	0.000	0.117
115.00	-13.82	-5.21	0.00	-106.10	0.00	106.10	1742.78	871.39	2289.70	1146.55	14.25	-1.196	0.000	0.101
120.00	-13.24	-5.09	0.00	-80.07	0.00	80.07	1698.90	849.45	2146.98	1075.09	15.52	-1.237	0.000	0.082
121.00	-9.44	-3.73	0.00	-74.98	0.00	74.98	1689.92	844.96	2118.70	1060.93	15.78	-1.244	0.000	0.076
125.00	-9.04	-3.64	0.00	-60.04	0.00	60.04	1653.30	826.65	2006.56	1004.77	16.84	-1.271	0.000	0.065
128.00	-7.26	-3.26	0.00	-49.11	0.00	49.11	1625.10	812.55	1923.51	963.18	17.64	-1.289	0.000	0.055
129.00	-7.17	-3.24	0.00	-45.85	0.00	45.85	1615.56	807.78	1896.04	949.43	17.91	-1.295	0.000	0.053
129.00	-7.17	-3.24	0.00	-45.85	0.00	45.85	1091.97	545.98	1287.15	644.53	17.91	-1.295	0.000	0.078
130.00	-7.09	-3.22	0.00	-42.61	0.00	42.61	1086.82	543.41	1270.20	636.04	18.19	-1.300	0.000	0.074
135.00	-6.72	-3.11	0.00	-26.52	0.00	26.52	1060.04	530.02	1185.82	593.79	19.56	-1.329	0.000	0.051
139.00	-3.75	-1.77	0.00	-14.07	0.00	14.07	1037.37	518.68	1118.90	560.28	20.68	-1.344	0.000	0.029
140.00	-3.69	-1.75	0.00	-12.31	0.00	12.31	1031.53	515.76	1102.27	551.95	20.97	-1.347	0.000	0.026
145.00	-3.41	-1.65	0.00	-3.58	0.00	3.58	1001.28	500.64	1019.81	510.66	22.38	-1.355	0.000	0.010
147.00	-0.46	-0.13	0.00	-0.29	0.00	0.29	988.70	494.35	987.19	494.33	22.95	-1.356	0.000	0.001
149.00	0.00	-0.12	0.00	-0.03	0.00	0.03	975.84	487.92	954.81	478.11	23.52	-1.357	0.000	0.000

Final Analysis Summary

Structure:	CT13056-A-SBA	**Code:**	EIA/TIA-222-G	12/9/2020	
Site Name:	Moosehill	**Exposure:**	C		
Height:	149.00 (ft)	**Crest Height:**	0.00		
Base Elev:	1.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

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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 93 mph Wind	35.9	0.00	49.72	0.00	0.00	3907.42
0.9D + 1.6W 93 mph Wind	35.9	0.00	37.27	0.00	0.00	3867.72
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.8	0.00	82.02	0.00	0.00	1170.26
1.2D + 1.0E	2.2	0.00	49.78	0.00	0.00	271.02
0.9D + 1.0E	2.2	0.00	37.33	0.00	0.00	267.99
1.0D + 1.0W 60 mph Wind	9.3	0.00	41.48	0.00	0.00	1010.61

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 93 mph Wind	-31.57	-31.45	0.00	-2096.4	0.00	-2096.4	2982.57	1491.2	5685.98	2847.22	53.25	0.747
0.9D + 1.6W 93 mph Wind	-37.27	-35.86	0.00	-3867.7	0.00	-3867.7	4419.23	2209.6	10644.5	5330.19	0.00	0.734
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-57.94	-9.45	0.00	-624.90	0.00	-624.90	2982.57	1491.2	5685.98	2847.22	53.25	0.239
1.2D + 1.0E	-32.68	-1.86	0.00	-159.09	0.00	-159.09	2982.57	1491.2	5685.98	2847.22	53.25	0.067
0.9D + 1.0E	-24.51	-1.84	0.00	-156.73	0.00	-156.73	2982.57	1491.2	5685.98	2847.22	53.25	0.063
1.0D + 1.0W 60 mph Wind	-27.17	-8.13	0.00	-541.11	0.00	-541.11	2982.57	1491.2	5685.98	2847.22	53.25	0.199

Base Plate Summary

Structure:	CT13056-A-SB		**Code:**	EIA/TIA-222-G	12/9/2020
Site Name:	Moosehill		**Exposure:**	C	
Height:	149.00 (ft)		**Crest Height:**	0.00	
Base Elev:	1.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 42

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	4184.00
Axial (kip):	45.00
Shear (kip):	39.00
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	3907.42
Axial (kip):	49.72
Shear (kip):	35.88

Base Plate	
Yield (ksi):	60.00
Width (in):	64.00
Style:	Clipped
Polygon Sides:	4.00
Clip Length (in):	12.00
Effective Len (in):	8.64
Moment (kip-in):	647.80
Allow Stress (ksi):	81.00
Applied Stress (ksi):	50.22
Stress Ratio:	0.62

Anchor Bolts	
Bolt Circle:	66.00
Number Bolts:	16.00
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):	182.74
Allowable (kip):	260.00
Ratio:	0.72
Tension	
Force (kip):	172.48
Allowable (kip):	260.00
Ratio:	0.68

Monopole Mat Foundation Design

			Date
			12/9/2020
Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	149
Site Number:	CT13056-A-SBA	**Engineer Name:**	J. Chen
Engr. Number:	99140	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

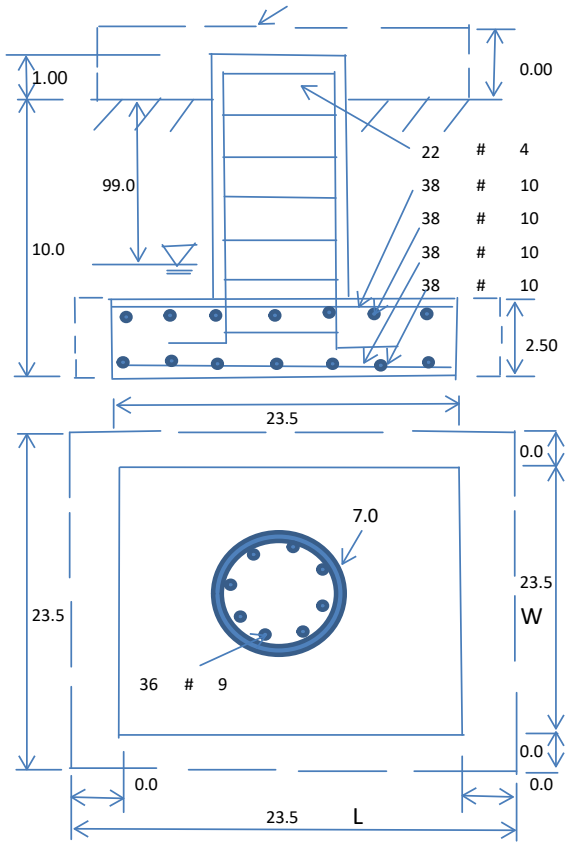
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	49.7	Shear Force (Kips):	35.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3899.9
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	10.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	23.5	Width of Pad (ft.):	23.5
Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	40	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	10	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	38	Qty. of Rebar in Pad (W):	38

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	38	Qty. of Rebar in Pad (W):	38
Apply 1.35 factor for e/w Per G:	1.35		

Soil Design Parameters:

Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	37.6	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	8000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

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

Total Dry Soil Volume (cu. Ft.):	3853.24	Total Dry Soil Weight (Kips):	423.86
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	423.86	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1707.74	Total Dry Concrete Weight (Kips):	256.16
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	256.16	Total Vertical Load on Base (Kips):	729.72

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3199	<	Allowable Factored Soil Bearing (psf):	6000	0.53	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7775.2	>	Design Factored Momont (kips-ft):	3901	0.50	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.99	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		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6026.1	>	Design Factored Moment (Mu, Kips-F	4204.2	0.70	OK!
Calculated Shear Capacity (Kips):	704.9	>	Design Factored Shear (Kips):	35.8	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	1944.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9734.2	>	Design Factored Axial Load (Pu Kips):	49.7	0.01	OK!
Moment & Axial Strength Combination:	0.70	OK!	Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.006		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	705.6	>	One-Way Factored Shear (L-D. Kips):	261.1	0.37	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	705.6	>	One-Way Factored Shear (W-D., Kips)	261.1	0.37	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	655.7	>	One-Way Factored Shear (C-C, Kips):	249.5	0.38	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0065	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0065		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	5399.9	>	Moment at Bottom (L-Dir. K-Ft):	1289.8	0.24	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	5399.9	>	Moment at Bottom (W-Dir. K-Ft):	1289.8	0.24	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	7512.9	>	Moment at Bottom (C-C Dir. K-Ft):	1824.1	0.24	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0065	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0065		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	5399.9	>	Moment at the top (L-Dir K-Ft):	577.8	0.11	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	5399.9	>	Moment at the top (W-Dir K-Ft):	577.8	0.11	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	7512.9	>	Moment at the top (C-C Dir. K-Ft):	543.6	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1560.0	k-ft.	Max. factored shear stress v_{u_CD}:		4.5	Psi
Max. factored shear stress v_{u_AB}:	13.3	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	13.3	Psi	Check Usage of Punching Shear Capacity:		0.07	OK!

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 150-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT13056-A

Customer Site Name: Moosehill

Carrier Name: T-Mobile (App#: 141529, V1)

Carrier Site ID / Name: CT11664C

Site Location: 500 Moosehill Road

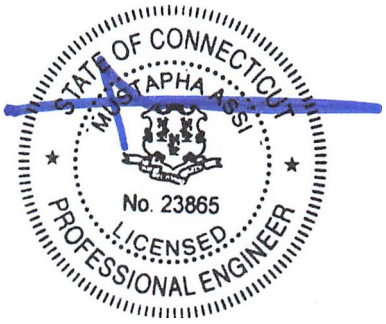
Monroe, Connecticut

Fairfield County

Latitude: 41.320966

Longitude: -73.201422

Exp.10/31/2021



01/12/2021

Analysis Result:

Max Structural Usage: 78.7% [Pass]

Report Prepared By: Manoj Kandel

NOTE: The proposed SitePro HRK12 support rail kit is not currently installed on the mount. The proposed mount reinforcement kit was assumed to be installed per the manufacturer's instructions, and it was assumed that the kit can be installed properly on the existing mount. TES cannot verify that the proposed mount reinforcement kit will fit properly and is not liable for any fit-up issues during installation.

Introduction

The purpose of this report is to summarize the analysis results on the (1) Low Profile Platform at 121.00' 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 by TEP, dated 11/03/2020
Antenna Loading	SBA, Application #: 141529, v1, dated 11/03/2020
Modification Drawings	N/A

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 120.0 mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 93 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent
Operational Wind Speed: 60 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G/ 2015 IBC / 2018 Connecticut State Building Code
Exposure Category: C
Structure Class: II
Topographic Category: 1
Crest Height (Ft): 0

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(1) Low Profile Platform at 121.00' elevation

Proposed Modifications

(1) Support Rail Kit (Site Pro 1 HRK12)

Final Antenna Configuration

3 Ericsson AIR6449 B41
3 Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)
3 RFS APXVAALL24-43-U-NA20
3 Ericsson KRY 112 144/1
3 Commscope SDX1926Q-43
3 Ericsson 4449 B71 + B85
3 Ericsson 4415 B25

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 78.7%, 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.

NOTE: The proposed SitePro HRK12 support rail kit is not currently installed on the mount. The proposed mount reinforcement kit was assumed to be installed per the manufacturer's instructions, and it was assumed that the kit can be installed properly on the existing mount. TES cannot verify that the proposed mount reinforcement kit will fit properly and is not liable for any fit-up issues during installation.

Attachments

1. Mount Photos
2. Cost Estimate
3. Antenna Placement Diagram
4. Mount Mapping Information
5. 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.

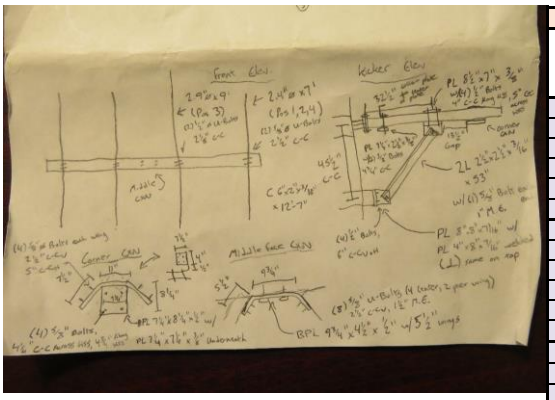
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.

V3.0 Updated on 8-31-2020

Antenna Mount Mapping Form (PATENT PENDING)

FCC #
N/A

Tower Owner:	SBA	**Mapping Date:**	11/3/2020
Site Name:	Moosehill	**Tower Type:**	Monopole
Site Number or ID:	CT13056-A	**Tower Height (Ft.):**	150
Mapping Contractor:	TEP	**Mount Elevation (Ft.):**	121.5



Mount Pipe Configuration and Geometries [Unit = Inches]

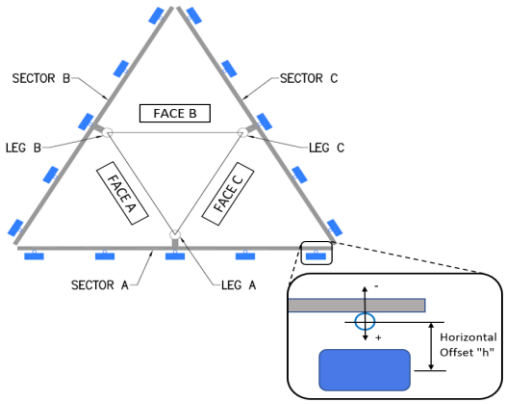
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	2.4"Øx0.154"x84"			C1	2.4"Øx0.154"x84"		
A2	2.4"Øx0.154"x84"	49.00	51.00	C2	2.4"Øx0.154"x84"	49.00	51.00
A3	2.9"Øx0.203"x108"	66.25	99.00	C3	2.9"Øx0.203"x108"	66.25	99.00
A4	2.4"Øx0.154"x84"	49.00	147.00	C4	2.4"Øx0.154"x84"	49.00	147.00
A5				C5			
A6				C6			
B1	2.4"Øx0.154"x84"			D1			
B2	2.4"Øx0.154"x84"	49.00	51.00	D2			
B3	2.9"Øx0.203"x108"	66.25	99.00	D3			
B4	2.4"Øx0.154"x84"	49.00	147.00	D4			
B5				D5			
B6				D6			

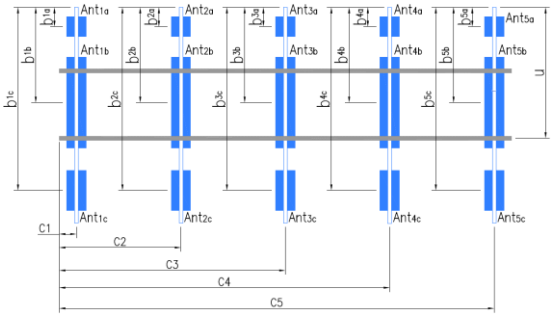
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	0.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	

Please enter additional infomation or comments below.

Coax: (12) 1 5/8" FH and (1) 1 3/8"Ø Hybrid to all antennas

Tower Face Width at Mount Elev. (ft.):		Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	29



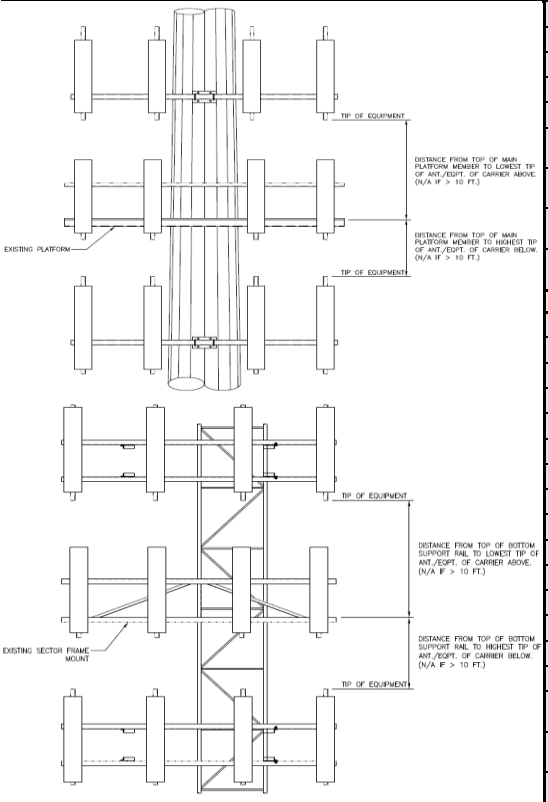


Antenna Layout (Looking Out From Tower)

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}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	AIR 21 B2A B4P	12.00	8.00	56.00		121.5	45.00	10.50	0.00	53
Ant_{2c}	Double TMA 17/21-M	7.00	3.00	10.00		121.5				
Ant_{3a}										
Ant_{3b}	LNX-6515DS-A1M	11.85	7.10	96.58		121.5	47.00	7.50	0.00	57
Ant_{3c}	RRUS 11 B12	16.97	7.17	19.69		123	38.50			124
Ant_{4a}										
Ant_{4b}	AIR 21 B4A B2P	12.00	8.00	56.00		121.5	49.00	10.50	0.00	61
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
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:	Flat 1	Deg	N/A
Climbing Facility	Corrosion Type:		Good condition.
	Access:		Climbing path was unobstructed.
	Condition:		Good condition.



Sector B										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	AIR 21 B2A B4P	12.00	8.00	56.00		121.5	45.00	10.50	120.00	67
Ant_{2c}	Double TMA 17/21-M	7.00	3.00	10.00		121.5				134
Ant_{3a}										
Ant_{3b}	LNX-6515DS-A1M	11.85	7.10	96.58		121.5	47.00	7.50	120.00	71
Ant_{3c}	RRUS 11 B12	16.97	7.17	19.69		123	38.50			139
Ant_{4a}										
Ant_{4b}	AIR 21 B4A B2P	12.00	8.00	56.00		121.5	49.00	10.50	120.00	74
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	AIR 21 B2A B4P	12.00	8.00	56.00		121.5	45.00	10.50	240.00	78
Ant_{2c}	Double TMA 17/21-M	7.00	3.00	10.00		121.5				
Ant_{3a}										
Ant_{3b}	LNX-6515DS-A1M	11.85	7.10	96.58		121.5	47.00	7.50	240.00	83
Ant_{3c}	RRUS 11 B12	16.97	7.17	19.69		123	38.50			150
Ant_{4a}										
Ant_{4b}	AIR 21 B4A B2P	12.00	8.00	56.00		121.5	49.00	10.50	240.00	86
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
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.

Structure: CT13056-A-SBA - Moosehill

Sector: A

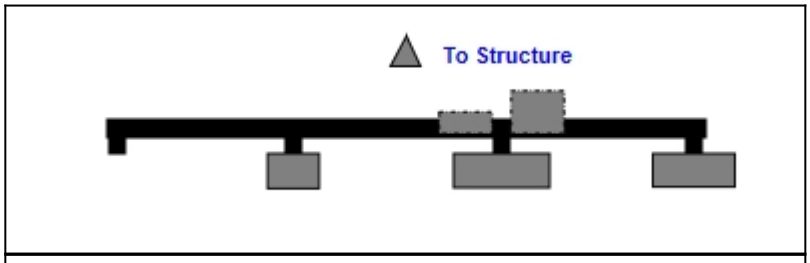
Structure Type: Monopole

Mount Elev: 121.00

11/25/2020

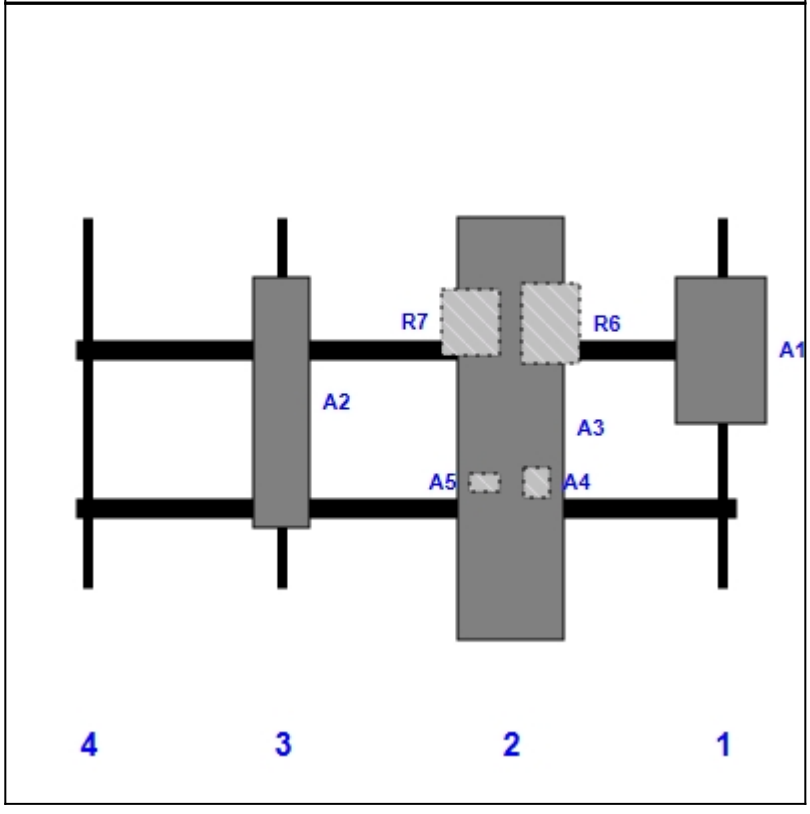
Tower Engineering Solutions

Plan View



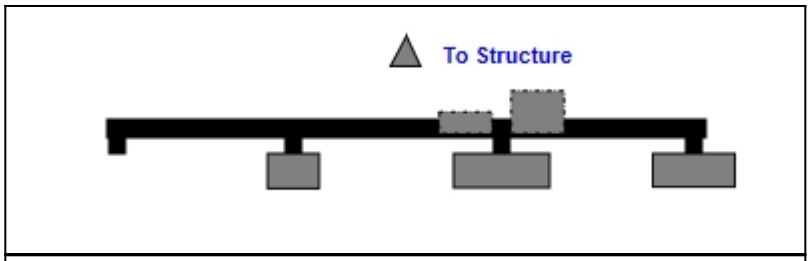
Front View

Looking Toward Structure



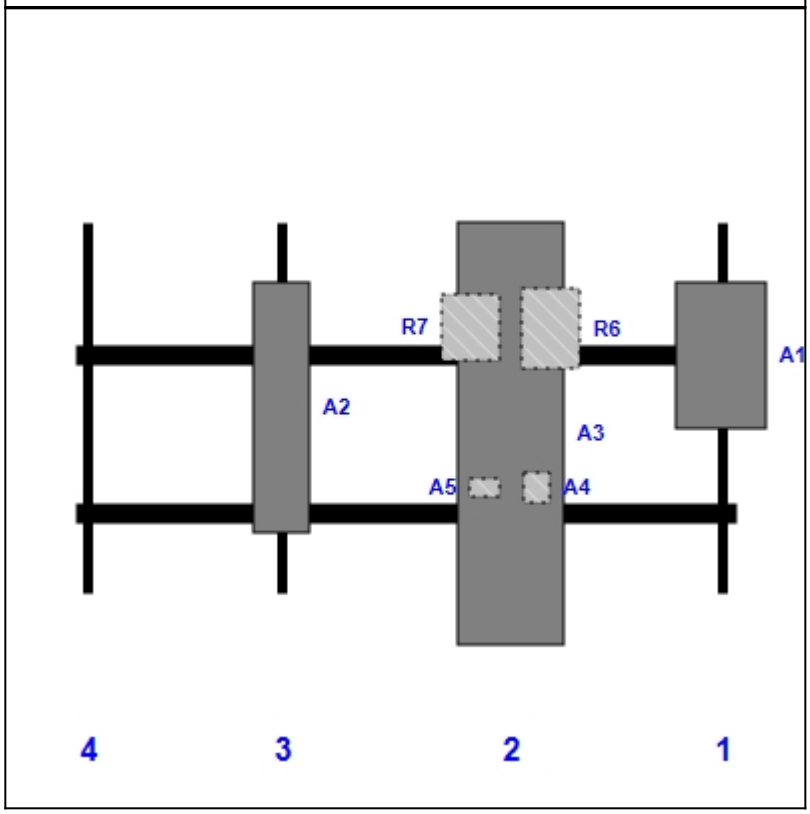
Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	147.00	1	a	Front	30.00			
A3	APXVAALL24-43-U-NA20	95.90	24.00	99.00	2	a	Front	48.00			
A4	KRY 112 144/1	6.90	6.10	99.00	2	a	Behind	60.00	6.00		
A5	SDX1926Q-43	4.10	6.90	99.00	2	a	Behind	60.00	-6.00		
R6	4449 B71 + B85	17.90	13.20	99.00	2	a	Behind	24.00	9.00		
R7	4415 B25	15.00	13.20	99.00	2	a	Behind	24.00	-9.00		
A2	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	47.00	3	a	Front	42.00			

Plan View



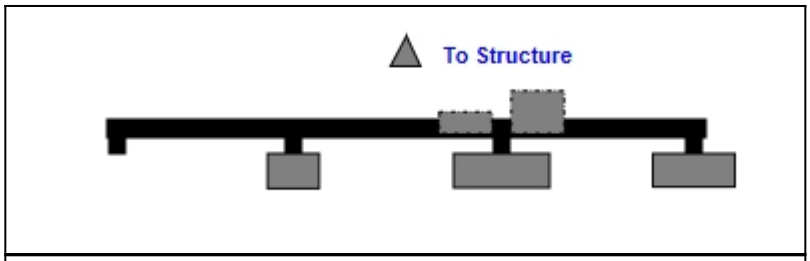
Front View

Looking Toward Structure



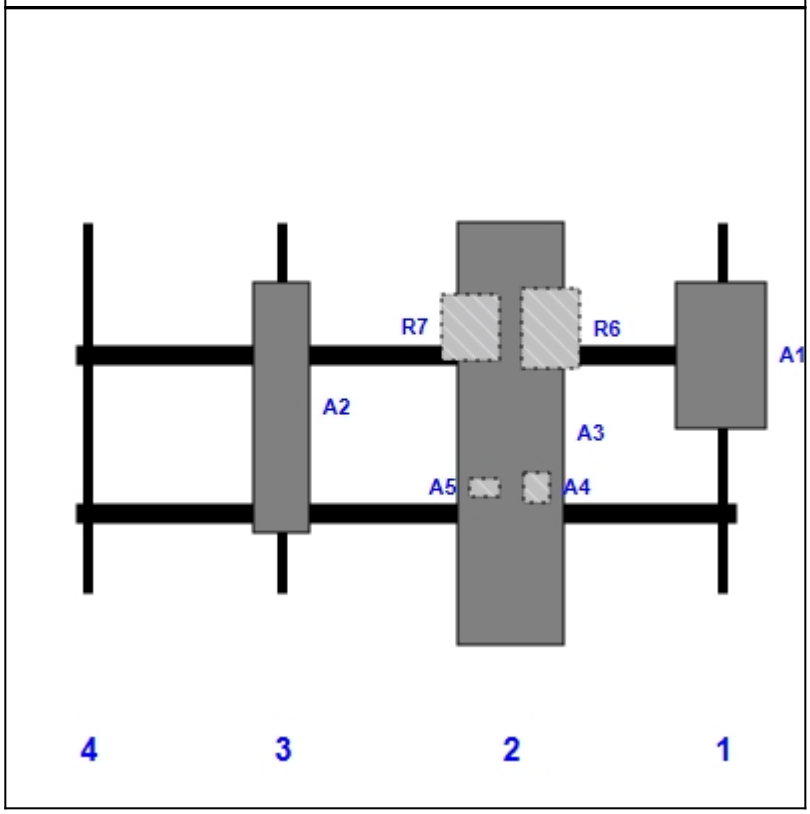
Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	147.00	1	a	Front	30.00			
A3	APXVAALL24-43-U-NA20	95.90	24.00	99.00	2	a	Front	48.00			
A4	KRY 112 144/1	6.90	6.10	99.00	2	a	Behind	60.00	6.00		
A5	SDX1926Q-43	4.10	6.90	99.00	2	a	Behind	60.00	-6.00		
R6	4449 B71 + B85	17.90	13.20	99.00	2	a	Behind	24.00	9.00		
R7	4415 B25	15.00	13.20	99.00	2	a	Behind	24.00	-9.00		
A2	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	47.00	3	a	Front	42.00			

Plan View

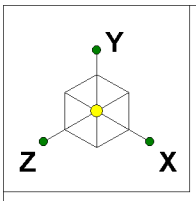


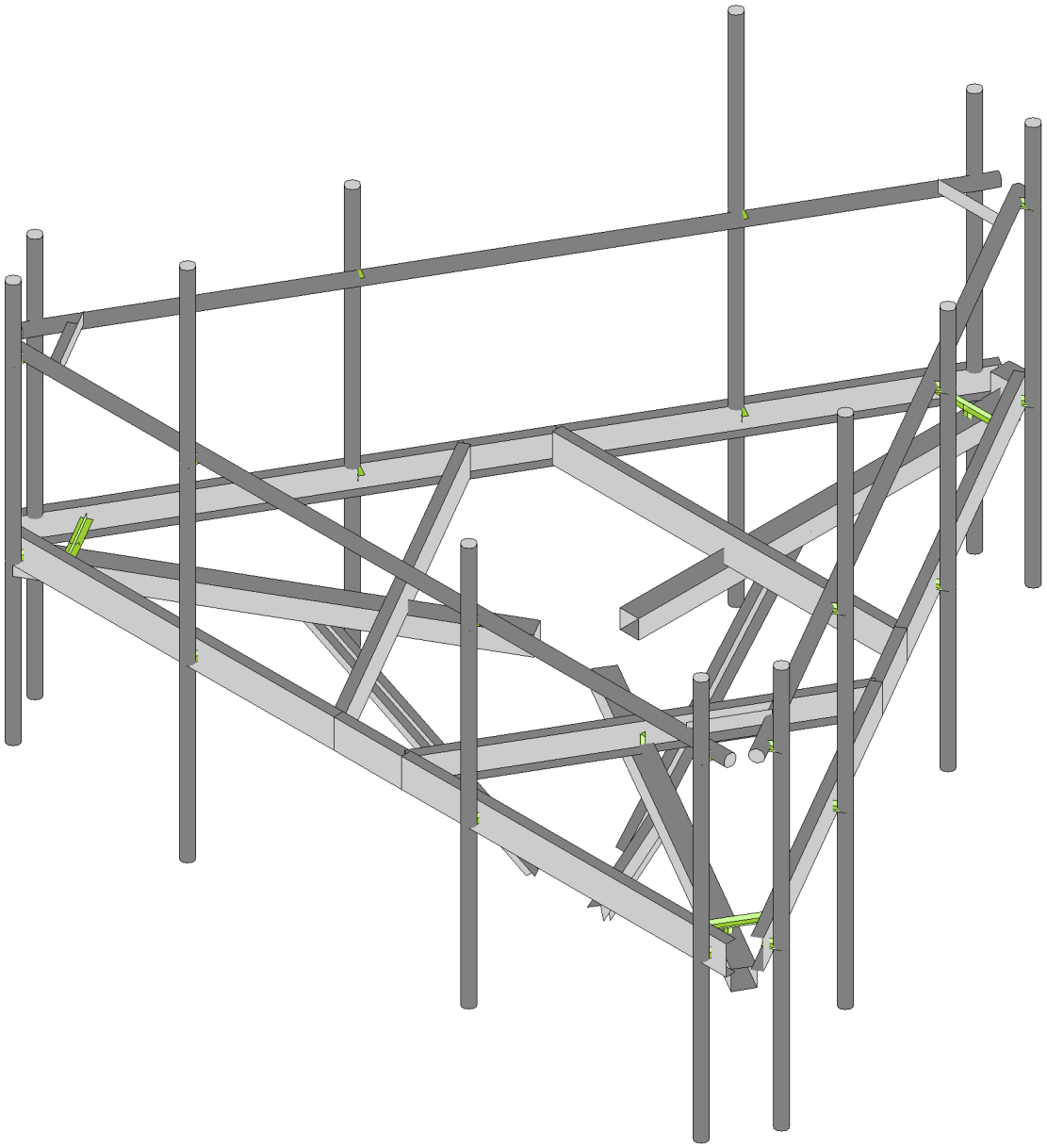
Front View

Looking Toward Structure

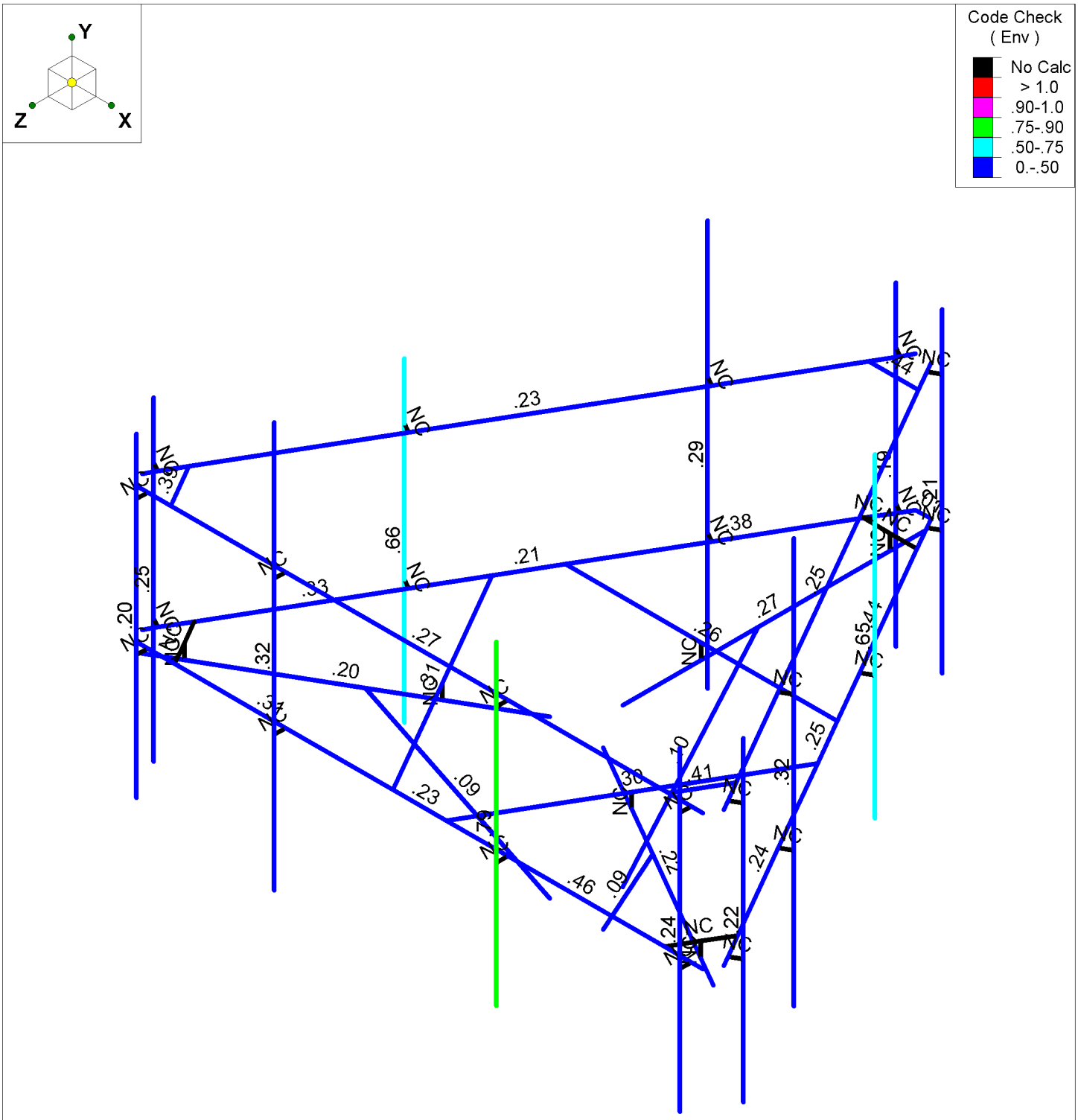


Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	147.00	1	a	Front	30.00			
A3	APXVAALL24-43-U-NA20	95.90	24.00	99.00	2	a	Front	48.00			
A4	KRY 112 144/1	6.90	6.10	99.00	2	a	Behind	60.00	6.00		
A5	SDX1926Q-43	4.10	6.90	99.00	2	a	Behind	60.00	-6.00		
R6	4449 B71 + B85	17.90	13.20	99.00	2	a	Behind	24.00	9.00		
R7	4415 B25	15.00	13.20	99.00	2	a	Behind	24.00	-9.00		
A2	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	47.00	3	a	Front	42.00			



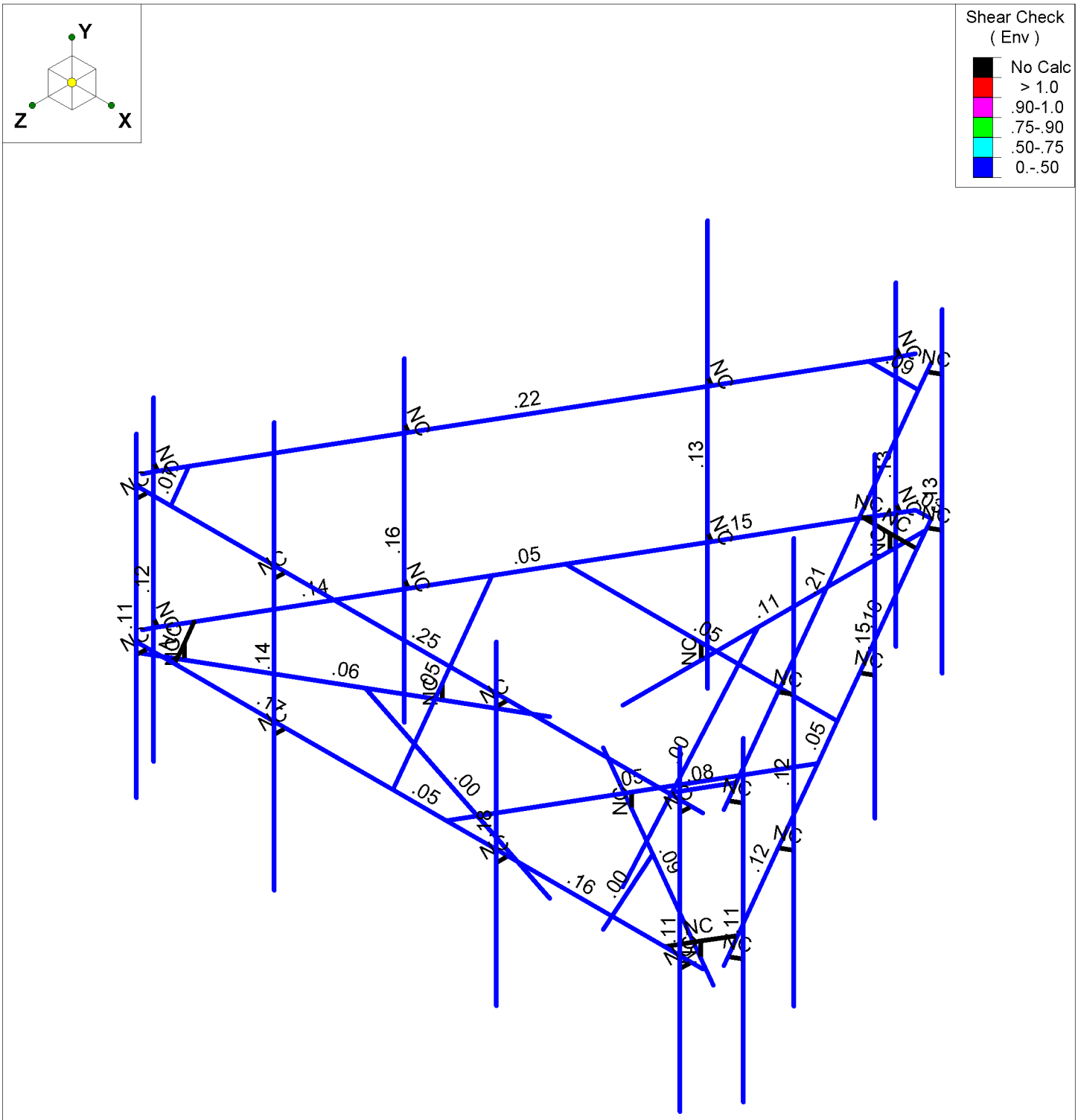


Tower Engineering Solutio...	CT13056-A-SBA_MT_LO_Loads Only_G	SK - 1
		Nov 25, 2020 at 8:13 AM
TES Project No. 99139		CT13056-A-SBA_99139_G_RISA_L...



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

Tower Engineering Solutio...	CT13056-A-SBA_MT_LO_Loads Only_G	SK - 2
		Nov 25, 2020 at 8:13 AM
TES Project No. 99139		CT13056-A-SBA_99139_G_RISA_L...



Member Shear Checks Displayed (Enveloped)
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					30			
2	Antenna Di	None					30			
3	Antenna W Front	None					30			
4	Antenna Wi Front	None					30			
5	Antenna W Side	None					30			
6	Antenna Wi Side	None					30			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						37	3	
11	Structure W Front	None						37		
12	Structure Wi Front	None						37		
13	Structure W Side	None						37		
14	Structure Wi Side	None						37		
15	BLC 9 Transient Area...	None						42		
16	BLC 10 Transient Are...	None						42		

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 (Front)	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1								
6	1.2D+1.0Di+1.0Wi (Back)	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1								
7	1.2D+1.0Di+1.0Wi (Left)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1								
8	1.2D+1.0Di+1.0Wi (Right)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1								
9	1.2D+1.5L1+.16W (Mai...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16										
10	1.2D+1.5L2+.16W (Mai...	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	-6.29166	0	3.828847	0	
2	N4	6.29166	0	3.828847	0	
3	N3	-2.975781	0	3.828847	0	
4	N4A	1.955525	0	3.828847	0	
5	N5	6.036606	0	3.828847	0	
6	N6	-2.975781	-3	4.078847	0	
7	N7	1.955525	-2.75	4.078847	0	
8	N8	6.036606	-2.75	4.078847	0	
9	N9	-2.975781	6	4.078847	0	
10	N10	1.955525	4.25	4.078847	0	
11	N11	6.036606	4.25	4.078847	0	
12	N12	6.461708	0	3.534314	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
13	N13	0.170048	0	-7.363161	0	
14	N14	4.803769	0	0.662679	0	
15	N15	2.338116	0	-3.607957	0	
16	N16	0.297575	0	-7.142277	0	
17	N23	-0.170048	0	-7.363161	0	
18	N24	-6.461708	0	3.534314	0	
19	N25	-1.827988	0	-4.491526	0	
20	N26	-4.293641	0	-0.220889	0	
21	N27	-6.334181	0	3.313431	0	
22	0	0	0	0	0	
23	N41	-5.441435	0	3.828847	0	
24	N43	5.441435	0	3.828847	0	
25	N44	6.036596	0	2.797997	0	
26	N45	0.595161	0	-6.626844	0	
27	N47	-0.595161	0	-6.626844	0	
28	N48	-6.036596	0	2.797997	0	
29	N47A	0	-0.3333	-6.626844	0	
30	N49	0	0	-7.363161	0	
31	N50	0	-0.3333	-0.68889	0	
32	N51	0	0	-2.431852	0	
33	N47B	3.017141	0	-2.431852	0	
34	N48A	-3.017141	0	-2.431852	0	
35	N47C	-2.106045	0	1.215926	0	
36	N48B	-3.614616	0	-1.396995	0	
37	N49A	-0.597475	0	3.828847	0	
38	N50A	2.106045	0	1.215926	0	
39	N51A	0.597475	0	3.828847	0	
40	N52	3.614616	0	-1.396995	0	
41	N53	0	-0.3333	-2.431852	0	
42	N54	0	0	-6.626844	0	
43	N55	-5.739015	-0.3333	3.313422	0	
44	N56	-0.596596	-0.3333	0.344445	0	
45	N58	-2.106045	-0.3333	1.215926	0	
46	N59	-5.739015	0	3.313422	0	
47	N60	5.739015	-0.3333	3.313422	0	
48	N61	0.596596	-0.3333	0.344445	0	
49	N63	2.106045	-0.3333	1.215926	0	
50	N64	5.739015	0	3.313422	0	
51	N65	-6.036606	-2.75	4.078847	0	
52	N66	-6.036606	4.25	4.078847	0	
53	N69A	-6.036606	0	3.828847	0	
54	N70A	6.334181	0	3.313431	0	
55	N71	-0.297575	0	-7.142277	0	
56	N72	-6.29166	3	3.828847	0	
57	N73	6.29166	3	3.828847	0	
58	N74	-2.975781	3	3.828847	0	
59	N75	1.955525	3	3.828847	0	
60	N76	6.036606	3	3.828847	0	
61	N77	-6.036606	3	3.828847	0	
62	N78	-5.526471	3	3.828847	0	
63	N80	5.526471	3	3.828847	0	
64	N80A	6.461708	3	3.534314	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
65	N81	0.170048	3	-7.363161	0	
66	N82	6.334181	3	3.313431	0	
67	N83	6.079114	3	2.871641	0	
68	N84	0.552643	3	-6.700487	0	
69	N85	-0.170048	3	-7.363161	0	
70	N86	-6.461708	3	3.534314	0	
71	N87	-0.297575	3	-7.142277	0	
72	N88	-0.552643	3	-6.700487	0	
73	N89	-6.079114	3	2.871641	0	
74	N90	4.803769	3	0.662679	0	
75	N91	2.338116	3	-3.607957	0	
76	N92	0.297575	3	-7.142277	0	
77	N93	-1.827988	3	-4.491526	0	
78	N94	-4.293641	3	-0.220889	0	
79	N95	-6.334181	3	3.313431	0	
80	N96	0	-0.3333	-7.376844	0	
81	N98	-6.388534	-0.3333	3.688422	0	
82	N100	6.388534	-0.3333	3.688422	0	
83	N99	0	-3.8333	-0.68889	0	
84	N100A	-0.596596	-3.8333	0.344445	0	
85	N101	0.596596	-3.8333	0.344445	0	
86	N102	0	-0.3333	-3.68889	0	
87	N103	-3.194672	-0.3333	1.844445	0	
88	N104	3.194672	-0.3333	1.844445	0	
89	N105	-2.975781	0	4.078847	0	
90	N106	1.955525	0	4.078847	0	
91	N107	6.036606	0	4.078847	0	
92	N108	-6.036606	0	4.078847	0	
93	N109	-2.975781	3	4.078847	0	
94	N110	1.955525	3	4.078847	0	
95	N111	6.036606	3	4.078847	0	
96	N112	-6.036606	3	4.078847	0	
97	N117	2.554622	-2.75	-3.732957	0	
98	N118	0.514082	-2.75	-7.267277	0	
99	N120	2.554622	4.25	-3.732957	0	
100	N121	0.514082	4.25	-7.267277	0	
101	N122	6.550688	-2.75	3.188431	0	
102	N123	6.550688	4.25	3.188431	0	
103	N129	5.020275	0	0.537679	0	
104	N130	2.554622	0	-3.732957	0	
105	N131	0.514082	0	-7.267277	0	
106	N132	6.550688	0	3.188431	0	
107	N133	5.020275	3	0.537679	0	
108	N134	2.554622	3	-3.732957	0	
109	N135	0.514082	3	-7.267277	0	
110	N136	6.550688	3	3.188431	0	
111	N141	-4.510147	-2.75	-0.345889	0	
112	N142	-6.550688	-2.75	3.188431	0	
113	N144	-4.510147	4.25	-0.345889	0	
114	N145	-6.550688	4.25	3.188431	0	
115	N146	-0.514082	-2.75	-7.267277	0	
116	N147	-0.514082	4.25	-7.267277	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
117	N153	-2.044494	0	-4.616526	0	
118	N154	-4.510147	0	-0.345889	0	
119	N155	-6.550688	0	3.188431	0	
120	N156	-0.514082	0	-7.267277	0	
121	N157	-2.044494	3	-4.616526	0	
122	N158	-4.510147	3	-0.345889	0	
123	N159	-6.550688	3	3.188431	0	
124	N160	-0.514082	3	-7.267277	0	
125	N125	5.020276	-3	0.537678	0	
126	N126	5.020276	6	0.537678	0	
127	N127	-2.044495	-3	-4.616525	0	
128	N128	-2.044495	6	-4.616525	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Front face	C6X8.2	Beam	Channel	A36 Gr.36	Typical	2.39	.687	13.1	.074
2	M pipe	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Standoff	HSS4X4X3	Beam	SquareTube	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
4	Standoff X	C6X8.2	Beam	Channel	A36 Gr.36	Typical	2.39	.687	13.1	.074
5	Kicker kit	LL2.5x2.5x3x0	Beam	Double Angle (...	A36 Gr.36	Typical	1.8	1.91	1.07	.023
6	Support rail pipe	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	End Connection	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF	4CU5.25X0375	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 Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	MP5A	N1	N49A		180	Front face	Beam	Channel	A36 Gr.36	Typical
2	MP3A	N9	N6			M pipe	Beam	Pipe	A53 Gr.B	Typical
3	MP2A	N10	N7			M pipe	Beam	Pipe	A53 Gr.B	Typical
4	MP1A	N11	N8			M pipe	Beam	Pipe	A53 Gr.B	Typical
5	M5A	N12	N52		180	Front face	Beam	Channel	A36 Gr.36	Typical
6	M9	N23	N48A		180	Front face	Beam	Channel	A36 Gr.36	Typical
7	M13	N48	N41			RIGID	Beam	None	RIGID	DR1
8	M14	N43	N44			RIGID	Beam	None	RIGID	DR1
9	M15	N45	N47			RIGID	Beam	None	RIGID	DR1
10	M17	N23	N13			Standoff	Beam	SquareTube	A500 Gr.B...	Typical
11	M18	N50	N96			Standoff	Beam	SquareTube	A500 Gr.B...	Typical
12	M18A	N47B	N48A			Standoff X	Beam	Channel	A36 Gr.36	Typical
13	M19	N48B	N49A			Standoff X	Beam	Channel	A36 Gr.36	Typical
14	M20	N51A	N52			Standoff X	Beam	Channel	A36 Gr.36	Typical
15	M21	N54	N47A			RIGID	Beam	None	RIGID	DR1
16	M22	N51	N53			RIGID	Beam	None	RIGID	DR1
17	M24	N59	N55			RIGID	Beam	None	RIGID	DR1
18	M25	N47C	N58			RIGID	Beam	None	RIGID	DR1
19	M27	N64	N60			RIGID	Beam	None	RIGID	DR1
20	M28	N50A	N63			RIGID	Beam	None	RIGID	DR1
21	MP4A	N66	N65			M pipe	Beam	Pipe	A53 Gr.B	Typical
22	M32	N49A	N51A		180	Front face	Beam	Channel	A36 Gr.36	Typical
23	M33	N52	N47B		180	Front face	Beam	Channel	A36 Gr.36	Typical
24	M34	N48A	N48B		180	Front face	Beam	Channel	A36 Gr.36	Typical
25	M35	N51A	N4		180	Front face	Beam	Channel	A36 Gr.36	Typical
26	M36	N47B	N13		180	Front face	Beam	Channel	A36 Gr.36	Typical
27	M37	N48B	N24		180	Front face	Beam	Channel	A36 Gr.36	Typical
28	M38	N72	N73			Support rail pipe	Beam	Pipe	A53 Gr.B	Typical
29	M39	N80A	N81			Support rail pipe	Beam	Pipe	A53 Gr.B	Typical
30	M40	N85	N86			Support rail pipe	Beam	Pipe	A53 Gr.B	Typical
31	M41	N89	N78			End Connection	Beam	Single Angle	A36 Gr.36	Typical
32	M42	N80	N83			End Connection	Beam	Single Angle	A36 Gr.36	Typical
33	M43	N84	N88			End Connection	Beam	Single Angle	A36 Gr.36	Typical
34	M42A	N98	N56			Standoff	Beam	SquareTube	A500 Gr.B...	Typical
35	M43A	N100	N61			Standoff	Beam	SquareTube	A500 Gr.B...	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
36	M44	N103	N100A			Kicker kit	Beam	Double Angle (...	A36 Gr.36	Typical
37	M45	N99	N102			Kicker kit	Beam	Double Angle (...	A36 Gr.36	Typical
38	M46	N101	N104			Kicker kit	Beam	Double Angle (...	A36 Gr.36	Typical
39	M47	N112	N77			RIGID	Beam	None	RIGID	DR1
40	M48	N108	N69A			RIGID	Beam	None	RIGID	DR1
41	M49	N109	N74			RIGID	Beam	None	RIGID	DR1
42	M50	N105	N3			RIGID	Beam	None	RIGID	DR1
43	M51	N110	N75			RIGID	Beam	None	RIGID	DR1
44	M52	N106	N4A			RIGID	Beam	None	RIGID	DR1
45	M53	N111	N76			RIGID	Beam	None	RIGID	DR1
46	M54	N107	N5			RIGID	Beam	None	RIGID	DR1
47	MP2C	N120	N117			M pipe	Beam	Pipe	A53 Gr.B	Typical
48	MP1C	N121	N118			M pipe	Beam	Pipe	A53 Gr.B	Typical
49	MP4C	N123	N122			M pipe	Beam	Pipe	A53 Gr.B	Typical
50	M59	N136	N82			RIGID	Beam	None	RIGID	DR1
51	M60	N132	N70A			RIGID	Beam	None	RIGID	DR1
52	M61	N133	N90			RIGID	Beam	None	RIGID	DR1
53	M62	N129	N14			RIGID	Beam	None	RIGID	DR1
54	M63	N134	N91			RIGID	Beam	None	RIGID	DR1
55	M64	N130	N15			RIGID	Beam	None	RIGID	DR1
56	M65	N135	N92			RIGID	Beam	None	RIGID	DR1
57	M66	N131	N16			RIGID	Beam	None	RIGID	DR1
58	MP2B	N144	N141			M pipe	Beam	Pipe	A53 Gr.B	Typical
59	MP1B	N145	N142			M pipe	Beam	Pipe	A53 Gr.B	Typical
60	MP4B	N147	N146			M pipe	Beam	Pipe	A53 Gr.B	Typical
61	M71	N160	N87			RIGID	Beam	None	RIGID	DR1
62	M72	N156	N71			RIGID	Beam	None	RIGID	DR1
63	M73	N157	N93			RIGID	Beam	None	RIGID	DR1
64	M74	N153	N25			RIGID	Beam	None	RIGID	DR1
65	M75	N158	N94			RIGID	Beam	None	RIGID	DR1
66	M76	N154	N26			RIGID	Beam	None	RIGID	DR1
67	M77	N159	N95			RIGID	Beam	None	RIGID	DR1
68	M78	N155	N27			RIGID	Beam	None	RIGID	DR1
69	MP3C	N126	N125			M pipe	Beam	Pipe	A53 Gr.B	Typical
70	MP3B	N128	N127			M pipe	Beam	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	MP5A						Yes				None
2	MP3A						Yes				None
3	MP2A						Yes				None
4	MP1A						Yes				None
5	M5A						Yes				None
6	M9						Yes				None
7	M13						Yes				None
8	M14						Yes				None
9	M15						Yes				None
10	M17						Yes				None
11	M18						Yes				None
12	M18A						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
13	M19						Yes				None
14	M20						Yes				None
15	M21						Yes				None
16	M22						Yes				None
17	M24						Yes				None
18	M25						Yes				None
19	M27						Yes				None
20	M28						Yes				None
21	MP4A						Yes				None
22	M32						Yes				None
23	M33						Yes				None
24	M34						Yes				None
25	M35						Yes				None
26	M36						Yes				None
27	M37						Yes				None
28	M38						Yes				None
29	M39						Yes				None
30	M40						Yes				None
31	M41						Yes				None
32	M42						Yes				None
33	M43						Yes				None
34	M42A						Yes				None
35	M43A						Yes				None
36	M44	BenPIN	BenPIN				Yes				None
37	M45	BenPIN	BenPIN				Yes				None
38	M46	BenPIN	BenPIN				Yes				None
39	M47						Yes				None
40	M48						Yes				None
41	M49						Yes				None
42	M50						Yes				None
43	M51						Yes				None
44	M52						Yes				None
45	M53						Yes				None
46	M54						Yes				None
47	MP2C						Yes				None
48	MP1C						Yes				None
49	MP4C						Yes				None
50	M59						Yes				None
51	M60						Yes				None
52	M61						Yes				None
53	M62						Yes				None
54	M63						Yes				None
55	M64						Yes				None
56	M65						Yes				None
57	M66						Yes				None
58	MP2B						Yes				None
59	MP1B						Yes				None
60	MP4B						Yes				None
61	M71						Yes				None
62	M72						Yes				None
63	M73						Yes				None
64	M74						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
65	M75						Yes				None
66	M76						Yes				None
67	M77						Yes				None
68	M78						Yes				None
69	MP3C						Yes				None
70	MP3B						Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	MP5A	Front face	5.694			Lbyy						Lateral
2	MP3A	M pipe	9			Lbyy						Lateral
3	MP2A	M pipe	7			Lbyy						Lateral
4	MP1A	M pipe	7			Lbyy						Lateral
5	M5A	Front face	5.694			Lbyy						Lateral
6	M9	Front face	5.694			Lbyy						Lateral
7	M17	Standoff	.34			Lbyy						Lateral
8	M18	Standoff	6.688			Lbyy						Lateral
9	M18A	Standoff X	6.034			Lbyy						Lateral
10	M19	Standoff X	6.034			Lbyy						Lateral
11	M20	Standoff X	6.034			Lbyy						Lateral
12	MP4A	M pipe	7			Lbyy						Lateral
13	M32	Front face	1.195			Lbyy						Lateral
14	M33	Front face	1.195			Lbyy						Lateral
15	M34	Front face	1.195			Lbyy						Lateral
16	M35	Front face	5.694			Lbyy						Lateral
17	M36	Front face	5.694			Lbyy						Lateral
18	M37	Front face	5.694			Lbyy						Lateral
19	M38	Support rail ...	12.583			Lbyy						Lateral
20	M39	Support rail ...	12.583			Lbyy						Lateral
21	M40	Support rail ...	12.583			Lbyy						Lateral
22	M41	End Connec...	1.105			Lbyy						Lateral
23	M42	End Connec...	1.105			Lbyy						Lateral
24	M43	End Connec...	1.105			Lbyy						Lateral
25	M42A	Standoff	6.688			Lbyy						Lateral
26	M43A	Standoff	6.688			Lbyy						Lateral
27	M44	Kicker kit	4.61			Lbyy						Lateral
28	M45	Kicker kit	4.61			Lbyy						Lateral
29	M46	Kicker kit	4.61			Lbyy						Lateral
30	MP2C	M pipe	7			Lbyy						Lateral
31	MP1C	M pipe	7			Lbyy						Lateral
32	MP4C	M pipe	7			Lbyy						Lateral
33	MP2B	M pipe	7			Lbyy						Lateral
34	MP1B	M pipe	7			Lbyy						Lateral
35	MP4B	M pipe	7			Lbyy						Lateral
36	MP3C	M pipe	9			Lbyy						Lateral
37	MP3B	M pipe	9			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-torqu...	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	-51.5	1
2	MP1A	Y	-51.5	4
3	MP1B	Y	-51.5	1
4	MP1B	Y	-51.5	4
5	MP1C	Y	-51.5	1
6	MP1C	Y	-51.5	4
7	MP3A	Y	-66.1	1
8	MP3A	Y	-66.1	6
9	MP3B	Y	-66.1	1
10	MP3B	Y	-66.1	6
11	MP3C	Y	-66.1	1
12	MP3C	Y	-66.1	6
13	MP2A	Y	-49.5	1
14	MP2A	Y	-49.5	7
15	MP2B	Y	-49.5	1
16	MP2B	Y	-49.5	7
17	MP2C	Y	-49.5	1
18	MP2C	Y	-49.5	7
19	MP2A	Y	-11	5
20	MP2B	Y	-11	5
21	MP2C	Y	-11	5
22	MP2A	Y	-7	5
23	MP2B	Y	-7	5
24	MP2C	Y	-7	5
25	MP2A	Y	-73.2	2
26	MP2B	Y	-73.2	2
27	MP2C	Y	-73.2	2
28	MP2A	Y	-46	2
29	MP2B	Y	-46	2
30	MP2C	Y	-46	2

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-74.54	1

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
2	MP1A	Y	-74.54	4
3	MP1B	Y	-74.54	1
4	MP1B	Y	-74.54	4
5	MP1C	Y	-74.54	1
6	MP1C	Y	-74.54	4
7	MP3A	Y	-89.877	1
8	MP3A	Y	-89.877	6
9	MP3B	Y	-89.877	1
10	MP3B	Y	-89.877	6
11	MP3C	Y	-89.877	1
12	MP3C	Y	-89.877	6
13	MP2A	Y	-208.75	1
14	MP2A	Y	-208.75	7
15	MP2B	Y	-208.75	1
16	MP2B	Y	-208.75	7
17	MP2C	Y	-208.75	1
18	MP2C	Y	-208.75	7
19	MP2A	Y	-15.776	5
20	MP2B	Y	-15.776	5
21	MP2C	Y	-15.776	5
22	MP2A	Y	-13.213	5
23	MP2B	Y	-13.213	5
24	MP2C	Y	-13.213	5
25	MP2A	Y	-79.72	2
26	MP2B	Y	-79.72	2
27	MP2C	Y	-79.72	2
28	MP2A	Y	-52.78	2
29	MP2B	Y	-52.78	2
30	MP2C	Y	-52.78	2

Member Point Loads (BLC 3 : Antenna W Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-86.114	1
2	MP1A	Z	-86.114	4
3	MP1B	Z	-49.141	1
4	MP1B	Z	-49.141	4
5	MP1C	Z	-49.141	1
6	MP1C	Z	-49.141	4
7	MP3A	Z	-99.221	1
8	MP3A	Z	-99.221	6
9	MP3B	Z	-79.133	1
10	MP3B	Z	-79.133	6
11	MP3C	Z	-79.133	1
12	MP3C	Z	-79.133	6
13	MP2A	Z	-308.485	1
14	MP2A	Z	-308.485	7
15	MP2B	Z	-176.95	1
16	MP2B	Z	-176.95	7
17	MP2C	Z	-176.95	1
18	MP2C	Z	-176.95	7
19	MP2A	Z	-9.373	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
20	MP2B	Z	-5.011	5
21	MP2C	Z	-5.011	5
22	MP2A	Z	-8.688	5
23	MP2B	Z	-3.871	5
24	MP2C	Z	-3.871	5
25	MP2A	Z	-45.038	2
26	MP2B	Z	-38.371	2
27	MP2C	Z	-38.371	2
28	MP2A	Z	-37.494	2
29	MP2B	Z	-21.066	2
30	MP2C	Z	-21.066	2

Member Point Loads (BLC 4 : Antenna Wi Front)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-29.083	1
2	MP1A	Z	-29.083	4
3	MP1B	Z	-17.515	1
4	MP1B	Z	-17.515	4
5	MP1C	Z	-17.515	1
6	MP1C	Z	-17.515	4
7	MP3A	Z	-33.766	1
8	MP3A	Z	-33.766	6
9	MP3B	Z	-27.445	1
10	MP3B	Z	-27.445	6
11	MP3C	Z	-27.445	1
12	MP3C	Z	-27.445	6
13	MP2A	Z	-97.354	1
14	MP2A	Z	-97.354	7
15	MP2B	Z	-58.368	1
16	MP2B	Z	-58.368	7
17	MP2C	Z	-58.368	1
18	MP2C	Z	-58.368	7
19	MP2A	Z	-4.119	5
20	MP2B	Z	-2.871	5
21	MP2C	Z	-2.871	5
22	MP2A	Z	-3.14	5
23	MP2B	Z	-2.133	5
24	MP2C	Z	-2.133	5
25	MP2A	Z	-16.8	2
26	MP2B	Z	-14.663	2
27	MP2C	Z	-14.663	2
28	MP2A	Z	-14.373	2
29	MP2B	Z	-8.899	2
30	MP2C	Z	-8.899	2

Member Point Loads (BLC 5 : Antenna W Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	36.817	1
2	MP1A	X	36.817	4
3	MP1B	X	73.789	1
4	MP1B	X	73.789	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
5	MP1C	X	73.789	1
6	MP1C	X	73.789	4
7	MP3A	X	72.437	1
8	MP3A	X	72.437	6
9	MP3B	X	92.525	1
10	MP3B	X	92.525	6
11	MP3C	X	92.525	1
12	MP3C	X	92.525	6
13	MP2A	X	133.105	1
14	MP2A	X	133.105	7
15	MP2B	X	264.64	1
16	MP2B	X	264.64	7
17	MP2C	X	264.64	1
18	MP2C	X	264.64	7
19	MP2A	X	4.742	5
20	MP2B	X	10.559	5
21	MP2C	X	10.559	5
22	MP2A	X	3.02	5
23	MP2B	X	9.443	5
24	MP2C	X	9.443	5
25	MP2A	X	48.198	2
26	MP2B	X	57.088	2
27	MP2C	X	57.088	2
28	MP2A	X	20.788	2
29	MP2B	X	42.691	2
30	MP2C	X	42.691	2

Member Point Loads (BLC 6 : Antenna Wi Side)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	13.659	1
2	MP1A	X	13.659	4
3	MP1B	X	25.227	1
4	MP1B	X	25.227	4
5	MP1C	X	25.227	1
6	MP1C	X	25.227	4
7	MP3A	X	25.338	1
8	MP3A	X	25.338	6
9	MP3B	X	31.659	1
10	MP3B	X	31.659	6
11	MP3C	X	31.659	1
12	MP3C	X	31.659	6
13	MP2A	X	45.372	1
14	MP2A	X	45.372	7
15	MP2B	X	84.359	1
16	MP2B	X	84.359	7
17	MP2C	X	84.359	1
18	MP2C	X	84.359	7
19	MP2A	X	3.272	5
20	MP2B	X	4.938	5
21	MP2C	X	4.938	5
22	MP2A	X	2.397	5

Member Point Loads (BLC 6 : Antenna Wi Side) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2B	X	3.739	5
24	MP2C	X	3.739	5
25	MP2A	X	18.602	2
26	MP2B	X	21.45	2
27	MP2C	X	21.45	2
28	MP2A	X	9.432	2
29	MP2B	X	16.731	2
30	MP2C	X	16.731	2

Member Point Loads (BLC 7 : Service Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP5A	Y	-500	%5

Member Point Loads (BLC 8 : Service Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP5A	Y	-500	%50

Member Distributed Loads (BLC 10 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	Y	-13.073	-13.073	0	%100
2	MP3A	Y	-8.521	-8.521	0	%100
3	MP2A	Y	-8.521	-8.521	0	%100
4	MP1A	Y	-8.521	-8.521	0	%100
5	M5A	Y	-13.073	-13.073	0	%100
6	M9	Y	-13.073	-13.073	0	%100
7	M17	Y	-15.167	-15.167	0	%100
8	M18	Y	-15.167	-15.167	0	%100
9	M18A	Y	-13.073	-13.073	0	%100
10	M19	Y	-13.073	-13.073	0	%100
11	M20	Y	-13.073	-13.073	0	%100
12	MP4A	Y	-8.521	-8.521	0	%100
13	M32	Y	-13.073	-13.073	0	%100
14	M33	Y	-13.073	-13.073	0	%100
15	M34	Y	-13.073	-13.073	0	%100
16	M35	Y	-13.073	-13.073	0	%100
17	M36	Y	-13.073	-13.073	0	%100
18	M37	Y	-13.073	-13.073	0	%100
19	M38	Y	-8.521	-8.521	0	%100
20	M39	Y	-8.521	-8.521	0	%100
21	M40	Y	-8.521	-8.521	0	%100
22	M41	Y	-8.912	-8.912	0	%100
23	M42	Y	-8.912	-8.912	0	%100
24	M43	Y	-8.912	-8.912	0	%100
25	M42A	Y	-15.167	-15.167	0	%100
26	M43A	Y	-15.167	-15.167	0	%100
27	M44	Y	-12.842	-12.842	0	%100
28	M45	Y	-12.842	-12.842	0	%100
29	M46	Y	-12.842	-12.842	0	%100
30	MP2C	Y	-8.521	-8.521	0	%100

Member Distributed Loads (BLC 10 : Structure Di) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
31	MP1C	Y	-8.521	-8.521	0	%100
32	MP4C	Y	-8.521	-8.521	0	%100
33	MP2B	Y	-8.521	-8.521	0	%100
34	MP1B	Y	-8.521	-8.521	0	%100
35	MP4B	Y	-8.521	-8.521	0	%100
36	MP3C	Y	-8.521	-8.521	0	%100
37	MP3B	Y	-8.521	-8.521	0	%100

Member Distributed Loads (BLC 11 : Structure W Front)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	PZ	-30.483	-30.483	0	%100
2	MP3A	PZ	-7.24	-7.24	0	%100
3	MP2A	PZ	-7.24	-7.24	0	%100
4	MP1A	PZ	-7.24	-7.24	0	%100
5	M5A	PZ	-30.483	-30.483	0	%100
6	M9	PZ	-30.483	-30.483	0	%100
7	M17	PZ	-20.322	-20.322	0	%100
8	M18	PZ	-20.322	-20.322	0	%100
9	M18A	PZ	-30.483	-30.483	0	%100
10	M19	PZ	-30.483	-30.483	0	%100
11	M20	PZ	-30.483	-30.483	0	%100
12	MP4A	PZ	-7.24	-7.24	0	%100
13	M32	PZ	-30.483	-30.483	0	%100
14	M33	PZ	-30.483	-30.483	0	%100
15	M34	PZ	-30.483	-30.483	0	%100
16	M35	PZ	-30.483	-30.483	0	%100
17	M36	PZ	-30.483	-30.483	0	%100
18	M37	PZ	-30.483	-30.483	0	%100
19	M38	PZ	-7.24	-7.24	0	%100
20	M39	PZ	-7.24	-7.24	0	%100
21	M40	PZ	-7.24	-7.24	0	%100
22	M41	PZ	-12.701	-12.701	0	%100
23	M42	PZ	-12.701	-12.701	0	%100
24	M43	PZ	-12.701	-12.701	0	%100
25	M42A	PZ	-20.322	-20.322	0	%100
26	M43A	PZ	-20.322	-20.322	0	%100
27	M44	PZ	-12.701	-12.701	0	%100
28	M45	PZ	-12.701	-12.701	0	%100
29	M46	PZ	-12.701	-12.701	0	%100
30	MP2C	PZ	-7.24	-7.24	0	%100
31	MP1C	PZ	-7.24	-7.24	0	%100
32	MP4C	PZ	-7.24	-7.24	0	%100
33	MP2B	PZ	-7.24	-7.24	0	%100
34	MP1B	PZ	-7.24	-7.24	0	%100
35	MP4B	PZ	-7.24	-7.24	0	%100
36	MP3C	PZ	-7.24	-7.24	0	%100
37	MP3B	PZ	-7.24	-7.24	0	%100

Member Distributed Loads (BLC 12 : Structure Wi Front)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	PZ	-11.821	-11.821	0	%100

Member Distributed Loads (BLC 12 : Structure Wi Front) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
2	MP3A	PZ	-5.103	-5.103	0	%100
3	MP2A	PZ	-5.103	-5.103	0	%100
4	MP1A	PZ	-5.103	-5.103	0	%100
5	M5A	PZ	-11.821	-11.821	0	%100
6	M9	PZ	-11.821	-11.821	0	%100
7	M17	PZ	-8.884	-8.884	0	%100
8	M18	PZ	-8.884	-8.884	0	%100
9	M18A	PZ	-11.821	-11.821	0	%100
10	M19	PZ	-11.821	-11.821	0	%100
11	M20	PZ	-11.821	-11.821	0	%100
12	MP4A	PZ	-5.103	-5.103	0	%100
13	M32	PZ	-11.821	-11.821	0	%100
14	M33	PZ	-11.821	-11.821	0	%100
15	M34	PZ	-11.821	-11.821	0	%100
16	M35	PZ	-11.821	-11.821	0	%100
17	M36	PZ	-11.821	-11.821	0	%100
18	M37	PZ	-11.821	-11.821	0	%100
19	M38	PZ	-5.103	-5.103	0	%100
20	M39	PZ	-5.103	-5.103	0	%100
21	M40	PZ	-5.103	-5.103	0	%100
22	M41	PZ	-6.681	-6.681	0	%100
23	M42	PZ	-6.681	-6.681	0	%100
24	M43	PZ	-6.681	-6.681	0	%100
25	M42A	PZ	-8.884	-8.884	0	%100
26	M43A	PZ	-8.884	-8.884	0	%100
27	M44	PZ	-6.681	-6.681	0	%100
28	M45	PZ	-6.681	-6.681	0	%100
29	M46	PZ	-6.681	-6.681	0	%100
30	MP2C	PZ	-5.103	-5.103	0	%100
31	MP1C	PZ	-5.103	-5.103	0	%100
32	MP4C	PZ	-5.103	-5.103	0	%100
33	MP2B	PZ	-5.103	-5.103	0	%100
34	MP1B	PZ	-5.103	-5.103	0	%100
35	MP4B	PZ	-5.103	-5.103	0	%100
36	MP3C	PZ	-5.103	-5.103	0	%100
37	MP3B	PZ	-5.103	-5.103	0	%100

Member Distributed Loads (BLC 13 : Structure W Side)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	PX	30.483	30.483	0	%100
2	MP3A	PX	7.24	7.24	0	%100
3	MP2A	PX	7.24	7.24	0	%100
4	MP1A	PX	7.24	7.24	0	%100
5	M5A	PX	30.483	30.483	0	%100
6	M9	PX	30.483	30.483	0	%100
7	M17	PX	20.322	20.322	0	%100
8	M18	PX	20.322	20.322	0	%100
9	M18A	PX	30.483	30.483	0	%100
10	M19	PX	30.483	30.483	0	%100
11	M20	PX	30.483	30.483	0	%100
12	MP4A	PX	7.24	7.24	0	%100

Member Distributed Loads (BLC 13 : Structure W Side) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
13	M32	PX	30.483	30.483	0	%100
14	M33	PX	30.483	30.483	0	%100
15	M34	PX	30.483	30.483	0	%100
16	M35	PX	30.483	30.483	0	%100
17	M36	PX	30.483	30.483	0	%100
18	M37	PX	30.483	30.483	0	%100
19	M38	PX	7.24	7.24	0	%100
20	M39	PX	7.24	7.24	0	%100
21	M40	PX	7.24	7.24	0	%100
22	M41	PX	12.701	12.701	0	%100
23	M42	PX	12.701	12.701	0	%100
24	M43	PX	12.701	12.701	0	%100
25	M42A	PX	20.322	20.322	0	%100
26	M43A	PX	20.322	20.322	0	%100
27	M44	PX	12.701	12.701	0	%100
28	M45	PX	12.701	12.701	0	%100
29	M46	PX	12.701	12.701	0	%100
30	MP2C	PX	7.24	7.24	0	%100
31	MP1C	PX	7.24	7.24	0	%100
32	MP4C	PX	7.24	7.24	0	%100
33	MP2B	PX	7.24	7.24	0	%100
34	MP1B	PX	7.24	7.24	0	%100
35	MP4B	PX	7.24	7.24	0	%100
36	MP3C	PX	7.24	7.24	0	%100
37	MP3B	PX	7.24	7.24	0	%100

Member Distributed Loads (BLC 14 : Structure Wi Side)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	PX	11.821	11.821	0	%100
2	MP3A	PX	5.103	5.103	0	%100
3	MP2A	PX	5.103	5.103	0	%100
4	MP1A	PX	5.103	5.103	0	%100
5	M5A	PX	11.821	11.821	0	%100
6	M9	PX	11.821	11.821	0	%100
7	M17	PX	8.884	8.884	0	%100
8	M18	PX	8.884	8.884	0	%100
9	M18A	PX	11.821	11.821	0	%100
10	M19	PX	11.821	11.821	0	%100
11	M20	PX	11.821	11.821	0	%100
12	MP4A	PX	5.103	5.103	0	%100
13	M32	PX	11.821	11.821	0	%100
14	M33	PX	11.821	11.821	0	%100
15	M34	PX	11.821	11.821	0	%100
16	M35	PX	11.821	11.821	0	%100
17	M36	PX	11.821	11.821	0	%100
18	M37	PX	11.821	11.821	0	%100
19	M38	PX	5.103	5.103	0	%100
20	M39	PX	5.103	5.103	0	%100
21	M40	PX	5.103	5.103	0	%100
22	M41	PX	6.681	6.681	0	%100
23	M42	PX	6.681	6.681	0	%100

Member Distributed Loads (BLC 14 : Structure Wi Side) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
24	M43	PX	6.681	6.681	0	%100
25	M42A	PX	8.884	8.884	0	%100
26	M43A	PX	8.884	8.884	0	%100
27	M44	PX	6.681	6.681	0	%100
28	M45	PX	6.681	6.681	0	%100
29	M46	PX	6.681	6.681	0	%100
30	MP2C	PX	5.103	5.103	0	%100
31	MP1C	PX	5.103	5.103	0	%100
32	MP4C	PX	5.103	5.103	0	%100
33	MP2B	PX	5.103	5.103	0	%100
34	MP1B	PX	5.103	5.103	0	%100
35	MP4B	PX	5.103	5.103	0	%100
36	MP3C	PX	5.103	5.103	0	%100
37	MP3B	PX	5.103	5.103	0	%100

Member Distributed Loads (BLC 15 : BLC 9 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	Y	-.677	-6.358	.569	1.708
2	MP5A	Y	-6.358	-9.658	1.708	2.847
3	MP5A	Y	-9.658	-6.685	2.847	3.986
4	MP5A	Y	-6.685	-.677	3.986	5.125
5	M13	Y	-2.132	-2.132	.226	1.19
6	M19	Y	-.515	-5.641	0	1.509
7	M19	Y	-5.641	-6.852	1.509	3.017
8	M19	Y	-6.852	-4.746	3.017	4.526
9	M19	Y	-4.746	-3.236	4.526	6.034
10	M37	Y	-2.139	-4.293	.569	1.851
11	M37	Y	-4.293	-6.462	1.851	3.132
12	M37	Y	-6.462	-4.634	3.132	4.413
13	M37	Y	-4.634	-.31	4.413	5.694
14	M5A	Y	-.31	-4.627	0	1.281
15	M5A	Y	-4.627	-6.455	1.281	2.562
16	M5A	Y	-6.455	-4.289	2.562	3.844
17	M5A	Y	-4.289	-2.135	3.844	5.125
18	M14	Y	-2.127	-2.127	0	.965
19	M20	Y	-3.236	-4.749	0	1.509
20	M20	Y	-4.749	-6.85	1.509	3.017
21	M20	Y	-6.85	-5.635	3.017	4.526
22	M20	Y	-5.635	-.513	4.526	6.034
23	M35	Y	-.678	-6.69	.569	1.708
24	M35	Y	-6.69	-9.673	1.708	2.847
25	M35	Y	-9.673	-6.372	2.847	3.986
26	M35	Y	-6.372	-.678	3.986	5.125
27	M9	Y	-7.825	-4.761	1.139	3.132
28	M9	Y	-4.761	-1.696	3.132	5.125
29	M15	Y	-9.224	-12.871	.381	.524
30	M15	Y	-12.871	-7.113	.524	.668
31	M15	Y	-7.113	.469	.668	.811
32	M15	Y	.469	-6.042	.811	.954
33	M15	Y	-6.042	-19.063	.954	1.097
34	M18A	Y	-1.994	-4.549	0	1.207

Member Distributed Loads (BLC 15 : BLC 9 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
35	M18A	Y	-4.549	-7.842	1.207	2.414
36	M18A	Y	-7.842	-8.869	2.414	3.621
37	M18A	Y	-8.869	-5.291	3.621	4.827
38	M18A	Y	-5.291	-.362	4.827	6.034
39	M36	Y	-2.164	-3.464	.569	1.708
40	M36	Y	-3.464	-7.301	1.708	2.847
41	M36	Y	-7.301	-6.166	2.847	3.986
42	M36	Y	-6.166	-.277	3.986	5.125

Member Distributed Loads (BLC 16 : BLC 10 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP5A	Y	-1.645	-15.452	.569	1.708
2	MP5A	Y	-15.452	-23.473	1.708	2.847
3	MP5A	Y	-23.473	-16.248	2.847	3.986
4	MP5A	Y	-16.248	-1.645	3.986	5.125
5	M13	Y	-5.183	-5.183	.226	1.19
6	M19	Y	-1.251	-13.709	0	1.509
7	M19	Y	-13.709	-16.653	1.509	3.017
8	M19	Y	-16.653	-11.534	3.017	4.526
9	M19	Y	-11.534	-7.864	4.526	6.034
10	M37	Y	-5.199	-10.433	.569	1.851
11	M37	Y	-10.433	-15.705	1.851	3.132
12	M37	Y	-15.705	-11.263	3.132	4.413
13	M37	Y	-11.263	-.754	4.413	5.694
14	M5A	Y	-.753	-11.244	0	1.281
15	M5A	Y	-11.244	-15.688	1.281	2.562
16	M5A	Y	-15.688	-10.424	2.562	3.844
17	M5A	Y	-10.424	-5.189	3.844	5.125
18	M14	Y	-5.17	-5.17	0	.965
19	M20	Y	-7.864	-11.541	0	1.509
20	M20	Y	-11.541	-16.649	1.509	3.017
21	M20	Y	-16.649	-13.694	3.017	4.526
22	M20	Y	-13.694	-1.246	4.526	6.034
23	M35	Y	-1.647	-16.259	.569	1.708
24	M35	Y	-16.259	-23.509	1.708	2.847
25	M35	Y	-23.509	-15.485	2.847	3.986
26	M35	Y	-15.485	-1.647	3.986	5.125
27	M9	Y	-19.018	-11.57	1.139	3.132
28	M9	Y	-11.57	-4.122	3.132	5.125
29	M15	Y	-22.418	-31.281	.381	.524
30	M15	Y	-31.281	-17.286	.524	.668
31	M15	Y	-17.286	1.139	.668	.811
32	M15	Y	1.139	-14.684	.811	.954
33	M15	Y	-14.684	-46.329	.954	1.097
34	M18A	Y	-4.847	-11.055	0	1.207
35	M18A	Y	-11.055	-19.058	1.207	2.414
36	M18A	Y	-19.058	-21.555	2.414	3.621
37	M18A	Y	-21.555	-12.86	3.621	4.827
38	M18A	Y	-12.86	-.879	4.827	6.034
39	M36	Y	-5.259	-8.418	.569	1.708
40	M36	Y	-8.418	-17.745	1.708	2.847

Member Distributed Loads (BLC 16 : BLC 10 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
41	M36	Y	-17.745	-14.986	2.847	3.986
42	M36	Y	-14.986	-.673	3.986	5.125

Member Area Loads (BLC 9 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N41	N48	N48B	N49A	Y	Two Way	-.005
2	N51A	N52	N44	N43	Y	Two Way	-.005
3	N48A	N47	N45	N47B	Y	Two Way	-.005

Member Area Loads (BLC 10 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N41	N48	N48B	N49A	Y	Two Way	-.013
2	N51A	N52	N44	N43	Y	Two Way	-.013
3	N48A	N47	N45	N47B	Y	Two Way	-.013

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	N50	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N56	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N61	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N99	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N100A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N101	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	N50	max	2182.804	4	440.467	2	4770.078	1	.324	2	3.118	3	.345	3
2		min	-2182.057	3	-279.253	1	-5023.454	2	-.162	1	-3.113	4	-.33	4
3	N56	max	4053.861	4	405.939	3	1970.184	3	.264	4	1.147	1	.154	9
4		min	-4272.985	3	-241.731	4	-1844.31	4	-.341	3	-1.137	2	-.241	5
5	N61	max	3349.275	4	371.28	1	3080.717	1	.107	1	2.275	2	.396	1
6		min	-3130.71	3	-206.525	2	-2955.56	2	-.205	2	-2.276	1	-.263	2
7	N99	max	45.35	4	3246.62	5	481.955	2	0	11	0	3	0	4
8		min	-45.002	3	-586.936	2	-2731.797	5	0	1	0	4	0	3
9	N100A	max	250.348	3	3183.068	8	1344.503	8	0	4	0	3	0	3
10		min	-2316.004	8	-372.468	3	-166.824	3	0	3	0	4	0	4
11	N101	max	2306.4	7	3170.31	7	1339.241	7	0	3	0	3	0	3
12		min	-212.148	4	-320.937	4	-144.674	4	0	4	0	4	0	4
13	Totals:	max	7629.685	4	9040.14	6	7744.17	1						
14		min	-7629.684	3	3406.809	1	-7744.171	2						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
1	MP5A	1	max	0	11	0	11	0	11	0	11	0	11	0	11
2			min	0	1	0	1	0	1	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-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
3		2	max	555.329	2	83.695	3	111.421	2	.037	1	.04	3	.947	3
4			min	-1724.763	5	-566.679	10	-130.601	1	-.043	2	-.027	4	-1.27	4
5		3	max	555.329	2	110.46	3	41.991	2	.037	1	.104	2	.809	3
6			min	-1724.763	5	-285.031	4	-61.171	1	-.043	2	-.122	1	-.845	4
7		4	max	599.405	2	501.726	7	252.423	1	.044	2	.088	2	.846	3
8			min	-1716.813	5	-134.121	4	-247.964	2	-.042	1	-.086	1	-1.075	4
9		5	max	599.405	2	543.315	7	321.853	1	.044	2	.323	1	.162	3
10			min	-1716.813	5	-117.225	4	-317.394	2	-.042	1	-.314	2	-1.128	6
11	MP3A	1	max	0	11	.279	4	.813	1	0	11	0	11	0	11
12			min	0	1	-.271	3	-.808	2	0	1	0	1	0	1
13		2	max	197.74	8	142.24	4	185.629	1	0	11	.23	1	.175	3
14			min	88.691	1	-142.233	3	-185.624	2	0	1	-.23	2	-.175	4
15		3	max	360.164	7	313.428	4	47.998	5	.196	2	.115	1	.075	3
16			min	26.908	4	-330.679	3	-10.362	2	-.167	1	-.051	2	-.066	4
17		4	max	-9.371	10	26.069	3	26.142	2	0	11	.029	1	.029	3
18			min	-28.543	5	-26.071	4	-26.131	1	0	1	-.029	2	-.029	4
19		5	max	0	11	.006	3	.104	6	0	11	0	11	0	11
20			min	0	1	-.015	8	-.068	1	0	1	0	1	0	1
21	MP2A	1	max	0	11	.113	8	.617	5	0	11	0	11	0	11
22			min	0	1	-.118	7	-.723	6	0	1	0	1	0	1
23		2	max	385.205	6	359.817	4	467.945	1	.19	1	.095	6	.387	4
24			min	-9.105	1	-319.817	3	-426.782	2	-.205	2	-.025	1	-.36	3
25		3	max	682.945	6	490.466	4	620.267	1	.19	1	1.01	1	.383	3
26			min	141.224	1	-450.465	3	-579.104	2	-.205	2	-.889	2	-.426	4
27		4	max	-66.689	10	232.88	3	513.152	2	0	11	.88	1	.39	3
28			min	-290.351	5	-232.848	4	-512.925	1	0	1	-.88	2	-.39	4
29		5	max	-59.4	10	212.609	3	492.881	2	0	11	0	11	0	11
30			min	-268.15	5	-212.577	4	-492.654	1	0	1	0	1	0	1
31	MP1A	1	max	0	11	.153	4	.194	1	0	11	0	11	0	11
32			min	0	1	-.15	3	-.193	2	0	1	0	1	0	1
33		2	max	560.213	2	210.33	4	42.534	5	.139	1	.098	2	.136	4
34			min	-441.788	1	-167.833	3	-1.506	2	-.151	2	-.103	1	-.115	3
35		3	max	567.502	2	230.601	4	51.464	5	.139	1	.078	2	.196	3
36			min	-434.499	1	-188.104	3	-21.777	2	-.151	2	-.032	1	-.25	4
37		4	max	-7.289	10	20.284	3	20.316	2	0	11	.018	1	.018	3
38			min	-22.2	5	-20.281	4	-20.312	1	0	1	-.018	2	-.018	4
39		5	max	0	11	.02	7	.052	6	0	11	0	11	0	11
40			min	0	1	-.01	4	-.041	1	0	1	0	1	0	1
41	M5A	1	max	0	11	0	8	.004	1	0	11	0	11	0	11
42			min	0	1	-.007	2	-.005	3	0	1	0	1	0	1
43		2	max	794.805	3	101.517	1	85.042	3	.025	2	.072	1	.76	1
44			min	-1891.854	4	-327.889	6	-103.84	4	-.031	1	-.06	2	-1.093	2
45		3	max	764.741	3	125.243	1	32.969	3	.025	2	.127	1	.66	4
46			min	-1861.79	4	-296.721	2	-52.07	2	-.031	1	-.147	2	-.716	3
47		4	max	488.267	3	505.262	5	193.047	4	.032	3	.117	3	.756	4
48			min	-1668.02	8	-161.677	2	-188.745	3	-.03	4	-.116	4	-1.003	3
49		5	max	458.203	3	546.612	5	245.12	4	.032	3	.196	4	.404	4
50			min	-1660.733	8	-144.86	2	-240.817	3	-.03	4	-.188	3	-1.205	7
51	M9	1	max	60.488	3	253.673	4	98.027	3	.176	3	.019	2	.207	4
52			min	-43.967	4	-223.009	3	-117.96	4	-.168	4	-.017	1	-.227	3
53		2	max	923.389	1	92.01	4	71.199	4	.037	3	.065	4	.901	2
54			min	-2022.832	2	-324.045	7	-91.299	3	-.042	4	-.055	3	-1.23	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
55		3	max	893.325	1	116.653	4	19.126	4	.037	3	.13	4	.845	2
56			min	-1992.768	2	-287.29	3	-39.227	3	-.042	4	-.148	3	-.902	1
57		4	max	503.174	4	486.335	8	238.242	3	.043	4	.043	1	.933	2
58			min	-1684.509	7	-97.977	3	-232.398	4	-.041	3	-.042	2	-1.18	1
59		5	max	533.238	4	526.133	8	290.315	3	.043	4	.358	3	.382	2
60			min	-1691.796	7	-81.673	3	-284.471	4	-.041	3	-.348	4	-1.194	5
61	M13	1	max	307.876	4	164.416	3	1292.516	4	.681	1	.254	4	.439	2
62			min	-852.612	7	-804.02	8	-2320.851	3	-.922	2	-.252	3	-.288	1
63		2	max	307.876	4	164.233	3	1292.516	4	.681	1	.638	4	.57	4
64			min	-852.612	7	-804.572	8	-2320.851	3	-.922	2	-.942	3	-.268	3
65		3	max	430.123	4	775.22	9	1598.708	1	1.059	4	1.023	4	.774	8
66			min	-972.686	3	-806.875	8	-2320.851	3	-.922	2	-1.633	3	-.317	3
67		4	max	430.123	4	774.459	9	1598.708	1	1.059	4	.345	2	.668	4
68			min	-972.686	3	-278.61	1	-600.535	4	-.64	3	-.654	1	-.327	3
69		5	max	430.123	4	773.698	9	1598.708	1	1.059	4	.168	2	.58	4
70			min	-972.686	3	-279.372	1	-600.535	4	-.64	3	-.178	1	-.338	3
71	M14	1	max	419.747	3	214.249	1	1019.647	2	.764	4	.283	2	.542	3
72			min	-963.417	4	-824.569	6	-2051.735	1	-1.001	3	-.277	1	-.394	4
73		2	max	419.747	3	213.489	1	1019.647	2	.764	4	.587	2	.644	3
74			min	-963.417	4	-826.867	6	-2051.735	1	-1.001	3	-.887	1	-.342	4
75		3	max	419.747	3	607.437	3	1917.795	4	1.063	2	.89	2	.772	7
76			min	-963.417	4	-733.154	2	-2051.735	1	-1.001	3	-1.498	1	-.294	4
77		4	max	290.901	3	606.677	3	1917.795	4	1.063	2	.455	3	.567	7
78			min	-847.806	8	-280.596	4	-917.461	3	-.639	1	-.766	4	-.21	4
79		5	max	290.901	3	606.494	3	1917.795	4	1.063	2	.182	3	.5	2
80			min	-847.806	8	-280.78	4	-917.461	3	-.639	1	-.195	4	-.253	1
81	M15	1	max	468.317	1	441.444	4	1124.422	1	.646	2	.134	3	.542	1
82			min	-1029.92	2	-926.363	3	-2142.822	2	-.909	1	-.148	4	-.38	2
83		2	max	468.317	1	441.444	4	1124.422	1	.646	2	.333	1	.693	1
84			min	-1029.92	2	-926.363	3	-2142.822	2	-.909	1	-.652	2	-.386	2
85		3	max	468.317	1	438.574	4	1493.844	7	1.031	3	.668	1	.845	1
86			min	-1029.92	2	-739.18	5	-2142.822	2	-.909	1	-1.29	2	-.396	2
87		4	max	457.05	1	795.221	4	2041.512	2	1.031	3	.305	1	.667	1
88			min	-1018.979	2	-445.031	3	-1032.908	1	-.639	4	-.629	2	-.337	2
89		5	max	457.05	1	792.721	4	2041.512	2	1.031	3	.062	3	.504	1
90			min	-1018.979	2	-447.531	3	-1032.908	1	-.639	4	-.085	4	-.278	2
91	M17	1	max	80.148	4	253.507	4	96.989	4	.285	3	.019	2	.048	1
92			min	-54.684	3	-223.192	3	-101.453	3	-.264	4	-.017	1	-.045	2
93		2	max	80.148	4	252.544	4	96.989	4	.285	3	.019	2	.044	1
94			min	-54.684	3	-224.156	3	-101.453	3	-.264	4	-.017	1	-.044	2
95		3	max	80.148	4	251.581	4	96.989	4	.285	3	.018	2	.041	1
96			min	-54.684	3	-225.119	3	-101.453	3	-.264	4	-.017	1	-.043	2
97		4	max	80.148	4	250.617	4	96.989	4	.285	3	.018	2	.038	1
98			min	-54.684	3	-226.082	3	-101.453	3	-.264	4	-.017	1	-.042	2
99		5	max	80.148	4	249.654	4	96.989	4	.285	3	.019	4	.038	3
100			min	-54.684	3	-227.046	3	-101.453	3	-.264	4	-.018	1	-.044	4
101	M18	1	max	5023.454	2	440.937	2	2183.87	4	.33	4	3.118	3	.324	2
102			min	-4770.078	1	-279.162	1	-2181.441	3	-.345	3	-3.113	4	-.162	1
103		2	max	5023.454	2	421.993	2	2129.505	4	.33	4	.493	4	.321	1
104			min	-4770.078	1	-298.106	1	-2127.077	3	-.345	3	-.484	3	-.398	2
105		3	max	4184.337	2	1392.806	5	209.861	4	.137	4	.593	4	1.813	1
106			min	-2157.326	1	-182.759	2	-210.984	3	-.155	3	-.592	3	-.84	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
107		4	max	4184.337	2	1348.503	5	155.497	4	.137	4	.898	4	-.002	1
108			min	-2157.326	1	-201.704	2	-156.62	3	-.155	3	-.899	3	-.766	6
109		5	max	0	11	0	11	0	11	0	11	0	11	0	11
110			min	0	1	0	1	0	1	0	1	0	1	0	1
111	M18A	1	max	1288.711	4	79.482	2	199.82	3	.005	5	.308	4	.061	2
112			min	-1261.366	3	-774.881	5	-205.197	4	-.001	2	-.297	3	-.064	1
113		2	max	1288.711	4	58.225	2	199.82	3	.005	5	.025	2	1.182	5
114			min	-1261.366	3	-829.091	5	-205.197	4	-.001	2	-.022	1	-.043	2
115		3	max	1288.711	4	818.577	7	176.175	1	.005	5	.306	3	2.488	5
116			min	-1261.366	3	-902.986	5	-205.197	4	-.002	4	-.312	4	-.111	2
117		4	max	552.823	3	816.797	5	77.876	3	0	2	.058	4	1.199	5
118			min	-528.034	4	-42.363	2	-79.483	4	-.003	5	-.058	3	-.034	2
119		5	max	552.823	3	763.684	5	77.876	3	0	2	.059	3	.092	4
120			min	-528.034	4	-63.256	2	-79.483	4	-.003	5	-.061	4	-.081	3
121	M19	1	max	656.163	3	29.384	3	221.958	4	.005	8	.459	3	.088	1
122			min	-641.737	4	-772.174	8	-228.548	3	-.001	3	-.446	4	-.09	2
123		2	max	688.022	3	9.09	3	277.14	4	.005	8	.072	3	1.189	8
124			min	-673.597	4	-823.472	8	-283.731	3	-.001	3	-.07	4	.002	3
125		3	max	719.882	3	769.162	5	332.323	4	.005	8	.39	4	2.482	8
126			min	-705.456	4	-892.125	8	-338.913	3	-.004	10	-.397	3	.11	3
127		4	max	521.531	3	819.099	8	117.129	1	0	3	.011	2	1.192	8
128			min	-503.295	4	8.367	3	-118.44	2	-.004	10	-.011	1	.079	3
129		5	max	553.39	3	762.8	8	142.496	4	0	3	.178	4	.084	3
130			min	-535.154	4	-13.58	3	-142.963	3	-.004	10	-.178	3	-.072	4
131	M20	1	max	1285.5	1	45.173	4	276.399	2	.005	7	.48	1	.082	4
132			min	-1265.627	2	-780.702	7	-282.687	1	0	1	-.468	2	-.084	3
133		2	max	1317.36	1	23.224	4	294.793	2	.005	7	.039	1	1.187	7
134			min	-1297.486	2	-837.009	7	-301.081	1	0	1	-.037	2	.03	4
135		3	max	1349.219	1	861.876	6	183.105	4	.005	7	.422	2	2.535	7
136			min	-1329.346	2	-903.214	7	-319.476	1	0	1	-.429	1	-.146	4
137		4	max	94.186	3	827.811	7	127.922	4	0	4	.038	4	1.235	7
138			min	-81.154	4	-45.289	4	-128.962	3	-.003	7	-.038	3	-.097	4
139		5	max	126.045	3	776.534	7	112.038	2	0	4	.189	4	.105	1
140			min	-113.013	4	-65.575	4	-112.817	1	-.003	7	-.191	3	-.093	2
141	M21	1	max	1299.545	5	100.804	4	2160.963	1	1.037	4	1.063	2	.121	3
142			min	-212.528	2	-102.515	3	-4183.763	2	-1.039	3	-1.712	1	-.103	4
143		2	max	1299.545	5	100.804	4	2160.963	1	1.037	4	.715	2	.129	3
144			min	-212.528	2	-102.515	3	-4183.763	2	-1.039	3	-1.532	1	-.112	4
145		3	max	1299.545	5	100.804	4	2160.963	1	1.037	4	.366	2	.138	3
146			min	-212.528	2	-102.515	3	-4183.763	2	-1.039	3	-1.582	5	-.12	4
147		4	max	1299.545	5	100.804	4	2160.963	1	1.037	4	.017	2	.146	3
148			min	-212.528	2	-102.515	3	-4183.763	2	-1.039	3	-1.726	5	-.129	4
149		5	max	1299.545	5	100.804	4	2160.963	1	1.037	4	-.331	2	.155	3
150			min	-212.528	2	-102.515	3	-4183.763	2	-1.039	3	-1.871	5	-.137	4
151	M22	1	max	1797.953	5	1817.275	4	280.932	1	.49	4	.008	5	.413	4
152			min	-43.606	2	-1814.571	3	-286.031	2	-.482	3	-.002	2	-.415	3
153		2	max	1797.953	5	1817.275	4	280.932	1	.49	4	.031	1	.261	4
154			min	-43.606	2	-1814.571	3	-286.031	2	-.482	3	-.026	2	-.264	3
155		3	max	1797.953	5	1817.275	4	280.932	1	.49	4	.054	1	.11	4
156			min	-43.606	2	-1814.571	3	-286.031	2	-.482	3	-.05	2	-.113	3
157		4	max	1797.953	5	1817.275	4	280.932	1	.49	4	.077	1	.087	1
158			min	-43.606	2	-1814.571	3	-286.031	2	-.482	3	-.074	2	-.09	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
159		5	max	1797.953	5	1817.275	4	280.932	1	.49	4	.101	1	.19	3
160			min	-43.606	2	-1814.571	3	-286.031	2	-.482	3	-.098	2	-.193	4
161	M24	1	max	1274.723	8	1703.708	4	1849.834	3	.783	2	.801	4	1.355	4
162			min	-126.764	3	-3456.414	3	-841.556	4	-.782	1	-.46	3	-.795	3
163		2	max	1274.723	8	1703.708	4	1849.834	3	.783	2	.74	8	1.213	4
164			min	-126.764	3	-3456.414	3	-841.556	4	-.782	1	-.306	3	-.507	3
165		3	max	1274.723	8	1703.708	4	1849.834	3	.783	2	.818	8	1.329	8
166			min	-126.764	3	-3456.414	3	-841.556	4	-.782	1	-.152	3	-.219	3
167		4	max	1274.723	8	1703.708	4	1849.834	3	.783	2	.896	8	1.46	8
168			min	-126.764	3	-3456.414	3	-841.556	4	-.782	1	.002	3	.069	3
169		5	max	1274.723	8	1703.708	4	1849.834	3	.783	2	.974	8	1.59	8
170			min	-126.764	3	-3456.414	3	-841.556	4	-.782	1	.156	3	.357	3
171	M25	1	max	1777.687	8	377.985	4	501.486	1	.484	3	.084	2	.053	1
172			min	50.575	3	-379.824	3	-500.863	2	-.475	4	-.093	1	-.054	2
173		2	max	1777.687	8	377.985	4	501.486	1	.484	3	.082	4	.085	3
174			min	50.575	3	-379.824	3	-500.863	2	-.475	4	-.092	3	-.084	4
175		3	max	1777.687	8	377.985	4	501.486	1	.484	3	.086	4	.116	3
176			min	50.575	3	-379.824	3	-500.863	2	-.475	4	-.096	3	-.115	4
177		4	max	1777.687	8	377.985	4	501.486	1	.484	3	.091	4	.148	3
178			min	50.575	3	-379.824	3	-500.863	2	-.475	4	-.1	3	-.147	4
179		5	max	1777.687	8	377.985	4	501.486	1	.484	3	.095	4	.18	3
180			min	50.575	3	-379.824	3	-500.863	2	-.475	4	-.104	3	-.178	4
181	M27	1	max	1268.139	7	3066.691	4	1617.728	4	.995	1	.714	3	.687	4
182			min	-105.703	4	-1313.531	3	-609.413	3	-.996	2	-.4	4	-1.266	3
183		2	max	1268.139	7	3066.691	4	1617.728	4	.995	1	.663	3	.432	4
184			min	-105.703	4	-1313.531	3	-609.413	3	-.996	2	-.265	4	-1.226	7
185		3	max	1268.139	7	3066.691	4	1617.728	4	.995	1	.744	7	.176	4
186			min	-105.703	4	-1313.531	3	-609.413	3	-.996	2	-.131	4	-1.363	7
187		4	max	1268.139	7	3066.691	4	1617.728	4	.995	1	.826	7	-.08	4
188			min	-105.703	4	-1313.531	3	-609.413	3	-.996	2	.004	4	-1.499	7
189		5	max	1268.139	7	3066.691	4	1617.728	4	.995	1	.908	7	-.335	4
190			min	-105.703	4	-1313.531	3	-609.413	3	-.996	2	.139	4	-1.636	7
191	M28	1	max	1799.729	7	511.961	2	1368.447	1	.593	1	.229	2	.138	2
192			min	-17.315	4	-509.388	1	-1363.483	2	-.584	2	-.232	1	-.134	1
193		2	max	1799.729	7	511.961	2	1368.447	1	.593	1	.115	2	.095	2
194			min	-17.315	4	-509.388	1	-1363.483	2	-.584	2	-.118	1	-.092	1
195		3	max	1799.729	7	511.961	2	1368.447	1	.593	1	.039	3	.064	3
196			min	-17.315	4	-509.388	1	-1363.483	2	-.584	2	-.097	10	-.063	10
197		4	max	1799.729	7	511.961	2	1368.447	1	.593	1	.11	1	.054	3
198			min	-17.315	4	-509.388	1	-1363.483	2	-.584	2	-.112	2	-.061	10
199		5	max	1799.729	7	511.961	2	1368.447	1	.593	1	.224	1	.044	3
200			min	-17.315	4	-509.388	1	-1363.483	2	-.584	2	-.226	2	-.059	10
201	MP4A	1	max	0	11	.011	4	.017	5	0	11	0	11	0	11
202			min	0	1	-.011	3	-.013	2	0	1	0	1	0	1
203		2	max	537.589	2	161.332	4	41.796	1	.171	2	.127	2	.134	4
204			min	-513.989	1	-196.432	3	-35.396	2	-.159	1	-.122	1	-.152	3
205		3	max	544.877	2	181.603	4	62.067	1	.171	2	.048	2	.21	3
206			min	-506.7	1	-216.703	3	-55.667	2	-.159	1	-.031	1	-.166	4
207		4	max	-7.289	10	20.283	3	20.312	2	0	11	.018	1	.018	3
208			min	-22.2	5	-20.287	4	-20.313	1	0	1	-.018	2	-.018	4
209		5	max	0	11	.012	3	.041	2	0	11	0	11	0	11
210			min	0	1	-.026	8	-.042	1	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-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
211	M32	1	max	588.255	2	501.178	3	365.402	4	.054	4	.251	3	.167	1
212			min	-1693.437	5	-636.382	4	-371.873	3	-.064	3	-.237	4	-1.146	6
213		2	max	588.255	2	504.094	3	365.402	4	.054	4	.199	1	.166	1
214			min	-1693.437	5	-633.467	4	-371.873	3	-.064	3	-.191	2	-1.074	6
215		3	max	588.255	2	507.009	3	365.402	4	.054	4	.232	1	.164	1
216			min	-1693.437	5	-630.552	4	-371.873	3	-.064	3	-.226	2	-1.004	6
217		4	max	588.255	2	509.925	3	365.402	4	.054	4	.269	1	.161	1
218			min	-1693.437	5	-627.636	4	-371.873	3	-.064	3	-.266	2	-.936	6
219		5	max	588.255	2	512.84	3	365.402	4	.054	4	.31	1	.157	1
220			min	-1693.437	5	-624.721	4	-371.873	3	-.064	3	-.31	2	-.87	6
221	M33	1	max	585.026	3	438.555	1	308.061	4	.052	2	.036	2	.41	4
222			min	-1676.038	8	-579.187	2	-312.685	3	-.062	1	-.024	1	-1.217	7
223		2	max	578.717	3	441.471	1	318.988	4	.052	2	.101	4	.314	4
224			min	-1674.508	8	-576.271	2	-323.612	3	-.062	1	-.093	3	-1.115	7
225		3	max	572.408	3	444.386	1	329.916	4	.052	2	.198	4	.218	4
226			min	-1672.979	8	-573.356	2	-334.54	3	-.062	1	-.191	3	-1.016	7
227		4	max	566.099	3	447.301	1	340.843	4	.052	2	.298	4	.12	4
228			min	-1671.45	8	-570.44	2	-345.468	3	-.062	1	-.293	3	-.918	7
229		5	max	559.79	3	450.217	1	351.771	4	.052	2	.401	4	.095	2
230			min	-1669.921	8	-567.525	2	-356.395	3	-.062	1	-.398	3	-.869	5
231	M34	1	max	337.695	4	457.43	2	213.604	4	.042	1	.299	3	.357	2
232			min	-1622.887	7	-590.603	1	-223.341	3	-.053	2	-.286	4	-1.197	5
233		2	max	344.004	4	460.345	2	202.676	4	.042	1	.234	3	.22	2
234			min	-1624.416	7	-587.688	1	-212.413	3	-.053	2	-.224	4	-1.086	5
235		3	max	350.313	4	463.261	2	191.749	4	.042	1	.172	3	.082	2
236			min	-1625.945	7	-584.773	1	-201.486	3	-.053	2	-.165	4	-.977	5
237		4	max	356.622	4	466.176	2	180.821	4	.042	1	.113	3	.041	3
238			min	-1627.474	7	-581.857	1	-190.558	3	-.053	2	-.109	4	-.929	8
239		5	max	362.931	4	469.092	2	169.893	4	.042	1	.069	2	.147	3
240			min	-1629.003	7	-578.942	1	-179.631	3	-.053	2	-.064	1	-.895	8
241	M35	1	max	981.385	2	-44.345	3	1083.083	2	.008	3	.79	1	.16	1
242			min	-2061.898	1	-976.434	8	-1101.062	1	-.024	6	-.778	2	-.875	6
243		2	max	938.135	2	272.146	3	139.616	1	.013	6	.444	2	.566	4
244			min	-2058.753	1	-183.407	4	-129.518	2	-.002	3	-.463	1	-.412	3
245		3	max	938.135	2	303.379	7	209.045	1	.013	6	.211	2	.808	4
246			min	-2058.753	1	-156.306	4	-198.948	2	-.002	3	-.215	1	-.818	3
247		4	max	938.135	2	374.897	7	278.475	1	.013	6	.132	1	1.011	4
248			min	-2058.753	1	-129.517	4	-268.377	2	-.002	3	-.122	2	-1.264	3
249		5	max	0	11	0	11	0	11	0	11	0	11	0	11
250			min	0	1	0	1	0	1	0	1	0	1	0	1
251	M36	1	max	1018.192	3	-67.611	4	839.182	3	.019	4	.709	4	.127	2
252			min	-2095.732	4	-964.885	7	-859.72	4	-.028	3	-.695	3	-.886	5
253		2	max	870.782	1	223.53	1	118.231	4	.013	7	.387	3	.765	2
254			min	-1984.62	2	-132.612	2	-107.48	3	-.004	4	-.408	4	-.625	1
255		3	max	900.846	1	280.915	5	170.303	4	.013	7	.197	3	.939	2
256			min	-2014.684	2	-110.236	2	-159.552	3	-.004	4	-.202	4	-.958	1
257		4	max	930.91	1	346.868	5	222.375	4	.013	7	.077	4	1.078	2
258			min	-2044.748	2	-85.286	2	-211.624	3	-.004	4	-.067	3	-1.327	1
259		5	max	124.115	4	249.694	4	56.54	1	.175	3	.019	4	.228	3
260			min	-115.172	3	-226.971	3	-38.121	2	-.17	4	-.018	1	-.206	4
261	M37	1	max	490.752	4	-31.5	2	837.98	4	.025	2	.517	3	.164	3
262			min	-1656.892	7	-976.66	5	-859.051	3	-.034	1	-.503	4	-.904	8

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
263		2	max	1022.58	4	248.006	2	93.623	3	.014	1	.287	4	.715	3
264			min	-2137.178	3	-153.609	1	-83.016	4	-.008	2	-.307	3	-.583	4
265		3	max	1052.644	4	291.756	6	145.695	3	.014	1	.132	4	.731	3
266			min	-2167.242	3	-131.558	1	-135.089	4	-.008	2	-.136	3	-.761	4
267		4	max	1082.708	4	354.045	6	197.768	3	.014	1	.108	3	.779	1
268			min	-2197.306	3	-107.82	1	-187.161	4	-.008	2	-.098	4	-1.041	2
269		5	max	0	11	.006	4	.006	4	0	11	0	11	0	11
270			min	0	1	0	9	-.003	1	0	1	0	1	0	1
271	M38	1	max	0	11	0	11	0	11	0	11	0	11	0	11
272			min	0	1	0	1	0	1	0	1	0	1	0	1
273		2	max	101.587	2	216.563	4	187.748	1	.359	1	.308	1	.321	3
274			min	-183.11	1	-257.28	3	-228.746	2	-.37	2	-.332	2	-.278	4
275		3	max	57.511	2	131.93	4	42.389	3	.05	1	.168	1	.05	2
276			min	-157.049	5	-131.266	3	-51.963	4	-.058	2	-.205	2	-.056	1
277		4	max	100.762	2	186.901	4	139.291	2	.328	2	.179	1	.102	4
278			min	-159.941	1	-156.676	3	-103.353	1	-.321	1	-.198	2	-.088	3
279		5	max	0	11	0	11	0	11	0	11	0	11	0	11
280			min	0	1	0	1	0	1	0	1	0	1	0	1
281	M39	1	max	0	11	.002	2	.003	3	0	11	0	11	0	11
282			min	0	1	0	9	-.004	1	0	1	0	1	0	1
283		2	max	164.763	1	231.039	2	177.749	4	.287	4	.215	4	.336	1
284			min	-252.259	2	-274.109	1	-216.804	3	-.298	3	-.237	3	-.291	2
285		3	max	108.158	3	134.64	2	41.684	1	.059	4	.134	4	.066	1
286			min	-213.761	4	-133.918	1	-50.695	2	-.066	3	-.169	3	-.071	2
287		4	max	93.182	3	173.229	3	104.176	1	.273	3	.203	4	.109	3
288			min	-158.491	4	-142.022	4	-70.78	2	-.267	4	-.221	3	-.094	4
289		5	max	0	11	0	11	.004	3	0	11	0	11	0	11
290			min	0	1	-.003	2	0	1	0	1	0	1	0	1
291	M40	1	max	0	11	.002	1	0	1	0	11	0	11	0	11
292			min	0	1	0	9	-.004	4	0	1	0	1	0	1
293		2	max	87.435	4	169.814	1	116.174	3	.313	3	.291	3	.271	2
294			min	-171.666	3	-214.147	2	-157.28	4	-.323	4	-.315	4	-.224	1
295		3	max	77.819	1	114.796	1	21.696	2	.034	2	.148	3	.07	4
296			min	-181.809	2	-114.405	2	-31.639	1	-.041	1	-.183	4	-.075	3
297		4	max	159.418	1	208.787	1	150.351	4	.267	4	.16	2	.122	1
298			min	-223.45	2	-177.241	2	-115.951	3	-.26	3	-.177	1	-.108	2
299		5	max	0	11	0	11	.004	1	0	11	0	11	0	11
300			min	0	1	-.003	1	-.003	4	0	1	0	1	0	1
301	M41	1	max	170.959	3	556.239	1	257.799	1	.006	1	.378	2	.277	4
302			min	-235.152	4	-570.071	2	-242.599	2	-.005	2	-.338	1	-.249	3
303		2	max	173.39	3	554.897	1	256.395	1	.006	1	.219	2	.26	4
304			min	-237.584	4	-571.413	2	-241.196	2	-.005	2	-.18	1	-.227	3
305		3	max	175.822	3	553.554	1	254.991	1	.006	1	.064	6	.245	4
306			min	-240.015	4	-572.756	2	-239.792	2	-.005	2	-.021	1	-.205	3
307		4	max	178.253	3	552.211	1	253.587	1	.006	1	.144	4	.31	2
308			min	-242.447	4	-574.099	2	-238.388	2	-.005	2	-.105	3	-.263	1
309		5	max	180.685	3	550.869	1	252.183	1	.006	1	.294	1	.375	2
310			min	-244.878	4	-575.441	2	-236.984	2	-.005	2	-.257	2	-.321	1
311	M42	1	max	146.903	4	569.786	2	312.616	2	.007	2	.357	1	.242	2
312			min	-210.558	3	-584.896	1	-294.032	1	-.007	1	-.317	2	-.216	1
313		2	max	144.472	4	568.443	2	314.02	2	.007	2	.185	1	.258	3
314			min	-208.741	2	-586.239	1	-295.435	1	-.007	1	-.145	2	-.227	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
315		3	max	142.56	1	567.1	2	315.423	2	.007	2	.064	7	.292	3
316			min	-211.173	2	-587.581	1	-296.839	1	-.007	1	-.018	4	-.253	4
317		4	max	144.991	1	565.758	2	316.827	2	.007	2	.2	2	.328	3
318			min	-213.604	2	-588.924	1	-298.243	1	-.007	1	-.161	1	-.281	4
319		5	max	147.423	1	564.415	2	318.231	2	.007	2	.373	2	.364	3
320			min	-216.036	2	-590.267	1	-299.647	1	-.007	1	-.335	1	-.309	4
321	M43	1	max	123.191	2	744.516	3	219.666	3	.006	3	.412	4	.246	1
322			min	-186.392	1	-756.542	4	-206.868	4	-.006	4	-.372	3	-.219	2
323		2	max	123.191	2	743.173	3	219.666	3	.006	3	.224	4	.255	1
324			min	-186.392	1	-757.885	4	-206.868	4	-.006	4	-.184	3	-.224	2
325		3	max	123.191	2	741.831	3	219.666	3	.006	3	.059	5	.266	1
326			min	-186.392	1	-759.228	4	-206.868	4	-.006	4	.001	2	-.229	2
327		4	max	123.191	2	740.488	3	219.666	3	.006	3	.192	3	.279	1
328			min	-186.392	1	-760.57	4	-206.868	4	-.006	4	-.154	4	-.235	2
329		5	max	123.191	2	739.145	3	219.666	3	.006	3	.379	3	.293	1
330			min	-186.392	1	-761.913	4	-206.868	4	-.006	4	-.343	4	-.243	2
331	M42A	1	max	0	11	.016	4	.006	2	0	11	0	11	0	11
332			min	0	1	0	9	-.01	3	0	1	0	1	0	1
333		2	max	3942.096	3	114.167	3	150.457	2	.087	10	.647	1	-.032	4
334			min	-1916.816	4	-1323.673	8	-149.893	1	-.085	1	-.648	2	-.765	7
335		3	max	3965.636	3	95.223	3	191.23	2	.087	10	.363	1	1.639	4
336			min	-1940.357	4	-1367.976	8	-190.667	1	-.085	1	-.362	2	-.669	3
337		4	max	4662.065	3	260.63	4	830.594	2	.222	3	.484	4	.287	4
338			min	-4409.361	4	-387.396	3	-830.191	1	-.228	4	-.494	3	-.366	3
339		5	max	4685.605	3	241.686	4	871.367	2	.222	3	1.137	2	.297	3
340			min	-4432.901	4	-406.34	3	-870.964	1	-.228	4	-1.147	1	-.167	9
341	M43A	1	max	0	11	.014	3	.007	3	0	11	0	11	0	11
342			min	0	1	0	5	-.007	1	0	1	0	1	0	1
343		2	max	3488.452	4	91.612	4	155.769	1	.079	1	.854	2	-.082	3
344			min	-1463.193	3	-1317.208	7	-157.879	2	-.097	2	-.855	1	-.755	8
345		3	max	3511.993	4	72.667	4	196.542	1	.079	1	.556	2	1.579	7
346			min	-1486.733	3	-1361.511	7	-198.652	2	-.097	2	-.56	1	-.583	4
347		4	max	4043.931	4	225.417	2	1719.431	1	.29	1	.622	2	.236	2
348			min	-3788.099	3	-352.627	1	-1712.41	2	-.309	2	-.632	1	-.316	1
349		5	max	4067.472	4	206.473	2	1760.204	1	.29	1	2.276	1	.29	5
350			min	-3811.64	3	-371.572	1	-1753.183	2	-.309	2	-2.275	2	-.125	2
351	M44	1	max	4103.233	8	38.652	8	38.357	1	0	3	0	11	0	11
352			min	-547.518	3	-14.416	3	-38.357	2	0	4	0	1	0	1
353		2	max	4117.316	8	19.326	8	19.178	1	0	3	.033	1	.012	3
354			min	-530.183	3	-7.208	3	-19.178	2	0	4	-.033	2	-.033	8
355		3	max	4131.399	8	0	11	0	11	0	3	.044	1	.017	3
356			min	-512.849	3	0	1	0	1	0	4	-.044	2	-.045	8
357		4	max	4145.482	8	7.208	3	19.178	2	0	3	.033	1	.012	3
358			min	-495.514	3	-19.326	8	-19.178	1	0	4	-.033	2	-.033	8
359		5	max	4159.565	8	14.416	3	38.357	2	0	3	0	11	0	11
360			min	-478.18	3	-38.652	8	-38.357	1	0	4	0	1	0	1
361	M45	1	max	4242.847	5	39.165	5	46.839	4	0	3	0	11	0	11
362			min	-759.287	2	-15.977	2	-46.839	3	0	4	0	1	0	1
363		2	max	4228.984	5	19.583	5	23.42	4	0	3	.04	4	.014	2
364			min	-777.29	2	-7.988	2	-23.42	3	0	4	-.04	3	-.034	5
365		3	max	4215.12	5	0	11	0	11	0	3	.054	4	.018	2
366			min	-795.294	2	0	1	0	1	0	4	-.054	3	-.045	5

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
367		4	max	4201.257	5	7.988	2	23.42	3	0	3	.04	4	.014	2
368			min	-813.297	2	-19.583	5	-23.42	4	0	4	-.04	3	-.034	5
369		5	max	4187.394	5	15.977	2	46.839	3	0	3	0	11	0	11
370			min	-831.3	2	-39.165	5	-46.839	4	0	4	0	1	0	1
371	M46	1	max	4142.753	7	38.652	7	38.357	1	0	3	0	11	0	11
372			min	-410.317	4	-14.416	4	-38.357	2	0	4	0	1	0	1
373		2	max	4128.67	7	19.326	7	19.178	1	0	3	.033	1	.012	4
374			min	-427.652	4	-7.208	4	-19.178	2	0	4	-.033	2	-.033	7
375		3	max	4114.586	7	0	11	0	11	0	3	.044	1	.017	4
376			min	-444.986	4	0	1	0	1	0	4	-.044	2	-.045	7
377		4	max	4100.503	7	7.208	4	19.178	2	0	3	.033	1	.012	4
378			min	-462.321	4	-19.326	7	-19.178	1	0	4	-.033	2	-.033	7
379		5	max	4086.42	7	14.416	4	38.357	2	0	3	0	11	0	11
380			min	-479.655	4	-38.652	7	-38.357	1	0	4	0	1	0	1
381	M47	1	max	11.52	2	530.241	2	141.266	4	.258	3	.171	2	.153	2
382			min	-25.055	1	-521.415	1	-175.789	3	-.222	4	-.159	1	-.151	1
383		2	max	11.52	2	530.241	2	141.266	4	.258	3	.169	2	.12	2
384			min	-25.055	1	-521.415	1	-175.789	3	-.222	4	-.16	1	-.118	1
385		3	max	11.52	2	530.241	2	141.266	4	.258	3	.167	2	.087	2
386			min	-25.055	1	-521.415	1	-175.789	3	-.222	4	-.16	1	-.085	1
387		4	max	11.52	2	530.241	2	141.266	4	.258	3	.166	2	.053	2
388			min	-25.055	1	-521.415	1	-175.789	3	-.222	4	-.161	1	-.053	1
389		5	max	11.52	2	530.241	2	141.266	4	.258	3	.164	2	.02	2
390			min	-25.055	1	-521.415	1	-175.789	3	-.222	4	-.161	1	-.02	1
391	M48	1	max	106.137	1	492.925	1	256.856	3	.332	3	.159	1	.025	1
392			min	-92.601	2	-558.759	2	-222.375	4	-.261	4	-.171	2	-.047	2
393		2	max	106.137	1	492.925	1	256.856	3	.332	3	.16	1	-.003	3
394			min	-92.601	2	-558.759	2	-222.375	4	-.261	4	-.169	2	-.027	8
395		3	max	106.137	1	492.925	1	256.856	3	.332	3	.16	1	.023	2
396			min	-92.601	2	-558.759	2	-222.375	4	-.261	4	-.167	2	-.036	1
397		4	max	106.137	1	492.925	1	256.856	3	.332	3	.161	1	.058	2
398			min	-92.601	2	-558.759	2	-222.375	4	-.261	4	-.166	2	-.067	1
399		5	max	106.137	1	492.925	1	256.856	3	.332	3	.161	1	.093	2
400			min	-92.601	2	-558.759	2	-222.375	4	-.261	4	-.164	2	-.098	1
401	M49	1	max	173.767	1	139.332	3	145.276	4	.692	3	.196	2	.323	2
402			min	-202.515	2	-71.178	4	-161.455	3	-.675	4	-.167	1	-.302	1
403		2	max	173.767	1	139.332	3	145.276	4	.692	3	.193	2	.32	2
404			min	-202.515	2	-71.178	4	-161.455	3	-.675	4	-.165	1	-.304	1
405		3	max	173.767	1	139.332	3	145.276	4	.692	3	.19	2	.317	2
406			min	-202.515	2	-71.178	4	-161.455	3	-.675	4	-.163	1	-.305	1
407		4	max	173.767	1	139.332	3	145.276	4	.692	3	.188	2	.314	2
408			min	-202.515	2	-71.178	4	-161.455	3	-.675	4	-.162	1	-.307	1
409		5	max	173.767	1	139.332	3	145.276	4	.692	3	.185	2	.312	2
410			min	-202.515	2	-71.178	4	-161.455	3	-.675	4	-.16	1	-.309	1
411	M50	1	max	248.009	1	-124.94	4	497.507	3	.532	3	.167	1	.028	2
412			min	-219.254	2	-586.523	7	-481.3	4	-.497	4	-.196	2	-.153	5
413		2	max	248.009	1	-124.94	4	497.507	3	.532	3	.165	1	.042	2
414			min	-219.254	2	-586.523	7	-481.3	4	-.497	4	-.193	2	-.12	1
415		3	max	248.009	1	-124.94	4	497.507	3	.532	3	.163	1	.057	2
416			min	-219.254	2	-586.523	7	-481.3	4	-.497	4	-.19	2	-.107	1
417		4	max	248.009	1	-124.94	4	497.507	3	.532	3	.162	1	.072	2
418			min	-219.254	2	-586.523	7	-481.3	4	-.497	4	-.187	2	-.093	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
419		5	max	248.009	1	-124.94	4	497.507	3	.532	3	.16	1	.087	2
420			min	-219.254	2	-586.523	7	-481.3	4	-.497	4	-.185	2	-.08	1
421	M51	1	max	46.814	1	132.776	2	125.49	4	.581	3	.19	1	.419	2
422			min	-91.095	2	-74.98	1	-85.965	3	-.628	4	-.205	2	-.39	1
423		2	max	46.814	1	132.776	2	125.49	4	.581	3	.189	1	.411	2
424			min	-91.095	2	-74.98	1	-85.965	3	-.628	4	-.203	2	-.386	1
425		3	max	46.814	1	132.776	2	125.49	4	.581	3	.189	1	.403	2
426			min	-91.095	2	-74.98	1	-85.965	3	-.628	4	-.2	2	-.381	1
427		4	max	46.814	1	132.776	2	125.49	4	.581	3	.189	1	.394	2
428			min	-91.095	2	-74.98	1	-85.965	3	-.628	4	-.197	2	-.376	1
429		5	max	46.814	1	132.776	2	125.49	4	.581	3	.189	1	.386	2
430			min	-91.095	2	-74.98	1	-85.965	3	-.628	4	-.194	2	-.372	1
431	M52	1	max	1182.384	1	-236.079	1	715.745	3	.086	3	.205	2	-.058	1
432			min	-1138.065	2	-1044.937	6	-755.303	4	-.166	8	-.19	1	-.239	5
433		2	max	1182.384	1	-236.079	1	715.745	3	.086	3	.203	2	-.043	1
434			min	-1138.065	2	-1044.937	6	-755.303	4	-.166	8	-.189	1	-.177	5
435		3	max	1182.384	1	-236.079	1	715.745	3	.086	3	.2	2	-.022	4
436			min	-1138.065	2	-1044.937	6	-755.303	4	-.166	8	-.189	1	-.114	5
437		4	max	1182.384	1	-236.079	1	715.745	3	.086	3	.198	2	.001	4
438			min	-1138.065	2	-1044.937	6	-755.303	4	-.166	8	-.188	1	-.052	5
439		5	max	1182.384	1	-236.079	1	715.745	3	.086	3	.211	3	.036	6
440			min	-1138.065	2	-1044.937	6	-755.303	4	-.166	8	-.207	4	-.01	3
441	M53	1	max	124.985	1	492.036	2	129.971	4	.221	3	.139	1	.141	2
442			min	-160.767	2	-510.163	1	-88.791	3	-.264	4	-.151	2	-.16	1
443		2	max	124.985	1	492.036	2	129.971	4	.221	3	.137	1	.11	2
444			min	-160.767	2	-510.163	1	-88.791	3	-.264	4	-.146	2	-.128	1
445		3	max	124.985	1	492.036	2	129.971	4	.221	3	.136	1	.08	2
446			min	-160.767	2	-510.163	1	-88.791	3	-.264	4	-.142	2	-.096	1
447		4	max	124.985	1	492.036	2	129.971	4	.221	3	.134	1	.049	2
448			min	-160.767	2	-510.163	1	-88.791	3	-.264	4	-.138	2	-.065	1
449		5	max	124.985	1	492.036	2	129.971	4	.221	3	.132	1	.018	2
450			min	-160.767	2	-510.163	1	-88.791	3	-.264	4	-.134	2	-.033	1
451	M54	1	max	231.678	1	359.863	1	287.751	3	.312	3	.151	2	0	1
452			min	-195.89	2	-642.269	2	-328.879	4	-.397	4	-.139	1	-.093	6
453		2	max	231.678	1	359.863	1	287.751	3	.312	3	.146	2	-.02	9
454			min	-195.89	2	-642.269	2	-328.879	4	-.397	4	-.137	1	-.062	6
455		3	max	231.678	1	359.863	1	287.751	3	.312	3	.142	2	.013	2
456			min	-195.89	2	-642.269	2	-328.879	4	-.397	4	-.136	1	-.047	5
457		4	max	231.678	1	359.863	1	287.751	3	.312	3	.138	2	.053	2
458			min	-195.89	2	-642.269	2	-328.879	4	-.397	4	-.134	1	-.067	1
459		5	max	231.678	1	359.863	1	287.751	3	.312	3	.134	2	.093	2
460			min	-195.89	2	-642.269	2	-328.879	4	-.397	4	-.133	1	-.09	1
461	MP2C	1	max	0	11	.477	8	.284	7	0	11	0	11	0	11
462			min	0	1	-.555	7	-.228	8	0	1	0	1	0	1
463		2	max	386.134	7	394.559	4	316.437	1	.141	4	.29	2	.172	4
464			min	-2.176	4	-379.091	3	-373.165	2	-.156	3	-.29	1	-.228	3
465		3	max	683.874	7	574.476	4	431.808	1	.141	4	.424	1	.692	3
466			min	148.152	4	-559.008	3	-488.536	2	-.156	3	-.523	2	-.775	4
467		4	max	-66.689	10	443.215	3	302.886	2	0	11	.513	1	.758	3
468			min	-290.351	5	-443.039	4	-303.025	1	0	1	-.512	2	-.758	4
469		5	max	-59.4	10	422.944	3	282.615	2	0	11	0	11	0	11
470			min	-268.15	5	-422.768	4	-282.754	1	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-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
471	MP1C	1	max	0	11	.193	4	.165	1	0	11	0	11	0	11
472			min	0	1	-.193	3	-.168	2	0	1	0	1	0	1
473		2	max	653.346	3	141.558	4	126.381	1	.156	4	.125	2	.157	4
474			min	-532.199	4	-139.85	3	-177.175	2	-.168	3	-.104	1	-.164	3
475		3	max	660.635	3	161.829	4	146.652	1	.156	4	.134	1	.098	3
476			min	-524.91	4	-160.121	3	-197.446	2	-.168	3	-.203	2	-.109	4
477		4	max	-7.289	10	20.304	3	20.287	2	0	11	.018	1	.018	3
478			min	-22.2	5	-20.303	4	-20.291	1	0	1	-.018	2	-.018	4
479		5	max	0	11	.033	7	.016	2	0	11	0	11	0	11
480			min	0	1	-.032	4	-.032	5	0	1	0	1	0	1
481	MP4C	1	max	0	11	.014	8	.012	1	0	11	0	11	0	11
482			min	0	1	-.012	3	-.015	6	0	1	0	1	0	1
483		2	max	428.531	3	84.385	4	191.678	1	.143	1	.157	2	.126	4
484			min	-403.913	4	-60.407	3	-162.056	2	-.132	2	-.176	1	-.122	3
485		3	max	435.82	3	104.656	4	211.949	1	.143	1	.177	1	.102	2
486			min	-396.624	4	-80.678	3	-182.327	2	-.132	2	-.145	2	-.14	1
487		4	max	-7.289	10	20.304	3	20.295	2	0	11	.018	1	.018	3
488			min	-22.2	5	-20.303	4	-20.292	1	0	1	-.018	2	-.018	4
489		5	max	0	11	.033	3	.033	6	0	11	0	11	0	11
490			min	0	1	-.032	4	-.021	1	0	1	0	1	0	1
491	M59	1	max	21.335	1	421.246	3	148.353	2	.254	1	.143	1	.119	1
492			min	-30.086	2	-411.247	4	-183.417	1	-.216	2	-.132	2	-.116	2
493		2	max	21.335	1	421.246	3	148.353	2	.254	1	.131	1	.099	1
494			min	-30.086	2	-411.247	4	-183.417	1	-.216	2	-.122	2	-.096	2
495		3	max	21.335	1	421.246	3	148.353	2	.254	1	.123	3	.078	1
496			min	-30.086	2	-411.247	4	-183.417	1	-.216	2	-.117	4	-.076	2
497		4	max	21.335	1	421.246	3	148.353	2	.254	1	.128	3	.058	1
498			min	-30.086	2	-411.247	4	-183.417	1	-.216	2	-.124	4	-.056	2
499		5	max	21.335	1	421.246	3	148.353	2	.254	1	.133	3	.037	1
500			min	-30.086	2	-411.247	4	-183.417	1	-.216	2	-.131	4	-.036	2
501	M60	1	max	80.773	4	382.513	4	253.609	1	.353	1	.132	2	.027	4
502			min	-70.733	3	-449.994	3	-218.641	2	-.278	2	-.143	1	-.048	3
503		2	max	80.773	4	382.513	4	253.609	1	.353	1	.118	2	.003	4
504			min	-70.733	3	-449.994	3	-218.641	2	-.278	2	-.127	1	-.027	7
505		3	max	80.773	4	382.513	4	253.609	1	.353	1	.122	4	.024	1
506			min	-70.733	3	-449.994	3	-218.641	2	-.278	2	-.128	3	-.037	2
507		4	max	80.773	4	382.513	4	253.609	1	.353	1	.131	4	.046	1
508			min	-70.733	3	-449.994	3	-218.641	2	-.278	2	-.135	3	-.055	2
509		5	max	80.773	4	382.513	4	253.609	1	.353	1	.141	4	.069	1
510			min	-70.733	3	-449.994	3	-218.641	2	-.278	2	-.143	3	-.073	2
511	M61	1	max	150.421	4	153.955	1	164.748	2	.698	1	.163	3	.23	3
512			min	-178.395	3	-82.699	2	-182.693	1	-.678	2	-.135	4	-.209	4
513		2	max	150.421	4	153.955	1	164.748	2	.698	1	.166	3	.23	3
514			min	-178.395	3	-82.699	2	-182.693	1	-.678	2	-.139	4	-.214	4
515		3	max	150.421	4	153.955	1	164.748	2	.698	1	.169	3	.231	3
516			min	-178.395	3	-82.699	2	-182.693	1	-.678	2	-.143	4	-.219	4
517		4	max	150.421	4	153.955	1	164.748	2	.698	1	.172	3	.231	3
518			min	-178.395	3	-82.699	2	-182.693	1	-.678	2	-.147	4	-.224	4
519		5	max	150.421	4	153.955	1	164.748	2	.698	1	.175	3	.231	3
520			min	-178.395	3	-82.699	2	-182.693	1	-.678	2	-.151	4	-.229	4
521	M62	1	max	196.251	4	-112.176	2	492.278	1	.539	1	.135	4	.016	3
522			min	-168.296	3	-594.312	5	-474.413	2	-.501	2	-.163	3	-.15	8

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
523		2	max	196.251	4	-112.176	2	492.278	1	.539	1	.152	4	.028	3
524			min	-168.296	3	-594.312	5	-474.413	2	-.501	2	-.179	3	-.115	8
525		3	max	196.251	4	-112.176	2	492.278	1	.539	1	.168	4	.039	3
526			min	-168.296	3	-594.312	5	-474.413	2	-.501	2	-.194	3	-.089	4
527		4	max	196.251	4	-112.176	2	492.278	1	.539	1	.185	4	.051	3
528			min	-168.296	3	-594.312	5	-474.413	2	-.501	2	-.21	3	-.072	4
529		5	max	196.251	4	-112.176	2	492.278	1	.539	1	.202	4	.063	3
530			min	-168.296	3	-594.312	5	-474.413	2	-.501	2	-.225	3	-.055	4
531	M63	1	max	34.901	4	126.432	3	89.233	6	.54	1	.141	4	.371	3
532			min	-79.102	3	-68.348	4	-44.654	1	-.588	2	-.156	3	-.343	4
533		2	max	34.901	4	126.432	3	89.233	6	.54	1	.143	4	.363	3
534			min	-79.102	3	-68.348	4	-44.654	1	-.588	2	-.156	3	-.339	4
535		3	max	34.901	4	126.432	3	89.233	6	.54	1	.146	4	.355	3
536			min	-79.102	3	-68.348	4	-44.654	1	-.588	2	-.156	3	-.335	4
537		4	max	34.901	4	126.432	3	89.233	6	.54	1	.148	4	.347	3
538			min	-79.102	3	-68.348	4	-44.654	1	-.588	2	-.156	3	-.33	4
539		5	max	34.901	4	126.432	3	89.233	6	.54	1	.151	4	.339	3
540			min	-79.102	3	-68.348	4	-44.654	1	-.588	2	-.156	3	-.326	4
541	M64	1	max	934.645	4	-241.159	4	699.597	1	.112	3	.156	3	-.07	3
542			min	-890.5	3	-1046.129	7	-740.864	2	-.186	4	-.141	4	-.243	8
543		2	max	934.645	4	-241.159	4	699.597	1	.112	3	.146	1	-.043	3
544			min	-890.5	3	-1046.129	7	-740.864	2	-.186	4	-.133	2	-.18	8
545		3	max	934.645	4	-241.159	4	699.597	1	.112	3	.189	1	-.016	3
546			min	-890.5	3	-1046.129	7	-740.864	2	-.186	4	-.18	2	-.118	8
547		4	max	934.645	4	-241.159	4	699.597	1	.112	3	.233	1	.011	3
548			min	-890.5	3	-1046.129	7	-740.864	2	-.186	4	-.226	2	-.055	8
549		5	max	934.645	4	-241.159	4	699.597	1	.112	3	.277	1	.04	7
550			min	-890.5	3	-1046.129	7	-740.864	2	-.186	4	-.272	2	-.023	4
551	M65	1	max	28.923	2	584.518	3	107.166	2	.209	1	.156	4	.209	3
552			min	-56.644	1	-601.214	4	-63.189	1	-.252	2	-.168	3	-.226	4
553		2	max	28.923	2	584.518	3	107.166	2	.209	1	.153	4	.172	3
554			min	-56.644	1	-601.214	4	-63.189	1	-.252	2	-.163	3	-.189	4
555		3	max	28.923	2	584.518	3	107.166	2	.209	1	.151	4	.135	3
556			min	-56.644	1	-601.214	4	-63.189	1	-.252	2	-.158	3	-.151	4
557		4	max	28.923	2	584.518	3	107.166	2	.209	1	.149	4	.099	3
558			min	-56.644	1	-601.214	4	-63.189	1	-.252	2	-.153	3	-.113	4
559		5	max	28.923	2	584.518	3	107.166	2	.209	1	.146	4	.062	3
560			min	-56.644	1	-601.214	4	-63.189	1	-.252	2	-.148	3	-.076	4
561	M66	1	max	260.953	4	450.164	4	269.518	1	.274	1	.168	3	.07	3
562			min	-226.034	3	-735.453	3	-313.634	2	-.36	2	-.156	4	-.133	4
563		2	max	260.953	4	450.164	4	269.518	1	.274	1	.153	3	.116	3
564			min	-226.034	3	-735.453	3	-313.634	2	-.36	2	-.143	4	-.161	4
565		3	max	260.953	4	450.164	4	269.518	1	.274	1	.138	3	.162	3
566			min	-226.034	3	-735.453	3	-313.634	2	-.36	2	-.131	4	-.19	4
567		4	max	260.953	4	450.164	4	269.518	1	.274	1	.123	3	.208	3
568			min	-226.034	3	-735.453	3	-313.634	2	-.36	2	-.119	4	-.218	4
569		5	max	260.953	4	450.164	4	269.518	1	.274	1	.109	3	.254	3
570			min	-226.034	3	-735.453	3	-313.634	2	-.36	2	-.107	4	-.246	4
571	MP2B	1	max	0	11	.553	8	.261	5	0	11	0	11	0	11
572			min	0	1	-.458	7	-.217	6	0	1	0	1	0	1
573		2	max	385.199	5	327.503	4	379.444	1	.168	3	.321	2	.151	4
574			min	16.895	2	-383.837	3	-365.123	2	-.183	4	-.369	1	-.122	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
575		3	max	682.94	5	507.42	4	494.815	1	.168	3	.456	1	.807	3
576			min	167.224	2	-563.753	3	-480.493	2	-.183	4	-.479	2	-.679	4
577		4	max	-66.689	10	442.935	3	302.966	2	0	11	.513	1	.757	3
578			min	-290.351	5	-443.146	4	-303.049	1	0	1	-.512	2	-.758	4
579		5	max	-59.4	10	422.664	3	282.695	2	0	11	0	11	0	11
580			min	-268.15	5	-422.875	4	-282.778	1	0	1	0	1	0	1
581	MP1B	1	max	0	11	.173	4	.17	1	0	11	0	11	0	11
582			min	0	1	-.176	3	-.168	2	0	1	0	1	0	1
583		2	max	429.912	1	48.641	2	192.632	1	.129	2	.143	2	.079	4
584			min	-310.29	2	-95.704	1	-168.243	2	-.14	1	-.16	1	-.093	3
585		3	max	437.201	1	48.641	2	212.903	1	.129	2	.194	1	.18	1
586			min	-303.001	2	-95.704	1	-188.514	2	-.14	1	-.169	2	-.112	2
587		4	max	-7.289	10	20.3	3	20.292	2	0	11	.018	1	.018	3
588			min	-22.2	5	-20.305	4	-20.291	1	0	1	-.018	2	-.018	4
589		5	max	0	11	.029	3	.021	2	0	11	0	11	0	11
590			min	0	1	-.046	8	-.02	1	0	1	0	1	0	1
591	MP4B	1	max	0	11	.014	4	.012	1	0	11	0	11	0	11
592			min	0	1	-.017	7	-.012	2	0	1	0	1	0	1
593		2	max	593.307	4	146.504	4	138.626	1	.187	4	.154	2	.171	4
594			min	-573.861	3	-134.809	3	-177.17	2	-.174	3	-.139	1	-.157	3
595		3	max	600.596	4	166.775	4	158.897	1	.187	4	.122	1	.096	3
596			min	-566.572	3	-155.08	3	-197.441	2	-.174	3	-.173	2	-.103	4
597		4	max	-7.289	10	20.304	3	20.29	2	0	11	.018	1	.018	3
598			min	-22.2	5	-20.302	4	-20.293	1	0	1	-.018	2	-.018	4
599		5	max	0	11	.034	7	.019	2	0	11	0	11	0	11
600			min	0	1	-.031	4	-.03	5	0	1	0	1	0	1
601	M71	1	max	79.434	4	585.635	4	127.547	1	.251	2	.187	4	.213	4
602			min	-96.158	3	-581.65	3	-168.791	2	-.211	1	-.174	3	-.213	3
603		2	max	79.434	4	585.635	4	127.547	1	.251	2	.18	4	.176	4
604			min	-96.158	3	-581.65	3	-168.791	2	-.211	1	-.17	3	-.177	3
605		3	max	79.434	4	585.635	4	127.547	1	.251	2	.173	4	.14	4
606			min	-96.158	3	-581.65	3	-168.791	2	-.211	1	-.165	3	-.141	3
607		4	max	79.434	4	585.635	4	127.547	1	.251	2	.166	4	.103	4
608			min	-96.158	3	-581.65	3	-168.791	2	-.211	1	-.161	3	-.104	3
609		5	max	79.434	4	585.635	4	127.547	1	.251	2	.16	4	.066	4
610			min	-96.158	3	-581.65	3	-168.791	2	-.211	1	-.157	3	-.068	3
611	M72	1	max	166.376	3	553.026	3	238.984	2	.305	2	.174	3	.089	4
612			min	-149.661	4	-614.246	4	-197.788	1	-.227	1	-.187	4	-.116	3
613		2	max	166.376	3	553.026	3	238.984	2	.305	2	.167	3	.128	4
614			min	-149.661	4	-614.246	4	-197.788	1	-.227	1	-.177	4	-.151	3
615		3	max	166.376	3	553.026	3	238.984	2	.305	2	.16	3	.166	4
616			min	-149.661	4	-614.246	4	-197.788	1	-.227	1	-.168	4	-.185	3
617		4	max	166.376	3	553.026	3	238.984	2	.305	2	.153	3	.205	4
618			min	-149.661	4	-614.246	4	-197.788	1	-.227	1	-.159	4	-.22	3
619		5	max	166.376	3	553.026	3	238.984	2	.305	2	.146	3	.243	4
620			min	-149.661	4	-614.246	4	-197.788	1	-.227	1	-.15	4	-.255	3
621	M73	1	max	118.111	3	129.522	6	109.726	1	.607	2	.172	4	.329	4
622			min	-148.233	4	-41.207	1	-129.316	2	-.585	1	-.144	3	-.307	3
623		2	max	118.111	3	129.522	6	109.726	1	.607	2	.164	4	.323	4
624			min	-148.233	4	-41.207	1	-129.316	2	-.585	1	-.137	3	-.306	3
625		3	max	118.111	3	129.522	6	109.726	1	.607	2	.157	4	.316	4
626			min	-148.233	4	-41.207	1	-129.316	2	-.585	1	-.13	3	-.304	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
627		4	max	118.111	3	129.522	6	109.726	1	.607	2	.149	4	.31	4
628			min	-148.233	4	-41.207	1	-129.316	2	-.585	1	-.124	3	-.302	3
629		5	max	118.111	3	129.522	6	109.726	1	.607	2	.141	4	.304	4
630			min	-148.233	4	-41.207	1	-129.316	2	-.585	1	-.117	3	-.301	3
631	M74	1	max	228.585	3	-153.922	1	439.079	2	.469	2	.144	3	.012	4
632			min	-198.436	4	-582.171	6	-418.941	1	-.429	1	-.172	4	-.149	7
633		2	max	228.585	3	-153.922	1	439.079	2	.469	2	.124	3	.03	4
634			min	-198.436	4	-582.171	6	-418.941	1	-.429	1	-.152	4	-.115	7
635		3	max	228.585	3	-153.922	1	439.079	2	.469	2	.118	2	.049	4
636			min	-198.436	4	-582.171	6	-418.941	1	-.429	1	-.143	1	-.099	3
637		4	max	228.585	3	-153.922	1	439.079	2	.469	2	.145	2	.067	4
638			min	-198.436	4	-582.171	6	-418.941	1	-.429	1	-.169	1	-.088	3
639		5	max	228.585	3	-153.922	1	439.079	2	.469	2	.173	2	.085	4
640			min	-198.436	4	-582.171	6	-418.941	1	-.429	1	-.196	1	-.078	3
641	M75	1	max	61.05	3	107.199	1	97.361	1	.57	2	.168	3	.307	4
642			min	-103.817	4	-49.971	2	-57.43	2	-.618	1	-.183	4	-.279	3
643		2	max	61.05	3	107.199	1	97.361	1	.57	2	.167	3	.302	4
644			min	-103.817	4	-49.971	2	-57.43	2	-.618	1	-.18	4	-.277	3
645		3	max	61.05	3	107.199	1	97.361	1	.57	2	.166	3	.297	4
646			min	-103.817	4	-49.971	2	-57.43	2	-.618	1	-.176	4	-.276	3
647		4	max	61.05	3	107.199	1	97.361	1	.57	2	.165	3	.292	4
648			min	-103.817	4	-49.971	2	-57.43	2	-.618	1	-.172	4	-.274	3
649		5	max	61.05	3	107.199	1	97.361	1	.57	2	.163	3	.286	4
650			min	-103.817	4	-49.971	2	-57.43	2	-.618	1	-.169	4	-.273	3
651	M76	1	max	908.525	3	-261.709	2	713.447	2	.117	3	.183	4	-.056	1
652			min	-865.778	4	-1045.919	5	-751.976	1	-.192	4	-.168	3	-.241	6
653		2	max	908.525	3	-261.709	2	713.447	2	.117	3	.215	4	-.03	1
654			min	-865.778	4	-1045.919	5	-751.976	1	-.192	4	-.202	3	-.178	6
655		3	max	908.525	3	-261.709	2	713.447	2	.117	3	.246	4	-.004	1
656			min	-865.778	4	-1045.919	5	-751.976	1	-.192	4	-.236	3	-.116	6
657		4	max	908.525	3	-261.709	2	713.447	2	.117	3	.277	4	.022	1
658			min	-865.778	4	-1045.919	5	-751.976	1	-.192	4	-.269	3	-.053	6
659		5	max	908.525	3	-261.709	2	713.447	2	.117	3	.309	4	.048	1
660			min	-865.778	4	-1045.919	5	-751.976	1	-.192	4	-.303	3	-.032	2
661	M77	1	max	100.767	3	360.945	1	126.824	1	.219	2	.129	2	.111	1
662			min	-132.522	4	-379.357	2	-85.573	2	-.264	1	-.14	1	-.129	2
663		2	max	100.767	3	360.945	1	126.824	1	.219	2	.124	2	.089	1
664			min	-132.522	4	-379.357	2	-85.573	2	-.264	1	-.132	1	-.106	2
665		3	max	100.767	3	360.945	1	126.824	1	.219	2	.118	2	.066	1
666			min	-132.522	4	-379.357	2	-85.573	2	-.264	1	-.124	1	-.082	2
667		4	max	100.767	3	360.945	1	126.824	1	.219	2	.113	2	.043	1
668			min	-132.522	4	-379.357	2	-85.573	2	-.264	1	-.116	1	-.058	2
669		5	max	100.767	3	360.945	1	126.824	1	.219	2	.108	2	.021	1
670			min	-132.522	4	-379.357	2	-85.573	2	-.264	1	-.108	1	-.035	2
671	M78	1	max	173.945	3	227.147	2	291.803	2	.325	2	.14	1	0	3
672			min	-142.183	4	-513.147	1	-333.528	1	-.414	1	-.129	2	-.092	8
673		2	max	173.945	3	227.147	2	291.803	2	.325	2	.119	1	-.013	3
674			min	-142.183	4	-513.147	1	-333.528	1	-.414	1	-.111	2	-.064	8
675		3	max	173.945	3	227.147	2	291.803	2	.325	2	.121	4	.013	1
676			min	-142.183	4	-513.147	1	-333.528	1	-.414	1	-.115	3	-.047	6
677		4	max	173.945	3	227.147	2	291.803	2	.325	2	.131	4	.045	1
678			min	-142.183	4	-513.147	1	-333.528	1	-.414	1	-.128	3	-.059	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Momen...	LC	z-z Momen...	LC
679		5	max	173.945	3	227.147	2	291.803	2	.325	2	.141	4	.077	1
680			min	-142.183	4	-513.147	1	-333.528	1	-.414	1	-.141	3	-.073	2
681	MP3C	1	max	0	11	.658	4	.398	1	0	11	0	11	0	11
682			min	0	1	-.656	3	-.409	2	0	1	0	1	0	1
683		2	max	197.74	8	174.761	4	153.074	1	0	11	.188	1	.216	3
684			min	88.691	1	-174.759	3	-153.084	2	0	1	-.189	2	-.216	4
685		3	max	368.05	5	147.725	1	305.848	1	.163	3	.034	1	.074	3
686			min	15.096	2	-113.141	2	-303.677	2	-.135	4	-.058	2	-.135	4
687		4	max	-9.371	10	26.118	3	26.089	2	0	11	.029	1	.029	3
688			min	-28.543	5	-26.107	4	-26.093	1	0	1	-.029	2	-.029	4
689		5	max	0	11	.083	7	.027	2	0	11	0	11	0	11
690			min	0	1	-.044	4	-.034	5	0	1	0	1	0	1
691	MP3B	1	max	0	11	.672	4	.402	1	0	11	0	11	0	11
692			min	0	1	-.68	3	-.398	2	0	1	0	1	0	1
693		2	max	197.74	8	174.774	4	153.077	1	0	11	.188	1	.216	3
694			min	88.691	1	-174.783	3	-153.073	2	0	1	-.188	2	-.216	4
695		3	max	355.824	6	136.769	4	221.257	1	.172	4	.073	1	.074	7
696			min	56.226	1	-151.188	3	-253.9	2	-.144	3	-.113	2	-.021	4
697		4	max	-9.371	10	26.122	3	26.078	2	0	11	.029	1	.029	3
698			min	-28.543	5	-26.13	4	-26.086	1	0	1	-.029	2	-.029	4
699		5	max	0	11	.059	3	.03	3	0	11	0	11	0	11
700			min	0	1	-.083	8	-.06	8	0	1	0	1	0	1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	MP2A	PIPE_2.0	.787	4.229	1	.185	4.229		2	17855....	32130	1.872	1.872	1...	H1-1b
2	MP2B	PIPE_2.0	.662	4.229	3	.164	4.229		4	17855....	32130	1.872	1.872	1...	H1-1b
3	MP2C	PIPE_2.0	.653	4.229	4	.153	4.229		3	17855....	32130	1.872	1.872	1...	H1-1b
4	M35	C6X8.2	.461	0	2	.164	4.864	y	2	32928....	77436	2.108	13.932	2...	H1-1b
5	M36	C6X8.2	.445	0	3	.157	4.864	y	3	32928....	77436	2.108	13.932	1...	H1-1b
6	M43	L2.5x2.5x4	.436	1.105	3	.094	1.105	y	4	37049....	38556	1.114	2.537	2...	H2-1
7	M42	L2.5x2.5x4	.409	0	1	.081	1.105	y	1	37049....	38556	1.114	2.537	1...	H2-1
8	M41	L2.5x2.5x4	.393	1.105	1	.074	1.105	y	2	37049....	38556	1.114	2.537	1...	H2-1
9	M9	C6X8.2	.375	0	3	.149	.83	y	3	32928....	77436	2.108	13.932	1...	H1-1b
10	M37	C6X8.2	.333	1.305	3	.136	4.864	y	1	32928....	77436	2.108	11.575	1...	H1-1b
11	MP3A	PIPE_2.0	.324	6	3	.138	3		2	12143....	32130	1.872	1.872	3...	H1-1b
12	MP3C	PIPE_2.0	.323	6	1	.117	3		3	12143....	32130	1.872	1.872	3...	H1-1b
13	MP5A	C6X8.2	.309	5.694	2	.166	.83	z	1	32928....	77436	2.108	13.932	1...	H1-1b
14	M19	C6X8.2	.308	3.017	4	.051	3.017	y	8	29599....	77436	2.108	13.932	1...	H1-1b
15	M20	C6X8.2	.301	3.017	2	.051	3.017	y	7	29599....	77436	2.108	13.932	1...	H1-1b
16	MP3B	PIPE_2.0	.291	6	2	.128	6		4	12143....	32130	1.872	1.872	3...	H1-1b
17	M38	PIPE_2.0	.268	3.277	2	.249	.786		2	6212.329	32130	1.872	1.872	2...	H3-6
18	M18	HSS4X4X3	.265	0	4	.105	0	z	3	89216....	106812	12.662	12.662	1...	H1-1b
19	M18A	C6X8.2	.258	3.017	4	.051	3.017	y	5	29599....	77436	2.108	13.932	1...	H1-1b
20	MP1B	PIPE_2.0	.253	4.229	1	.117	4.229		1	17855....	32130	1.872	1.872	2...	H1-1b
21	M39	PIPE_2.0	.252	8.258	3	.205	.786		3	6212.329	32130	1.872	1.872	2...	H1-1b
22	M33	C6X8.2	.246	1.195	3	.050	.597	y	2	74574....	77436	2.108	13.932	1...	H1-1b
23	M5A	C6X8.2	.243	5.694	3	.123	.83	z	2	32928....	77436	2.108	13.932	1...	H1-1b
24	MP1A	PIPE_2.0	.241	4.229	4	.109	4.229		2	17855....	32130	1.872	1.872	2...	H1-1b
25	M40	PIPE_2.0	.233	8.258	1	.221	.786		4	6212.329	32130	1.872	1.872	2...	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
26	M32	C6X8.2	.231	0	4	.054	.597	y	4	74574....	77436	2.108	13.932	1...	H1-1b
27	M43A	HSS4X4X3	.220	6.688	1	.088	6.688	z	2	89216....	106812	12.662	12.662	1...	H1-1b
28	MP4C	PIPE_2.0	.216	4.229	1	.110	4.229		1	17855....	32130	1.872	1.872	2...	H1-1b
29	MP1C	PIPE_2.0	.212	4.229	2	.132	4.229		3	17855....	32130	1.872	1.872	2...	H1-1b
30	M34	C6X8.2	.210	0	4	.046	.597	y	1	74574....	77436	2.108	13.932	1...	H1-1b
31	MP4A	PIPE_2.0	.201	4.229	3	.110	4.229		2	17855....	32130	1.872	1.872	2...	H1-1b
32	M42A	HSS4X4X3	.196	3.692	4	.062	3.692	y	8	89216....	106812	12.662	12.662	1...	H1-1b
33	MP4B	PIPE_2.0	.186	4.229	2	.131	4.229		4	17855....	32130	1.872	1.872	2...	H1-1b
34	M45	LL2.5x2.5x3x0	.095	0	5	.004	4.61	z	4	44475....	58320	3.3	2.55	1	H1-1b*
35	M44	LL2.5x2.5x3x0	.094	4.61	8	.003	0	y	4	44475....	58320	3.3	2.55	1...	H1-1b*
36	M46	LL2.5x2.5x3x0	.093	0	7	.003	0	y	3	44475....	58320	3.3	2.55	1...	H1-1b*
37	M17	HSS4X4X3	.005	0	1	.035	.34	y	3	106762...	106812	12.662	12.662	1...	H1-1b

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

Member	Shape	Code Check	Loc[ft]	LC	Shea...	Loc[ft]	Dir	LC	phi*Pn...	phi*Tn[...	phi*Mn...	phi*Mn...	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

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

T-Mobile Existing Facility

Site ID: CT11664C

St. John's Cemetary
500 Moose Hill Road
Monroe, Connecticut 06468

December 31, 2020

EBI Project Number: 6220006445

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**30.02%**

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

December 31, 2020

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

Emissions Analysis for Site: CT11664C - St. John's Cemetary

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **500 Moose Hill Road** in **Monroe, 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 500 Moose Hill Road in Monroe, 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 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

7) 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.

8) 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.

9) 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.

10) 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.

11) 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.

12) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 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.

13) The antenna mounting height centerline of the proposed antennas is 121 feet above ground level (AGL).

14) 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.

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

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
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):	121 feet	Height (AGL):	121 feet	Height (AGL):	121 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 A1 MPE %:	**9.45%**	Antenna B1 MPE %:	**9.45%**	Antenna C1 MPE %:	**9.45%**
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 / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 16.45 dBd
Height (AGL):	121 feet	Height (AGL):	121 feet	Height (AGL):	121 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	11,010.27	ERP (W):	11,010.27	ERP (W):	11,010.27
Antenna A2 MPE %:	**4.11%**	Antenna B2 MPE %:	**4.11%**	Antenna C2 MPE %:	**4.11%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
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):	121 feet	Height (AGL):	121 feet	Height (AGL):	121 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 A3 MPE %:	**3.15%**	Antenna B3 MPE %:	**3.15%**	Antenna C3 MPE %:	**3.15%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	16.71%
Clearwire	0.09%
Sprint	1.77%
AT&T	3.68%
Nextel	0.74%
Verizon	7.03%
Site Total MPE % :	30.02%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	16.71%
T-Mobile Sector B Total:	16.71%
T-Mobile Sector C Total:	16.71%
Site Total MPE % :	30.02%

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 2500 MHz LTE	1	19238.94	121.0	47.24	2500 MHz LTE	1000	4.72%
T-Mobile 2500 MHz NR	1	19238.94	121.0	47.24	2500 MHz NR	1000	4.72%
T-Mobile 600 MHz LTE	2	591.73	121.0	2.91	600 MHz LTE	400	0.73%
T-Mobile 600 MHz LTE	1	1577.94	121.0	3.87	600 MHz LTE	400	0.97%
T-Mobile 700 MHz LTE	2	695.22	121.0	3.41	700 MHz LTE	467	0.73%
T-Mobile 1900 MHz LTE	2	2104.51	121.0	10.34	1900 MHz LTE	1000	1.03%
T-Mobile 2100 MHz UMTS	2	1324.71	121.0	6.51	2100 MHz UMTS	1000	0.65%
T-Mobile 1900 MHz LTE	2	2056.61	121.0	10.10	1900 MHz LTE	1000	1.01%
T-Mobile 1900 MHz GSM	4	1028.30	121.0	10.10	1900 MHz GSM	1000	1.01%
T-Mobile 2100 MHz LTE	2	2307.55	121.0	11.33	2100 MHz LTE	1000	1.13%
						Total:	**16.71%**

• 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:	16.71%
Sector B:	16.71%
Sector C:	16.71%
T-Mobile Maximum MPE % (Sector A):	16.71%
Site Total:	30.02%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **30.02%** 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.