

September 13, 2023

Melanie A. Bachman, Esq.  
Executive Director/Staff Attorney  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification  
12 Orchard Drive, Ledyard, Connecticut**

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains a wireless telecommunications facility at the above-referenced address (the “Property”). Cellco’s facility consists of antennas and remote radio heads attached to a tower. Equipment associated with the facility is located on the ground adjacent to the tower. The tower was approved by the Siting Council (“Council”) in February of 2007 (Docket No. 322). Cellco’s use of the tower was approved by the Council in August of 2016 (TS-VER-072-160706). A copy of the Council’s Docket No. 322 Decision and Order and Cellco’s tower share approval are included in Attachment 1.

Cellco’s proposed modification involves the installation of two (2) interference mitigation filters (“Filters”) on its existing antenna platform and mounting assembly. The Filter specification sheet is included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Ledyard’s Chief Elected Official and Land Use Officer.

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 modification will not result in an increase in the height of the

Melanie A. Bachman, Esq.  
September 13, 2023  
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existing tower. The Filters will be installed on Cellco's existing antenna platform and mounting assembly.

2. The proposed modifications will not involve any change to ground-mounted equipment and therefore, 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 installation of Cellco's new Filters will not result in a change to radio frequency (RF) emissions from the facility. Therefore, no new RF emissions information is included in this filing.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing tower, foundation, antenna platform and mounting assembly can support Cellco's proposed modifications. A copy of the SA and MA are included in Attachment 3.

A copy of the parcel map and Property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 5.

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Fred Allyn III, Mayor  
Juliet Hodge, Director of Planning and Acting Zoning & Wetlands Enforcement Official  
Richard and Diane Holmberg  
Kamoya Bautista DeLeon, Verizon Wireless

# **ATTACHMENT 1**

**DOCKET NO. 322** - Optasite, Inc. and Omnipoint }  
Communications, Inc. application for a Certificate of }  
Environmental Compatibility and Public Need for the }  
construction, maintenance and operation of a telecommunications }  
facility located at 12 Orchard Drive, Ledyard, Connecticut. }

Connecticut

Siting

Council

February 27, 2007

### **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 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 Optasite, Inc., hereinafter referred to as the Certificate Holder, for a telecommunications facility at Site B, 12 Orchard Drive, Ledyard, Connecticut. The Council denies certification of proposed Site A, 12 Orchard Drive, Ledyard, 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, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level. Antennas mounted on the tower shall not exceed a height of 150 feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (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 served on the Town of Ledyard for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
  - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
  - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
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 ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council 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. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Ledyard public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), 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. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Ledyard. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, 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.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs 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 Day and the Norwich Bulletin.

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:

**Certificate Holder**

Optasite, Inc.

**Its Representative**

Julie D. Kohler, Esq.  
Carrie L. Larson, Esq.  
Cohen & Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604

Jennifer Young Gaudet  
345 Taylor Street  
Talcottville, CT 06066

**Co-Applicant**

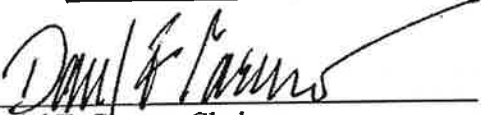

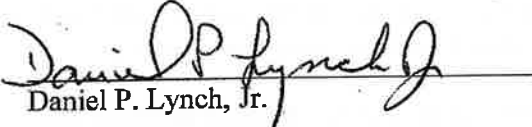
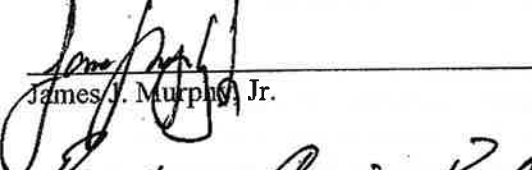

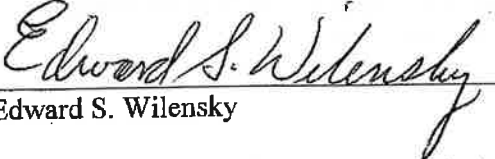
Omnipoint Communications, Inc.

**Its Representative**

Julie D. Kohler, Esq.  
Carrie L. Larson, Esq.  
Cohen & Wolf, P.C.  
1115 Broad Street  
Bridgeport, CT 06604

## CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 322** - Optasite, Inc. and Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 12 Orchard Drive, Ledyard, Connecticut, and voted as follows to approve proposed Site B, located at 12 Orchard Drive, Ledyard, Connecticut, and deny certification of proposed Site A, also located at 12 Orchard Drive, Ledyard, Connecticut:

<u>Council Members</u>	<u>Vote Cast</u>
 Daniel F. Caruso, Chairman	Yes
 Colin C. Tait, Vice Chairman	Absent
 Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Absent
 Commissioner Gina McCarthy Designee: Brian J. Emerick	Yes
 Philip T. Ashton	Absent
 Daniel P. Lynch, Jr.	Yes
 James J. Murphy, Jr.	Yes
 Dr. Barbara Currier Bell	Yes
 Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, February 27, 2007.



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

August 5, 2016

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597

RE: **TS-VER-072-160706** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 12 Orchard Drive, Ledyard, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on August 4, 2016, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

1. Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;
2. Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65;
3. Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation has been completed;
4. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Cellco shall be removed within 60 days of the date the antenna ceased to function;
5. The validity of this action shall expire one year from the date of this letter; and
6. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

This decision is under the exclusive jurisdiction of the Council and applies only to this request for tower sharing dated July 5, 2016. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower. Any deviation from the approved tower sharing request is enforceable under the provisions of Connecticut General Statutes § 16-50u.

The proposed shared use is to be implemented as specified in your letter dated July 5, 2016, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.



CONNECTICUT SITING COUNCIL

Affirmative Action / Equal Opportunity Employer

Very truly yours,

*Robert Stein* <sup>UMB</sup>

Robert Stein  
Chairman

RS/FOC/lm

- c: The Honorable Michael Finkelstein, Mayor, Town of Ledyard  
Charles Karno, Planning Director, Town of Ledyard  
SBA Communications  
Brixmore GA Turnpike Plaza LLC

# **ATTACHMENT 2**

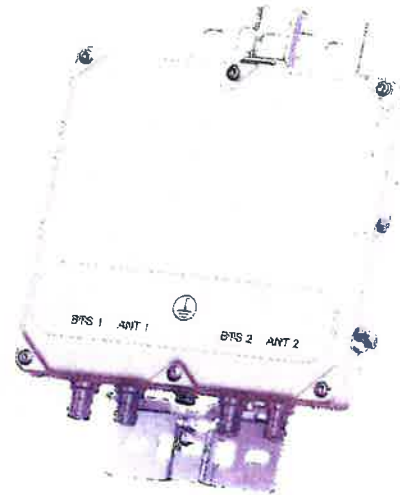
# BSF0020F3V1-1

## TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The BSF0020 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the BSF0020 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the BSF0020 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

### FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available



### TECHNICAL SPECIFICATIONS

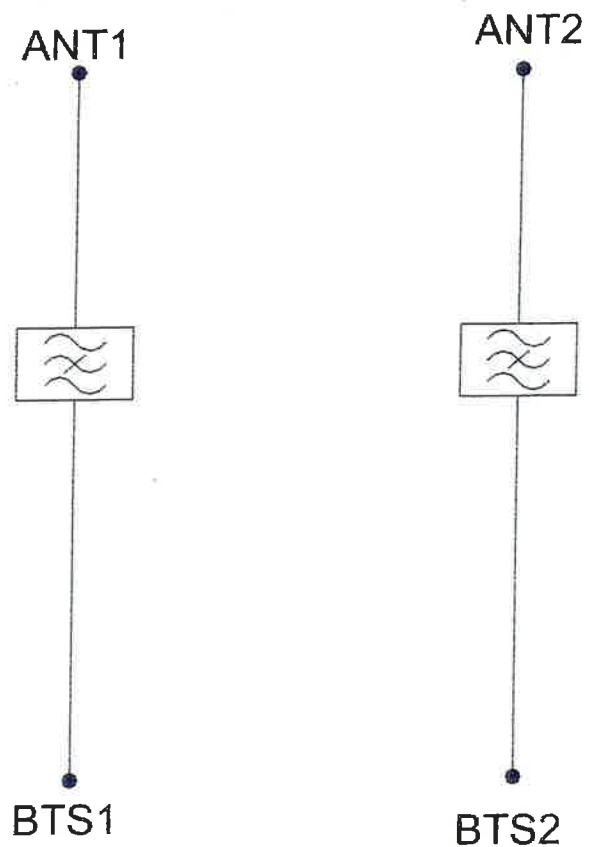
Filter Specifications		
Filter Name	RF Port 1 / 450 - 1500 MHz	RF Port 2 / 869 - 915 MHz
Passband	698 - 849MHz	869 - 915.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm	
DC / AISG		
Passband	0 - 13MHz	
Insertion loss	0.3dB maximum	
Return loss	15dB minimum	
Input voltage range	± 33V	
DC current rating	2A continuous, 4A peak*	
Compliance	3GPP TS 25.461	
ENVIRONMENTAL		
For further details of environmental compliance, please contact Kaelus.		
Temperature range	-20°C to +60°C ; -4°F to +140°F	
Ingress protection	IP67	
Altitude	2600m   8530ft	
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.	
MTBF	>1,000,000 hours	
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE	
MECHANICAL		
Dimensions H x D x W	269 x 277 x 80mm   10.60 x 10.90 x 3.15in (Excluding brackets and connectors)	
Weight	8.0 kg   17.6 lbs (no bracket)	
Finish	Powder coated, light grey (RAL7035)	
Connectors	RF: 4.3-10 (F) x 4	
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.	



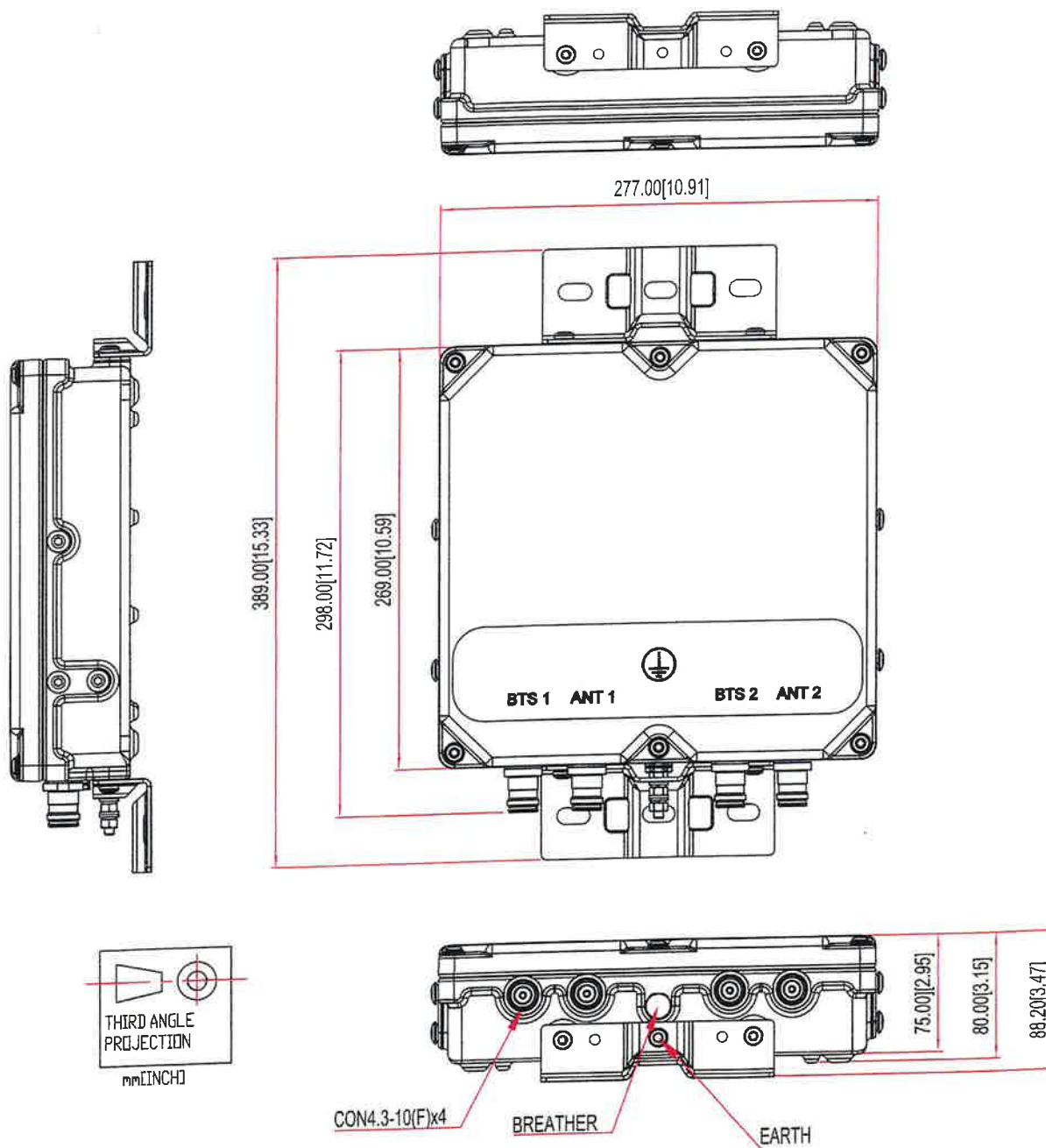
## ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
BSF0020F3V1	TWIN, 2 in / 2 out	DC/AISG PASS NO BRACKET	4.3-10 (F)
BSF0020F3V1-1	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)
BSF0020F3V1-2	QUAD, 4 in / 4 out	DC/AISG PASS	4.3-10 (F)

**ELECTRICAL BLOCK DIAGRAM**



# MECHANICAL BLOCK DIAGRAM



# **ATTACHMENT 3**

SBA Communications Corporation  
8051 Congress Avenue  
Boca Raton, FL 33487-1307

T + 561 995 7670  
F + 561 995 7626

sbasite.com



## Structural Analysis Report

**Client: Verizon**

Client Site ID / Name: 5000245086 / LEDYARD NORTH CT-A  
Application #: 232524, v2

SBA Site ID / Name: CT13076-A / Ledyard

150 ft Monopole

12 Orchard Drive  
Ledyard, Connecticut 06335  
Lat: 41.468261, Long: -72.054450

Project number: CT13076-VZW-070623

### Analysis Results

Tower	73.0%	Pass
Foundation	64.0%	Pass

Change in tower stress due to mount modification / replacement	N/A
----------------------------------------------------------------	-----

Prepared by:

Asmerom Hagos  
Structural Engineer II  
214-570-8110 ext 2612  
Ahagos@sbasite.com

Reviewed by:

Shan Shanubhogue, P.E.  
Senior Manager, Structural Engineering  
561-981-7390  
Sshanubhogue@sbasite.com

July 7, 2023



07/07/23

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## Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Monopole to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
<b>Tower design/drawings</b>	Radian Communication Services, File # 060-3664, Drawing # A070132, dated 03-15-2007
<b>Foundation drawings</b>	Radian Communication Services, File # 060-3664, Drawing # A070146, dated 03-26-2007
<b>Geotechnical report</b>	Gemini Geotechnical Associates, Inc. Project # 07023CT, dated 03-22-2007
<b>Mount Analysis</b>	Maeser Consulting Connecticut, Project # 10055829, Dated 04/28/2021
<b>Latest SA</b>	TES, Project # 111944, Dated 07/09/2021

## Analysis Criteria

Table 2 Code Related Data

<b>Jurisdiction (State/County/City)</b>	Connecticut / New London / Ledyard
<b>Governing Codes</b>	ANSI/TIA/EIA 222-H, 2021 IBC / 2022 CTSBC
<b>Ultimate Wind Speed (3-Sec gust)</b>	126.0 mph
<b>Wind Speed with Ice (3-Sec gust)</b>	50 mph
<b>Service Wind Speed (3-Sec gust)</b>	60 mph
<b>Ice Thickness</b>	1.00"
<b>Risk Category</b>	II
<b>Exposure Category</b>	C
<b>Topographic Category</b>	1
<b>Crest Height</b>	0 ft
<b>Ground Elevation</b>	190.2 ft.
<b>Seismic Parameter <math>S_s</math></b>	0.192
<b>Seismic Parameter <math>S_1</math></b>	0.053

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



## Appurtenance Loading

### Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	147.0	3	Ericsson AIR 21 B2A B4P - Panel	(1) Low Profile Platform (1) Kicker support (MS-KI22-5) (1) collar mount (MS-1436) (1) Support rail w/end connection (MS-HRCEP-35)	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
2		3	Ericsson AIR 21 B4A B2P - Panel			
3		3	Ericsson KRY 112 144/1 TMA			
4		3	RFS APXVAARR24_43-U-NA20 - Panel			
5		3	Radio 4449 B71+B12			
6	137.0	3	JMA Wireless MX08FRO665-21 Panel	Platform w/handrail (Commscope MC-PK8-DSH)	(1) 1.6" Hybrid	Dish Wireless
7		3	Fujitsu TA08025-B605 RRU			
8		3	Fujitsu TA08025-B604 RRU			
9		1	Raycap RDIDC-9181-PF-48 OVP			
10	127.0	3	Samsung B5/B13 RRH-BR04C	(3) Sector Mount w/Mods	(2) 1 5/8" Hybrid (1) 1/2"	Verizon
11		6	Commscope SBNHH-1D45C - Panel			
12		2	RFS DB-T1-6Z-8AB-0Z			
13		3	Samsung 64T64R - Panel			
14		3	Samsung B2/B66A RRH-BR049			

### Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 232524, v2 from Verizon and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
10	127.0	3	Samsung B5/B13 RRH-BR04C	(3) Sector Mount w/Mods	(2) 1 5/8" Hybrid (1) 1/2"	Verizon
11		6	Commscope SBNHH-1D45C - Panel			
12		2	RFS DB-T1-6Z-8AB-0Z			
13		3	Samsung 64T64R - Panel			
14		3	Samsung B2/B66A RRH-BR049			
15		2	Kaelus BSF0020F3V1-1 Filter			

## Analysis Results

### Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

*Table 5 Tower Analysis Summary*

	<b>Pole shafts</b>	<b>Anchor Bolts</b>	<b>Base Plate</b>
<b>Max. Usage:</b>	44.7%	57.6%	73.0%
<b>Pass/Fail</b>	Pass	Pass	Pass

### Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

*Table 6 Foundation Analysis Summary*

<b>Structural Component</b>	<b>Max Usage (%)</b>	<b>Analysis Result</b>
<b>Foundation</b>	64.0%	Pass

## Conclusions

Based on the analysis results, the existing tower and foundation were found to be **sufficient** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

## Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

## Assumptions and Limitations

### Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

### Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

## Appendix

# Usage Diagram - Max Ratio 44.74% at 0.0ft

**Structure:** CT13076-A  
**Site Name:** Ledyard  
**Height:** 150.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-H  
**Exposure:** C  
**Gh:** 1.1

7/7/2023

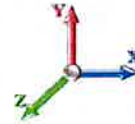
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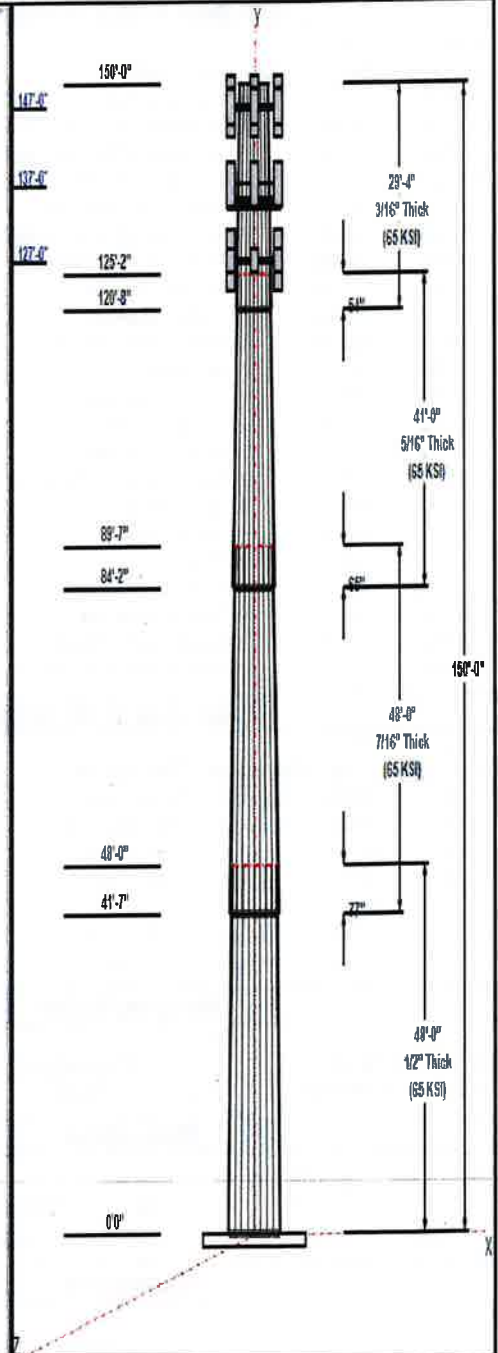
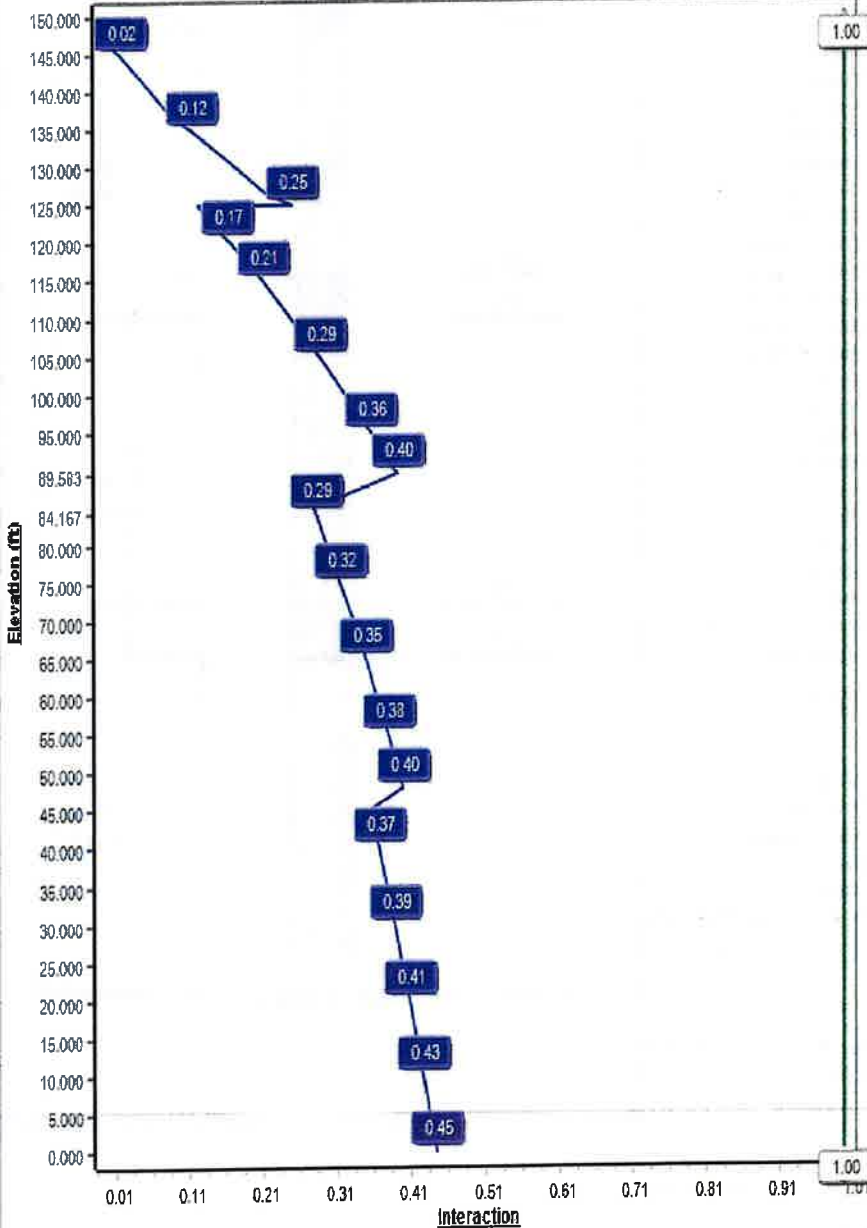
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.00

**Load Case : 1.2D + 1.0W 126 mph Wind**

**Iterations:** 21



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# Structure: CT13076-A

**Type:** Tapered  
**Site Name:** Ledyard  
**Height:** 150.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.21250

7/7/2023

Page: 2



## Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	49.80	60.00	0.500		0.21250	65
2	48.00	41.84	52.04	0.438	Slip	0.21250	65
3	41.00	34.90	43.61	0.313	Slip	0.21250	65
4	29.33	30.00	36.23	0.188	Slip	0.21250	65

## Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	152.50	1	Lightning Rod	
147.00	147.00	3	Ericsson AIR 21 B2A B4P	T-Mobile
147.00	147.00	3	Ericsson AIR 21 B4A B2P	T-Mobile
147.00	147.00	3	Ericsson KRY 112 144/1	T-Mobile
147.00	147.00	1	Platform w/ Hand Rail	T-Mobile
147.00	147.00	3	APXVAARR24_43-U-NA20	T-Mobile
147.00	147.00	3	Radio 4449 B71+B12	T-Mobile
147.00	147.00	1	Kickers w/o Collar	T-Mobile
137.00	137.00	3	TA08025-B604	Dish Wireless
137.00	137.00	1	RDIDC-9181-PF-48	Dish Wireless
137.00	137.00	3	MX08FRO665-21	Dish Wireless
137.00	137.00	1	Platform w/hand rail	Dish Wireless
137.00	137.00	3	TA08025-B605	Dish Wireless
127.00	127.00	3	Samsung B5/B13	Verizon
127.00	127.00	3	Sector Mount (SM 801)	Verizon
127.00	127.00	3	Mount Mod	Verizon
127.00	127.00	9	Mount Pipes	Verizon
127.00	127.00	6	Commscope	Verizon
127.00	127.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
127.00	127.00	3	Samsung 64T64R	Verizon
127.00	127.00	3	Samsung B2/B66A	Verizon
127.00	127.00	2	Kaelus BSF0020F3V1-1	Verizon

## Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	150.00	Outside	Safety Cable	
0.00	150.00	Outside	Step bolts (ladder)	
0.00	147.00	Inside	1 5/8" Coax	T-Mobile
0.00	147.00	Inside	1 5/8" Fiber	T-Mobile
0.00	137.00	Inside	1.6" Hybrid	Dish Wireless
0.00	127.00	Inside	1 5/8" Hybrid	Verizon
0.00	127.00	Inside	1/2" Coax	Verizon

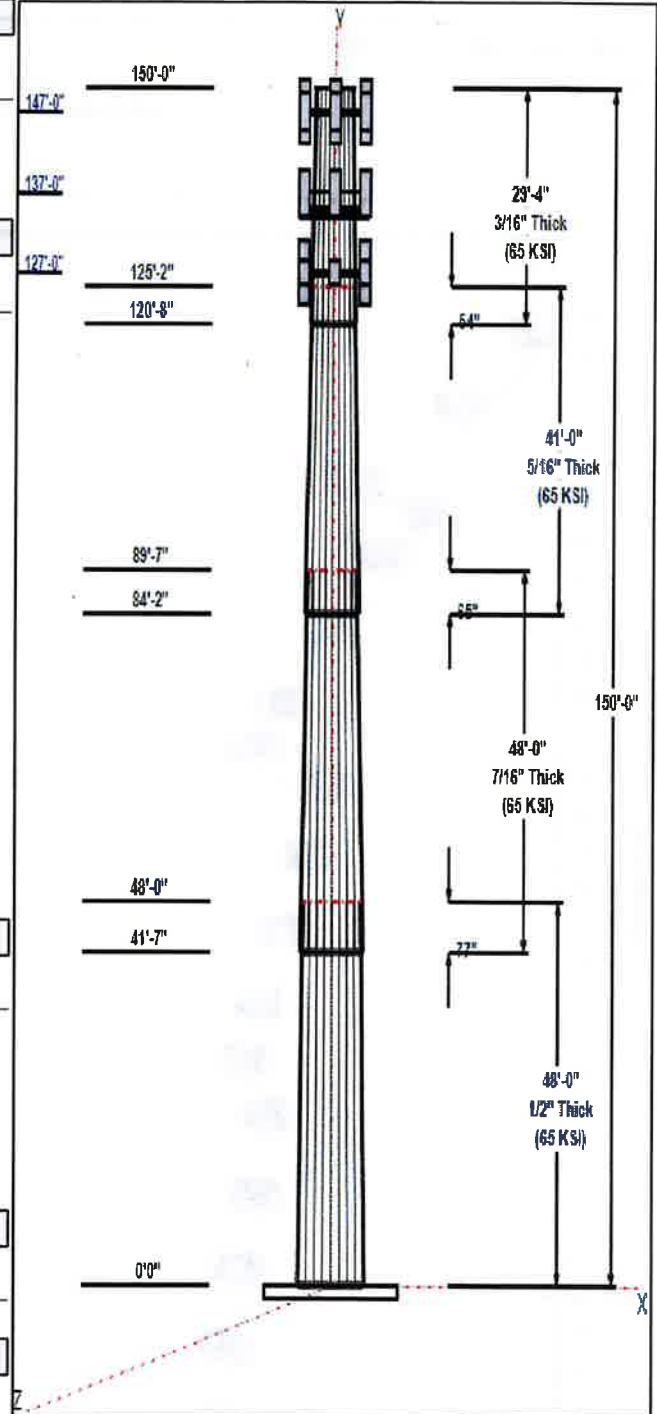
## Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
34	1.5" F1554 105	105.0	Radial

## Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.7500	69.5	50.0	Round

## Reactions





**Structure: CT13076-A**

**Type:** Tapered  
**Site Name:** Ledyard  
**Height:** 150.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.21250

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Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 126 mph Wind	3570.5	34.6	51.2
0.9D + 1.0W 126 mph Wind	3549.7	34.6	38.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	858.3	8.5	60.9
1.2D + 1.0Ev + 1.0Eh	130.3	1.0	53.1
0.9D + 1.0Ev + 1.0Eh	129.8	1.0	40.2
1.0D + 1.0W 60 mph Wind	721.8	7.0	42.7

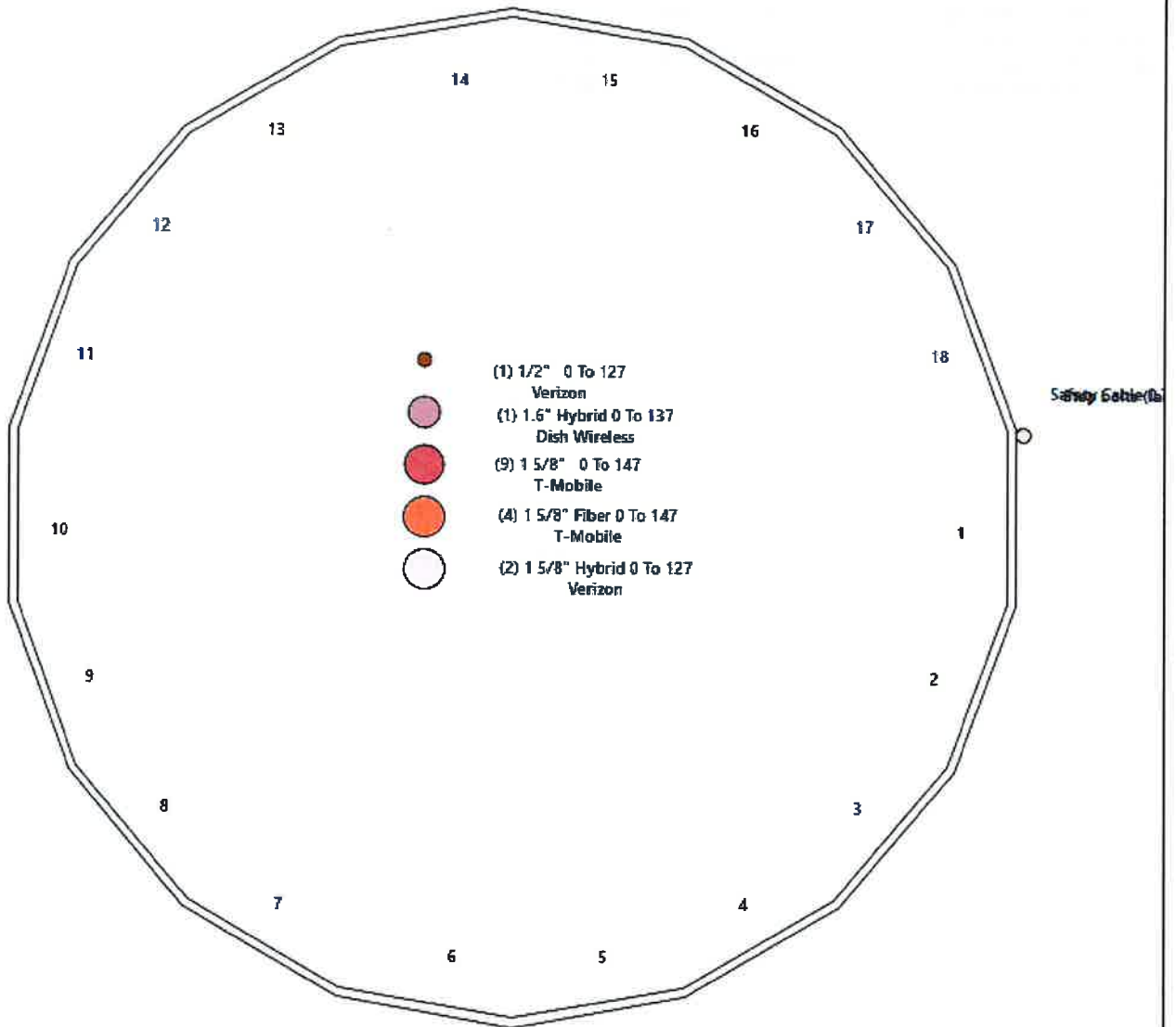
## Structure: CT13076-A - Coax Line Placement

Type: Monopole  
Site Name: Ledyard  
Height: 150.00 (ft)

7/7/2023



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## Shaft Properties

<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	7/7/2023
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C	
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.5000	65		0.00	14,101
2	18	48.000	0.4375	65	Slip	77.00	10,546
3	18	41.000	0.3125	65	Slip	65.00	5,389
4	18	29.333	0.1875	65	Slip	54.00	1,956
<b>Total Shaft Weight:</b>							<b>31,992</b>

### 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	60.00	0.00	94.42	42234.30	19.75	120.00	49.80	48.00	78.24	24024.5	16.15	99.60	0.212500
2	52.04	41.58	71.65	24104.48	19.56	118.95	41.84	89.58	57.49	12449.6	15.45	95.63	0.212500
3	43.61	84.17	42.95	10174.68	23.20	139.57	34.90	125.17	34.31	5185.97	18.28	111.6	0.212500
4	36.23	120.6	21.45	3521.36	32.66	193.24	30.00	150.00	17.74	1992.24	26.80	160.0	0.212500

## Load Summary

<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	7/7/2023
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C	
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
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### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	150.00	Lightning Rod	1	35.00	1.05	1.00	55.94	2.632	1.00	0.00	2.50
2	147.00	Ericsson AIR 21 B2A B4P	3	91.50	6.09	0.86	196.67	6.803	0.87	0.00	0.00
3	147.00	Ericsson AIR 21 B4A B2P	3	90.40	6.09	0.86	195.57	6.803	0.87	0.00	0.00
4	147.00	Ericsson KRY 112 144/1 TMA	3	11.00	0.41	0.70	18.17	0.726	0.71	0.00	0.00
5	147.00	Platform w/ Hand Rail (round)	1	1600.00	32.00	1.00	2997.07	50.578	1.00	0.00	0.00
6	147.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.50	394.32	21.488	0.70	0.00	0.00
7	147.00	Radio 4449 B71+B12	3	71.00	1.97	0.67	106.52	2.334	0.67	0.00	0.00
8	147.00	Kickers w/o Collar	1	146.00	5.33	1.00	281.62	9.043	1.00	0.00	0.00
9	137.00	TA08025-B604	3	63.90	1.96	0.67	97.35	2.331	0.67	0.00	0.00
10	137.00	RDIDC-9181-PF-48	1	21.85	2.01	1.00	56.95	2.382	1.00	0.00	0.00
11	137.00	MX08FRO665-21	3	64.50	12.49	0.74	256.66	13.458	0.74	0.00	0.00
12	137.00	Platform w/ hand rail (MC-PK8-DSH)	1	1727.00	34.23	1.00	2842.07	62.646	1.00	0.00	0.00
13	137.00	TA08025-B605	3	75.00	1.96	0.67	109.55	2.331	0.67	0.00	0.00
14	127.00	Samsung B5/B13 RRRH-BR04C	3	84.40	1.88	0.83	117.66	2.237	0.83	0.00	0.00
15	127.00	Sector Mount (SM 801)	3	292.00	11.25	1.00	543.26	17.686	1.00	0.00	0.00
16	127.00	Mount Mod	3	100.00	2.83	1.00	186.05	4.449	1.00	0.00	0.00
17	127.00	Mount Pipes	9	30.00	0.52	1.00	55.81	0.818	1.00	0.00	0.00
18	127.00	Commscope SBNHH-1D45C	6	79.60	15.89	0.74	306.54	17.010	0.74	0.00	0.00
19	127.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.71	119.48	5.356	0.71	0.00	0.00
20	127.00	Samsung 64T64R	3	87.10	4.70	0.70	160.65	5.292	0.70	0.00	0.00
21	127.00	Samsung B2/B66A RRRH-BR049	3	70.30	1.88	0.77	101.83	2.237	0.77	0.00	0.00
22	127.00	Kaelus BSF0020F3V1-1	2	17.60	0.96	0.65	32.85	1.221	0.65	0.00	0.00
<b>Totals:</b>			<b>63</b>	<b>8,087.95</b>			<b>16,332.76</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	150.00	(1) Safety Cable	0.00	Outside
0.00	150.00	(1) Step bolts (ladder)	0.00	Outside
0.00	147.00	(9) 1 5/8" Coax	0.00	Inside
0.00	147.00	(4) 1 5/8" Fiber	0.00	Inside
0.00	137.00	(1) 1.6" Hybrid	0.00	Inside
0.00	127.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	127.00	(1) 1/2" Coax	0.00	Inside

## Shaft Section Properties

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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**Increment Length:** 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.5000	60.000	94.423	42234.3	19.75	120.00	78.2	1386.	0.0
5.00		0.5000	58.938	92.737	40011.9	19.37	117.88	78.6	1337.	1592.2
10.00		0.5000	57.875	91.051	37868.9	19.00	115.75	79.1	1288.	1563.5
15.00		0.5000	56.813	89.365	35803.8	18.62	113.63	79.5	1241.	1534.8
20.00		0.5000	55.750	87.679	33815.1	18.25	111.50	79.9	1194.	1506.1
25.00		0.5000	54.688	85.992	31901.5	17.88	109.38	80.4	1149.	1477.4
30.00		0.5000	53.625	84.306	30061.5	17.50	107.25	80.8	1104.	1448.7
35.00		0.5000	52.563	82.620	28293.7	17.13	105.13	81.3	1060.	1420.0
40.00		0.5000	51.500	80.934	26596.5	16.75	103.00	81.7	1017.	1391.3
41.58	Bot - Section 2	0.5000	51.164	80.400	26073.6	16.63	102.33	81.8	1003.	434.6
45.00		0.5000	50.438	79.248	24968.6	16.38	100.88	82.1	975.0	1755.2
48.00	Top - Section 1	0.4375	50.675	69.759	22243.7	19.01	115.83	0.0	0.0	1520.5
50.00		0.4375	50.250	69.168	21683.9	18.84	114.86	79.2	849.9	472.7
55.00		0.4375	49.188	67.693	20325.7	18.41	112.43	79.7	813.9	1164.3
60.00		0.4375	48.125	66.218	19025.5	17.99	110.00	80.2	778.7	1139.2
65.00		0.4375	47.063	64.742	17781.9	17.56	107.57	80.8	744.2	1114.1
70.00		0.4375	46.000	63.267	16593.8	17.13	105.14	81.3	710.5	1089.0
75.00		0.4375	44.938	61.792	15459.7	16.70	102.71	81.8	677.6	1063.9
80.00		0.4375	43.875	60.316	14378.6	16.27	100.29	82.3	645.5	1038.8
84.17	Bot - Section 3	0.4375	42.990	59.087	13517.1	15.92	98.26	82.5	619.3	846.5
85.00		0.4375	42.813	58.841	13349.1	15.84	97.86	82.5	614.1	288.7
89.58	Top - Section 2	0.3125	42.464	41.807	9384.7	22.55	135.88	0.0	0.0	1566.7
90.00		0.3125	42.375	41.719	9325.7	22.50	135.60	74.9	433.5	59.2
95.00		0.3125	41.313	40.665	8636.7	21.90	132.20	75.6	411.8	700.8
100.00		0.3125	40.250	39.612	7982.5	21.30	128.80	76.3	390.6	682.9
105.00		0.3125	39.188	38.558	7362.2	20.70	125.40	77.1	370.0	665.0
110.00		0.3125	38.125	37.504	6774.9	20.10	122.00	77.8	350.0	647.1
115.00		0.3125	37.063	36.450	6219.7	19.50	118.60	78.5	330.5	629.1
120.00		0.3125	36.000	35.396	5695.6	18.90	115.20	79.2	311.6	611.2
120.67	Bot - Section 4	0.3125	35.858	35.256	5628.1	18.82	114.75	79.3	309.1	80.1
125.00		0.3125	34.938	34.342	5201.9	18.30	111.80	79.9	293.3	825.4
125.17	Top - Section 3	0.1875	35.277	20.882	3248.5	31.76	188.14	0.0	0.0	31.3
127.00		0.1875	34.888	20.650	3141.5	31.40	186.07	64.5	177.4	129.5
130.00		0.1875	34.250	20.271	2971.5	30.80	182.67	65.2	170.9	208.9
135.00		0.1875	33.188	19.638	2702.0	29.80	177.00	66.4	160.4	339.5
137.00		0.1875	32.763	19.385	2599.0	29.40	174.73	66.8	156.2	132.8
140.00		0.1875	32.125	19.006	2449.3	28.80	171.33	67.5	150.2	196.0
145.00		0.1875	31.063	18.374	2212.9	27.80	165.67	68.7	140.3	318.0
147.00		0.1875	30.638	18.121	2122.8	27.40	163.40	69.2	136.5	124.2
150.00		0.1875	30.000	17.742	1992.2	26.80	160.00	69.9	130.8	183.0

**31992.1**

## Wind Loading - Shaft

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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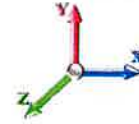


Load Case: 1.2D + 1.0W 126 mph Wind

Iterations 21

Dead Load Factor 1.20

Wind Load Factor 1.00



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	32.594	35.85	587.76	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	32.594	35.85	577.36	0.730	0.000	5.00	25.161	18.37	658.5	0.0	1910.6
10.00		1.00	0.85	32.594	35.85	566.95	0.730	0.000	5.00	24.711	18.04	646.8	0.0	1876.2
15.00		1.00	0.85	32.594	35.85	556.54	0.730	0.000	5.00	24.262	17.71	635.0	0.0	1841.7
20.00		1.00	0.90	34.583	38.04	562.55	0.730	0.000	5.00	23.812	17.38	661.3	0.0	1807.3
25.00		1.00	0.95	36.247	39.87	564.95	0.730	0.000	5.00	23.363	17.05	680.0	0.0	1772.9
30.00		1.00	0.98	37.665	41.43	564.71	0.730	0.000	5.00	22.913	16.73	693.0	0.0	1738.5
35.00		1.00	1.01	38.907	42.80	562.57	0.730	0.000	5.00	22.464	16.40	701.8	0.0	1704.0
40.00		1.00	1.04	40.017	44.02	559.00	0.730	0.000	5.00	22.014	16.07	707.4	0.0	1669.6
41.58 Bot - Section 2		1.00	1.05	40.345	44.38	557.62	0.730	0.000	1.58	6.877	5.02	222.8	0.0	521.5
45.00		1.00	1.07	41.021	45.12	554.30	0.730	0.000	3.42	14.940	10.91	492.1	0.0	2106.3
48.00 Top - Section 1		1.00	1.08	41.582	45.74	551.02	0.730	0.000	3.00	12.945	9.45	432.2	0.0	1824.6
50.00		1.00	1.09	41.941	46.14	558.40	0.730	0.000	2.00	8.540	6.23	287.6	0.0	567.3
55.00		1.00	1.12	42.791	47.07	552.10	0.730	0.000	5.00	21.036	15.36	722.8	0.0	1397.1
60.00		1.00	1.14	43.583	47.94	545.15	0.730	0.000	5.00	20.586	15.03	720.5	0.0	1367.0
65.00		1.00	1.16	44.323	48.76	537.62	0.730	0.000	5.00	20.137	14.70	716.7	0.0	1336.9
70.00		1.00	1.17	45.020	49.52	529.60	0.730	0.000	5.00	19.687	14.37	711.7	0.0	1306.8
75.00		1.00	1.19	45.679	50.25	521.14	0.730	0.000	5.00	19.238	14.04	705.6	0.0	1276.6
80.00		1.00	1.21	46.304	50.93	512.28	0.730	0.000	5.00	18.788	13.72	698.6	0.0	1246.5
84.17 Bot - Section 3		1.00	1.22	46.801	51.48	504.64	0.730	0.000	4.17	15.313	11.18	575.5	0.0	1015.8
85.00		1.00	1.22	46.898	51.59	503.08	0.730	0.000	0.83	3.069	2.24	115.6	0.0	346.5
89.58 Top - Section 2		1.00	1.24	47.420	52.16	494.36	0.730	0.000	4.58	16.658	12.16	634.3	0.0	1880.0
90.00		1.00	1.24	47.466	52.21	500.94	0.730	0.000	0.42	1.496	1.09	57.0	0.0	71.1
95.00		1.00	1.25	48.010	52.81	491.17	0.730	0.000	5.00	17.704	12.92	682.5	0.0	841.0
100.00		1.00	1.27	48.531	53.38	481.13	0.730	0.000	5.00	17.254	12.60	672.4	0.0	819.5
105.00		1.00	1.28	49.032	53.94	470.84	0.730	0.000	5.00	16.805	12.27	661.6	0.0	798.0
110.00		1.00	1.29	49.514	54.47	460.32	0.730	0.000	5.00	16.355	11.94	650.3	0.0	776.5
115.00		1.00	1.30	49.980	54.98	449.59	0.730	0.000	5.00	15.906	11.61	638.4	0.0	754.9
120.00		1.00	1.32	50.430	55.47	438.66	0.730	0.000	5.00	15.456	11.28	625.9	0.0	733.4
120.67 Bot - Section 4		1.00	1.32	50.489	55.54	437.19	0.730	0.000	0.67	2.027	1.48	82.2	0.0	96.2
125.00		1.00	1.33	50.865	55.95	427.55	0.730	0.000	4.33	13.117	9.58	535.8	0.0	990.5
125.17 Top - Section 3		1.00	1.33	50.879	55.97	427.18	0.730	0.000	0.17	0.498	0.36	20.3	0.0	37.6
127.00 Appurtenance(s)		1.00	1.33	51.035	56.14	427.65	0.730	0.000	1.83	5.442	3.97	223.0	0.0	155.5
130.00		1.00	1.34	51.287	56.42	420.87	0.730	0.000	3.00	8.776	6.41	361.4	0.0	250.6
135.00		1.00	1.35	51.696	56.87	409.44	0.730	0.000	5.00	14.266	10.41	592.2	0.0	407.4
137.00 Appurtenance(s)		1.00	1.35	51.856	57.04	404.82	0.730	0.000	2.00	5.581	4.07	232.4	0.0	159.3
140.00		1.00	1.36	52.093	57.30	397.85	0.730	0.000	3.00	8.236	6.01	344.5	0.0	235.1
145.00		1.00	1.37	52.480	57.73	386.12	0.730	0.000	5.00	13.367	9.76	563.3	0.0	381.6
147.00 Appurtenance(s)		1.00	1.37	52.631	57.89	381.38	0.730	0.000	2.00	5.221	3.81	220.7	0.0	149.0
150.00 Appurtenance(s)		1.00	1.38	52.855	58.14	374.24	0.730	0.000	3.00	7.697	5.62	326.7	0.0	219.7
<b>Totals:</b>									<b>150.00</b>			<b>19,910.4</b>		<b>38,390.5</b>



## Discrete Appurtenance Forces

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 9



Load Case: 1.2D + 1.0W 126 mph Wind

Iterations 21

Dead Load Factor 1.20

Wind Load Factor 1.00



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	150.00	Lightning Rod	1	53.040	58.344	1.00	1.00	1.05	42.00	0.000	2.500	61.26	0.00	153.15
2	147.00	Platform w/ Hand Rail	1	52.631	57.894	1.00	1.00	32.00	1920.00	0.000	0.000	1852.61	0.00	0.00
3	147.00	Ericsson AIR 21 B2A B4P	3	52.631	57.894	0.69	0.80	12.57	329.40	0.000	0.000	727.72	0.00	0.00
4	147.00	Ericsson AIR 21 B4A B2P	3	52.631	57.894	0.69	0.80	12.57	325.44	0.000	0.000	727.72	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	52.631	57.894	0.56	0.80	0.69	39.60	0.000	0.000	39.88	0.00	0.00
6	147.00	APXVAARR24_43-U-NA2	3	52.631	57.894	0.40	0.80	24.29	460.80	0.000	0.000	1406.13	0.00	0.00
7	147.00	Radio 4449 B71+B12	3	52.631	57.894	0.54	0.80	3.17	255.60	0.000	0.000	183.39	0.00	0.00
8	147.00	Kickers w/o Collar	1	52.631	57.894	1.00	1.00	5.33	175.20	0.000	0.000	308.58	0.00	0.00
9	137.00	TA08025-B605	3	51.856	57.042	0.50	0.75	2.95	270.00	0.000	0.000	168.54	0.00	0.00
10	137.00	Platform w/hand rail	1	51.856	57.042	0.67	0.67	22.93	2072.40	0.000	0.000	1308.20	0.00	0.00
11	137.00	MX08FRO665-21	3	51.856	57.042	0.55	0.75	20.80	232.20	0.000	0.000	1186.23	0.00	0.00
12	137.00	RDIDC-9181-PF-48	1	51.856	57.042	1.00	1.00	2.01	26.22	0.000	0.000	114.65	0.00	0.00
13	137.00	TA08025-B604	3	51.856	57.042	0.50	0.75	2.95	230.04	0.000	0.000	168.54	0.00	0.00
14	127.00	Kaelus BSF0020F3V1-1	2	51.035	56.139	0.52	0.80	1.00	42.24	0.000	0.000	56.05	0.00	0.00
15	127.00	Samsung B2/B66A	3	51.035	56.139	0.62	0.80	3.47	253.08	0.000	0.000	195.04	0.00	0.00
16	127.00	Samsung 64T64R	3	51.035	56.139	0.56	0.80	7.90	313.56	0.000	0.000	443.27	0.00	0.00
17	127.00	RFS DB-T1-6Z-8AB-0Z	2	51.035	56.139	0.57	0.80	5.45	105.60	0.000	0.000	306.11	0.00	0.00
18	127.00	Commscope	6	51.035	56.139	0.59	0.80	56.44	573.12	0.000	0.000	3168.55	0.00	0.00
19	127.00	Mount Pipes	9	51.035	56.139	0.80	0.80	3.74	324.00	0.000	0.000	210.18	0.00	0.00
20	127.00	Mount Mod	3	51.035	56.139	0.75	0.75	6.37	360.00	0.000	0.000	357.46	0.00	0.00
21	127.00	Sector Mount (SM 801)	3	51.035	56.139	0.75	0.75	25.31	1051.20	0.000	0.000	1421.02	0.00	0.00
22	127.00	Samsung B5/B13	3	51.035	56.139	0.66	0.80	3.74	303.84	0.000	0.000	210.24	0.00	0.00
<b>Totals:</b>									<b>9,705.54</b>			<b>14,621.39</b>		



## Total Applied Force Summary

<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	7/7/2023
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C	
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	Page: 10
	<b>Struct Class:</b> II	



**Load Case:** 1.2D + 1.0W 126 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 21

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		658.53	2021.19	0.00	0.00
10.00		646.76	1986.77	0.00	0.00
15.00		635.00	1952.34	0.00	0.00
20.00		661.28	1917.92	0.00	0.00
25.00		680.00	1883.49	0.00	0.00
30.00		693.01	1849.06	0.00	0.00
35.00		701.82	1814.64	0.00	0.00
40.00		707.39	1780.21	0.00	0.00
41.58		222.81	556.56	0.00	0.00
45.00		492.13	2181.84	0.00	0.00
48.00		432.25	1890.91	0.00	0.00
50.00		287.62	611.52	0.00	0.00
55.00		722.82	1507.73	0.00	0.00
60.00		720.45	1477.60	0.00	0.00
65.00		716.69	1447.48	0.00	0.00
70.00		711.71	1417.36	0.00	0.00
75.00		705.64	1387.24	0.00	0.00
80.00		698.57	1357.12	0.00	0.00
84.17		575.50	1107.92	0.00	0.00
85.00		115.59	364.92	0.00	0.00
89.58		634.30	1981.42	0.00	0.00
90.00		57.01	80.27	0.00	0.00
95.00		682.51	951.61	0.00	0.00
100.00		672.41	930.09	0.00	0.00
105.00		661.65	908.58	0.00	0.00
110.00		650.29	887.06	0.00	0.00
115.00		638.36	865.55	0.00	0.00
120.00		625.90	844.03	0.00	0.00
120.67		82.17	110.91	0.00	0.00
125.00		535.77	1086.32	0.00	0.00
125.17		20.34	41.27	0.00	0.00
127.00	(34) attachments	6590.97	3522.65	0.00	0.00
130.00		361.40	308.50	0.00	0.00
135.00		592.22	503.84	0.00	0.00
137.00	(11) attachments	3178.55	3028.78	0.00	0.00
140.00		344.52	289.41	0.00	0.00
145.00		563.31	472.02	0.00	0.00
147.00	(17) attachments	5466.68	3691.24	0.00	0.00
150.00	(1) attachments	387.93	266.38	0.00	153.15
<b>Totals:</b>		<b>34,531.84</b>	<b>51,283.75</b>	<b>0.00</b>	<b>153.15</b>

# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 11



Load Case: 1.2D + 1.0W 126 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations

21

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	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.583	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.583	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	36.247	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	36.247	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.665	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.665	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.907	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.907	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.017	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.017	0.00	6.24
41.58	Safety Cable	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	40.345	0.00	0.52
41.58	Step bolts (ladder)	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	40.345	0.00	1.98
45.00	Safety Cable	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	41.021	0.00	1.12
45.00	Step bolts (ladder)	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	41.021	0.00	4.26
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	41.582	0.00	0.98
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	41.582	0.00	3.74
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.941	0.00	0.66
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.941	0.00	2.50
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.791	0.00	1.64
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.791	0.00	6.24
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.583	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.583	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.323	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.323	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.020	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.020	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.679	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.679	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.304	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.304	0.00	6.24
84.17	Safety Cable	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	46.801	0.00	1.37
84.17	Step bolts (ladder)	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	46.801	0.00	5.20
85.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	46.898	0.00	0.27
85.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	46.898	0.00	1.04
89.58	Safety Cable	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	47.420	0.00	1.50
89.58	Step bolts (ladder)	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	47.420	0.00	5.72
90.00	Safety Cable	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	47.466	0.00	0.14
90.00	Step bolts (ladder)	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	47.466	0.00	0.52
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.010	0.00	1.64
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.010	0.00	6.24
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.531	0.00	1.64

# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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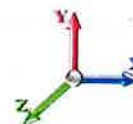


Load Case: 1.2D + 1.0W 126 mph Wind

Iterations 21

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.531	0.00	6.24
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.032	0.00	1.64
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.032	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.514	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.514	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.980	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.980	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.430	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.430	0.00	6.24
120.67	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	50.489	0.00	0.22
120.67	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	50.489	0.00	0.83
125.00	Safety Cable	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	50.865	0.00	1.42
125.00	Step bolts (ladder)	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	50.865	0.00	5.41
125.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	50.879	0.00	0.05
125.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	50.879	0.00	0.21
127.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	51.035	0.00	0.60
127.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	51.035	0.00	2.29
130.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	51.287	0.00	0.98
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	51.287	0.00	3.74
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.696	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.696	0.00	6.24
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.856	0.00	0.66
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.856	0.00	2.50
140.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.093	0.00	0.98
140.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.093	0.00	3.74
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.480	0.00	1.64
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.480	0.00	6.24
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.631	0.00	0.66
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.631	0.00	2.50
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.855	0.00	0.98
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.855	0.00	3.74
Totals:											0.0	236.3

## Calculated Forces

**Structure:** CT13076-A  
**Site Name:** Ledyard  
**Height:** 150.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 1.1

**Topography:** 1

**Code:** TIA-222-H  
**Exposure:** C  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

7/7/2023

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**Load Case:** 1.2D + 1.0W 126 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 21

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-51.25	-34.59	0.00	-3570.5	0.00	3570.53	6643.18	1657.13	8180.63	8128.53	0.00	0.000	0.000	0.447
5.00	-49.16	-34.03	0.00	-3397.6	0.00	3397.61	6561.33	1627.53	7891.08	7883.82	0.06	-0.117	0.000	0.439
10.00	-47.10	-33.47	0.00	-3227.4	0.00	3227.48	6478.15	1597.94	7606.74	7641.15	0.25	-0.235	0.000	0.430
15.00	-45.09	-32.92	0.00	-3060.1	0.00	3060.14	6393.63	1568.35	7327.61	7400.59	0.56	-0.353	0.000	0.421
20.00	-43.11	-32.33	0.00	-2895.5	0.00	2895.55	6307.77	1538.76	7053.71	7162.24	0.99	-0.472	0.000	0.412
25.00	-41.16	-31.72	0.00	-2733.9	0.00	2733.90	6220.57	1509.17	6785.02	6926.18	1.55	-0.590	0.000	0.402
30.00	-39.26	-31.09	0.00	-2575.3	0.00	2575.30	6132.04	1479.58	6521.55	6692.51	2.23	-0.708	0.000	0.392
35.00	-37.39	-30.44	0.00	-2419.8	0.00	2419.87	6042.17	1449.98	6263.30	6461.30	3.04	-0.826	0.000	0.381
40.00	-35.58	-29.75	0.00	-2267.6	0.00	2267.69	5950.96	1420.39	6010.26	6232.66	3.97	-0.944	0.000	0.370
41.58	-35.00	-29.55	0.00	-2220.5	0.00	2220.58	5921.80	1411.02	5931.22	6160.80	4.29	-0.982	0.000	0.367
45.00	-32.79	-29.07	0.00	-2119.6	0.00	2119.61	5858.41	1390.80	5762.44	6006.66	5.02	-1.063	0.000	0.359
48.00	-30.88	-28.63	0.00	-2032.4	0.00	2032.40	4962.21	1224.26	5102.90	5124.96	5.71	-1.134	0.000	0.403
50.00	-30.23	-28.38	0.00	-1975.1	0.00	1975.14	4932.77	1213.91	5016.93	5051.08	6.20	-1.182	0.000	0.398
55.00	-28.68	-27.68	0.00	-1833.2	0.00	1833.26	4858.24	1188.01	4805.19	4867.73	7.50	-1.307	0.000	0.383
60.00	-27.16	-26.99	0.00	-1694.8	0.00	1694.85	4782.37	1162.12	4598.01	4686.35	8.94	-1.430	0.000	0.368
65.00	-25.67	-26.29	0.00	-1559.9	0.00	1559.92	4705.16	1136.23	4395.40	4507.03	10.50	-1.552	0.000	0.352
70.00	-24.22	-25.58	0.00	-1428.4	0.00	1428.49	4626.62	1110.33	4197.36	4329.86	12.19	-1.671	0.000	0.336
75.00	-22.81	-24.88	0.00	-1300.5	0.00	1300.57	4546.74	1084.44	4003.88	4154.93	14.01	-1.788	0.000	0.319
80.00	-21.43	-24.18	0.00	-1176.1	0.00	1176.15	4465.52	1058.55	3814.97	3982.33	15.94	-1.902	0.000	0.301
84.17	-20.32	-23.59	0.00	-1075.4	0.00	1075.40	4389.85	1036.97	3661.02	3834.26	17.64	-1.995	0.000	0.286
85.00	-19.94	-23.48	0.00	-1055.7	0.00	1055.75	4371.58	1032.66	3630.62	3802.25	17.99	-2.014	0.000	0.283
89.58	-17.96	-22.79	0.00	-948.14	0.00	948.14	2817.41	733.71	2565.96	2444.58	19.98	-2.112	0.000	0.395
90.00	-17.85	-22.75	0.00	-938.64	0.00	938.64	2813.70	732.17	2555.19	2436.19	20.16	-2.121	0.000	0.393
95.00	-16.88	-22.07	0.00	-824.87	0.00	824.87	2768.43	713.68	2427.73	2336.00	22.45	-2.255	0.000	0.360
100.00	-15.93	-21.40	0.00	-714.51	0.00	714.51	2721.83	695.18	2303.53	2236.71	24.89	-2.382	0.000	0.326
105.00	-15.01	-20.73	0.00	-607.52	0.00	607.52	2673.89	676.69	2182.60	2138.40	27.44	-2.500	0.000	0.291
110.00	-14.12	-20.06	0.00	-503.88	0.00	503.88	2624.60	658.19	2064.92	2041.17	30.12	-2.607	0.000	0.253
115.00	-13.25	-19.41	0.00	-403.56	0.00	403.56	2573.99	639.70	1950.51	1945.09	32.90	-2.702	0.000	0.214
120.00	-12.42	-18.75	0.00	-306.53	0.00	306.53	2522.03	621.20	1839.35	1850.26	35.78	-2.783	0.000	0.172
120.67	-12.31	-18.67	0.00	-294.03	0.00	294.03	2515.00	618.74	1824.78	1837.72	36.17	-2.793	0.000	0.166
125.00	-11.24	-18.09	0.00	-213.12	0.00	213.12	2468.74	602.71	1731.46	1756.78	38.73	-2.849	0.000	0.127
125.17	-11.19	-18.07	0.00	-210.11	0.00	210.11	1203.56	366.48	1066.94	871.13	38.83	-2.851	0.000	0.253
127.00	-8.00	-11.31	0.00	-176.99	0.00	176.99	1198.21	362.41	1043.38	857.58	39.93	-2.870	0.000	0.214
130.00	-7.70	-10.94	0.00	-143.05	0.00	143.05	1189.06	355.75	1005.40	835.31	41.75	-2.914	0.000	0.179
135.00	-7.22	-10.33	0.00	-88.34	0.00	88.34	1172.74	344.65	943.65	798.01	44.83	-2.969	0.000	0.118
137.00	-4.36	-7.00	0.00	-67.68	0.00	67.68	1165.84	340.22	919.50	783.04	46.08	-2.986	0.000	0.091
140.00	-4.09	-6.64	0.00	-46.68	0.00	46.68	1155.08	333.56	883.87	760.54	47.96	-3.004	0.000	0.065
145.00	-3.64	-6.06	0.00	-13.47	0.00	13.47	1136.09	322.46	826.03	723.01	51.12	-3.022	0.000	0.022
147.00	-0.25	-0.40	0.00	-1.36	0.00	1.36	1128.12	318.02	803.45	707.99	52.38	-3.024	0.000	0.002
150.00	0.00	-0.39	0.00	-0.15	0.00	0.15	1115.76	311.36	770.16	685.49	54.28	-3.024	0.000	0.000



## Wind Loading - Shaft

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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**Load Case:** 0.9D + 1.0W 126 mph Wind

**Iterations** 21

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



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	32.594	35.85	587.76	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	32.594	35.85	577.36	0.730	0.000	5.00	25.161	18.37	658.5	0.0	1432.9
10.00		1.00	0.85	32.594	35.85	566.95	0.730	0.000	5.00	24.711	18.04	646.8	0.0	1407.1
15.00		1.00	0.85	32.594	35.85	556.54	0.730	0.000	5.00	24.262	17.71	635.0	0.0	1381.3
20.00		1.00	0.90	34.583	38.04	562.55	0.730	0.000	5.00	23.812	17.38	661.3	0.0	1355.5
25.00		1.00	0.95	36.247	39.87	564.95	0.730	0.000	5.00	23.363	17.05	680.0	0.0	1329.7
30.00		1.00	0.98	37.665	41.43	564.71	0.730	0.000	5.00	22.913	16.73	693.0	0.0	1303.9
35.00		1.00	1.01	38.907	42.80	562.57	0.730	0.000	5.00	22.464	16.40	701.8	0.0	1278.0
40.00		1.00	1.04	40.017	44.02	559.00	0.730	0.000	5.00	22.014	16.07	707.4	0.0	1252.2
41.58 Bot - Section 2		1.00	1.05	40.345	44.38	557.62	0.730	0.000	1.58	6.877	5.02	222.8	0.0	391.2
45.00		1.00	1.07	41.021	45.12	554.30	0.730	0.000	3.42	14.940	10.91	492.1	0.0	1579.7
48.00 Top - Section 1		1.00	1.08	41.582	45.74	551.02	0.730	0.000	3.00	12.945	9.45	432.2	0.0	1368.4
50.00		1.00	1.09	41.941	46.14	558.40	0.730	0.000	2.00	8.540	6.23	287.6	0.0	425.5
55.00		1.00	1.12	42.791	47.07	552.10	0.730	0.000	5.00	21.036	15.36	722.8	0.0	1047.8
60.00		1.00	1.14	43.583	47.94	545.15	0.730	0.000	5.00	20.586	15.03	720.5	0.0	1025.3
65.00		1.00	1.16	44.323	48.76	537.62	0.730	0.000	5.00	20.137	14.70	716.7	0.0	1002.7
70.00		1.00	1.17	45.020	49.52	529.60	0.730	0.000	5.00	19.687	14.37	711.7	0.0	980.1
75.00		1.00	1.19	45.679	50.25	521.14	0.730	0.000	5.00	19.238	14.04	705.6	0.0	957.5
80.00		1.00	1.21	46.304	50.93	512.28	0.730	0.000	5.00	18.788	13.72	698.6	0.0	934.9
84.17 Bot - Section 3		1.00	1.22	46.801	51.48	504.64	0.730	0.000	4.17	15.313	11.18	575.5	0.0	761.8
85.00		1.00	1.22	46.898	51.59	503.08	0.730	0.000	0.83	3.069	2.24	115.6	0.0	259.9
89.58 Top - Section 2		1.00	1.24	47.420	52.16	494.36	0.730	0.000	4.58	16.658	12.16	634.3	0.0	1410.0
90.00		1.00	1.24	47.466	52.21	500.94	0.730	0.000	0.42	1.496	1.09	57.0	0.0	53.3
95.00		1.00	1.25	48.010	52.81	491.17	0.730	0.000	5.00	17.704	12.92	682.5	0.0	630.8
100.00		1.00	1.27	48.531	53.38	481.13	0.730	0.000	5.00	17.254	12.60	672.4	0.0	614.6
105.00		1.00	1.28	49.032	53.94	470.84	0.730	0.000	5.00	16.805	12.27	661.6	0.0	598.5
110.00		1.00	1.29	49.514	54.47	460.32	0.730	0.000	5.00	16.355	11.94	650.3	0.0	582.3
115.00		1.00	1.30	49.980	54.98	449.59	0.730	0.000	5.00	15.906	11.61	638.4	0.0	566.2
120.00		1.00	1.32	50.430	55.47	438.66	0.730	0.000	5.00	15.456	11.28	625.9	0.0	550.1
120.67 Bot - Section 4		1.00	1.32	50.489	55.54	437.19	0.730	0.000	0.67	2.027	1.48	82.2	0.0	72.1
125.00		1.00	1.33	50.865	55.95	427.55	0.730	0.000	4.33	13.117	9.58	535.8	0.0	742.8
125.17 Top - Section 3		1.00	1.33	50.879	55.97	427.18	0.730	0.000	0.17	0.498	0.36	20.3	0.0	28.2
127.00 Appurtenance(s)		1.00	1.33	51.035	56.14	427.65	0.730	0.000	1.83	5.442	3.97	223.0	0.0	116.6
130.00		1.00	1.34	51.287	56.42	420.87	0.730	0.000	3.00	8.776	6.41	361.4	0.0	188.0
135.00		1.00	1.35	51.696	56.87	409.44	0.730	0.000	5.00	14.266	10.41	592.2	0.0	305.6
137.00 Appurtenance(s)		1.00	1.35	51.856	57.04	404.82	0.730	0.000	2.00	5.581	4.07	232.4	0.0	119.5
140.00		1.00	1.36	52.093	57.30	397.85	0.730	0.000	3.00	8.236	6.01	344.5	0.0	176.4
145.00		1.00	1.37	52.480	57.73	386.12	0.730	0.000	5.00	13.367	9.76	563.3	0.0	286.2
147.00 Appurtenance(s)		1.00	1.37	52.631	57.89	381.38	0.730	0.000	2.00	5.221	3.81	220.7	0.0	111.8
150.00 Appurtenance(s)		1.00	1.38	52.855	58.14	374.24	0.730	0.000	3.00	7.697	5.62	326.7	0.0	164.7
<b>Totals:</b>									<b>150.00</b>			<b>19,910.4</b>		<b>28,792.9</b>

## Discrete Appurtenance Forces

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

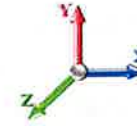
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**Load Case:** 0.9D + 1.0W 126 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 21

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	150.00	Lightning Rod	1	53.040	58.344	1.00	1.00	1.05	31.50	0.000	2.500	61.26	0.00	153.15
2	147.00	Platform w/ Hand Rail	1	52.631	57.894	1.00	1.00	32.00	1440.00	0.000	0.000	1852.61	0.00	0.00
3	147.00	Ericsson AIR 21 B2A B4P	3	52.631	57.894	0.69	0.80	12.57	247.05	0.000	0.000	727.72	0.00	0.00
4	147.00	Ericsson AIR 21 B4A B2P	3	52.631	57.894	0.69	0.80	12.57	244.08	0.000	0.000	727.72	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	52.631	57.894	0.56	0.80	0.69	29.70	0.000	0.000	39.88	0.00	0.00
6	147.00	APXVAARR24_43-U-NA2	3	52.631	57.894	0.40	0.80	24.29	345.60	0.000	0.000	1406.13	0.00	0.00
7	147.00	Radio 4449 B71+B12	3	52.631	57.894	0.54	0.80	3.17	191.70	0.000	0.000	183.39	0.00	0.00
8	147.00	Kickers w/o Collar	1	52.631	57.894	1.00	1.00	5.33	131.40	0.000	0.000	308.58	0.00	0.00
9	137.00	TA08025-B605	3	51.856	57.042	0.50	0.75	2.95	202.50	0.000	0.000	168.54	0.00	0.00
10	137.00	Platform w/hand rail	1	51.856	57.042	0.67	0.67	22.93	1554.30	0.000	0.000	1308.20	0.00	0.00
11	137.00	MX08FRO665-21	3	51.856	57.042	0.55	0.75	20.80	174.15	0.000	0.000	1186.23	0.00	0.00
12	137.00	RDIDC-9181-PF-48	1	51.856	57.042	1.00	1.00	2.01	19.67	0.000	0.000	114.65	0.00	0.00
13	137.00	TA08025-B604	3	51.856	57.042	0.50	0.75	2.95	172.53	0.000	0.000	168.54	0.00	0.00
14	127.00	Kaelus BSF0020F3V1-1	2	51.035	56.139	0.52	0.80	1.00	31.68	0.000	0.000	56.05	0.00	0.00
15	127.00	Samsung B2/B66A	3	51.035	56.139	0.62	0.80	3.47	189.81	0.000	0.000	195.04	0.00	0.00
16	127.00	Samsung 64T64R	3	51.035	56.139	0.56	0.80	7.90	235.17	0.000	0.000	443.27	0.00	0.00
17	127.00	RFS DB-T1-6Z-8AB-0Z	2	51.035	56.139	0.57	0.80	5.45	79.20	0.000	0.000	306.11	0.00	0.00
18	127.00	Commscope	6	51.035	56.139	0.59	0.80	56.44	429.84	0.000	0.000	3168.55	0.00	0.00
19	127.00	Mount Pipes	9	51.035	56.139	0.80	0.80	3.74	243.00	0.000	0.000	210.18	0.00	0.00
20	127.00	Mount Mod	3	51.035	56.139	0.75	0.75	6.37	270.00	0.000	0.000	357.46	0.00	0.00
21	127.00	Sector Mount (SM 801)	3	51.035	56.139	0.75	0.75	25.31	788.40	0.000	0.000	1421.02	0.00	0.00
22	127.00	Samsung B5/B13	3	51.035	56.139	0.66	0.80	3.74	227.88	0.000	0.000	210.24	0.00	0.00
<b>Totals:</b>									<b>7,279.15</b>			<b>14,621.39</b>		

## Total Applied Force Summary

<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	<b>7/7/2023</b>
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C	
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 126 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 21

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		658.53	1515.89	0.00	0.00
10.00		646.76	1490.07	0.00	0.00
15.00		635.00	1464.26	0.00	0.00
20.00		661.28	1438.44	0.00	0.00
25.00		680.00	1412.62	0.00	0.00
30.00		693.01	1386.80	0.00	0.00
35.00		701.82	1360.98	0.00	0.00
40.00		707.39	1335.16	0.00	0.00
41.58		222.81	417.42	0.00	0.00
45.00		492.13	1636.38	0.00	0.00
48.00		432.25	1418.19	0.00	0.00
50.00		287.62	458.64	0.00	0.00
55.00		722.82	1130.79	0.00	0.00
60.00		720.45	1108.20	0.00	0.00
65.00		716.69	1085.61	0.00	0.00
70.00		711.71	1063.02	0.00	0.00
75.00		705.64	1040.43	0.00	0.00
80.00		698.57	1017.84	0.00	0.00
84.17		575.50	830.94	0.00	0.00
85.00		115.59	273.69	0.00	0.00
89.58		634.30	1486.06	0.00	0.00
90.00		57.01	60.20	0.00	0.00
95.00		682.51	713.71	0.00	0.00
100.00		672.41	697.57	0.00	0.00
105.00		661.65	681.43	0.00	0.00
110.00		650.29	665.30	0.00	0.00
115.00		638.36	649.16	0.00	0.00
120.00		625.90	633.02	0.00	0.00
120.67		82.17	83.18	0.00	0.00
125.00		535.77	814.74	0.00	0.00
125.17		20.34	30.95	0.00	0.00
127.00	(34) attachments	6590.97	2641.99	0.00	0.00
130.00		361.40	231.38	0.00	0.00
135.00		592.22	377.88	0.00	0.00
137.00	(11) attachments	3178.55	2271.59	0.00	0.00
140.00		344.52	217.06	0.00	0.00
145.00		563.31	354.02	0.00	0.00
147.00	(17) attachments	5466.68	2768.43	0.00	0.00
150.00	(1) attachments	387.93	199.79	0.00	153.15
	<b>Totals:</b>	<b>34,531.84</b>	<b>38,462.81</b>	<b>0.00</b>	<b>153.15</b>



# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

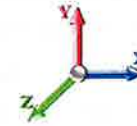
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Load Case: 0.9D + 1.0W 126 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 21

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	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.594	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.583	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.583	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	36.247	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	36.247	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.665	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.665	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.907	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.907	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.017	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.017	0.00	4.68
41.58	Safety Cable	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	40.345	0.00	0.39
41.58	Step bolts (ladder)	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	40.345	0.00	1.48
45.00	Safety Cable	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	41.021	0.00	0.84
45.00	Step bolts (ladder)	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	41.021	0.00	3.20
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	41.582	0.00	0.74
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	41.582	0.00	2.81
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.941	0.00	0.49
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.941	0.00	1.87
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.791	0.00	1.23
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.791	0.00	4.68
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.583	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.583	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.323	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.323	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.020	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.020	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.679	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.679	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.304	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.304	0.00	4.68
84.17	Safety Cable	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	46.801	0.00	1.02
84.17	Step bolts (ladder)	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	46.801	0.00	3.90
85.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	46.898	0.00	0.20
85.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	46.898	0.00	0.78
89.58	Safety Cable	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	47.420	0.00	1.13
89.58	Step bolts (ladder)	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	47.420	0.00	4.29
90.00	Safety Cable	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	47.466	0.00	0.10
90.00	Step bolts (ladder)	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	47.466	0.00	0.39
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.010	0.00	1.23
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.010	0.00	4.68
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.531	0.00	1.23

# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.0W 126 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 21

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)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.531	0.00	4.68
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.032	0.00	1.23
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.032	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.514	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.514	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.980	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.980	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.430	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.430	0.00	4.68
120.67	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	50.489	0.00	0.16
120.67	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	50.489	0.00	0.62
125.00	Safety Cable	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	50.865	0.00	1.06
125.00	Step bolts (ladder)	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	50.865	0.00	4.06
125.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	50.879	0.00	0.04
125.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	50.879	0.00	0.16
127.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	51.035	0.00	0.45
127.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	51.035	0.00	1.72
130.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	51.287	0.00	0.74
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	51.287	0.00	2.81
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.696	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.696	0.00	4.68
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.856	0.00	0.49
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.856	0.00	1.87
140.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.093	0.00	0.74
140.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.093	0.00	2.81
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.480	0.00	1.23
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.480	0.00	4.68
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.631	0.00	0.49
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.631	0.00	1.87
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.855	0.00	0.74
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.855	0.00	2.81
Totals:											0.0	177.3

## Calculated Forces

**Structure:** CT13076-A  
**Site Name:** Ledyard  
**Height:** 150.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 1.1

**Topography:** 1

**Code:** TIA-222-H  
**Exposure:** C  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

7/7/2023

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**Load Case:** 0.9D + 1.0W 126 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 21

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-38.43	-34.57	0.00	-3549.6	0.00	3549.69	6643.18	1657.13	8180.63	8128.53	0.00	0.000	0.000	0.443
5.00	-36.84	-33.99	0.00	-3376.8	0.00	3376.83	6561.33	1627.53	7891.08	7883.82	0.06	-0.117	0.000	0.434
10.00	-35.29	-33.41	0.00	-3206.9	0.00	3206.90	6478.15	1597.94	7606.74	7641.15	0.25	-0.234	0.000	0.426
15.00	-33.76	-32.83	0.00	-3039.8	0.00	3039.87	6393.63	1568.35	7327.61	7400.59	0.56	-0.351	0.000	0.416
20.00	-32.26	-32.23	0.00	-2875.7	0.00	2875.70	6307.77	1538.76	7053.71	7162.24	0.99	-0.469	0.000	0.407
25.00	-30.79	-31.60	0.00	-2714.5	0.00	2714.56	6220.57	1509.17	6785.02	6926.18	1.54	-0.586	0.000	0.397
30.00	-29.34	-30.95	0.00	-2556.5	0.00	2556.56	6132.04	1479.58	6521.55	6692.51	2.22	-0.704	0.000	0.387
35.00	-27.93	-30.29	0.00	-2401.8	0.00	2401.81	6042.17	1449.98	6263.30	6461.30	3.02	-0.821	0.000	0.377
40.00	-26.57	-29.60	0.00	-2250.3	0.00	2250.37	5950.96	1420.39	6010.26	6232.66	3.94	-0.938	0.000	0.366
41.58	-26.12	-29.39	0.00	-2203.5	0.00	2203.51	5921.80	1411.02	5931.22	6160.80	4.26	-0.976	0.000	0.363
45.00	-24.46	-28.90	0.00	-2103.0	0.00	2103.09	5858.41	1390.80	5762.44	6006.66	4.99	-1.056	0.000	0.355
48.00	-23.02	-28.47	0.00	-2016.3	0.00	2016.38	4962.21	1224.26	5102.90	5124.96	5.68	-1.126	0.000	0.399
50.00	-22.52	-28.21	0.00	-1959.4	0.00	1959.44	4932.77	1213.91	5016.93	5051.08	6.16	-1.173	0.000	0.393
55.00	-21.35	-27.50	0.00	-1818.4	0.00	1818.42	4858.24	1188.01	4805.19	4867.73	7.45	-1.297	0.000	0.378
60.00	-20.20	-26.80	0.00	-1680.9	0.00	1680.90	4782.37	1162.12	4598.01	4686.35	8.88	-1.420	0.000	0.363
65.00	-19.08	-26.10	0.00	-1546.8	0.00	1546.89	4705.16	1136.23	4395.40	4507.03	10.43	-1.540	0.000	0.348
70.00	-17.99	-25.39	0.00	-1416.4	0.00	1416.41	4626.62	1110.33	4197.36	4329.86	12.11	-1.659	0.000	0.332
75.00	-16.92	-24.69	0.00	-1289.4	0.00	1289.45	4546.74	1084.44	4003.88	4154.93	13.91	-1.775	0.000	0.315
80.00	-15.88	-23.99	0.00	-1166.0	0.00	1166.01	4465.52	1058.55	3814.97	3982.33	15.83	-1.888	0.000	0.297
84.17	-15.05	-23.40	0.00	-1066.0	0.00	1066.06	4389.85	1036.97	3661.02	3834.26	17.52	-1.980	0.000	0.282
85.00	-14.75	-23.29	0.00	-1046.5	0.00	1046.57	4371.58	1032.66	3630.62	3802.25	17.87	-1.998	0.000	0.279
89.58	-13.27	-22.61	0.00	-939.83	0.00	939.83	2817.41	733.71	2565.96	2444.58	19.83	-2.095	0.000	0.390
90.00	-13.18	-22.57	0.00	-930.41	0.00	930.41	2813.70	732.17	2555.19	2436.19	20.02	-2.104	0.000	0.388
95.00	-12.45	-21.89	0.00	-817.55	0.00	817.55	2768.43	713.68	2427.73	2336.00	22.29	-2.238	0.000	0.355
100.00	-11.73	-21.21	0.00	-708.11	0.00	708.11	2721.83	695.18	2303.53	2236.71	24.70	-2.363	0.000	0.322
105.00	-11.04	-20.55	0.00	-602.03	0.00	602.03	2673.89	676.69	2182.60	2138.40	27.24	-2.480	0.000	0.287
110.00	-10.37	-19.89	0.00	-499.30	0.00	499.30	2624.60	658.19	2064.92	2041.17	29.90	-2.586	0.000	0.249
115.00	-9.72	-19.23	0.00	-399.87	0.00	399.87	2573.99	639.70	1950.51	1945.09	32.66	-2.681	0.000	0.210
120.00	-9.10	-18.58	0.00	-303.71	0.00	303.71	2522.03	621.20	1839.35	1850.26	35.51	-2.761	0.000	0.169
120.67	-9.01	-18.50	0.00	-291.32	0.00	291.32	2515.00	618.74	1824.78	1837.72	35.90	-2.771	0.000	0.163
125.00	-8.22	-17.93	0.00	-211.13	0.00	211.13	2468.74	602.71	1731.46	1756.78	38.44	-2.826	0.000	0.124
125.17	-8.18	-17.91	0.00	-208.15	0.00	208.15	1203.56	366.48	1066.94	871.13	38.54	-2.828	0.000	0.248
127.00	-5.87	-11.20	0.00	-175.31	0.00	175.31	1198.21	362.41	1043.38	857.58	39.63	-2.847	0.000	0.210
130.00	-5.64	-10.83	0.00	-141.70	0.00	141.70	1189.06	355.75	1005.40	835.31	41.43	-2.891	0.000	0.175
135.00	-5.29	-10.23	0.00	-87.53	0.00	87.53	1172.74	344.65	943.65	798.01	44.49	-2.945	0.000	0.115
137.00	-3.18	-6.94	0.00	-67.07	0.00	67.07	1165.84	340.22	919.50	783.04	45.73	-2.962	0.000	0.089
140.00	-2.98	-6.58	0.00	-46.26	0.00	46.26	1155.08	333.56	883.87	760.54	47.60	-2.980	0.000	0.064
145.00	-2.66	-6.00	0.00	-13.35	0.00	13.35	1136.09	322.46	826.03	723.01	50.73	-2.998	0.000	0.021
147.00	-0.18	-0.40	0.00	-1.35	0.00	1.35	1128.12	318.02	803.45	707.99	51.99	-2.999	0.000	0.002
150.00	0.00	-0.39	0.00	-0.15	0.00	0.15	1115.76	311.36	770.16	685.49	53.87	-3.000	0.000	0.000

## Wind Loading - Shaft

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

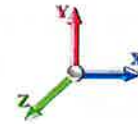
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 20

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	5.133	5.65	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.133	5.65	0.00	1.200	0.828	5.00	25.851	31.02	175.1	310.1	2220.6
10.00		1.00	0.85	5.133	5.65	0.00	1.200	0.887	5.00	25.451	30.54	172.4	326.7	2202.9
15.00		1.00	0.85	5.133	5.65	0.00	1.200	0.924	5.00	25.032	30.04	169.6	334.3	2176.0
20.00		1.00	0.90	5.446	5.99	0.00	1.200	0.951	5.00	24.605	29.53	176.9	337.9	2145.2
25.00		1.00	0.95	5.708	6.28	0.00	1.200	0.973	5.00	24.173	29.01	182.1	339.2	2112.1
30.00		1.00	0.98	5.931	6.52	0.00	1.200	0.991	5.00	23.739	28.49	185.9	338.9	2077.4
35.00		1.00	1.01	6.127	6.74	0.00	1.200	1.006	5.00	23.302	27.96	188.5	337.6	2041.6
40.00		1.00	1.04	6.301	6.93	0.00	1.200	1.019	5.00	22.864	27.44	190.2	335.4	2005.0
41.58 Bot - Section 2		1.00	1.05	6.353	6.99	0.00	1.200	1.023	1.58	7.147	8.58	59.9	106.0	627.5
45.00		1.00	1.07	6.460	7.11	0.00	1.200	1.032	3.42	15.528	18.63	132.4	231.1	2337.4
48.00 Top - Section 1		1.00	1.08	6.548	7.20	0.00	1.200	1.038	3.00	13.464	16.16	116.4	201.8	2026.4
50.00		1.00	1.09	6.605	7.26	0.00	1.200	1.042	2.00	8.888	10.67	77.5	134.0	701.3
55.00		1.00	1.12	6.738	7.41	0.00	1.200	1.052	5.00	21.913	26.30	194.9	331.2	1728.4
60.00		1.00	1.14	6.863	7.55	0.00	1.200	1.062	5.00	21.471	25.77	194.5	327.1	1694.1
65.00		1.00	1.16	6.980	7.68	0.00	1.200	1.070	5.00	21.028	25.23	193.7	322.7	1659.6
70.00		1.00	1.17	7.089	7.80	0.00	1.200	1.078	5.00	20.586	24.70	192.6	318.0	1624.7
75.00		1.00	1.19	7.193	7.91	0.00	1.200	1.086	5.00	20.142	24.17	191.2	313.0	1589.6
80.00		1.00	1.21	7.291	8.02	0.00	1.200	1.093	5.00	19.699	23.64	189.6	307.8	1554.3
84.17 Bot - Section 3		1.00	1.22	7.370	8.11	0.00	1.200	1.098	4.17	16.076	19.29	156.4	252.7	1268.5
85.00		1.00	1.22	7.385	8.12	0.00	1.200	1.099	0.83	3.222	3.87	31.4	51.1	397.6
89.58 Top - Section 2		1.00	1.24	7.467	8.21	0.00	1.200	1.105	4.58	17.502	21.00	172.5	276.5	2156.5
90.00		1.00	1.24	7.475	8.22	0.00	1.200	1.106	0.42	1.572	1.89	15.5	25.1	96.1
95.00		1.00	1.25	7.560	8.32	0.00	1.200	1.112	5.00	18.630	22.36	185.9	295.4	1136.4
100.00		1.00	1.27	7.642	8.41	0.00	1.200	1.117	5.00	18.185	21.82	183.4	289.5	1109.0
105.00		1.00	1.28	7.721	8.49	0.00	1.200	1.123	5.00	17.740	21.29	180.8	283.5	1081.5
110.00		1.00	1.29	7.797	8.58	0.00	1.200	1.128	5.00	17.295	20.75	178.0	277.3	1053.8
115.00		1.00	1.30	7.870	8.66	0.00	1.200	1.133	5.00	16.850	20.22	175.1	271.1	1026.0
120.00		1.00	1.32	7.941	8.74	0.00	1.200	1.138	5.00	16.404	19.69	172.0	264.7	998.1
120.67 Bot - Section 4		1.00	1.32	7.950	8.75	0.00	1.200	1.138	0.67	2.153	2.58	22.6	35.2	131.3
125.00		1.00	1.33	8.010	8.81	0.00	1.200	1.142	4.33	13.942	16.73	147.4	226.1	1216.6
125.17 Top - Section 3		1.00	1.33	8.012	8.81	0.00	1.200	1.143	0.17	0.530	0.64	5.6	8.7	46.3
127.00 Appurtenance(s)		1.00	1.33	8.037	8.84	0.00	1.200	1.144	1.83	5.792	6.95	61.4	94.7	250.1
130.00		1.00	1.34	8.076	8.88	0.00	1.200	1.147	3.00	9.349	11.22	99.7	152.6	403.2
135.00		1.00	1.35	8.141	8.95	0.00	1.200	1.151	5.00	15.226	18.27	163.6	247.6	655.0
137.00 Appurtenance(s)		1.00	1.35	8.166	8.98	0.00	1.200	1.153	2.00	5.965	7.16	64.3	98.0	257.3
140.00		1.00	1.36	8.203	9.02	0.00	1.200	1.155	3.00	8.814	10.58	95.4	144.5	379.7
145.00		1.00	1.37	8.264	9.09	0.00	1.200	1.160	5.00	14.333	17.20	156.4	234.0	615.6
147.00 Appurtenance(s)		1.00	1.37	8.288	9.12	0.00	1.200	1.161	2.00	5.608	6.73	61.4	92.5	241.5
150.00 Appurtenance(s)		1.00	1.38	8.323	9.16	0.00	1.200	1.163	3.00	8.278	9.93	91.0	136.3	355.9
<b>Totals:</b>									<b>150.00</b>			<b>5,403.2</b>		<b>47,400.1</b>



## Discrete Appurtenance Forces

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

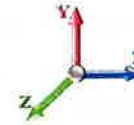
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 20

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	150.00	Lightning Rod	1	8.352	9.187	1.00	1.00	2.63	53.94	0.000	2.500	24.18	0.00	60.46
2	147.00	Platform w/ Hand Rail	1	8.288	9.117	1.00	1.00	50.58	2717.07	0.000	0.000	461.10	0.00	0.00
3	147.00	Ericsson AIR 21 B2A B4P	3	8.288	9.117	0.70	0.80	14.21	644.91	0.000	0.000	129.51	0.00	0.00
4	147.00	Ericsson AIR 21 B4A B2P	3	8.288	9.117	0.70	0.80	14.21	640.95	0.000	0.000	129.51	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	8.288	9.117	0.57	0.80	1.24	51.82	0.000	0.000	11.28	0.00	0.00
6	147.00	APXVAARR24_43-U-NA2	3	8.288	9.117	0.56	0.80	36.10	1259.76	0.000	0.000	329.12	0.00	0.00
7	147.00	Radio 4449 B71+B12	3	8.288	9.117	0.54	0.80	3.75	321.35	0.000	0.000	34.22	0.00	0.00
8	147.00	Kickers w/o Collar	1	8.288	9.117	1.00	1.00	9.04	246.82	0.000	0.000	82.44	0.00	0.00
9	137.00	TA08025-B605	3	8.166	8.982	0.50	0.75	3.51	335.86	0.000	0.000	31.56	0.00	0.00
10	137.00	Platform w/hand rail	1	8.166	8.982	0.67	0.67	41.97	2814.47	0.000	0.000	377.02	0.00	0.00
11	137.00	MX08FRO665-21	3	8.166	8.982	0.55	0.75	22.41	607.09	0.000	0.000	201.27	0.00	0.00
12	137.00	RDIDC-9181-PF-48	1	8.166	8.982	1.00	1.00	2.38	83.17	0.000	0.000	21.39	0.00	0.00
13	137.00	TA08025-B604	3	8.166	8.982	0.50	0.75	3.51	294.09	0.000	0.000	31.56	0.00	0.00
14	127.00	Kaelus BSF0020F3V1-1	2	8.037	8.840	0.52	0.80	1.27	-55.86	0.000	0.000	11.22	0.00	0.00
15	127.00	Samsung B2/B66A	3	8.037	8.840	0.62	0.80	4.13	267.88	0.000	0.000	36.55	0.00	0.00
16	127.00	Samsung 64T64R	3	8.037	8.840	0.56	0.80	8.89	260.92	0.000	0.000	78.59	0.00	0.00
17	127.00	RFS DB-T1-6Z-8AB-0Z	2	8.037	8.840	0.57	0.80	6.08	252.56	0.000	0.000	53.79	0.00	0.00
18	127.00	Commscope	6	8.037	8.840	0.59	0.80	60.42	1745.19	0.000	0.000	534.12	0.00	0.00
19	127.00	Mount Pipes	9	8.037	8.840	0.80	0.80	5.89	-18973.6	0.000	0.000	52.03	0.00	0.00
20	127.00	Mount Mod	3	8.037	8.840	0.75	0.75	10.01	-5681.85	0.000	0.000	88.50	0.00	0.00
21	127.00	Sector Mount (SM 801)	3	8.037	8.840	0.75	0.75	39.79	-3919.01	0.000	0.000	351.79	0.00	0.00
22	127.00	Samsung B5/B13	3	8.037	8.840	0.66	0.80	4.46	411.12	0.000	0.000	39.39	0.00	0.00
<b>Totals:</b>									-15,621.4	0		3,110.14		

## Total Applied Force Summary

Structure: CT13076-A	Code: TIA-222-H	7/7/2023
Site Name: Ledyard	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 22



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

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 20

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		175.14	2343.06	0.00	0.00
10.00		172.43	2326.79	0.00	0.00
15.00		169.59	2300.89	0.00	0.00
20.00		176.87	2270.77	0.00	0.00
25.00		182.13	2238.21	0.00	0.00
30.00		185.85	2204.04	0.00	0.00
35.00		188.45	2168.71	0.00	0.00
40.00		190.18	2132.51	0.00	0.00
41.58		59.94	667.89	0.00	0.00
45.00		132.40	2424.76	0.00	0.00
48.00		116.38	2103.17	0.00	0.00
50.00		77.48	752.53	0.00	0.00
55.00		194.91	1856.80	0.00	0.00
60.00		194.51	1822.84	0.00	0.00
65.00		193.74	1788.53	0.00	0.00
70.00		192.64	1753.93	0.00	0.00
75.00		191.25	1719.05	0.00	0.00
80.00		189.59	1683.94	0.00	0.00
84.17		156.39	1376.68	0.00	0.00
85.00		31.41	419.24	0.00	0.00
89.58		172.51	2275.69	0.00	0.00
90.00		15.51	106.99	0.00	0.00
95.00		185.92	1266.64	0.00	0.00
100.00		183.45	1239.42	0.00	0.00
105.00		180.81	1212.05	0.00	0.00
110.00		178.00	1184.55	0.00	0.00
115.00		175.05	1156.92	0.00	0.00
120.00		171.96	1129.17	0.00	0.00
120.67		22.60	148.82	0.00	0.00
125.00		147.41	1330.27	0.00	0.00
125.17		5.60	50.64	0.00	0.00
127.00	(34) attachments	1307.43	-25394.43	0.00	0.00
130.00		99.67	473.53	0.00	0.00
135.00		163.61	772.35	0.00	0.00
137.00	(11) attachments	727.09	4438.95	0.00	0.00
140.00		95.44	446.54	0.00	0.00
145.00		156.36	727.19	0.00	0.00
147.00	(17) attachments	1238.53	6168.87	0.00	0.00
150.00	(1) attachments	115.14	427.35	0.00	60.46
<b>Totals:</b>		<b>8,513.32</b>	<b>35,515.87</b>	<b>0.00</b>	<b>60.46</b>

# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



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	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.133	0.00	7.09
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.133	0.00	12.60
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.133	0.00	7.80
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.133	0.00	13.37
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.133	0.00	8.26
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.133	0.00	13.87
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.446	0.00	8.61
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.446	0.00	14.24
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.708	0.00	8.89
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.708	0.00	14.55
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.931	0.00	9.13
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.931	0.00	14.80
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.127	0.00	9.34
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.127	0.00	15.03
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.301	0.00	9.53
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.301	0.00	15.23
41.58	Safety Cable	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	6.353	0.00	3.04
41.58	Step bolts (ladder)	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	6.353	0.00	4.84
45.00	Safety Cable	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	6.460	0.00	6.63
45.00	Step bolts (ladder)	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	6.460	0.00	10.53
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.548	0.00	5.88
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.548	0.00	9.31
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.605	0.00	3.94
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.605	0.00	6.23
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.738	0.00	10.00
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.738	0.00	15.73
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.863	0.00	10.13
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.863	0.00	15.87
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.980	0.00	10.25
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.980	0.00	16.00
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.089	0.00	10.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.089	0.00	16.12
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.193	0.00	10.48
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.193	0.00	16.24
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.291	0.00	10.58
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.291	0.00	16.35
84.17	Safety Cable	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	7.370	0.00	8.89
84.17	Step bolts (ladder)	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	7.370	0.00	13.70
85.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	7.385	0.00	1.78
85.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	7.385	0.00	2.74
89.58	Safety Cable	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	7.467	0.00	9.87
89.58	Step bolts (ladder)	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	7.467	0.00	15.17
90.00	Safety Cable	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	7.475	0.00	0.90
90.00	Step bolts (ladder)	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	7.475	0.00	1.38
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.560	0.00	10.86
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.560	0.00	16.65
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.642	0.00	10.95



# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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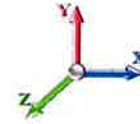


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



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)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.642	0.00	16.74
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.721	0.00	11.03
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.721	0.00	16.83
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.797	0.00	11.11
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.797	0.00	16.92
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.870	0.00	11.19
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.870	0.00	17.00
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.941	0.00	11.26
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.941	0.00	17.08
120.67	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	7.950	0.00	1.50
120.67	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	7.950	0.00	2.28
125.00	Safety Cable	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	8.010	0.00	9.82
125.00	Step bolts (ladder)	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	8.010	0.00	14.87
125.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	8.012	0.00	0.38
125.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	8.012	0.00	0.57
127.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	8.037	0.00	4.17
127.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	8.037	0.00	6.30
130.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.076	0.00	6.84
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.076	0.00	10.34
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.141	0.00	11.47
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.141	0.00	17.30
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.166	0.00	4.60
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.166	0.00	6.93
140.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.203	0.00	6.92
140.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.203	0.00	10.42
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.264	0.00	11.60
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.264	0.00	17.43
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.288	0.00	4.65
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.288	0.00	6.98
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.323	0.00	7.00
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.323	0.00	10.50
Totals:											0.0	785.8

## Calculated Forces

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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

**Iterations** 20

**Dead Load Factor** 1.20

**Wind Load 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	-60.91	-8.53	0.00	-858.33	0.00	858.33	6643.18	1657.13	8180.63	8128.53	0.00	0.000	0.000	0.115
5.00	-58.56	-8.38	0.00	-815.69	0.00	815.69	6561.33	1627.53	7891.08	7883.82	0.02	-0.028	0.000	0.112
10.00	-56.23	-8.23	0.00	-773.78	0.00	773.78	6478.15	1597.94	7606.74	7641.15	0.06	-0.056	0.000	0.110
15.00	-53.93	-8.09	0.00	-732.61	0.00	732.61	6393.63	1568.35	7327.61	7400.59	0.13	-0.085	0.000	0.107
20.00	-51.65	-7.93	0.00	-692.17	0.00	692.17	6307.77	1538.76	7053.71	7162.24	0.24	-0.113	0.000	0.105
25.00	-49.41	-7.77	0.00	-652.50	0.00	652.50	6220.57	1509.17	6785.02	6926.18	0.37	-0.141	0.000	0.102
30.00	-47.20	-7.60	0.00	-613.65	0.00	613.65	6132.04	1479.58	6521.55	6692.51	0.54	-0.170	0.000	0.099
35.00	-45.03	-7.43	0.00	-575.63	0.00	575.63	6042.17	1449.98	6263.30	6461.30	0.73	-0.198	0.000	0.097
40.00	-42.90	-7.24	0.00	-538.49	0.00	538.49	5950.96	1420.39	6010.26	6232.66	0.95	-0.226	0.000	0.094
41.58	-42.23	-7.19	0.00	-527.02	0.00	527.02	5921.80	1411.02	5931.22	6160.80	1.03	-0.235	0.000	0.093
45.00	-39.80	-7.06	0.00	-502.45	0.00	502.45	5858.41	1390.80	5762.44	6006.66	1.20	-0.254	0.000	0.090
48.00	-37.70	-6.95	0.00	-481.26	0.00	481.26	4962.21	1224.26	5102.90	5124.96	1.37	-0.271	0.000	0.102
50.00	-36.94	-6.88	0.00	-467.37	0.00	467.37	4932.77	1213.91	5016.93	5051.08	1.48	-0.282	0.000	0.100
55.00	-35.08	-6.69	0.00	-432.98	0.00	432.98	4858.24	1188.01	4805.19	4867.73	1.79	-0.311	0.000	0.096
60.00	-33.26	-6.50	0.00	-399.53	0.00	399.53	4782.37	1162.12	4598.01	4686.35	2.14	-0.341	0.000	0.092
65.00	-31.47	-6.31	0.00	-367.02	0.00	367.02	4705.16	1136.23	4395.40	4507.03	2.51	-0.369	0.000	0.088
70.00	-29.71	-6.12	0.00	-335.45	0.00	335.45	4626.62	1110.33	4197.36	4329.86	2.91	-0.397	0.000	0.084
75.00	-27.99	-5.93	0.00	-304.83	0.00	304.83	4546.74	1084.44	4003.88	4154.93	3.34	-0.425	0.000	0.080
80.00	-26.31	-5.74	0.00	-275.17	0.00	275.17	4465.52	1058.55	3814.97	3982.33	3.80	-0.452	0.000	0.075
84.17	-24.93	-5.58	0.00	-251.24	0.00	251.24	4389.85	1036.97	3661.02	3834.26	4.21	-0.473	0.000	0.071
85.00	-24.51	-5.55	0.00	-246.59	0.00	246.59	4371.58	1032.66	3630.62	3802.25	4.29	-0.478	0.000	0.070
89.58	-22.23	-5.36	0.00	-221.15	0.00	221.15	2817.41	733.71	2565.96	2444.58	4.76	-0.500	0.000	0.098
90.00	-22.13	-5.35	0.00	-218.92	0.00	218.92	2813.70	732.17	2555.19	2436.19	4.80	-0.503	0.000	0.098
95.00	-20.86	-5.17	0.00	-192.15	0.00	192.15	2768.43	713.68	2427.73	2336.00	5.35	-0.534	0.000	0.090
100.00	-19.62	-4.98	0.00	-166.31	0.00	166.31	2721.83	695.18	2303.53	2236.71	5.92	-0.563	0.000	0.082
105.00	-18.41	-4.80	0.00	-141.40	0.00	141.40	2673.89	676.69	2182.60	2138.40	6.53	-0.591	0.000	0.073
110.00	-17.22	-4.61	0.00	-117.41	0.00	117.41	2624.60	658.19	2064.92	2041.17	7.16	-0.616	0.000	0.064
115.00	-16.06	-4.43	0.00	-94.34	0.00	94.34	2573.99	639.70	1950.51	1945.09	7.82	-0.638	0.000	0.055
120.00	-14.94	-4.25	0.00	-72.18	0.00	72.18	2522.03	621.20	1839.35	1850.26	8.50	-0.657	0.000	0.045
120.67	-14.79	-4.23	0.00	-69.34	0.00	69.34	2515.00	618.74	1824.78	1837.72	8.59	-0.659	0.000	0.044
125.00	-13.46	-4.07	0.00	-51.02	0.00	51.02	2468.74	602.71	1731.46	1756.78	9.19	-0.673	0.000	0.035
125.17	-13.41	-4.06	0.00	-50.34	0.00	50.34	1203.56	366.48	1066.94	871.13	9.22	-0.673	0.000	0.069
127.00	-13.42	-2.76	0.00	-42.90	0.00	42.90	1198.21	362.41	1043.38	857.58	9.48	-0.678	0.000	0.061
130.00	-12.95	-2.65	0.00	-34.63	0.00	34.63	1189.06	355.75	1005.40	835.31	9.91	-0.688	0.000	0.052
135.00	-12.18	-2.48	0.00	-21.37	0.00	21.37	1172.74	344.65	943.65	798.01	10.63	-0.702	0.000	0.037
137.00	-7.75	-1.70	0.00	-16.40	0.00	16.40	1165.84	340.22	919.50	783.04	10.93	-0.706	0.000	0.028
140.00	-7.30	-1.60	0.00	-11.30	0.00	11.30	1155.08	333.56	883.87	760.54	11.37	-0.710	0.000	0.021
145.00	-6.58	-1.44	0.00	-3.29	0.00	3.29	1136.09	322.46	826.03	723.01	12.12	-0.714	0.000	0.010
147.00	-0.43	-0.12	0.00	-0.42	0.00	0.42	1128.12	318.02	803.45	707.99	12.42	-0.715	0.000	0.001
150.00	0.00	-0.12	0.00	-0.06	0.00	0.06	1115.76	311.36	770.16	685.49	12.87	-0.715	0.000	0.000

## Seismic Segment Forces (Factored)

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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**Load Case:** 1.2D + 1.0Ev + 1.0Eh

**Iterations** 19

**Gust Response Factor** 1.10

**Sds** 0.20

**Ss** 0.19

**Dead Load Factor** 1.20 **Seismic Load Factor** 1.00

**Sd1** 0.08

**S1** 0.05

**Wind Load Factor** 0.00 **Structure Frequency (f1)** 0.45

**SA** 0.04

**Seismic Importance Factor** 1.00



Top Elev (ft)	Description	Wz (lb)	H <sub>z</sub> (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1702.7	2.50	69.74	0.06	
10.00		1674.0	7.50	68.57	0.42	
15.00		1645.3	12.50	67.39	1.04	
20.00		1616.7	17.50	66.22	1.88	
25.00		1588.0	22.50	65.04	2.90	
30.00		1559.3	27.50	63.87	4.07	
35.00		1530.6	32.50	62.69	5.35	
40.00		1501.9	37.50	61.52	6.73	
41.58	Bot - Section 2	469.64	40.79	19.24	0.91	
45.00		1830.8	43.29	74.99	12.67	
48.00	Top - Section 1	1586.8	46.50	65.00	11.10	
50.00		516.98	49.00	21.18	1.53	
55.00		1274.8	52.50	52.22	9.27	
60.00		1249.7	57.50	51.19	10.57	
65.00		1224.6	62.50	50.16	11.88	
70.00		1199.5	67.50	49.13	13.18	
75.00		1174.4	72.50	48.11	14.47	
80.00		1149.3	77.50	47.08	15.73	
84.17	Bot - Section 3	938.63	82.08	38.45	12.02	
85.00		307.17	84.58	12.58	1.61	
89.58	Top - Section 2	1668.0	87.29	68.32	39.06	
90.00		68.43	89.79	2.80	0.11	
95.00		811.44	92.50	33.24	11.46	
100.00		793.51	97.50	32.50	12.12	
105.00		775.58	102.50	31.77	12.74	
110.00		757.65	107.50	31.03	13.33	
115.00		739.72	112.50	30.30	13.87	
120.00		721.79	117.50	29.56	14.36	
120.67	Bot - Section 4	94.88	120.33	3.89	0.35	
125.00		921.24	122.83	37.73	24.49	
125.17	Top - Section 3	35.00	125.08	1.43	0.06	
127.00	Appurtenance(s)	2942.3	126.08	120.52	220.52	
130.00		266.73	128.50	10.93	2.69	
135.00		435.94	132.50	17.86	7.06	
137.00	Appurtenance(s)	2530.4	136.00	103.65	191.90	
140.00		250.22	138.50	10.25	2.74	
145.00		408.43	142.50	16.73	7.15	
147.00	Appurtenance(s)	3082.0	146.00	126.24	315.23	
150.00	Appurtenance(s)	222.77	148.50	9.12	2.51	
<b>Totals:</b>		<b>43,267.7</b>		<b>1,772.2</b>	<b>1,029.2</b>	
					<b>Total Wind:</b>	<b>34,531.8</b>

# Calculated Forces

Structure: CT13076-A

Site Name: Ledyard

Height: 150.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

7/7/2023

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Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Dead Load Factor 1.20

Wind Load Factor 0.00

Seismic Load Factor 1.00

Structure Frequency (f1) 0.45

Sds 0.20

Sd1 0.08

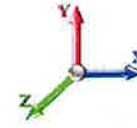
SA 0.04

Seismic Importance Factor 1.00

Iterations 19

Ss 0.19

S1 0.05



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	-53.06	-1.03	0.00	-130.28	0.00	130.28	6643.18	1657.13	8180.63	8128.53	0.00	0.00	0.00	0.024
5.00	-50.96	-1.03	0.00	-125.12	0.00	125.12	6561.33	1627.53	7891.08	7883.82	0.00	0.00	0.00	0.024
10.00	-48.91	-1.04	0.00	-119.95	0.00	119.95	6478.15	1597.94	7606.74	7641.15	0.01	-0.01	0.00	0.023
15.00	-46.89	-1.04	0.00	-114.76	0.00	114.76	6393.63	1568.35	7327.61	7400.59	0.02	-0.01	0.00	0.023
20.00	-44.91	-1.04	0.00	-109.57	0.00	109.57	6307.77	1538.76	7053.71	7162.24	0.04	-0.02	0.00	0.022
25.00	-42.96	-1.04	0.00	-104.36	0.00	104.36	6220.57	1509.17	6785.02	6926.18	0.06	-0.02	0.00	0.022
30.00	-41.04	-1.04	0.00	-99.16	0.00	99.16	6132.04	1479.58	6521.55	6692.51	0.08	-0.03	0.00	0.022
35.00	-39.17	-1.04	0.00	-93.96	0.00	93.96	6042.17	1449.98	6263.30	6461.30	0.11	-0.03	0.00	0.021
40.00	-37.32	-1.03	0.00	-88.79	0.00	88.79	5950.96	1420.39	6010.26	6232.66	0.15	-0.04	0.00	0.021
41.58	-36.75	-1.03	0.00	-87.15	0.00	87.15	5921.80	1411.02	5931.22	6160.80	0.16	-0.04	0.00	0.020
45.00	-34.49	-1.02	0.00	-83.64	0.00	83.64	5858.41	1390.80	5762.44	6006.66	0.19	-0.04	0.00	0.020
48.00	-32.54	-1.01	0.00	-80.58	0.00	80.58	4962.21	1224.26	5102.90	5124.96	0.21	-0.04	0.00	0.022
50.00	-31.90	-1.01	0.00	-78.57	0.00	78.57	4932.77	1213.91	5016.93	5051.08	0.23	-0.05	0.00	0.022
55.00	-30.34	-1.00	0.00	-73.54	0.00	73.54	4858.24	1188.01	4805.19	4867.73	0.28	-0.05	0.00	0.021
60.00	-28.81	-0.99	0.00	-68.54	0.00	68.54	4782.37	1162.12	4598.01	4686.35	0.34	-0.06	0.00	0.021
65.00	-27.32	-0.98	0.00	-63.60	0.00	63.60	4705.16	1136.23	4395.40	4507.03	0.40	-0.06	0.00	0.020
70.00	-25.85	-0.97	0.00	-58.71	0.00	58.71	4626.62	1110.33	4197.36	4329.86	0.46	-0.06	0.00	0.019
75.00	-24.41	-0.95	0.00	-53.88	0.00	53.88	4546.74	1084.44	4003.88	4154.93	0.53	-0.07	0.00	0.018
80.00	-23.01	-0.94	0.00	-49.12	0.00	49.12	4465.52	1058.55	3814.97	3982.33	0.61	-0.07	0.00	0.017
84.17	-21.86	-0.92	0.00	-45.23	0.00	45.23	4389.85	1036.97	3661.02	3834.26	0.68	-0.08	0.00	0.017
85.00	-21.49	-0.92	0.00	-44.46	0.00	44.46	4371.58	1032.66	3630.62	3802.25	0.69	-0.08	0.00	0.017
89.58	-19.44	-0.88	0.00	-40.23	0.00	40.23	2817.41	733.71	2565.96	2444.58	0.77	-0.08	0.00	0.023
90.00	-19.35	-0.88	0.00	-39.86	0.00	39.86	2813.70	732.17	2555.19	2436.19	0.78	-0.08	0.00	0.023
95.00	-18.37	-0.87	0.00	-35.46	0.00	35.46	2768.43	713.68	2427.73	2336.00	0.87	-0.09	0.00	0.022
100.00	-17.41	-0.86	0.00	-31.11	0.00	31.11	2721.83	695.18	2303.53	2236.71	0.96	-0.09	0.00	0.020
105.00	-16.47	-0.85	0.00	-26.81	0.00	26.81	2673.89	676.69	2182.60	2138.40	1.07	-0.10	0.00	0.019
110.00	-15.55	-0.83	0.00	-22.59	0.00	22.59	2624.60	658.19	2064.92	2041.17	1.17	-0.10	0.00	0.017
115.00	-14.65	-0.82	0.00	-18.43	0.00	18.43	2573.99	639.70	1950.51	1945.09	1.28	-0.11	0.00	0.015
120.00	-13.78	-0.80	0.00	-14.34	0.00	14.34	2522.03	621.20	1839.35	1850.26	1.40	-0.11	0.00	0.013
120.67	-13.66	-0.80	0.00	-13.81	0.00	13.81	2515.00	618.74	1824.78	1837.72	1.42	-0.11	0.00	0.013
125.00	-12.54	-0.78	0.00	-10.34	0.00	10.34	2468.74	602.71	1731.46	1756.78	1.52	-0.12	0.00	0.011
125.17	-12.50	-0.78	0.00	-10.21	0.00	10.21	1203.56	366.48	1066.94	871.13	1.53	-0.12	0.00	0.022
127.00	-8.85	-0.55	0.00	-8.79	0.00	8.79	1198.21	362.41	1043.38	857.58	1.57	-0.12	0.00	0.018
130.00	-8.53	-0.54	0.00	-7.14	0.00	7.14	1189.06	355.75	1005.40	835.31	1.64	-0.12	0.00	0.016
135.00	-8.01	-0.54	0.00	-4.42	0.00	4.42	1172.74	344.65	943.65	798.01	1.77	-0.12	0.00	0.012
137.00	-4.88	-0.34	0.00	-3.35	0.00	3.35	1165.84	340.22	919.50	783.04	1.82	-0.12	0.00	0.008
140.00	-4.58	-0.33	0.00	-2.34	0.00	2.34	1155.08	333.56	883.87	760.54	1.90	-0.12	0.00	0.007
145.00	-4.09	-0.33	0.00	-0.66	0.00	0.66	1136.09	322.46	826.03	723.01	2.03	-0.12	0.00	0.005
147.00	-0.28	0.00	0.00	-0.01	0.00	0.01	1128.12	318.02	803.45	707.99	2.08	-0.12	0.00	0.000
150.00	0.00	0.00	0.00	0.00	0.00	0.00	1115.76	311.36	770.16	685.49	2.16	-0.12	0.00	0.000



## Seismic Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 19

Gust Response Factor 1.10

Sds 0.20

Ss 0.19

Dead Load Factor 0.90 Seismic Load Factor 1.00

Sd1 0.08

S1 0.05

Wind Load Factor 0.00 Structure Frequency (f1) 0.45

SA 0.04

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	
						R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1675.1	2.50	68.61	0.06	
10.00		1646.4	7.50	67.44	0.41	
15.00		1617.7	12.50	66.26	1.03	
20.00		1589.0	17.50	65.09	1.86	
25.00		1560.3	22.50	63.91	2.86	
30.00		1531.6	27.50	62.74	4.01	
35.00		1502.9	32.50	61.56	5.27	
40.00		1474.3	37.50	60.39	6.63	
41.58	Bot - Section 2	460.88	40.79	18.88	0.90	
45.00		1811.9	43.29	74.22	12.66	
48.00	Top - Section 1	1570.2	46.50	64.32	11.09	
50.00		505.92	49.00	20.72	1.50	
55.00		1247.2	52.50	51.09	9.07	
60.00		1222.1	57.50	50.06	10.33	
65.00		1197.0	62.50	49.03	11.60	
70.00		1171.9	67.50	48.00	12.86	
75.00		1146.8	72.50	46.97	14.10	
80.00		1121.7	77.50	45.95	15.32	
84.17	Bot - Section 3	915.59	82.08	37.50	11.70	
85.00		302.56	84.58	12.39	1.59	
89.58	Top - Section 2	1642.7	87.29	67.29	38.68	
90.00		66.13	89.79	2.71	0.11	
95.00		783.79	92.50	32.10	10.95	
100.00		765.86	97.50	31.37	11.56	
105.00		747.93	102.50	30.64	12.14	
110.00		730.00	107.50	29.90	12.67	
115.00		712.07	112.50	29.17	13.17	
120.00		694.14	117.50	28.43	13.61	
120.67	Bot - Section 4	91.20	120.33	3.74	0.33	
125.00		897.28	122.83	36.75	23.76	
125.17	Top - Section 3	34.08	125.08	1.40	0.06	
127.00	Appurtenance(s)	2932.1	126.08	120.10	223.21	
130.00		252.26	128.50	10.33	2.47	
135.00		411.83	132.50	16.87	6.47	
137.00	Appurtenance(s)	2520.7	136.00	103.25	194.12	
140.00		236.65	138.50	9.69	2.52	
145.00		385.82	142.50	15.80	6.56	
147.00	Appurtenance(s)	3073.0	146.00	125.87	319.39	
150.00	Appurtenance(s)	221.59	148.50	9.08	2.54	
<b>Totals:</b>		<b>42,470.8</b>		<b>1,739.6</b>	<b>1,029.2</b>	
					<b>Total Wind:</b>	<b>34,531.8</b>

## Calculated Forces

**Structure:** CT13076-A  
**Site Name:** Ledyard  
**Height:** 150.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 1.1

**Topography:** 1

**Code:** TIA-222-H  
**Exposure:** C  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

7/7/2023

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**Load Case:** 0.9D + 1.0Ev + 1.0Eh

**Gust Response Factor** 1.10

**Dead Load Factor** 0.90

**Wind Load Factor** 0.00

**Seismic Load Factor** 1.00

**Structure Frequency (f1)** 0.45

**Sds** 0.20

**Sd1** 0.08

**SA** 0.04

**Seismic Importance Factor** 1.00

**Iterations** 19

**Ss** 0.19

**S1** 0.05



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	-40.20	-1.03	0.00	-129.80	0.00	129.80	6643.18	1657.13	8180.63	8128.53	0.00	0.00	0.00	0.022
5.00	-38.62	-1.03	0.00	-124.65	0.00	124.65	6561.33	1627.53	7891.08	7883.82	0.00	0.00	0.00	0.022
10.00	-37.06	-1.04	0.00	-119.48	0.00	119.48	6478.15	1597.94	7606.74	7641.15	0.01	-0.01	-0.01	0.021
15.00	-35.53	-1.04	0.00	-114.31	0.00	114.31	6393.63	1568.35	7327.61	7400.59	0.02	-0.01	-0.01	0.021
20.00	-34.03	-1.04	0.00	-109.12	0.00	109.12	6307.77	1538.76	7053.71	7162.24	0.04	-0.02	-0.02	0.021
25.00	-32.55	-1.04	0.00	-103.94	0.00	103.94	6220.57	1509.17	6785.02	6926.18	0.06	-0.02	-0.02	0.020
30.00	-31.10	-1.03	0.00	-98.76	0.00	98.76	6132.04	1479.58	6521.55	6692.51	0.08	-0.03	-0.03	0.020
35.00	-29.68	-1.03	0.00	-93.59	0.00	93.59	6042.17	1449.98	6263.30	6461.30	0.11	-0.03	-0.03	0.019
40.00	-28.28	-1.02	0.00	-88.44	0.00	88.44	5950.96	1420.39	6010.26	6232.66	0.15	-0.04	-0.04	0.019
41.58	-27.85	-1.02	0.00	-86.81	0.00	86.81	5921.80	1411.02	5931.22	6160.80	0.16	-0.04	-0.04	0.019
45.00	-26.13	-1.01	0.00	-83.31	0.00	83.31	5858.41	1390.80	5762.44	6006.66	0.19	-0.04	-0.04	0.018
48.00	-24.65	-1.00	0.00	-80.28	0.00	80.28	4962.21	1224.26	5102.90	5124.96	0.21	-0.04	-0.04	0.021
50.00	-24.17	-1.00	0.00	-78.28	0.00	78.28	4932.77	1213.91	5016.93	5051.08	0.23	-0.04	-0.04	0.020
55.00	-22.99	-0.99	0.00	-73.27	0.00	73.27	4858.24	1188.01	4805.19	4867.73	0.28	-0.05	-0.05	0.020
60.00	-21.83	-0.98	0.00	-68.31	0.00	68.31	4782.37	1162.12	4598.01	4686.35	0.34	-0.05	-0.05	0.019
65.00	-20.70	-0.97	0.00	-63.40	0.00	63.40	4705.16	1136.23	4395.40	4507.03	0.40	-0.06	-0.06	0.018
70.00	-19.59	-0.96	0.00	-58.54	0.00	58.54	4626.62	1110.33	4197.36	4329.86	0.46	-0.06	-0.06	0.018
75.00	-18.50	-0.95	0.00	-53.74	0.00	53.74	4546.74	1084.44	4003.88	4154.93	0.53	-0.07	-0.07	0.017
80.00	-17.44	-0.93	0.00	-49.01	0.00	49.01	4465.52	1058.55	3814.97	3982.33	0.61	-0.07	-0.07	0.016
84.17	-16.57	-0.92	0.00	-45.14	0.00	45.14	4389.85	1036.97	3661.02	3834.26	0.67	-0.08	-0.08	0.016
85.00	-16.28	-0.92	0.00	-44.37	0.00	44.37	4371.58	1032.66	3630.62	3802.25	0.69	-0.08	-0.08	0.015
89.58	-14.73	-0.88	0.00	-40.17	0.00	40.17	2817.41	733.71	2565.96	2444.58	0.77	-0.08	-0.08	0.022
90.00	-14.66	-0.88	0.00	-39.80	0.00	39.80	2813.70	732.17	2555.19	2436.19	0.77	-0.08	-0.08	0.022
95.00	-13.92	-0.87	0.00	-35.42	0.00	35.42	2768.43	713.68	2427.73	2336.00	0.86	-0.09	-0.09	0.020
100.00	-13.19	-0.86	0.00	-31.09	0.00	31.09	2721.83	695.18	2303.53	2236.71	0.96	-0.09	-0.09	0.019
105.00	-12.48	-0.84	0.00	-26.81	0.00	26.81	2673.89	676.69	2182.60	2138.40	1.06	-0.10	-0.10	0.017
110.00	-11.78	-0.83	0.00	-22.60	0.00	22.60	2624.60	658.19	2064.92	2041.17	1.17	-0.10	-0.10	0.016
115.00	-11.10	-0.82	0.00	-18.45	0.00	18.45	2573.99	639.70	1950.51	1945.09	1.28	-0.11	-0.11	0.014
120.00	-10.44	-0.80	0.00	-14.37	0.00	14.37	2522.03	621.20	1839.35	1850.26	1.40	-0.11	-0.11	0.012
120.67	-10.36	-0.80	0.00	-13.83	0.00	13.83	2515.00	618.74	1824.78	1837.72	1.41	-0.11	-0.11	0.012
125.00	-9.50	-0.78	0.00	-10.36	0.00	10.36	2468.74	602.71	1731.46	1756.78	1.52	-0.12	-0.12	0.010
125.17	-9.47	-0.78	0.00	-10.23	0.00	10.23	1203.56	366.48	1066.94	871.13	1.52	-0.12	-0.12	0.020
127.00	-6.71	-0.55	0.00	-8.81	0.00	8.81	1198.21	362.41	1043.38	857.58	1.57	-0.12	-0.12	0.016
130.00	-6.47	-0.55	0.00	-7.16	0.00	7.16	1189.06	355.75	1005.40	835.31	1.64	-0.12	-0.12	0.014
135.00	-6.07	-0.54	0.00	-4.44	0.00	4.44	1172.74	344.65	943.65	798.01	1.77	-0.12	-0.12	0.011
137.00	-3.70	-0.34	0.00	-3.36	0.00	3.36	1165.84	340.22	919.50	783.04	1.82	-0.12	-0.12	0.007
140.00	-3.47	-0.34	0.00	-2.35	0.00	2.35	1155.08	333.56	883.87	760.54	1.89	-0.12	-0.12	0.006
145.00	-3.10	-0.33	0.00	-0.67	0.00	0.67	1136.09	322.46	826.03	723.01	2.02	-0.12	-0.12	0.004
147.00	-0.21	0.00	0.00	-0.01	0.00	0.01	1128.12	318.02	803.45	707.99	2.08	-0.12	-0.12	0.000
150.00	0.00	0.00	0.00	0.00	0.00	0.00	1115.76	311.36	770.16	685.49	2.15	-0.12	-0.12	0.000

## Wind Loading - Shaft

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 20

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



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	6.613	7.27	279.89	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.613	7.27	274.93	0.730	0.000	5.00	25.161	18.37	133.6	0.0	1592.2
10.00		1.00	0.85	6.613	7.27	269.98	0.730	0.000	5.00	24.711	18.04	131.2	0.0	1563.5
15.00		1.00	0.85	6.613	7.27	265.02	0.730	0.000	5.00	24.262	17.71	128.8	0.0	1534.8
20.00		1.00	0.90	7.017	7.72	267.88	0.730	0.000	5.00	23.812	17.38	134.2	0.0	1506.1
25.00		1.00	0.95	7.354	8.09	269.02	0.730	0.000	5.00	23.363	17.05	138.0	0.0	1477.4
30.00		1.00	0.98	7.642	8.41	268.91	0.730	0.000	5.00	22.913	16.73	140.6	0.0	1448.7
35.00		1.00	1.01	7.894	8.68	267.89	0.730	0.000	5.00	22.464	16.40	142.4	0.0	1420.0
40.00		1.00	1.04	8.119	8.93	266.19	0.730	0.000	5.00	22.014	16.07	143.5	0.0	1391.3
41.58 Bot - Section 2		1.00	1.05	8.186	9.00	265.54	0.730	0.000	1.58	6.877	5.02	45.2	0.0	434.6
45.00		1.00	1.07	8.323	9.16	263.95	0.730	0.000	3.42	14.940	10.91	99.8	0.0	1755.2
48.00 Top - Section 1		1.00	1.08	8.437	9.28	262.39	0.730	0.000	3.00	12.945	9.45	87.7	0.0	1520.5
50.00		1.00	1.09	8.509	9.36	265.90	0.730	0.000	2.00	8.540	6.23	58.4	0.0	472.7
55.00		1.00	1.12	8.682	9.55	262.91	0.730	0.000	5.00	21.036	15.36	146.7	0.0	1164.3
60.00		1.00	1.14	8.842	9.73	259.59	0.730	0.000	5.00	20.586	15.03	146.2	0.0	1139.2
65.00		1.00	1.16	8.993	9.89	256.01	0.730	0.000	5.00	20.137	14.70	145.4	0.0	1114.1
70.00		1.00	1.17	9.134	10.05	252.19	0.730	0.000	5.00	19.687	14.37	144.4	0.0	1089.0
75.00		1.00	1.19	9.268	10.19	248.16	0.730	0.000	5.00	19.238	14.04	143.2	0.0	1063.9
80.00		1.00	1.21	9.394	10.33	243.94	0.730	0.000	5.00	18.788	13.72	141.7	0.0	1038.8
84.17 Bot - Section 3		1.00	1.22	9.495	10.44	240.30	0.730	0.000	4.17	15.313	11.18	116.8	0.0	846.5
85.00		1.00	1.22	9.515	10.47	239.56	0.730	0.000	0.83	3.069	2.24	23.5	0.0	288.7
89.58 Top - Section 2		1.00	1.24	9.621	10.58	235.41	0.730	0.000	4.58	16.658	12.16	128.7	0.0	1566.7
90.00		1.00	1.24	9.630	10.59	238.54	0.730	0.000	0.42	1.496	1.09	11.6	0.0	59.2
95.00		1.00	1.25	9.741	10.71	233.89	0.730	0.000	5.00	17.704	12.92	138.5	0.0	700.8
100.00		1.00	1.27	9.846	10.83	229.11	0.730	0.000	5.00	17.254	12.60	136.4	0.0	682.9
105.00		1.00	1.28	9.948	10.94	224.21	0.730	0.000	5.00	16.805	12.27	134.2	0.0	665.0
110.00		1.00	1.29	10.046	11.05	219.20	0.730	0.000	5.00	16.355	11.94	131.9	0.0	647.1
115.00		1.00	1.30	10.140	11.15	214.09	0.730	0.000	5.00	15.906	11.61	129.5	0.0	629.1
120.00		1.00	1.32	10.232	11.25	208.89	0.730	0.000	5.00	15.456	11.28	127.0	0.0	611.2
120.67 Bot - Section 4		1.00	1.32	10.244	11.27	208.19	0.730	0.000	0.67	2.027	1.48	16.7	0.0	80.1
125.00		1.00	1.33	10.320	11.35	203.60	0.730	0.000	4.33	13.117	9.58	108.7	0.0	825.4
125.17 Top - Section 3		1.00	1.33	10.323	11.36	203.42	0.730	0.000	0.17	0.498	0.36	4.1	0.0	31.3
127.00 Appurtenance(s)		1.00	1.33	10.354	11.39	203.64	0.730	0.000	1.83	5.442	3.97	45.3	0.0	129.5
130.00		1.00	1.34	10.405	11.45	200.41	0.730	0.000	3.00	8.776	6.41	73.3	0.0	208.9
135.00		1.00	1.35	10.488	11.54	194.97	0.730	0.000	5.00	14.266	10.41	120.2	0.0	339.5
137.00 Appurtenance(s)		1.00	1.35	10.521	11.57	192.77	0.730	0.000	2.00	5.581	4.07	47.1	0.0	132.8
140.00		1.00	1.36	10.569	11.63	189.45	0.730	0.000	3.00	8.236	6.01	69.9	0.0	196.0
145.00		1.00	1.37	10.647	11.71	183.86	0.730	0.000	5.00	13.367	9.76	114.3	0.0	318.0
147.00 Appurtenance(s)		1.00	1.37	10.678	11.75	181.61	0.730	0.000	2.00	5.221	3.81	44.8	0.0	124.2
150.00 Appurtenance(s)		1.00	1.38	10.724	11.80	178.21	0.730	0.000	3.00	7.697	5.62	66.3	0.0	183.0
<b>Totals:</b>									<b>150.00</b>			<b>4,039.6</b>		<b>31,992.1</b>



## Discrete Appurtenance Forces

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 20

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	150.00	Lightning Rod	1	10.761	11.837	1.00	1.00	1.05	35.00	0.000	2.500	12.43	0.00	31.07
2	147.00	Platform w/ Hand Rail	1	10.678	11.746	1.00	1.00	32.00	1600.00	0.000	0.000	375.87	0.00	0.00
3	147.00	Ericsson AIR 21 B2A B4P	3	10.678	11.746	0.69	0.80	12.57	274.50	0.000	0.000	147.65	0.00	0.00
4	147.00	Ericsson AIR 21 B4A B2P	3	10.678	11.746	0.69	0.80	12.57	271.20	0.000	0.000	147.65	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	10.678	11.746	0.56	0.80	0.69	33.00	0.000	0.000	8.09	0.00	0.00
6	147.00	APXVAARR24_43-U-NA2	3	10.678	11.746	0.40	0.80	24.29	384.00	0.000	0.000	285.29	0.00	0.00
7	147.00	Radio 4449 B71+B12	3	10.678	11.746	0.54	0.80	3.17	213.00	0.000	0.000	37.21	0.00	0.00
8	147.00	Kickers w/o Collar	1	10.678	11.746	1.00	1.00	5.33	146.00	0.000	0.000	62.61	0.00	0.00
9	137.00	TA08025-B605	3	10.521	11.573	0.50	0.75	2.95	225.00	0.000	0.000	34.20	0.00	0.00
10	137.00	Platform w/hand rail	1	10.521	11.573	0.67	0.67	22.93	1727.00	0.000	0.000	265.42	0.00	0.00
11	137.00	MX08FRO665-21	3	10.521	11.573	0.55	0.75	20.80	193.50	0.000	0.000	240.67	0.00	0.00
12	137.00	RDIDC-9181-PF-48	1	10.521	11.573	1.00	1.00	2.01	21.85	0.000	0.000	23.26	0.00	0.00
13	137.00	TA08025-B604	3	10.521	11.573	0.50	0.75	2.95	191.70	0.000	0.000	34.20	0.00	0.00
14	127.00	Kaelus BSF0020F3V1-1	2	10.354	11.390	0.52	0.80	1.00	35.20	0.000	0.000	11.37	0.00	0.00
15	127.00	Samsung B2/B66A	3	10.354	11.390	0.62	0.80	3.47	210.90	0.000	0.000	39.57	0.00	0.00
16	127.00	Samsung 64T64R	3	10.354	11.390	0.56	0.80	7.90	261.30	0.000	0.000	89.93	0.00	0.00
17	127.00	RFS DB-T1-6Z-8AB-0Z	2	10.354	11.390	0.57	0.80	5.45	88.00	0.000	0.000	62.11	0.00	0.00
18	127.00	Commscope	6	10.354	11.390	0.59	0.80	56.44	477.60	0.000	0.000	642.86	0.00	0.00
19	127.00	Mount Pipes	9	10.354	11.390	0.80	0.80	3.74	270.00	0.000	0.000	42.64	0.00	0.00
20	127.00	Mount Mod	3	10.354	11.390	0.75	0.75	6.37	300.00	0.000	0.000	72.53	0.00	0.00
21	127.00	Sector Mount (SM 801)	3	10.354	11.390	0.75	0.75	25.31	876.00	0.000	0.000	288.31	0.00	0.00
22	127.00	Samsung B5/B13	3	10.354	11.390	0.66	0.80	3.74	253.20	0.000	0.000	42.65	0.00	0.00
<b>Totals:</b>									<b>8,087.95</b>			<b>2,966.51</b>		

## Total Applied Force Summary

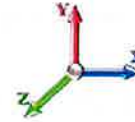
<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	7/7/2023
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C	
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 20

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		133.61	1684.33	0.00	0.00
10.00		131.22	1655.64	0.00	0.00
15.00		128.83	1626.95	0.00	0.00
20.00		134.17	1598.26	0.00	0.00
25.00		137.96	1569.58	0.00	0.00
30.00		140.60	1540.89	0.00	0.00
35.00		142.39	1512.20	0.00	0.00
40.00		143.52	1483.51	0.00	0.00
41.58		45.21	463.80	0.00	0.00
45.00		99.85	1818.20	0.00	0.00
48.00		87.70	1575.76	0.00	0.00
50.00		58.36	509.60	0.00	0.00
55.00		146.65	1256.44	0.00	0.00
60.00		146.17	1231.34	0.00	0.00
65.00		145.41	1206.23	0.00	0.00
70.00		144.40	1181.13	0.00	0.00
75.00		143.17	1156.03	0.00	0.00
80.00		141.73	1130.93	0.00	0.00
84.17		116.76	923.27	0.00	0.00
85.00		23.45	304.10	0.00	0.00
89.58		128.69	1651.18	0.00	0.00
90.00		11.57	66.89	0.00	0.00
95.00		138.47	793.01	0.00	0.00
100.00		136.42	775.08	0.00	0.00
105.00		134.24	757.15	0.00	0.00
110.00		131.94	739.22	0.00	0.00
115.00		129.52	721.29	0.00	0.00
120.00		126.99	703.36	0.00	0.00
120.67		16.67	92.43	0.00	0.00
125.00		108.70	905.26	0.00	0.00
125.17		4.13	34.39	0.00	0.00
127.00	(34) attachments	1337.23	2935.54	0.00	0.00
130.00		73.32	257.09	0.00	0.00
135.00		120.15	419.87	0.00	0.00
137.00	(11) attachments	644.89	2523.99	0.00	0.00
140.00		69.90	241.18	0.00	0.00
145.00		114.29	393.35	0.00	0.00
147.00	(17) attachments	1109.13	3076.03	0.00	0.00
150.00	(1) attachments	78.71	221.99	0.00	31.07
<b>Totals:</b>		<b>7,006.10</b>	<b>42,736.46</b>	<b>0.00</b>	<b>31.07</b>

# Linear Appurtenance Segment Forces (Factored)

Structure: CT13076-A

Code: TIA-222-H

7/7/2023

Site Name: Ledyard

Exposure: C

Height: 150.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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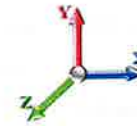


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



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	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.613	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.613	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.613	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.613	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.613	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.613	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.017	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.017	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.354	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.354	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.642	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.642	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.894	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.894	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.119	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.119	0.00	5.20
41.58	Safety Cable	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	8.186	0.00	0.43
41.58	Step bolts (ladder)	Yes	1.58	0.000	0.00	0.00	0.00	0.000	0.000	8.186	0.00	1.65
45.00	Safety Cable	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	8.323	0.00	0.93
45.00	Step bolts (ladder)	Yes	3.42	0.000	0.00	0.00	0.00	0.000	0.000	8.323	0.00	3.55
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.437	0.00	0.82
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.437	0.00	3.12
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.509	0.00	0.55
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.509	0.00	2.08
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.682	0.00	1.37
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.682	0.00	5.20
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.842	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.842	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.993	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.993	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.134	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.134	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.268	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.268	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.394	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.394	0.00	5.20
84.17	Safety Cable	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	9.495	0.00	1.14
84.17	Step bolts (ladder)	Yes	4.17	0.000	0.00	0.00	0.00	0.000	0.000	9.495	0.00	4.33
85.00	Safety Cable	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	9.515	0.00	0.23
85.00	Step bolts (ladder)	Yes	0.83	0.000	0.00	0.00	0.00	0.000	0.000	9.515	0.00	0.87
89.58	Safety Cable	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	9.621	0.00	1.25
89.58	Step bolts (ladder)	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	9.621	0.00	4.77
90.00	Safety Cable	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	9.630	0.00	0.11
90.00	Step bolts (ladder)	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	9.630	0.00	0.43
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.741	0.00	1.37
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.741	0.00	5.20
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.846	0.00	1.37

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT13076-A

**Code:** TIA-222-H

7/7/2023

**Site Name:** Ledyard

**Exposure:** C

**Height:** 150.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

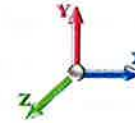
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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 20

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)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.846	0.00	5.20
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.948	0.00	1.37
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.948	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.046	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.046	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.140	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.140	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.232	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.232	0.00	5.20
120.67	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	10.244	0.00	0.18
120.67	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	10.244	0.00	0.69
125.00	Safety Cable	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	10.320	0.00	1.18
125.00	Step bolts (ladder)	Yes	4.33	0.000	0.00	0.00	0.00	0.000	0.000	10.320	0.00	4.51
125.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	10.323	0.00	0.05
125.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	10.323	0.00	0.17
127.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	10.354	0.00	0.50
127.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	10.354	0.00	1.91
130.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.405	0.00	0.82
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.405	0.00	3.12
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.488	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.488	0.00	5.20
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.521	0.00	0.55
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.521	0.00	2.08
140.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.569	0.00	0.82
140.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.569	0.00	3.12
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.647	0.00	1.37
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.647	0.00	5.20
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.678	0.00	0.55
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.678	0.00	2.08
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.724	0.00	0.82
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.724	0.00	3.12
<b>Totals:</b>											<b>0.0</b>	<b>197.0</b>



## Calculated Forces

Structure: CT13076-A  
 Site Name: Ledyard  
 Height: 150.00 (ft)  
 Base Elev: 0.000 (ft)  
 Gh: 1.1

Topography: 1

Code: TIA-222-H  
 Exposure: C  
 Crest Height: 0.00  
 Site Class: D - Stiff Soil  
 Struct Class: II

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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00  
 Wind Load Factor 1.00



Iterations 20

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	-42.73	-7.01	0.00	-721.83	0.00	721.83	6643.18	1657.13	8180.63	8128.53	0.00	0.000	0.000	0.095
5.00	-41.05	-6.90	0.00	-686.76	0.00	686.76	6561.33	1627.53	7891.08	7883.82	0.01	-0.024	0.000	0.093
10.00	-39.39	-6.78	0.00	-652.27	0.00	652.27	6478.15	1597.94	7606.74	7641.15	0.05	-0.048	0.000	0.091
15.00	-37.76	-6.67	0.00	-618.36	0.00	618.36	6393.63	1568.35	7327.61	7400.59	0.11	-0.071	0.000	0.089
20.00	-36.16	-6.55	0.00	-585.03	0.00	585.03	6307.77	1538.76	7053.71	7162.24	0.20	-0.095	0.000	0.087
25.00	-34.59	-6.42	0.00	-552.30	0.00	552.30	6220.57	1509.17	6785.02	6926.18	0.31	-0.119	0.000	0.085
30.00	-33.04	-6.29	0.00	-520.20	0.00	520.20	6132.04	1479.58	6521.55	6692.51	0.45	-0.143	0.000	0.083
35.00	-31.53	-6.16	0.00	-488.76	0.00	488.76	6042.17	1449.98	6263.30	6461.30	0.61	-0.167	0.000	0.081
40.00	-30.04	-6.02	0.00	-457.98	0.00	457.98	5950.96	1420.39	6010.26	6232.66	0.80	-0.191	0.000	0.079
41.58	-29.58	-5.97	0.00	-448.46	0.00	448.46	5921.80	1411.02	5931.22	6160.80	0.87	-0.198	0.000	0.078
45.00	-27.76	-5.88	0.00	-428.05	0.00	428.05	5858.41	1390.80	5762.44	6006.66	1.01	-0.215	0.000	0.076
48.00	-26.18	-5.79	0.00	-410.42	0.00	410.42	4962.21	1224.26	5102.90	5124.96	1.15	-0.229	0.000	0.085
50.00	-25.67	-5.73	0.00	-398.84	0.00	398.84	4932.77	1213.91	5016.93	5051.08	1.25	-0.239	0.000	0.084
55.00	-24.41	-5.59	0.00	-370.17	0.00	370.17	4858.24	1188.01	4805.19	4867.73	1.52	-0.264	0.000	0.081
60.00	-23.18	-5.45	0.00	-342.20	0.00	342.20	4782.37	1162.12	4598.01	4686.35	1.81	-0.289	0.000	0.078
65.00	-21.97	-5.31	0.00	-314.95	0.00	314.95	4705.16	1136.23	4395.40	4507.03	2.12	-0.313	0.000	0.075
70.00	-20.79	-5.17	0.00	-288.40	0.00	288.40	4626.62	1110.33	4197.36	4329.86	2.46	-0.338	0.000	0.071
75.00	-19.63	-5.02	0.00	-262.57	0.00	262.57	4546.74	1084.44	4003.88	4154.93	2.83	-0.361	0.000	0.068
80.00	-18.50	-4.88	0.00	-237.45	0.00	237.45	4465.52	1058.55	3814.97	3982.33	3.22	-0.384	0.000	0.064
84.17	-17.58	-4.76	0.00	-217.11	0.00	217.11	4389.85	1036.97	3661.02	3834.26	3.56	-0.403	0.000	0.061
85.00	-17.27	-4.74	0.00	-213.14	0.00	213.14	4371.58	1032.66	3630.62	3802.25	3.64	-0.407	0.000	0.060
89.58	-15.62	-4.60	0.00	-191.41	0.00	191.41	2817.41	733.71	2565.96	2444.58	4.04	-0.426	0.000	0.084
90.00	-15.56	-4.59	0.00	-189.50	0.00	189.50	2813.70	732.17	2555.19	2436.19	4.07	-0.428	0.000	0.083
95.00	-14.76	-4.46	0.00	-166.52	0.00	166.52	2768.43	713.68	2427.73	2336.00	4.54	-0.455	0.000	0.077
100.00	-13.99	-4.32	0.00	-144.24	0.00	144.24	2721.83	695.18	2303.53	2236.71	5.03	-0.481	0.000	0.070
105.00	-13.23	-4.18	0.00	-122.64	0.00	122.64	2673.89	676.69	2182.60	2138.40	5.54	-0.505	0.000	0.062
110.00	-12.49	-4.05	0.00	-101.72	0.00	101.72	2624.60	658.19	2064.92	2041.17	6.09	-0.526	0.000	0.055
115.00	-11.77	-3.92	0.00	-81.47	0.00	81.47	2573.99	639.70	1950.51	1945.09	6.65	-0.546	0.000	0.046
120.00	-11.06	-3.79	0.00	-61.88	0.00	61.88	2522.03	621.20	1839.35	1850.26	7.23	-0.562	0.000	0.038
120.67	-10.97	-3.77	0.00	-59.36	0.00	59.36	2515.00	618.74	1824.78	1837.72	7.31	-0.564	0.000	0.037
125.00	-10.07	-3.65	0.00	-43.02	0.00	43.02	2468.74	602.71	1731.46	1756.78	7.82	-0.575	0.000	0.029
125.17	-10.03	-3.65	0.00	-42.41	0.00	42.41	1203.56	366.48	1066.94	871.13	7.85	-0.576	0.000	0.057
127.00	-7.11	-2.28	0.00	-35.72	0.00	35.72	1198.21	362.41	1043.38	857.58	8.07	-0.580	0.000	0.048
130.00	-6.85	-2.21	0.00	-28.87	0.00	28.87	1189.06	355.75	1005.40	835.31	8.43	-0.588	0.000	0.040
135.00	-6.44	-2.08	0.00	-17.83	0.00	17.83	1172.74	344.65	943.65	798.01	9.06	-0.600	0.000	0.028
137.00	-3.92	-1.41	0.00	-13.67	0.00	13.67	1165.84	340.22	919.50	783.04	9.31	-0.603	0.000	0.021
140.00	-3.68	-1.34	0.00	-9.43	0.00	9.43	1155.08	333.56	883.87	760.54	9.69	-0.607	0.000	0.016
145.00	-3.29	-1.22	0.00	-2.72	0.00	2.72	1136.09	322.46	826.03	723.01	10.33	-0.610	0.000	0.007
147.00	-0.22	-0.08	0.00	-0.27	0.00	0.27	1128.12	318.02	803.45	707.99	10.58	-0.611	0.000	0.001
150.00	0.00	-0.08	0.00	-0.03	0.00	0.03	1115.76	311.36	770.16	685.49	10.97	-0.611	0.000	0.000

## Final Analysis Summary

<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	7/7/2023	
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C		
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00		
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil		
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II	Page: 36



### 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 + 1.0W 126 mph Wind	34.6	0.00	51.25	0.00	0.00	3570.53
0.9D + 1.0W 126 mph Wind	34.6	0.00	38.43	0.00	0.00	3549.69
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.5	0.00	60.91	0.00	0.00	858.33
1.2D + 1.0Ev + 1.0Eh	1.0	0.00	53.06	0.00	0.00	130.28
0.9D + 1.0Ev + 1.0Eh	1.0	0.00	40.20	0.00	0.00	129.80
1.0D + 1.0W 60 mph Wind	7.0	0.00	42.73	0.00	0.00	721.83

### 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 + 1.0W 126 mph Wind	-51.25	-34.59	0.00	-3570.5	0.00	-3570.5	6643.18	1657.1	8180.63	8128.53	0.00	0.447
0.9D + 1.0W 126 mph Wind	-38.43	-34.57	0.00	-3549.6	0.00	-3549.6	6643.18	1657.1	8180.63	8128.53	0.00	0.443
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-60.91	-8.53	0.00	-858.33	0.00	-858.33	6643.18	1657.1	8180.63	8128.53	0.00	0.115
1.2D + 1.0Ev + 1.0Eh	-53.06	-1.03	0.00	-130.28	0.00	-130.28	6643.18	1657.1	8180.63	8128.53	0.00	0.024
0.9D + 1.0Ev + 1.0Eh	-40.20	-1.03	0.00	-129.80	0.00	-129.80	6643.18	1657.1	8180.63	8128.53	0.00	0.022
1.0D + 1.0W 60 mph Wind	-42.73	-7.01	0.00	-721.83	0.00	-721.83	6643.18	1657.1	8180.63	8128.53	0.00	0.095


## Base Plate Summary

<b>Structure:</b> CT13076-A	<b>Code:</b> TIA-222-H	7/7/2023
<b>Site Name:</b> Ledyard	<b>Exposure:</b> C	
<b>Height:</b> 150.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
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Reactions		Base Plate		Anchor Bolts	
Original Design		<b>Yield (ksi):</b>	50.00	<b>Bolt Circle:</b>	65.00
<b>Moment (kip-ft):</b>	6054.10	<b>Width (in):</b>	69.50	<b>Number Bolts:</b>	34.00
<b>Axial (kip):</b>	94.70	<b>Style:</b>	Round	<b>Bolt Type:</b>	1.5" F1554 105
<b>Shear (kip):</b>	55.40	<b>Polygon Sides:</b>	0.00	<b>Bolt Diameter (in):</b>	1.50
Analysis (1.2D + 1.0W)		<b>Clip Length (in):</b>	0.00	<b>Yield (ksi):</b>	105.00
<b>Moment (kip-ft):</b>	3570.53	<b>Effective Len (in):</b>	7.86	<b>Ultimate (ksi):</b>	125.00
<b>Axial (kip):</b>	51.25	<b>Moment (kip-in):</b>	197.64	<b>Arrangement:</b>	Radial
<b>Shear (kip):</b>	34.59	<b>Allow Stress (ksi):</b>	67.50	<b>Cluster Dist (in):</b>	0.00
		<b>Applied Stress (ksi):</b>	49.27	<b>Start Angle (deg):</b>	0.00
		<b>Stress Ratio:</b>	0.73	Compression	
				<b>Force (kip):</b>	79.06
				<b>Allowable (kip):</b>	167.00
				<b>Ratio:</b>	0.47
				Tension	
				<b>Force (kip):</b>	76.04
				<b>Allowable (kip):</b>	132.19
				<b>Ratio:</b>	0.58



	Monopole Mat Foundation Design			Date
				7/7/2023
	Customer Name:	Verizon	TIA Standard:	TIA-222-H
	Site Name:		Structure Height (Ft.):	150
	Site Number:	CT13076-A	Engineer Name:	A. Hagos
	Engr. Number:		Engineer Login ID:	

#### Foundation Info Obtained from:

#### Structure Type:

#### Analysis or Design?

#### Base Reactions (Factored):

Axial Load (Kips):	51.3	Shear Force (Kips):	34.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3570.5

#### Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.5	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.25
Length of Pad (ft.):	24.5	Width of Pad (ft.):	24.5
Final Length of pad (ft)	24.5	Final width of pad (ft):	24.5

#### Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	32	Tie Spacing (in):	3.0	
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):	26	Qty. of Rebar in Pad (W):	26	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	

#### Soil Design Parameters:

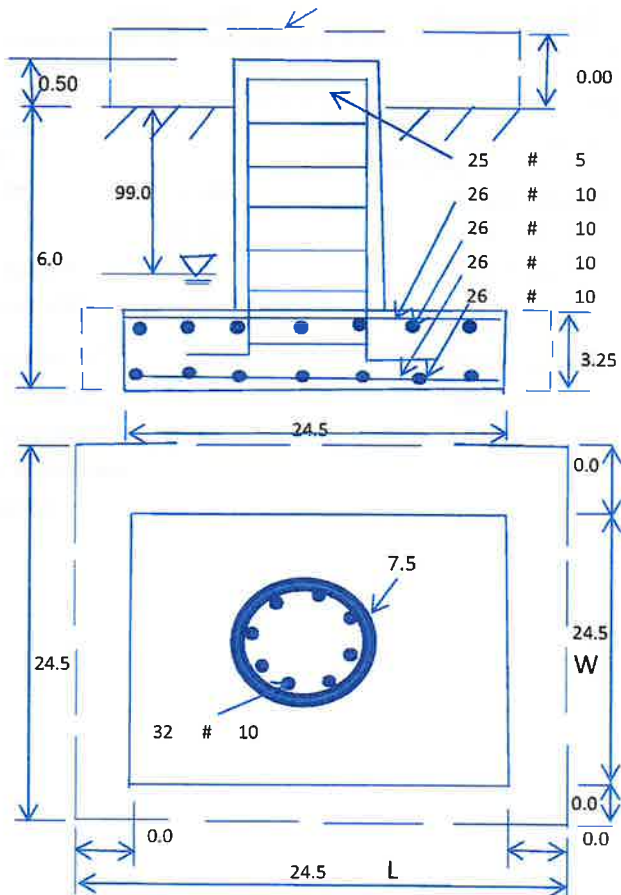
Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	47.6	Pcf	
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:
Ultimate Bearing Pressure (psf):	10000	Ultimate Skin Friction:	0	Psf	Angle from Botm of Pad:
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Botm of Pad:
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00		

#### Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1529.20	Total Dry Soil Weight (Kips):	168.21
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	168.21	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2094.39	Total Dry Concrete Weight (Kips):	314.16
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	314.16	Total Vertical Load on Base (Kips):	533.62

#### Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2904	<	Allowable Factored Soil Bearing (psf):	7500	0.39	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5945.9	>	Design Factored Momont (kips-ft):	3795	0.64	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.57	OK!				



**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):

0.90 Strength reduction factor (Shear): 0.75

Strength reduction factor (Axial compression):

0.65 Wind Load Factor on Concrete Design: 1.00

Lower  
Capacity  
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):

1.27 Tie / Stirrup Area (sq. in./each): 0.31

Calculated Moment Capacity (Mn, Kips-Ft):

7267.6 &gt; Design Factored Moment (Mu, Kips-Ft) 3683.0 0.51 OK!

Calculated Shear Capacity (Kips):

1496.3 &gt; Design Factored Shear (Kips): 34.6 0.02 OK!

Calculated Tension Capacity (Tn, Kips):

2194.6 &gt; Design Factored Tension (Tu Kips): 0.0 0.00 OK!

Calculated Compression Capacity (Pn, Kips):

11175.7 &gt; Design Factored Axial Load (Pu Kips): 51.3 0.00 OK!

Moment &amp; Axial Strength Combination:

0.51 OK! Check Tie Spacing (Design/Required): 0.25 OK!

Pier Reinforcement Ratio:

0.006 Reinforcement Ratio is satisfied per ACI

**(2) Concrete Pad:**

One-Way Design Shear Capacity (L-Direction, Kips):

986.7 &gt; One-Way Factored Shear (L-D. Kips): 224.2 0.23 OK!

One-Way Design Shear Capacity (W-Direction, Kips):

986.7 &gt; One-Way Factored Shear (W-D., Kips) 224.2 0.23 OK!

One-Way Design Shear Capacity (Corner-Corner, Kips):

855.9 &gt; One-Way Factored Shear (C-C, Kips): 216.1 0.25 OK!

Lower Steel Pad Reinforcement Ratio (L-Direct. ):

0.0032 OK! Lower Steel Pad Reinf. Ratio (W-Direct. ) 0.0032

Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):

5109.1 &gt; Moment at Bottom ( L-Dir. K-Ft): 1221.9 0.24 OK!

Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):

5109.1 &gt; Moment at Bottom ( W-Dir. K-Ft): 1221.9 0.24 OK!

Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):

7167.9 &gt; Moment at Bottom ( C-C Dir. K-Ft): 1728.1 0.24 OK!

Upper Steel Pad Reinforcement Ratio (L-Direct. ):

0.0032 OK! Upper Steel Reinf. Ratio (W-Dir. ) 0.0032

Upper Steel Pad Moment Capacity (L-Direct, Kips-ft):

5109.1 &gt; Moment at the top (L-Dir K-Ft): 535.6 0.10 OK!

Upper Steel Pad Moment Capacity (W-Direct, Kips-ft):

5109.1 &gt; Moment at the top (W-Dir K-Ft): 535.6 0.10 OK!

Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):

7167.9 &gt; Moment at the top (C-C Dir. K-Ft): 504.5 0.07 OK!

**(3) Check Punching Shear Capacity due to Moment in the Pier:**

Moment transferred by punching shear:

1428.2 k-ft. Max. factored shear stress  $v_{u,CD}$ : 2.6 PsiMax. factored shear stress  $v_{u,AB}$ :8.4 Psi Factored shear Strength  $\phi v_n$ : 189.7 PsiMax. factored shear stress  $v_u$ :

8.4 Psi Check Usage of Punching Shear Capacity: 0.04 OK!

**(4) Check Bending Capacity of the Pad Within the Effective Slab Width:**

Overturning moment to be transferred by flexure:

1071.2 k-ft. Effective Width for resisting OT moment: 17.3 ft.

Calculated number of Rebar in Effective width:

19 Actual number of Rebar in Effective width: 19

Steel Pad Moment Capacity ( L-Direct, Kips-ft):

3729.5 k-ft. Check Usage of the Flexure Capacity: 0.29 OK!



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## Antenna Mount Analysis Report and PMI Requirements

### Mount ReAnalysis

SMART Tool Project #: 10206271  
Colliers Engineering & Design Project #: 23777036 (Rev. 1)

July 10, 2023

#### Site Information

Site ID: 5000245086-VZW / LEDYARD NORTH CT - A  
Site Name: LEDYARD NORTH CT - A  
Carrier Name: Verizon Wireless  
Address: 12 Orchard Drive  
Ledyard, Connecticut 06335  
New London County  
Latitude: 41.468278°  
Longitude: -72.054472°

#### Structure Information

Tower Type: 150-Ft Monopole  
Mount Type: 12.50-Ft Combined Sector Frame

FUZE ID # 17123694

### Analysis Results

Combined Sector Frame: **89.1% Pass\***

**\*Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

#### \*\*\*Contractor PMI Requirements:

Included at the end of this MA report

Available & Submitted via portal at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to:  
[pmisupport@colliersengineering.com](mailto:pmisupport@colliersengineering.com)

Report Prepared By: Lauren Luzier



### **Executive Summary:**

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

### **Sources of Information:**

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS, Site ID: 5010222, dated February 08, 2021
Mount Mapping Report	Hudson Design Group, LLC, Site ID: 468220, dated February 09, 2021
Filter Add Scope Provided by Verizon Wireless	KAelus BSF0020F3V1-1 Specification
Post Modification Inspection Report	Maser Consulting Connecticut Project #: 21777102A, dated May 13, 2022

### **Analysis Criteria:**

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), $V_{ULT}$ : 130 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.00 in Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, $K_e$ : 0.994
Seismic Parameters:	$S_s$ : 0.192 g $S_1$ : 0.053 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, $L_v$ : 250 lbs. Maintenance Load, $L_m$ : 500 lbs.
Analysis Software:	RISA-3D (V17)



### **Final Loading Configuration:**

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
124.30	127.00	2	KAelus	BSF0020F3V1-1	Added
		3	Samsung	MT6407-77A	Retained
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	
		6	Commscope	SBNHH-1D45C	
		2	Raycap	RRFDC-3315-PF-48	

The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RHSDC-6627-PF-48	12	OVP-12

### **Standard Conditions:**

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.



6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
- o Channel, Solid Round, Angle, Plate      ASTM A36 (Gr. 36)
  - o HSS (Rectangular)                              ASTM 500 (Gr. B-46)
  - o Pipe                                                      ASTM A53 (Gr. B-35)
  - o Threaded Rod                                      F1554 (Gr. 36)
  - o Bolts                                                    ASTM A325

**Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.**

**Analysis Results:**

Component	Utilization %	Pass/Fail
Face Horizontal	55.2 %	Pass
Standoff Tube	29.4 %	Pass
Mast Pipe	45.7 %	Pass
Standoff Horizontal	48.0 %	Pass
Mount Pipe	57.7 %	Pass
Connection Angle	89.1 %	Pass
Standoff Vertical	76.5 %	Pass
Standoff Bracing	0.0 %	Pass
Face Vertical	43.9 %	Pass
Bracing Pipe	24.8 %	Pass
Tieback	40.6 %	Pass
Mount Connection	71.0 %	Pass

<b>Structure Rating – (Controlling Utilization of all Components)</b>	<b>89.1%</b>
-----------------------------------------------------------------------	--------------

**BASELINE mount weight per SBA agreement: 1935.00 lbs**

**Increase in mount weight due to Verizon loading change per SBA agreement: No Change**

**The weights listed above include 3 sector(s).**

**Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:**

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	56.6	47.9	73.7	65.0
0.5	81.4	69.4	105.7	93.7
1	102.8	87.9	134.3	119.4

**Notes:**

- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations

**Requirements:**

The existing mounts are **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

Proposed Filters shall be installed on bottom face horizontal next to LTE antenna in Gamma sector.

If required, ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other. Separate review fees will apply.

**Attachments:**

1. Contractor Required Post Installation Inspection (PMI) Report Deliverables
2. Antenna Placement Diagrams
3. Mount Photos
4. Mount Mapping Report (for reference only)
5. Analysis Calculations

## Mount Desktop – Post Modification Inspection (PMI) Report Requirements

### Documents & Photos Required from Contractor – **Passing Mount Analysis**

Passing Mount Analysis requires a PMI due to a modification in loading.

Electronic pdf version of this can be downloaded at <https://pmi.vzwsmart.com>.

For additional questions and support, please reach out to [pmisupport@colliersengineering.com](mailto:pmisupport@colliersengineering.com)

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MDG #: 5000245086

SMART Project #: 10206271

Fuze Project ID: 17123694

**Purpose** – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

### **Base Requirements:**

- If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide “as built mount drawings” showing contractor’s name, contact information, preparer’s signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: <https://pmi.vzwsmart.com>

### **Photo Requirements:**

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation.
  - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to installation.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.
  - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.

**Antenna & equipment placement and Geometry Confirmation:**

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.
- ☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

- ☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

**Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:**

**Issue:**

Proposed Filters shall be installed on bottom face horizontal next to LTE antenna in Gamma sector.

**Response:**

**Special Instruction Confirmation:**

- ☐ The contractor has read and acknowledges the above special instructions.
- ☐ All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.
- ☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

**Comments:**

--

**Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:**

☐ Yes      ☐ No

**Contractor certifies no new damage created during the current installation:**

☐ Yes      ☐ No

**Contractor to certify the condition of the safety climb and verify no damage when leaving the site:**

☐ Safety Climb in Good Condition      ☐ Safety Climb Damaged

**Certifying Individual:**

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	



Sector: B

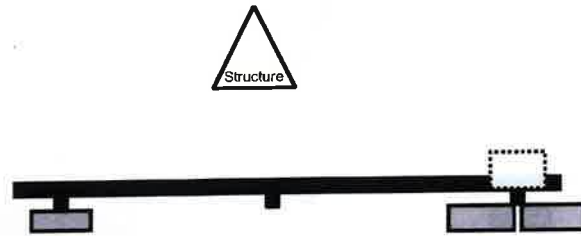
Structure Type: Monopole

10206271

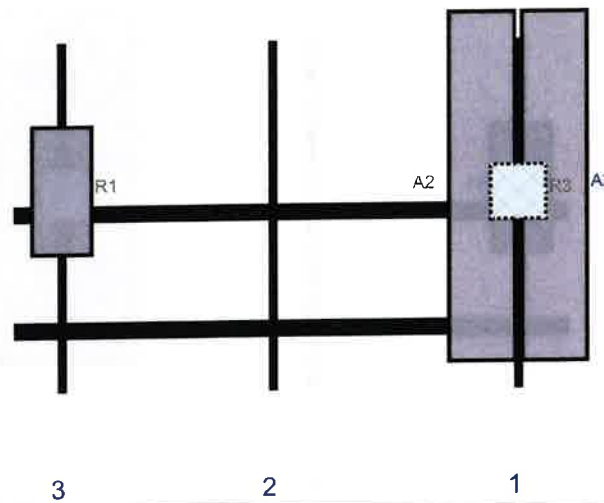
Mount Elev: 124.30

Page: 2

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	SBNHH-1D45C	95.9	18	138	1	a	Front	40.5	10	Retained	04/25/2022
A2	SBNHH-1D45C	95.9	18	138	1	b	Front	40.5	-10	Retained	04/25/2022
R3	B2/B66A RRH-BR049	15	15	138	1	a	Behind	42	0	Retained	04/25/2022
R1	MT6407-77A	35.1	16.1	13	3	a	Front	40.5	0	Retained	04/25/2022

Sector: A

7/10/2023

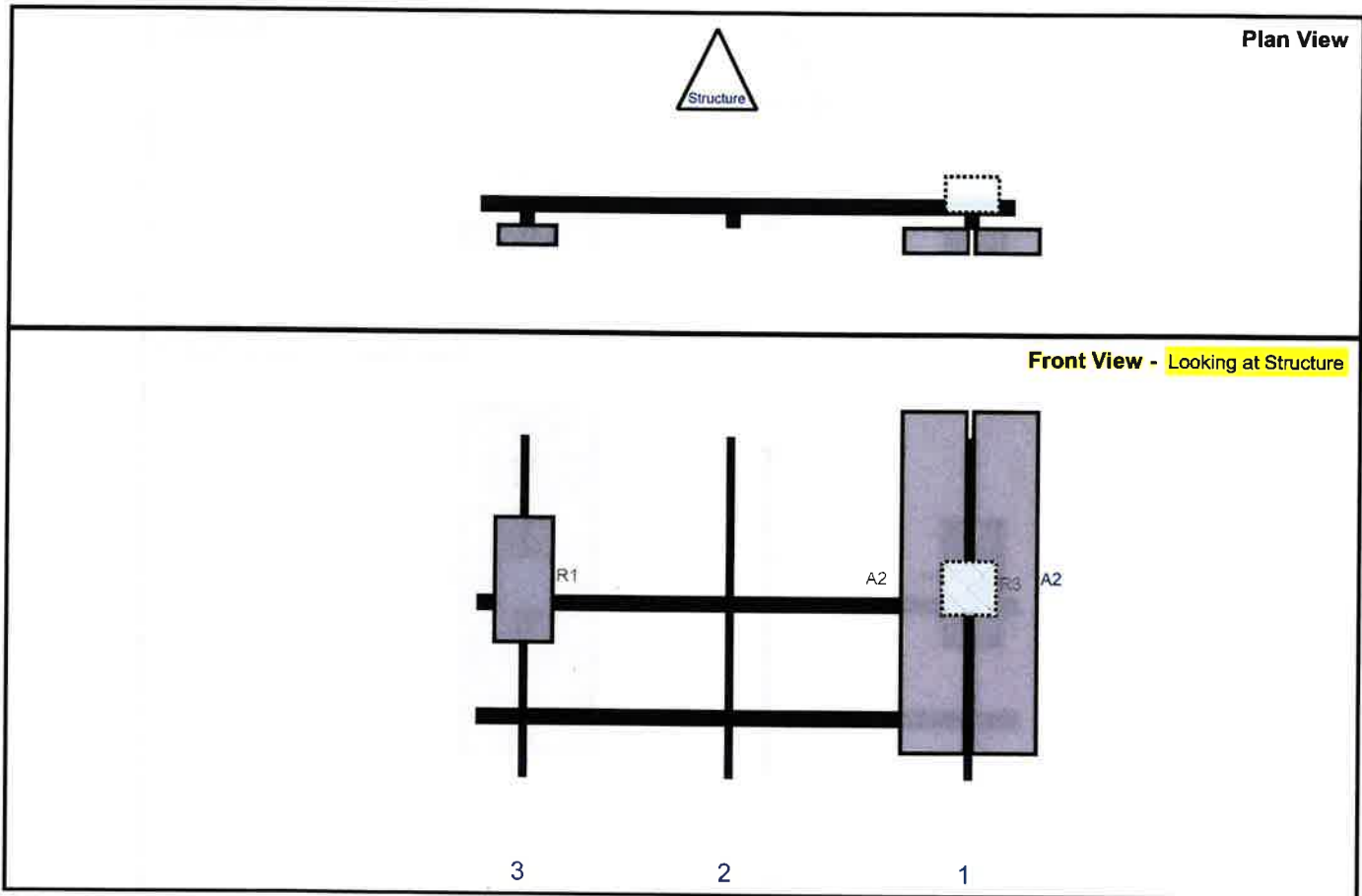
Structure Type: Monopole

10206271



Mount Elev: 124.30

Page: 1



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	SBNHH-1D45C	95.9	18	138	1	a	Front	40.5	10	Retained	04/25/2022
A2	SBNHH-1D45C	95.9	18	138	1	b	Front	40.5	-10	Retained	04/25/2022
R3	B2/B66A RRH-BR049	15	15	138	1	a	Behind	42	0	Retained	04/25/2022
R1	MT6407-77A	35.1	16.1	13	3	a	Front	40.5	0	Retained	04/25/2022
RRUA	B5/B13 RRH-BR04C	15	15		Member					Retained	04/25/2022
OVP1	RRFDC-3315-PF-48	19.1	15.7		Member					Retained	04/25/2022
OVP2	RRFDC-3315-PF-48	19.1	15.7		Member					Retained	04/25/2022
RRUB	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15		Member					Retained	04/25/2022
RRUC	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15		Member					Retained	04/25/2022

Sector: C

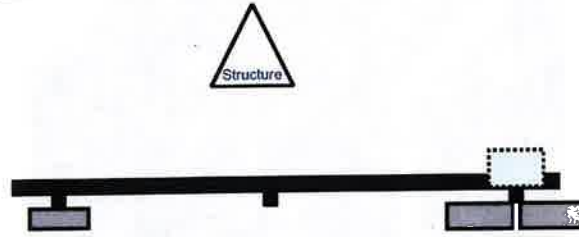
Structure Type: Monopole

10206271

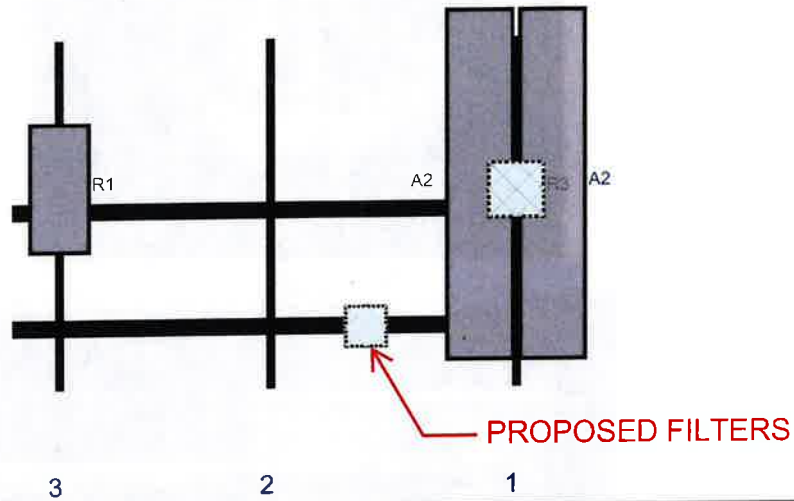
Mount Elev: 124.30

Page: 3

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	SBNHH-1D45C	95.9	18	138	1	a	Front	40.5	10	Retained	04/25/2022
A2	SBNHH-1D45C	95.9	18	138	1	b	Front	40.5	-10	Retained	04/25/2022
R3	B2/B66A RRH-BR049	15	15	138	1	a	Behind	42	0	Retained	04/25/2022
R1	MT6407-77A	35.1	16.1	13	3	a	Front	40.5	0	Retained	04/25/2022
M201	BSF0020F3V1-1	10.6	10.9		Member					Added	
M201	BSF0020F3V1-1	10.6	10.9		Member					Added	







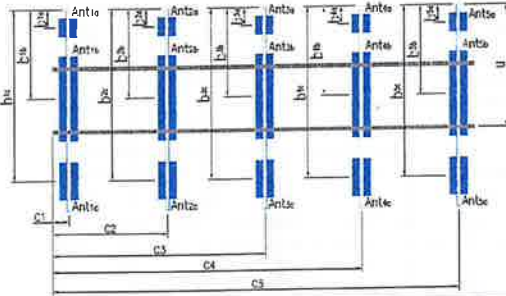
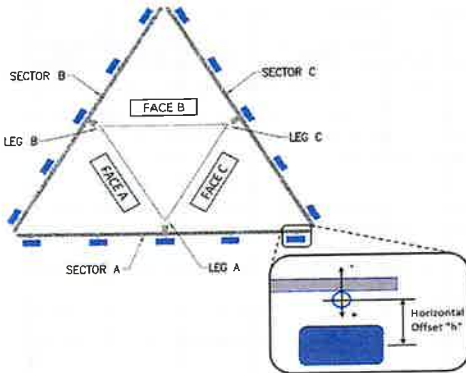
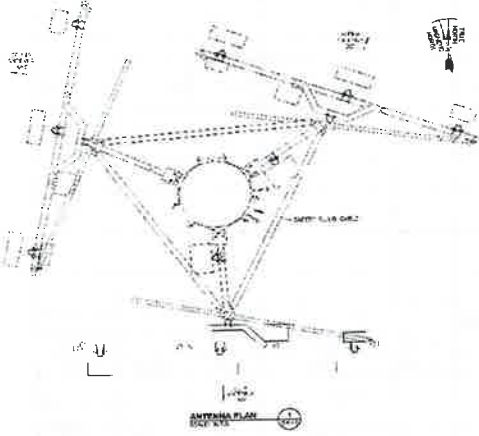
## Antenna Mount Mapping Form (PATENT PENDING)

FCC #  
1257191

<b>Tower Owner:</b>	SBA TOWERS
<b>Site Name:</b>	LEDYARD NORTH CT
<b>Site Number or ID:</b>	468220
<b>Mapping Contractor:</b>	HUDSON DESIGN GROUP, LLC

Mapping Date:	2/9/2021
Tower Type:	Monopole
Tower Height (Ft.):	150
Mount Elevation (Ft.):	124.3

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### Antenna Layout (Looking Out From Tower)

### Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."
A1	PIPE 2" STD. X 96" LONG	79.00	12.00	C1	PIPE 2" STD. X 96" LONG	79.00	12.00
A2	PIPE 2" STD. X 96" LONG	79.00	79.00	C2	PIPE 2" STD. X 96" LONG	79.00	79.00
A3	PIPE 2" STD. X 96" LONG	79.00	137.00	C3	PIPE 2" STD. X 96" LONG	79.00	137.00
A4				C4			
A5				C5			
A6				C6			
B1	PIPE 2" STD. X 96" LONG	79.00	12.00	D1			
B2	PIPE 2" STD. X 96" LONG	79.00	79.00	D2			
B3	PIPE 2" STD. X 96" LONG	79.00	137.00	D3			
B4				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. :	21.00
----------------------------------------------------------------------------------------------------------------------	-------

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

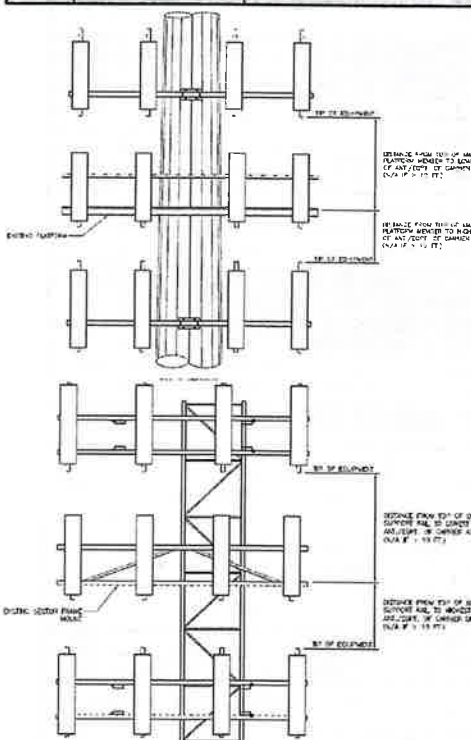
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if &gt; 10 ft.):

Please enter additional information or comments below.

Tower Face Width at Mount Elev. (ft.):	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	35
----------------------------------------	-------------------------------------------------------------	----

[illegible]



Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector		Sector B															
Sector A:	20.00	Deg	Leg A:		Deg	Ant <sub>1a</sub>	B13 RRH 4x30	11.00	5.50	36.00		126.967	26.00	-7.00		110					
Sector B:	180.00	Deg	Leg B:		Deg	Ant <sub>1b</sub>	SBNHH-1D45C	18.00	6.50	96.00		126.383	33.00	9.00	180.00	110					
Sector C:	280.00	Deg	Leg C:		Deg	Ant <sub>1c</sub>															
Sector D:		Deg	Leg D:		Deg	Ant <sub>2a</sub>	SBNHH-1D45C	18.00	6.50	96.00		126.383	33.00	9.00	180.00	110					
Climbing Facility Information						Ant <sub>2c</sub>															
Location:	120.00	Deg	Outside Face A			Ant <sub>3a</sub>															
Climbing Facility	Corrosion Type:		Good condition.			Ant <sub>3b</sub>	LNX-6514DS-A1M	12.00	7.00	80.00		126.633	30.00	8.00	180.00	110					
	Access:		Climbing path was obstructed.			Ant <sub>3c</sub>															
	Condition:		Good condition.			Ant <sub>4a</sub>															
						Ant <sub>4b</sub>															
						Ant <sub>4c</sub>															
						Ant <sub>5a</sub>															
						Ant <sub>5b</sub>															
						Ant <sub>5c</sub>															
						Ant on Standoff	B4 RRH 2x60-4R	12.00	9.00	21.50											110
						Ant on Standoff	OVP BOX	16.00	11.00	27.00											110
						Ant on Tower															
						Ant on Tower															
						Sector C															
Ant <sub>1a</sub>	B13 RRH 4x30	11.00	5.50	36.00		126.967	26.00	-7.00							111						
Ant <sub>1b</sub>	SBNHH-1D45C	18.00	6.50	96.00		126.383	33.00	9.00	280.00						111						
Ant <sub>1c</sub>																					
Ant <sub>2a</sub>																					
Ant <sub>2b</sub>	SBNHH-1D45C	18.00	6.50	96.00		126.383	33.00	9.00	280.00						111						
Ant <sub>2c</sub>																					
Ant <sub>3a</sub>																					
Ant <sub>3b</sub>	LNX-6514DS-A1M	12.00	7.00	80.00		126.633	30.00	8.00	280.00						112						
Ant <sub>3c</sub>																					
Ant <sub>4a</sub>																					
Ant <sub>4b</sub>																					
Ant <sub>4c</sub>																					
Ant <sub>5a</sub>																					
Ant <sub>5b</sub>																					
Ant <sub>5c</sub>																					
Ant on Standoff	B4 RRH 2x60-4R	12.00	9.00	21.50												111					
Ant on Standoff																					
Ant on Tower																					
Ant on Tower																					
Sector D																					
Ant <sub>1a</sub>																					
Ant <sub>1b</sub>																					
Ant <sub>1c</sub>																					
Ant <sub>2a</sub>																					
Ant <sub>2b</sub>																					
Ant <sub>2c</sub>																					
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Ant <sub>3b</sub>																					
Ant <sub>3c</sub>																					
Ant <sub>4a</sub>																					
Ant <sub>4b</sub>																					
Ant <sub>4c</sub>																					
Ant <sub>5a</sub>																					
Ant <sub>5b</sub>																					
Ant <sub>5c</sub>																					
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	CUSTOMER FILE #86C-566 57976EH, SITE NAME OPTSITE, INC 06C3664 0607, MODEL, 150 FT., MANUFACTURED TAPERED STEEL POLE, DRAWING # 807C239	26
3	(2) 1-1/4" HYBRID CABLES	129
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.



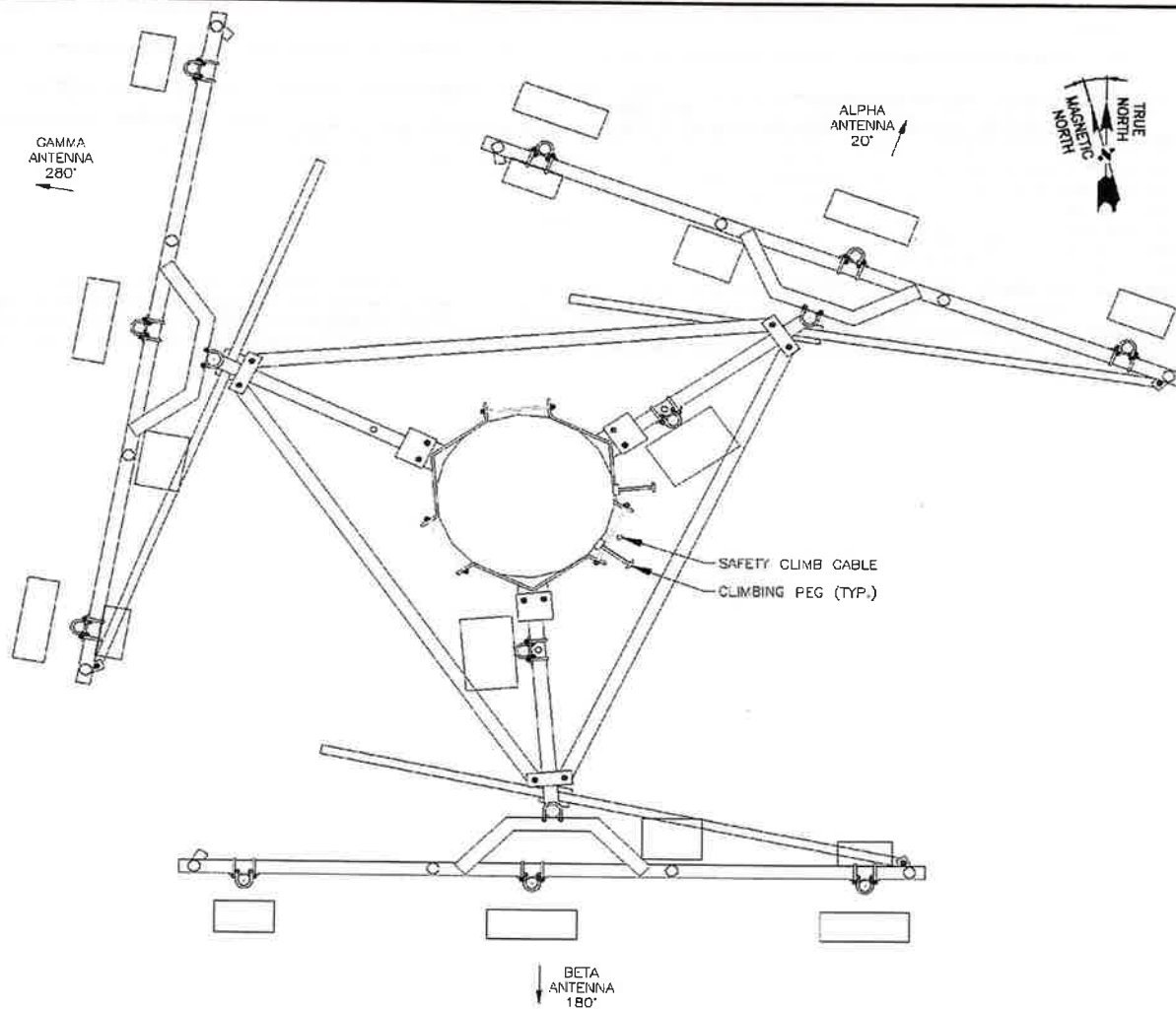
# Antenna Mount Mapping Form (PATENT PENDING)

FCC #  
1257191

Tower Owner:	SBA TOWERS	Mapping Date:	2/9/2021
Site Name:	LEDYARD NORTH CT	Tower Type:	Monopole
Site Number or ID:	468220	Tower Height (FT.):	150
Mapping Contractor:	HUDSON DESIGN GROUP, LLC.	Mount Elevation (FT.):	124.3

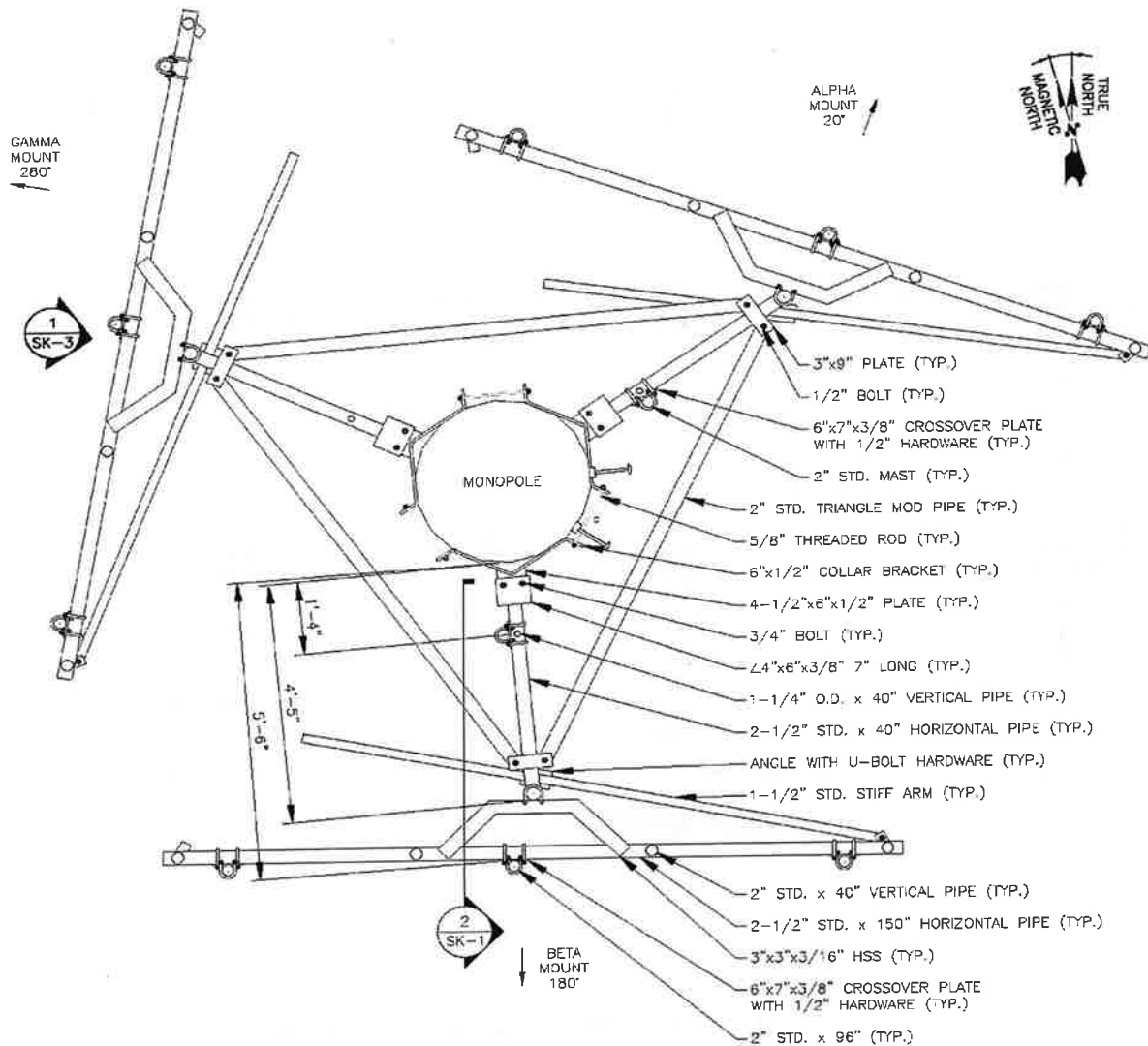
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Please Insert Sketches of the Antenna Mount



**ANTENNA PLAN**  
SCALE: N.T.S.

1  
SK-1

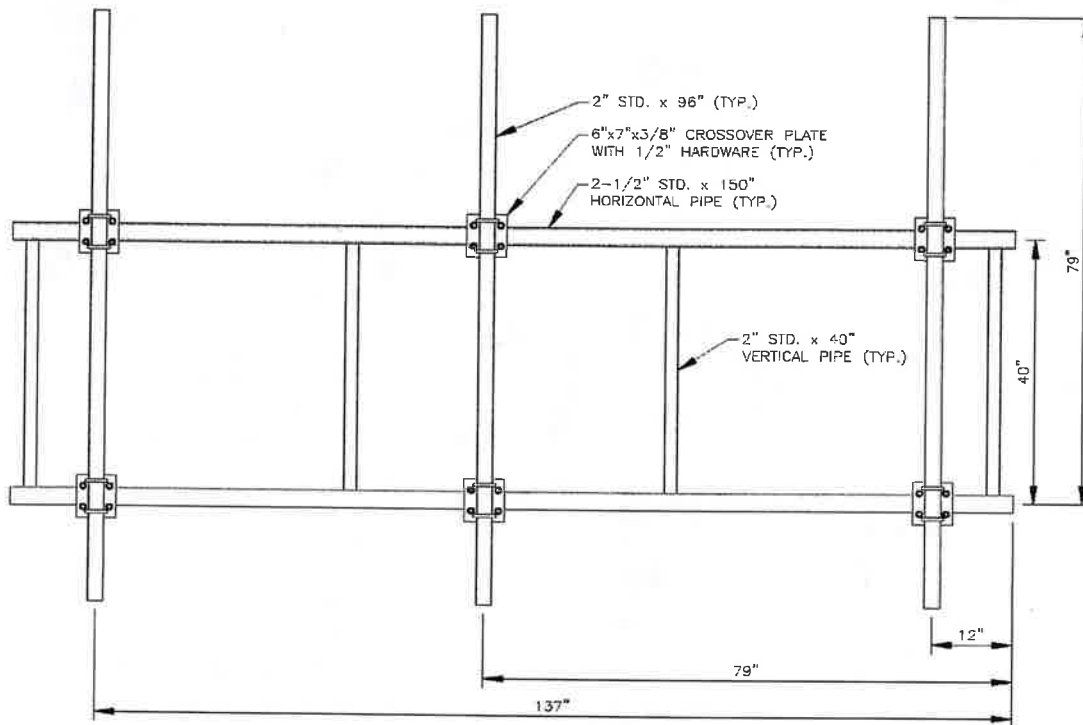


**MOUNT PLAN**  
SCALE: N.T.S

1  
SK-2

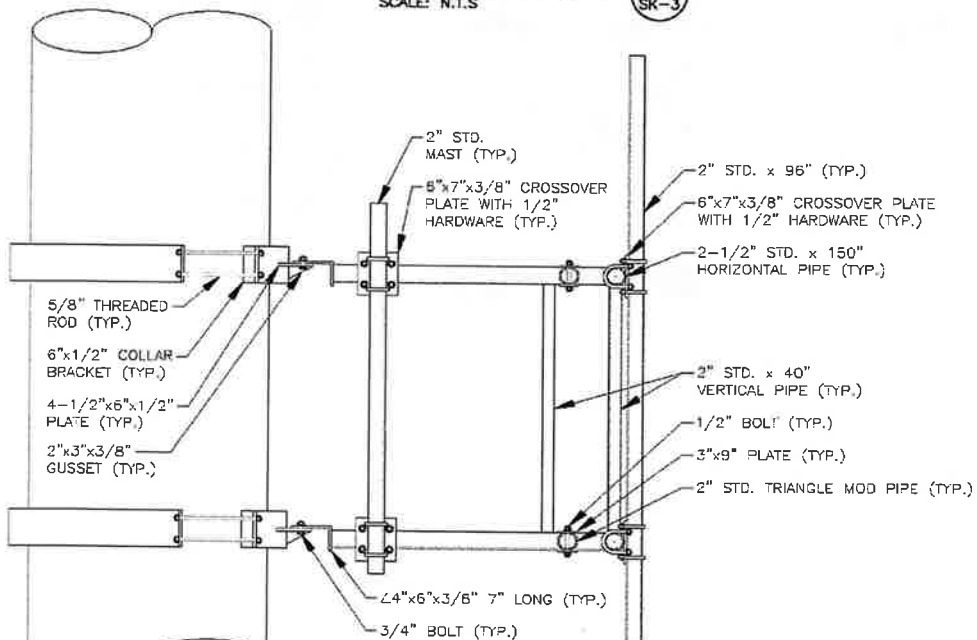


Please Insert Sketches of the Antenna Mount, cont'd



**FRONT ELEVATION**  
SCALE: N.T.S.

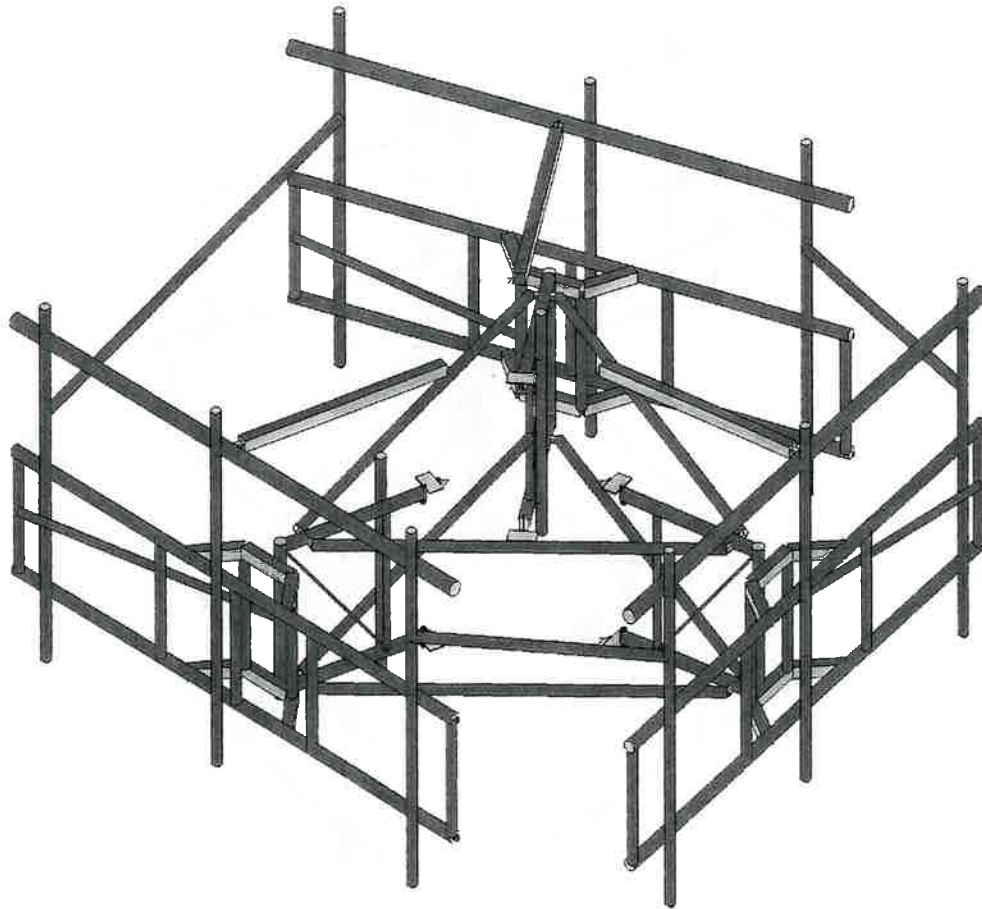
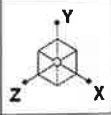
1  
SK-3



**SIDE ELEVATION**  
SCALE: N.T.S.

2  
SK-3





Envelope Only Solution

Colliers Engineering & Des...

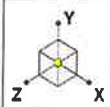
Project No. 10206271

5000245086-VZW\_MT\_LO\_H

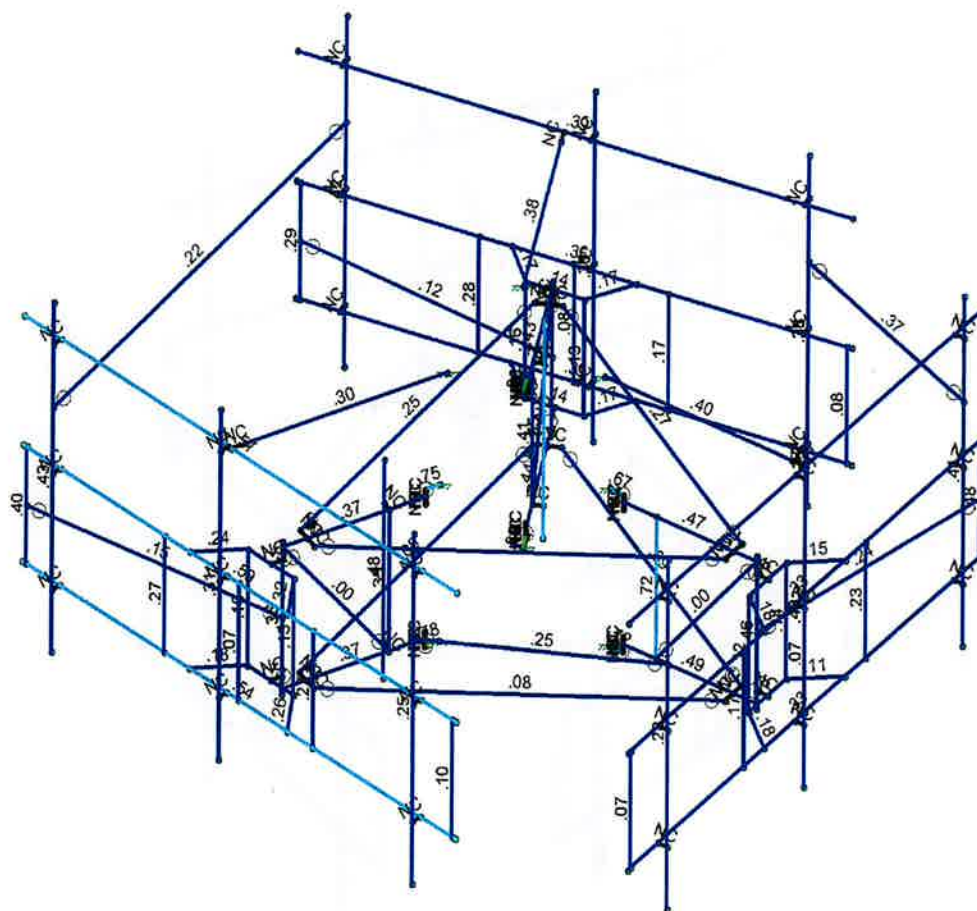
SK - 1

July 6, 2023 at 4:14 PM

5000245086-VZW\_MT\_LO\_H - cop...



Code Check ( Env )	
No Calc	
> 1.0	
.90-1.0	
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Member Code Checks Displayed (Enveloped)  
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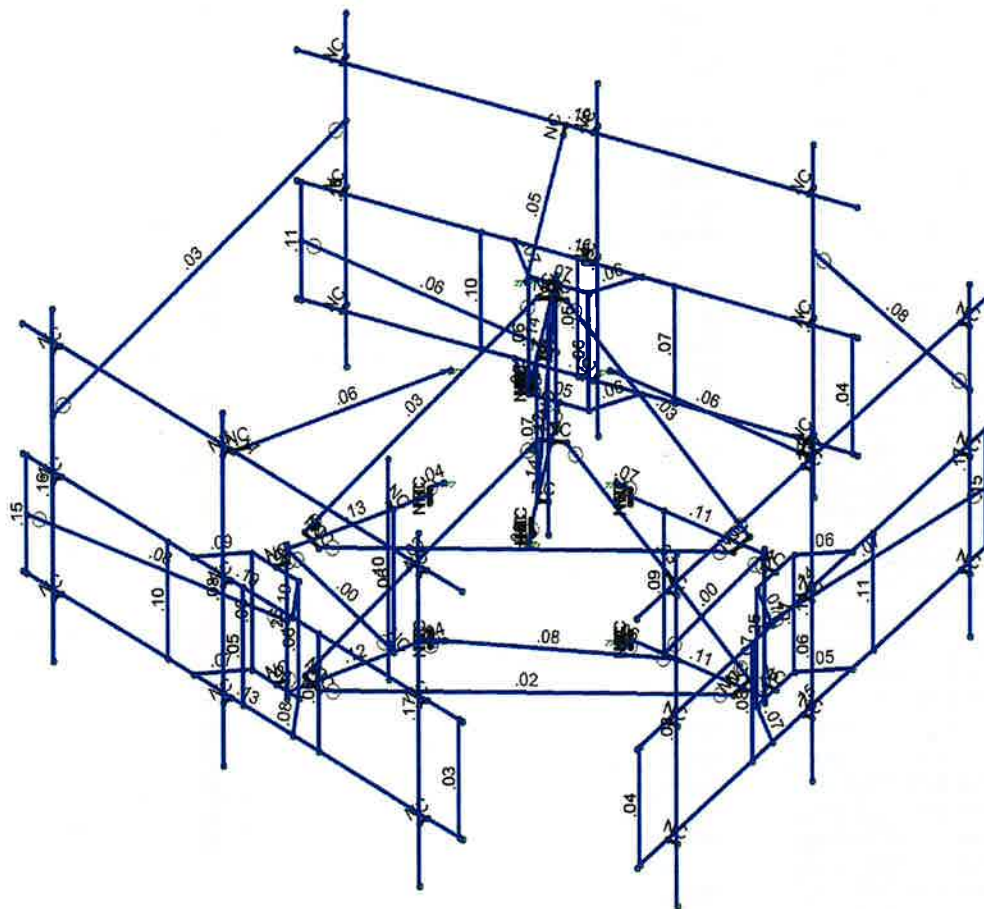
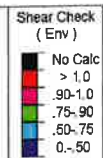
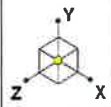
5000245086-VZW\_MT\_LO\_H

SK - 2

July 6, 2023 at 4:14 PM

Project No. 10206271

5000245086-VZW\_MT\_LO\_H - cop...



Member Shear Checks Displayed (Enveloped)  
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5000245086-VZW\_MT\_LO\_H

SK - 3

July 6, 2023 at 4:15 PM

Project No. 10206271

5000245086-VZW\_MT\_LO\_H - cop...

### Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Antenna D	None					81			
2	Antenna Di	None					81			
3	Antenna Wo (0 Deg)	None					81			
4	Antenna Wo (30 Deg)	None					81			
5	Antenna Wo (60 Deg)	None					81			
6	Antenna Wo (90 Deg)	None					81			
7	Antenna Wo (120 Deg)	None					81			
8	Antenna Wo (150 Deg)	None					81			
9	Antenna Wo (180 Deg)	None					81			
10	Antenna Wo (210 Deg)	None					81			
11	Antenna Wo (240 Deg)	None					81			
12	Antenna Wo (270 Deg)	None					81			
13	Antenna Wo (300 Deg)	None					81			
14	Antenna Wo (330 Deg)	None					81			
15	Antenna Wi (0 Deg)	None					81			
16	Antenna Wi (30 Deg)	None					81			
17	Antenna Wi (60 Deg)	None					81			
18	Antenna Wi (90 Deg)	None					81			
19	Antenna Wi (120 Deg)	None					81			
20	Antenna Wi (150 Deg)	None					81			
21	Antenna Wi (180 Deg)	None					81			
22	Antenna Wi (210 Deg)	None					81			
23	Antenna Wi (240 Deg)	None					81			
24	Antenna Wi (270 Deg)	None					81			
25	Antenna Wi (300 Deg)	None					81			
26	Antenna Wi (330 Deg)	None					81			
27	Antenna Wm (0 Deg)	None					81			
28	Antenna Wm (30 Deg)	None					81			
29	Antenna Wm (60 Deg)	None					81			
30	Antenna Wm (90 Deg)	None					81			
31	Antenna Wm (120 Deg)	None					81			
32	Antenna Wm (150 Deg)	None					81			
33	Antenna Wm (180 Deg)	None					81			
34	Antenna Wm (210 Deg)	None					81			
35	Antenna Wm (240 Deg)	None					81			
36	Antenna Wm (270 Deg)	None					81			
37	Antenna Wm (300 Deg)	None					81			
38	Antenna Wm (330 Deg)	None					81			
39	Structure D	None		-1						
40	Structure Di	None						111		
41	Structure Wo (0 Deg)	None						222		
42	Structure Wo (30 Deg)	None						222		
43	Structure Wo (60 Deg)	None						222		
44	Structure Wo (90 Deg)	None						222		
45	Structure Wo (120 Deg)	None						222		
46	Structure Wo (150 Deg)	None						222		
47	Structure Wo (180 Deg)	None						222		
48	Structure Wo (210 Deg)	None						222		
49	Structure Wo (240 Deg)	None						222		
50	Structure Wo (270 Deg)	None						222		
51	Structure Wo (300 Deg)	None						222		
52	Structure Wo (330 Deg)	None						222		
53	Structure Wi (0 Deg)	None						222		
54	Structure Wi (30 Deg)	None						222		
55	Structure Wi (60 Deg)	None						222		



### Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface...
56	Structure Wi (90 Deg)	None						222		
57	Structure Wi (120 Deg)	None						222		
58	Structure Wi (150 Deg)	None						222		
59	Structure Wi (180 Deg)	None						222		
60	Structure Wi (210 Deg)	None						222		
61	Structure Wi (240 Deg)	None						222		
62	Structure Wi (270 Deg)	None						222		
63	Structure Wi (300 Deg)	None						222		
64	Structure Wi (330 Deg)	None						222		
65	Structure Wm (0 Deg)	None						222		
66	Structure Wm (30 Deg)	None						222		
67	Structure Wm (60 Deg)	None						222		
68	Structure Wm (90 Deg)	None						222		
69	Structure Wm (120 Deg)	None						222		
70	Structure Wm (150 Deg)	None						222		
71	Structure Wm (180 Deg)	None						222		
72	Structure Wm (210 Deg)	None						222		
73	Structure Wm (240 Deg)	None						222		
74	Structure Wm (270 Deg)	None						222		
75	Structure Wm (300 Deg)	None						222		
76	Structure Wm (330 Deg)	None						222		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					81			
82	Antenna Eh (0 Deg)	None					54			
83	Antenna Eh (90 Deg)	None					54			
84	Structure Ev	ELY		-0.041						
85	Structure Eh (0 Deg)	ELZ			-0.102					
86	Structure Eh (90 Deg)	ELX	.102							

### Load Combinations

[illegible]



### ***Load Combinations (Continued)***

[illegible]

### ***Joint Coordinates and Temperatures***

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N179A	-7.797522	-3.125	6.692098	0	
2	N180	4.702478	-3.125	6.692098	0	



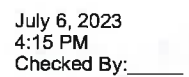


Company : Colliers Engineering & Design  
Designer :  
Job Number : Project No. 10206271  
Model Name : 5000245086-VZW\_MT\_LO\_H

July 6, 2023  
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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
3	N181	-7.797522	-0.458333	6.692098	0	
4	N182	4.702478	-0.458333	6.692098	0	
5	N189	-1.547522	-3.125	5.775431	0	
6	N190	-1.547522	-0.458333	5.775431	0	
7	N192	-0.130855	-0.458333	6.692098	0	
8	N194	-2.964189	-0.458333	6.692098	0	
9	N196	-0.880856	-0.458333	5.775431	0	
10	N198	-2.214189	-0.458333	5.775431	0	
11	N199	-1.477425	-3.125	5.513827	0	
12	N200	-1.477425	-0.458333	5.513827	0	
13	N201	-1.477425	-0.041667	5.513827	0	
14	N202	-1.477425	-3.541667	5.513827	0	
15	N203	-1.477425	-0.166667	5.513827	0	
16	N204	-1.477425	-3.416667	5.513827	0	
17	N205	-0.614695	-0.166667	2.294074	0	
18	N206	-0.614695	-3.416667	2.294074	0	
19	N211	3.702478	-0.458333	6.692098	0	
20	N212	3.702478	-0.458333	6.921265	0	
21	N213	3.702478	-3.125	6.692098	0	
22	N214	3.702478	-3.125	6.921265	0	
23	N215	3.702478	3.458333	6.921265	0	
24	N216	3.702478	-4.541667	6.921265	0	
25	N32	-0.130855	-3.125	6.692098	0	
26	N33	-2.964189	-3.125	6.692098	0	
27	N34	-0.880856	-3.125	5.775431	0	
28	N35	-2.214189	-3.125	5.775431	0	
29	N31	-0.614695	-3.25	2.294074	0	
30	N32A	-0.614695	-3.583333	2.294074	0	
31	N35A	-0.830378	-0.166667	3.099012	0	
32	N36A	-0.830378	-3.416667	3.099012	0	
33	N37	-1.547522	-3.125	6.692098	0	
34	N38	-1.547522	-0.458333	6.692098	0	
35	N39	-7.693356	-3.125	6.692098	0	
36	N40	-7.693356	-0.458333	6.692098	0	
37	N43	-3.693356	-3.125	6.692098	0	
38	N44	-3.693356	-0.458333	6.692098	0	
39	N43A	4.598311	-3.125	6.692098	0	
40	N44A	4.598311	-0.458333	6.692098	0	
41	N45	0.598311	-3.125	6.692098	0	
42	N46	0.598311	-0.458333	6.692098	0	
43	N47	-1.326448	-0.166667	4.95037	0	
44	N48	-1.044719	-0.166667	5.025859	0	
45	N49	-1.608176	-0.166667	4.874881	0	
46	N50	-1.326448	-3.416667	4.95037	0	
47	N51	-1.044719	-3.416667	5.025859	0	
48	N52	-1.608176	-3.416667	4.874881	0	
49	N54	-1.477425	-1.791667	5.513827	0	
50	N55	-1.880855	-0.458333	6.692098	0	
51	N56	-1.880855	-0.458333	6.921265	0	
52	N57	-1.880855	-3.125	6.692098	0	
53	N58	-1.880855	-3.125	6.921265	0	
54	N59	-1.880855	3.458333	6.921265	0	
55	N60	-1.880855	-4.541667	6.921265	0	
56	N61	-6.714189	-0.458333	6.692098	0	
57	N62	-6.714189	-0.458333	6.921265	0	
58	N63	-6.714189	-3.125	6.692098	0	
59	N64	-6.714189	-3.125	6.921265	0	
60	N65	-6.714189	3.458333	6.921265	0	
61	N66	-6.714189	-4.541667	6.921265	0	



	Label	X (ft)	Y (ft)	Z (ft)	Temp (F)	Detach From Dia...
62	CP	0.	0	-0.	0	
63	N306A	1.760464	-3.125	-7.578807	0	
64	N307B	-9.985694	-3.125	-3.303555	0	
65	N308A	1.760464	-0.458333	-7.578807	0	
66	N309B	-9.985694	-0.458333	-3.303555	0	
67	N310A	-3.799096	-3.125	-4.579796	0	
68	N311B	-3.799096	-0.458333	-4.579796	0	
69	N312A	-5.443846	-0.458333	-4.956652	0	
70	N313B	-2.781384	-0.458333	-5.925709	0	
71	N314A	-4.425558	-0.458333	-4.351783	0	
72	N315B	-3.172635	-0.458333	-4.807809	0	
73	N316A	-3.640345	-3.125	-4.360368	0	
74	N317A	-3.640345	-0.458333	-4.360368	0	
75	N318	-3.640345	-0.041667	-4.360368	0	
76	N319A	-3.640345	-3.541667	-4.360368	0	
77	N320	-3.640345	-0.166667	-4.360368	0	
78	N321A	-3.640345	-3.416667	-4.360368	0	
79	N322	-1.686477	-0.166667	-1.659718	0	
80	N323A	-1.686477	-3.416667	-1.659718	0	
81	N324	-9.046001	-0.458333	-3.645575	0	
82	N325A	-9.124381	-0.458333	-3.860921	0	
83	N326	-9.046001	-3.125	-3.645575	0	
84	N327A	-9.124381	-3.125	-3.860921	0	
85	N328	-9.124381	3.458333	-3.860921	0	
86	N329A	-9.124381	-4.541667	-3.860921	0	
87	N330	-5.443846	-3.125	-4.956652	0	
88	N331A	-2.781384	-3.125	-5.925709	0	
89	N332	-4.425558	-3.125	-4.351783	0	
90	N333A	-3.172635	-3.125	-4.807809	0	
91	N334	-1.686477	-3.25	-1.659718	0	
92	N335A	-1.686477	-3.583333	-1.659718	0	
93	N340	-2.174944	-0.166667	-2.33488	0	
94	N341A	-2.174944	-3.416667	-2.33488	0	
95	N342	-4.112615	-3.125	-5.441181	0	
96	N343A	-4.112615	-0.458333	-5.441181	0	
97	N344	1.662579	-3.125	-7.54318	0	
98	N345A	1.662579	-0.458333	-7.54318	0	
99	N346	-2.096191	-3.125	-6.175099	0	
100	N347	-2.096191	-0.458333	-6.175099	0	
101	N348	-9.887809	-3.125	-3.339182	0	
102	N349	-9.887809	-0.458333	-3.339182	0	
103	N350	-6.129039	-3.125	-4.707263	0	
104	N351	-6.129039	-0.458333	-4.707263	0	
105	N352	-3.298418	-0.166667	-3.887754	0	
106	N353	-3.534725	-0.166667	-3.716791	0	
107	N354	-3.062111	-0.166667	-4.058718	0	
108	N355	-3.298418	-3.416667	-3.887754	0	
109	N356	-3.534725	-3.416667	-3.716791	0	
110	N357	-3.062111	-3.416667	-4.058718	0	
111	N358	-9.887809	-1.791667	-3.339182	0	
112	N360	-3.799384	-0.458333	-5.555188	0	
113	N361	-3.877764	-0.458333	-5.770534	0	
114	N362	-3.799384	-3.125	-5.555188	0	
115	N363	-3.877764	-3.125	-5.770534	0	
116	N364	-3.877764	3.458333	-5.770534	0	
117	N365	-3.877764	-4.541667	-5.770534	0	
118	N366	0.742464	-0.458333	-7.208285	0	
119	N367	0.664084	-0.458333	-7.423631	0	
120	N368	0.742464	-3.125	-7.208285	0	</



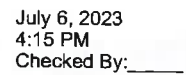


Company : Colliers Engineering & Design  
Designer :  
Job Number : Project No. 10206271  
Model Name : 5000245086-VZW\_MT\_LO\_H

July 6, 2023  
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### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
121	N369	0.664084	-3.125	-7.423631	0	
122	N370	0.664084	3.458333	-7.423631	0	
123	N371	0.664084	-4.541667	-7.423631	0	
124	N372A	7.863883	-3.125	4.893355	0	
125	N373	5.693281	-3.125	-7.416741	0	
126	N374	7.863883	-0.458333	4.893355	0	
127	N375	5.693281	-0.458333	-7.416741	0	
128	N376	5.875842	-3.125	-1.102515	0	
129	N377	5.875842	-0.458333	-1.102515	0	
130	N378	6.532581	-0.458333	-2.656837	0	
131	N379	7.024584	-0.458333	0.133451	0	
132	N380	5.760076	-0.458333	-1.759054	0	
133	N381	5.991607	-0.458333	-0.445977	0	
134	N382	5.609123	-3.125	-1.055486	0	
135	N383	5.609123	-0.458333	-1.055486	0	
136	N384	5.609123	-0.041667	-1.055486	0	
137	N385	5.609123	-3.541667	-1.055486	0	
138	N386	5.609123	-0.166667	-1.055486	0	
139	N387	5.609123	-3.416667	-1.055486	0	
140	N388	2.326431	-0.166667	-0.476659	0	
141	N389	2.326431	-3.416667	-0.476659	0	
142	N390	5.866929	-0.458333	-6.431934	0	
143	N391	6.092615	-0.458333	-6.471728	0	
144	N392	5.866929	-3.125	-6.431934	0	
145	N393	6.092615	-3.125	-6.471728	0	
146	N394	6.092615	3.458333	-6.471728	0	
147	N395	6.092615	-4.541667	-6.471728	0	
148	N396	6.532581	-3.125	-2.656837	0	
149	N397	7.024584	-3.125	0.133451	0	
150	N398	5.760076	-3.125	-1.759054	0	
151	N399	5.991607	-3.125	-0.445977	0	
152	N400	2.326431	-3.25	-0.476659	0	
153	N401	2.326431	-3.583333	-0.476659	0	
154	N406	3.147104	-0.166667	-0.621365	0	
155	N407	3.147104	-3.416667	-0.621365	0	
156	N408	6.778582	-3.125	-1.261693	0	
157	N409	6.778582	-0.458333	-1.261693	0	
158	N410	7.845795	-3.125	4.790771	0	
159	N411	7.845795	-0.458333	4.790771	0	
160	N412	7.151202	-3.125	0.85154	0	
161	N413	7.151202	-0.458333	0.85154	0	
162	N414	5.711137	-3.125	-7.314157	0	
163	N415	5.711137	-0.458333	-7.314157	0	
164	N416	6.405962	-3.125	-3.374926	0	
165	N417	6.405962	-0.458333	-3.374926	0	
166	N418	5.034652	-0.166667	-0.954191	0	
167	N419	4.984005	-0.166667	-1.241427	0	
168	N420	5.085299	-0.166667	-0.666955	0	
169	N421	5.034652	-3.416667	-0.954191	0	
170	N422	4.984005	-3.416667	-1.241427	0	
171	N423	5.085299	-3.416667	-0.666955	0	
172	N424	5.711137	-1.791667	-7.314157	0	
173	N426	6.836465	-0.458333	-0.933424	0	
174	N427	7.06215	-0.458333	-0.973218	0	
175	N428	6.836465	-3.125	-0.933424	0	
176	N429	7.06215	-3.125	-0.973218	0	
177	N430	7.06215	3.458333	-0.973218	0	
178	N431	7.06215	-4.541667	-0.973218	0	
179	N432	7.675765	-0.458333	3.82648	0	



	Label	X (m)	Y (m)	Z (m)	Temp (F)	Detach From Diap...
180	N433	7.90145	-0.458333	3.786686	0	
181	N434	7.675765	-3.125	3.82648	0	
182	N435	7.90145	-3.125	3.786686	0	
183	N436	7.90145	3.458333	3.786686	0	
184	N437	7.90145	-4.541667	3.786686	0	
185	N200A	-3.640345	-1.791667	-4.360368	0	
186	N200B	5.609123	-1.791667	-1.055486	0	
187	N204A	-1.051736	-0.166667	3.039699	0	
188	N203A	-1.989274	-0.166667	-2.469209	0	
189	N204B	-1.051736	-3.416667	3.039699	0	
190	N205A	-1.989274	-3.416667	-2.469209	0	
191	N204C	-1.051736	0.833333	3.039699	0	
192	N205B	-1.989274	0.833333	-2.469209	0	
193	N206A	-1.051736	-4.166667	3.039699	0	
194	N207	-1.989274	-4.166667	-2.469209	0	
195	N208	-7.693356	-1.791667	6.692098	0	
196	N214A	-0.485286	2.5	1.811111	0	
197	N215A	1.834027	2.5	-0.389834	0	
198	N217	-7.797522	2.5	6.692098	0	
199	N218	4.702478	2.5	6.692098	0	
200	N219	3.702478	2.5	6.692098	0	
201	N220	3.702478	2.5	6.921265	0	
202	N221	-1.880855	2.5	6.692098	0	
203	N222	-1.880855	2.5	6.921265	0	
204	N223	-6.714189	2.5	6.692098	0	
205	N224	-6.714189	2.5	6.921265	0	
206	N225	1.760464	2.5	-7.578807	0	
207	N226	-9.985694	2.5	-3.303555	0	
208	N227	-9.046001	2.5	-3.645575	0	
209	N228	-9.124381	2.5	-3.860921	0	
210	N229	-3.799384	2.5	-5.555188	0	
211	N230	-3.877764	2.5	-5.770534	0	
212	N231	0.742464	2.5	-7.208285	0	
213	N232	0.664084	2.5	-7.423631	0	
214	N233	7.863883	2.5	4.893355	0	
215	N234	5.693281	2.5	-7.416741	0	
216	N235	5.866929	2.5	-6.431934	0	
217	N236	6.092615	2.5	-6.471728	0	
218	N237	6.836465	2.5	-0.933424	0	
219	N238	7.06215	2.5	-0.973218	0	
220	N239	7.675765	2.5	3.82648	0	
221	N240	7.90145	2.5	3.786686	0	
222	N244	-1.793142	2.5	6.692098	0	
223	N246A	6.778582	2.5	-1.261693	0	
224	N244A	-1.706869	2.5	6.370123	0	
225	N245	6.450313	2.5	-1.20381	0	
226	N250	-6.714189	1.041667	6.921265	0	
227	N251	0.664084	1.041667	-7.423631	0	
228	N252	7.90145	1.041667	3.786686	0	
229	N250A	3.702478	1.041667	6.921265	0	
230	N252A	-9.124381	1.041667	-3.860921	0	
231	N253A	6.092615	1.041667	-6.471728	0	
232	N253C	-1.393397	2.5	-1.25462	0	
233	N255A	-4.357743	2.5	-5.351962	0	
234	N255B	-4.162356	2.5	-5.081897	0	
235	N239A	-0.614695	0	2.294074	0	
236	N242	-1.686477	0	-1.659718	0	
237	N246	2.326431	0	-0.476659	0	
238	N247A	-0.528508	-3.583333	1.972421	0	



### Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
239	N248A	1.99849	-3.583333	-0.418834	0	
240	N249	-0.528508	0.	1.972421	0	
241	N250B	-1.491286	0.	-1.389923	0	
242	N251A	1.99849	0.	-0.418834	0	
243	N247B	2.326431	-0.040278	-0.476659	0	
244	N248	2.326431	-0.293056	-0.476659	0	
245	N249A	-0.614695	-3.290278	2.294074	0	
246	N250C	-0.614695	-3.543056	2.294074	0	
247	N251B	-1.686477	-3.290278	-1.659718	0	
248	N252B	-1.686477	-3.543056	-1.659718	0	
249	N253	2.326431	-3.290278	-0.476659	0	
250	N254	2.326431	-3.543056	-0.476659	0	
251	N255	-0.614695	-0.040278	2.294074	0	
252	N256	-0.614695	-0.293056	2.294074	0	
253	N257	-1.686477	-0.040278	-1.659718	0	
254	N258	-1.686477	-0.293056	-1.659718	0	
255	N259	-1.491286	-3.583	-1.389923	0	
256	N257A	-1.686477	-0.333333	-1.659718	0	
257	N258A	-0.614695	-0.333333	2.294074	0	
258	N260	2.326431	-0.333333	-0.476659	0	

### Hot Rolled Steel Section Sets

	Label	Shape	Type	Design L...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	PIPE 2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
2	Face Vertical	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
3	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
4	Standoff Tube	HSS3X3X3	Beam	SquareT...	A500 Gr. B 46	Typical	1.89	2.46	2.46	4.03
5	Mast Pipe	PIPE 2.5	Column	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
6	Standoff Horizontal	PIPE 2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
7	Standoff Vertical	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
8	Standoff Vertical P1.25...	PIPE 1.25	Column	Pipe	A53 Gr. B	Typical	.625	.184	.184	.368
9	Standoff Bracing	SR 0.5	Column	BAR	A36 Gr.36	Typical	.196	.003	.003	.006
10	Tieback	PIPE 1.5	Beam	Pipe	A53 Gr. B	Typical	.749	.293	.293	.586
11	Bracing Pipe	PIPE 2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
12	Connection Angle	PL3/8x7	Beam	RECT	A36 Gr.36	Typical	2.275	.02	9.29	.078
13	Mod Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
14	Mod Standoff	HSS3X3X4	Beam	SquareT...	A500 Gr. B 46	Typical	2.44	3.02	3.02	5.08
15	Mod Tieback	PIPE 2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
16	Connection	L6X4X6	Beam	Pipe	A36 Gr.36	Typical	3.61	4.86	13.4	.177

### Hot Rolled Steel Properties

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

### Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
1	M109	N179A	N180			Face Horizont...	Beam	Pipe	A53 Gr. B	Typical
2	M110	N181	N182			Face Horizont...	Beam	Pipe	A53 Gr. B	Typical
3	M116	N198	N194			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical



### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de..	Section/Shape	Type	Design List	Material	Design Rules
4	M117	N196	N198			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
5	M118	N192	N196			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
6	M122	N190	N200			RIGID	None	None	RIGID	Typical
7	M123	N189	N199			RIGID	None	None	RIGID	Typical
8	M124	N201	N202			Mast Pipe	Column	Pipe	A53 Gr. B	Typical
9	M125	N203	N205			Standoff Hori...	Beam	Pipe	A53 Gr. B	Typical
10	M126	N204	N206			Standoff Hori...	Beam	Pipe	A53 Gr. B	Typical
11	M127	N198	N35			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
12	M128	N196	N34			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
13	M129	N211	N212			RIGID	None	None	RIGID	Typical
14	M130	N213	N214			RIGID	None	None	RIGID	Typical
15	MP1A	N215	N216			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
16	M18	N35	N33			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
17	M19	N34	N35			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
18	M20	N32	N34			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
19	M21	N31	N249A		15	RIGID	None	None	RIGID	Typical
20	M22	N32A	N247A		270	Connection A...	Beam	RECT	A36 Gr.36	Typical
21	M23A	N35A	N36A			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
22	M24	N203	N36A			Standoff Brac...	Column	BAR	A36 Gr.36	Typical
23	M25	N38	N37			Face Vertical	Column	Pipe	A53 Gr. B	Typical
24	M26	N40	N39			Face Vertical	Column	Pipe	A53 Gr. B	Typical
25	M27	N44	N43			Face Vertical	Column	Pipe	A53 Gr. B	Typical
26	M28	N44A	N43A			Face Vertical	Column	Pipe	A53 Gr. B	Typical
27	RRUA	N46	N45			Face Vertical	Column	Pipe	A53 Gr. B	Typical
28	M30	N49	N47			RIGID	None	None	RIGID	Typical
29	M31	N47	N48			RIGID	None	None	RIGID	Typical
30	M32	N52	N50			RIGID	None	None	RIGID	Typical
31	M33	N50	N51			RIGID	None	None	RIGID	Typical
32	M35	N55	N56			RIGID	None	None	RIGID	Typical
33	M36	N57	N58			RIGID	None	None	RIGID	Typical
34	MP2A	N59	N60			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
35	M38	N61	N62			RIGID	None	None	RIGID	Typical
36	M39	N63	N64			RIGID	None	None	RIGID	Typical
37	MP3A	N65	N66			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
38	M161	N306A	N307B			Face Horizont...	Beam	Pipe	A53 Gr. B	Typical
39	M162	N308A	N309B			Face Horizont...	Beam	Pipe	A53 Gr. B	Typical
40	M163	N315B	N313B			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
41	M164	N314A	N315B			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
42	M165	N312A	N314A			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
43	M166	N311B	N317A			RIGID	None	None	RIGID	Typical
44	M167	N310A	N316A			RIGID	None	None	RIGID	Typical
45	M168	N318	N319A			Mast Pipe	Column	Pipe	A53 Gr. B	Typical
46	M169	N320	N322			Standoff Hori...	Beam	Pipe	A53 Gr. B	Typical
47	M170	N321A	N323A			Standoff Hori...	Beam	Pipe	A53 Gr. B	Typical
48	M171	N315B	N333A			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
49	M172	N314A	N332			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
50	M173	N324	N325A			RIGID	None	None	RIGID	Typical
51	M174	N326	N327A			RIGID	None	None	RIGID	Typical
52	MP1B	N328	N329A			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
53	M176	N333A	N331A			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
54	M177	N332	N333A			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
55	M178	N330	N332			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
56	M179	N334	N251B		325	RIGID	None	None	RIGID	Typical
57	M183	N340	N341A			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
58	M184	N320	N341A			Standoff Brac...	Column	BAR	A36 Gr.36	Typical
59	M185	N343A	N342			Face Vertical	Column	Pipe	A53 Gr. B	Typical
60	M186	N345A	N344			Face Vertical	Column	Pipe	A53 Gr. B	Typical
61	M187	N347	N346			Face Vertical	Column	Pipe	A53 Gr. B	Typical
62	M188	N349	N348			Face Vertical	Column	Pipe	A53 Gr. B	Typical



### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de..	Section/Shape	Type	Design List	Material	Design Rules
63	RRUB	N351	N350			Face Vertical	Column	Pipe	A53 Gr. B	Typical
64	M190	N354	N352			RIGID	None	None	RIGID	Typical
65	M191	N352	N353			RIGID	None	None	RIGID	Typical
66	M192	N357	N355			RIGID	None	None	RIGID	Typical
67	M193	N355	N356			RIGID	None	None	RIGID	Typical
68	M195	N360	N361			RIGID	None	None	RIGID	Typical
69	M196	N362	N363			RIGID	None	None	RIGID	Typical
70	MP2B	N364	N365			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
71	M198	N366	N367			RIGID	None	None	RIGID	Typical
72	M199	N368	N369			RIGID	None	None	RIGID	Typical
73	MP3B	N370	N371			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
74	M201	N372A	N373			Face Horizont..	Beam	Pipe	A53 Gr. B	Typical
75	M202	N374	N375			Face Horizont..	Beam	Pipe	A53 Gr. B	Typical
76	M203	N381	N379			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
77	M204	N380	N381			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
78	M205	N378	N380			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
79	M206	N377	N383			RIGID	None	None	RIGID	Typical
80	M207	N376	N382			RIGID	None	None	RIGID	Typical
81	M208	N384	N385			Mast Pipe	Column	Pipe	A53 Gr. B	Typical
82	M209	N386	N388			Standoff Hori...	Beam	Pipe	A53 Gr. B	Typical
83	M210	N387	N389			Standoff Hori...	Beam	Pipe	A53 Gr. B	Typical
84	M211	N381	N399			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
85	M212	N380	N398			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
86	M213	N390	N391			RIGID	None	None	RIGID	Typical
87	M214	N392	N393			RIGID	None	None	RIGID	Typical
88	MP1C	N394	N395			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
89	M216	N399	N397			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
90	M217	N398	N399			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
91	M218	N396	N398			Standoff Tube	Beam	SquareTube	A500 Gr. B 46	Typical
92	M219	N400	N253		80	RIGID	None	None	RIGID	Typical
93	M220	N401	N248A		270	Connection A...	Beam	RECT	A36 Gr.36	Typical
94	M223	N406	N407			Standoff Verti...	Column	Pipe	A53 Gr. B	Typical
95	M224	N386	N407			Standoff Brac...	Column	BAR	A36 Gr.36	Typical
96	M225	N409	N408			Face Vertical	Column	Pipe	A53 Gr. B	Typical
97	M226	N411	N410			Face Vertical	Column	Pipe	A53 Gr. B	Typical
98	M227	N413	N412			Face Vertical	Column	Pipe	A53 Gr. B	Typical
99	M228	N415	N414			Face Vertical	Column	Pipe	A53 Gr. B	Typical
100	RRUC	N417	N416			Face Vertical	Column	Pipe	A53 Gr. B	Typical
101	M230	N420	N418			RIGID	None	None	RIGID	Typical
102	M231	N418	N419			RIGID	None	None	RIGID	Typical
103	M232	N423	N421			RIGID	None	None	RIGID	Typical
104	M233	N421	N422			RIGID	None	None	RIGID	Typical
105	M235	N426	N427			RIGID	None	None	RIGID	Typical
106	M236	N428	N429			RIGID	None	None	RIGID	Typical
107	MP2C	N430	N431			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
108	M238	N432	N433			RIGID	None	None	RIGID	Typical
109	M239	N434	N435			RIGID	None	None	RIGID	Typical
110	MP3C	N436	N437			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
111	M121	N49	N353			Bracing Pipe	Beam	Pipe	A53 Gr. B	Typical
112	M122A	N48	N420			Bracing Pipe	Beam	Pipe	A53 Gr. B	Typical
113	M123A	N419	N354			Bracing Pipe	Beam	Pipe	A53 Gr. B	Typical
114	M124A	N52	N356			Bracing Pipe	Beam	Pipe	A53 Gr. B	Typical
115	M125A	N51	N423			Bracing Pipe	Beam	Pipe	A53 Gr. B	Typical
116	M126A	N422	N357			Bracing Pipe	Beam	Pipe	A53 Gr. B	Typical
117	M127A	N204A	N35A			RIGID	None	None	RIGID	Typical
118	M128A	N203A	N340			RIGID	None	None	RIGID	Typical
119	M129A	N204B	N36A			RIGID	None	None	RIGID	Typical
120	M130A	N205A	N341A			RIGID	None	None	RIGID	Typical
121	OVP1	N204C	N206A			Mount Pipe	Column	Pipe	A53 Gr. B	Typical



### Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de..	Section/Shape	Type	Design List	Material	Design Rules
122	OVP2	N205B	N207			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
123	M133	N217	N218			Mod Horizontal	Beam	Pipe	A53 Gr. B	Typical
124	M134	N219	N220			RIGID	None	None	RIGID	Typical
125	M135	N221	N222			RIGID	None	None	RIGID	Typical
126	M136	N223	N224			RIGID	None	None	RIGID	Typical
127	M137	N225	N226			Mod Horizontal	Beam	Pipe	A53 Gr. B	Typical
128	M138	N227	N228			RIGID	None	None	RIGID	Typical
129	M139	N229	N230			RIGID	None	None	RIGID	Typical
130	M140	N231	N232			RIGID	None	None	RIGID	Typical
131	M141	N233	N234			Mod Horizontal	Beam	Pipe	A53 Gr. B	Typical
132	M142	N235	N236			RIGID	None	None	RIGID	Typical
133	M143	N237	N238			RIGID	None	None	RIGID	Typical
134	M144	N239	N240			RIGID	None	None	RIGID	Typical
135	M145	N244	N244A			RIGID	None	None	RIGID	Typical
136	M146	N246A	N245			RIGID	None	None	RIGID	Typical
137	M147	N255A	N255B			RIGID	None	None	RIGID	Typical
138	M148	N244A	N214A			Mod Standoff	Beam	SquareTube	A500 Gr. B 46	Typical
139	M149	N245	N215A			Mod Standoff	Beam	SquareTube	A500 Gr. B 46	Typical
140	M150	N255B	N253C			Mod Standoff	Beam	SquareTube	A500 Gr. B 46	Typical
141	M151	N251	N253A			Mod Tieback	Beam	Pipe	A53 Gr. B	Typical
142	M152	N252	N250A			Mod Tieback	Beam	Pipe	A53 Gr. B	Typical
143	M153	N250	N252A			Mod Tieback	Beam	Pipe	A53 Gr. B	Typical
144	M151A	N208	N54			Tieback	Beam	Pipe	A53 Gr. B	Typical
145	M152A	N358	N200A			Tieback	Beam	Pipe	A53 Gr. B	Typical
146	M153A	N200B	N424			Tieback	Beam	Pipe	A53 Gr. B	Typical
147	M149A	N239A	N249		270	Connection A...	Beam	RECT	A36 Gr.36	Typical
148	M153B	N246	N251A		270	Connection A...	Beam	RECT	A36 Gr.36	Typical
149	M156	N249A	N250C		15	RIGID	None	None	RIGID	Typical
150	M157	N250C	N32A		15	RIGID	None	None	RIGID	Typical
151	M158	N251B	N252B		325	RIGID	None	None	RIGID	Typical
152	M159	N252B	N335A		325	RIGID	None	None	RIGID	Typical
153	M160	N253	N254		80	RIGID	None	None	RIGID	Typical
154	M161A	N254	N401		80	RIGID	None	None	RIGID	Typical
155	M165A	N242	N250B		90	Connection A...	Beam	RECT	A36 Gr.36	Typical
156	M165B	N335A	N259		90	Connection A...	Beam	RECT	A36 Gr.36	Typical
157	M159A	N242	N257		325	RIGID	None	None	RIGID	Typical
158	M160A	N257	N258		325	RIGID	None	None	RIGID	Typical
159	M161B	N258	N257A		325	RIGID	None	None	RIGID	Typical
160	M160B	N239A	N255		15	RIGID	None	None	RIGID	Typical
161	M161C	N246	N247B		80	RIGID	None	None	RIGID	Typical
162	M162A	N255	N256		15	RIGID	None	None	RIGID	Typical
163	M163A	N256	N258A		15	RIGID	None	None	RIGID	Typical
164	M164A	N247B	N248		80	RIGID	None	None	RIGID	Typical
165	M165C	N248	N260		80	RIGID	None	None	RIGID	Typical

### Member Advanced Data

	Label	I Release	J Release	I Offset(in)	J Offset(in)	T/C Only	Physical	Defl Ratio	Options	Analysis ...	Inactive	Seismi...
1	M109						Yes					None
2	M110						Yes					None
3	M116						Yes		Default			None
4	M117						Yes		Default			None
5	M118						Yes		Default			None
6	M122	BenPIN					Yes		** NA **			None
7	M123	BenPIN					Yes		** NA **			None
8	M124						Yes		** NA **			None
9	M125						Yes					None
10	M126						Yes					None

### Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio	Options	Analysis...	Inactive	Seismi...
11	M127						Yes	** NA **				None
12	M128						Yes	** NA **				None
13	M129						Yes	** NA **				None
14	M130						Yes	** NA **				None
15	MP1A						Yes	** NA **				None
16	M18						Yes	Default				None
17	M19						Yes	Default				None
18	M20						Yes	Default				None
19	M21						Yes	** NA **				None
20	M22		000000				Yes	Default				None
21	M23A						Yes	** NA **				None
22	M24	BenPIN	BenPIN			Euler Bu...	Yes	** NA **				None
23	M25						Yes	** NA **				None
24	M26						Yes	** NA **				None
25	M27						Yes	** NA **				None
26	M28						Yes	** NA **				None
27	RRUA						Yes	** NA **				None
28	M30						Yes	** NA **				None
29	M31						Yes	** NA **				None
30	M32						Yes	** NA **				None
31	M33						Yes	** NA **				None
32	M35						Yes	** NA **				None
33	M36						Yes	** NA **				None
34	MP2A						Yes	** NA **				None
35	M38						Yes	** NA **				None
36	M39						Yes	** NA **				None
37	MP3A						Yes	** NA **				None
38	M161						Yes					None
39	M162						Yes					None
40	M163						Yes	Default				None
41	M164						Yes	Default				None
42	M165						Yes	Default				None
43	M166	BenPIN					Yes	** NA **				None
44	M167	BenPIN					Yes	** NA **				None
45	M168						Yes	** NA **				None
46	M169						Yes					None
47	M170						Yes					None
48	M171						Yes	** NA **				None
49	M172						Yes	** NA **				None
50	M173						Yes	** NA **				None
51	M174						Yes	** NA **				None
52	MP1B						Yes	** NA **				None
53	M176						Yes	Default				None
54	M177						Yes	Default				None
55	M178						Yes	Default				None
56	M179						Yes	** NA **				None
57	M183						Yes	** NA **				None
58	M184	BenPIN	BenPIN			Euler Bu...	Yes	** NA **				None
59	M185						Yes	** NA **				None
60	M186						Yes	** NA **				None
61	M187						Yes	** NA **				None
62	M188						Yes	** NA **				None
63	RRUB						Yes	** NA **				None
64	M190						Yes	** NA **				None
65	M191						Yes	** NA **				None
66	M192						Yes	** NA **				None
67	M193						Yes	** NA **				None
68	M195						Yes	** NA **				None
69	M196						Yes	** NA **				None



### Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset(in)	J Offset(in)	T/C Only	Physical	Defl Ratio Options	Analysis...	Inactive	Seismi...
70	MP2B						Yes	** NA **			None
71	M198						Yes	** NA **			None
72	M199						Yes	** NA **			None
73	MP3B						Yes	** NA **			None
74	M201						Yes				None
75	M202						Yes	Default			None
76	M203						Yes	Default			None
77	M204						Yes	Default			None
78	M205						Yes	Default			None
79	M206	BenPIN					Yes	** NA **			None
80	M207	BenPIN					Yes	** NA **			None
81	M208						Yes	** NA **			None
82	M209						Yes				None
83	M210						Yes				None
84	M211						Yes	** NA **			None
85	M212						Yes	** NA **			None
86	M213						Yes	** NA **			None
87	M214						Yes	** NA **			None
88	MP1C						Yes	** NA **			None
89	M216						Yes	Default			None
90	M217						Yes	Default			None
91	M218						Yes	Default			None
92	M219						Yes	** NA **			None
93	M220		000000				Yes	Default			None
94	M223						Yes	** NA **			None
95	M224	BenPIN	BenPIN			Euler Bu...	Yes	** NA **			None
96	M225						Yes	** NA **			None
97	M226						Yes	** NA **			None
98	M227						Yes	** NA **			None
99	M228						Yes	** NA **			None
100	RRUC						Yes	** NA **			None
101	M230						Yes	** NA **			None
102	M231						Yes	** NA **			None
103	M232						Yes	** NA **			None
104	M233						Yes	** NA **			None
105	M235						Yes	** NA **			None
106	M236						Yes	** NA **			None
107	MP2C						Yes	** NA **			None
108	M238						Yes	** NA **			None
109	M239						Yes	** NA **			None
110	MP3C						Yes	** NA **			None
111	M121	BenPIN	BenPIN				Yes				None
112	M122A	BenPIN	BenPIN				Yes				None
113	M123A	BenPIN	BenPIN				Yes				None
114	M124A	BenPIN	BenPIN				Yes	Default			None
115	M125A	BenPIN	BenPIN				Yes				None
116	M126A	BenPIN	BenPIN				Yes				None
117	M127A						Yes	** NA **			None
118	M128A						Yes	** NA **			None
119	M129A						Yes	** NA **			None
120	M130A						Yes	** NA **			None
121	OVP1						Yes	** NA **			None
122	OVP2						Yes	** NA **			None
123	M133						Yes				None
124	M134						Yes	** NA **			None
125	M135						Yes	** NA **			None
126	M136						Yes	** NA **			None
127	M137						Yes				None
128	M138						Yes	** NA **			None

### Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Options	Analysis	Inactive	Seismi...
129	M139						Yes	** NA **			None
130	M140						Yes	** NA **			None
131	M141						Yes				None
132	M142						Yes	** NA **			None
133	M143						Yes	** NA **			None
134	M144						Yes	** NA **			None
135	M145						Yes	** NA **			None
136	M146						Yes	** NA **			None
137	M147						Yes	** NA **			None
138	M148						Yes				None
139	M149						Yes				None
140	M150						Yes				None
141	M151	0000X0	0000X0				Yes				None
142	M152	0000X0	0000X0				Yes				None
143	M153	0000X0	0000X0				Yes				None
144	M151A	BenPIN	BenPIN				Yes				None
145	M152A	BenPIN	BenPIN				Yes				None
146	M153A	BenPIN	BenPIN				Yes				None
147	M149A		000000				Yes	Default			None
148	M153B		000000				Yes	Default			None
149	M156						Yes	** NA **			None
150	M157						Yes	** NA **			None
151	M158						Yes	** NA **			None
152	M159						Yes	** NA **			None
153	M160						Yes	** NA **			None
154	M161A						Yes	** NA **			None
155	M165A		000000				Yes	Default			None
156	M165B		000000				Yes	Default			None
157	M159A						Yes	** NA **			None
158	M160A						Yes	** NA **			None
159	M161B						Yes	** NA **			None
160	M160B						Yes	** NA **			None
161	M161C						Yes	** NA **			None
162	M162A						Yes	** NA **			None
163	M163A						Yes	** NA **			None
164	M164A						Yes	** NA **			None
165	M165C						Yes	** NA **			None

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	Y	-70.3	1
2	RRUB	My	.035	1
3	RRUB	Mz	0	1
4	RRUC	Y	-70.3	1
5	RRUC	My	.035	1
6	RRUC	Mz	0	1
7	M201	Y	-17.6	11
8	M201	My	0	11
9	M201	Mz	-.009	11
10	MP3A	Y	-43.55	2.5
11	MP3A	My	-.022	2.5
12	MP3A	Mz	0	2.5
13	MP3A	Y	-43.55	4.25
14	MP3A	My	-.022	4.25
15	MP3A	Mz	0	4.25
16	MP3B	Y	-43.55	2.5
17	MP3B	My	.021	2.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
18	MP3B	Mz	.004	2.5
19	MP3B	Y	-43.55	4.25
20	MP3B	My	.021	4.25
21	MP3B	Mz	.004	4.25
22	MP3C	Y	-43.55	2.5
23	MP3C	My	0	2.5
24	MP3C	Mz	.022	2.5
25	MP3C	Y	-43.55	4.25
26	MP3C	My	0	4.25
27	MP3C	Mz	.022	4.25
28	MP1A	Y	-39.8	.75
29	MP1A	My	-.02	.75
30	MP1A	Mz	.033	.75
31	MP1A	Y	-39.8	6
32	MP1A	My	-.02	6
33	MP1A	Mz	.033	6
34	MP1B	Y	-39.8	.75
35	MP1B	My	.025	.75
36	MP1B	Mz	-.029	.75
37	MP1B	Y	-39.8	6
38	MP1B	My	.025	6
39	MP1B	Mz	-.029	6
40	MP1C	Y	-39.8	.75
41	MP1C	My	.033	.75
42	MP1C	Mz	.02	.75
43	MP1C	Y	-39.8	6
44	MP1C	My	.033	6
45	MP1C	Mz	.02	6
46	MP1A	Y	-39.8	.75
47	MP1A	My	-.02	.75
48	MP1A	Mz	-.033	.75
49	MP1A	Y	-39.8	6
50	MP1A	My	-.02	6
51	MP1A	Mz	-.033	6
52	MP1B	Y	-39.8	.75
53	MP1B	My	.014	.75
54	MP1B	Mz	.036	.75
55	MP1B	Y	-39.8	6
56	MP1B	My	.014	6
57	MP1B	Mz	.036	6
58	MP1C	Y	-39.8	.75
59	MP1C	My	-.033	.75
60	MP1C	Mz	.02	.75
61	MP1C	Y	-39.8	6
62	MP1C	My	-.033	6
63	MP1C	Mz	.02	6
64	MP1A	Y	-84.4	3.5
65	MP1A	My	.042	3.5
66	MP1A	Mz	0	3.5
67	MP1B	Y	-84.4	3.5
68	MP1B	My	-.042	3.5
69	MP1B	Mz	-.007	3.5
70	MP1C	Y	-84.4	3.5
71	MP1C	My	0	3.5
72	MP1C	Mz	-.042	3.5
73	RRUA	Y	-70.3	1
74	RRUA	My	.035	1
75	RRUA	Mz	0	1
76	OVPI	Y	-26.9	.75

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
77	OVP1	My	0	.75
78	OVP1	Mz	0	.75
79	OVP2	Y	-26.9	.75
80	OVP2	My	0	.75
81	OVP2	Mz	0	.75

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	Y	-39.894	1
2	RRUB	My	.02	1
3	RRUB	Mz	0	1
4	RRUC	Y	-39.894	1
5	RRUC	My	.02	1
6	RRUC	Mz	0	1
7	M201	Y	-17.123	11
8	M201	My	0	11
9	M201	Mz	-.009	11
10	MP3A	Y	-35.289	2.5
11	MP3A	My	-.018	2.5
12	MP3A	Mz	0	2.5
13	MP3A	Y	-35.289	4.25
14	MP3A	My	-.018	4.25
15	MP3A	Mz	0	4.25
16	MP3B	Y	-35.289	2.5
17	MP3B	My	.017	2.5
18	MP3B	Mz	.003	2.5
19	MP3B	Y	-35.289	4.25
20	MP3B	My	.017	4.25
21	MP3B	Mz	.003	4.25
22	MP3C	Y	-35.289	2.5
23	MP3C	My	0	2.5
24	MP3C	Mz	.018	2.5
25	MP3C	Y	-35.289	4.25
26	MP3C	My	0	4.25
27	MP3C	Mz	.018	4.25
28	MP1A	Y	-101.765	.75
29	MP1A	My	-.051	.75
30	MP1A	Mz	.085	.75
31	MP1A	Y	-101.765	6
32	MP1A	My	-.051	6
33	MP1A	Mz	.085	6
34	MP1B	Y	-101.765	.75
35	MP1B	My	.065	.75
36	MP1B	Mz	-.075	.75
37	MP1B	Y	-101.765	6
38	MP1B	My	.065	6
39	MP1B	Mz	-.075	6
40	MP1C	Y	-101.765	.75
41	MP1C	My	.085	.75
42	MP1C	Mz	.051	.75
43	MP1C	Y	-101.765	6
44	MP1C	My	.085	6
45	MP1C	Mz	.051	6
46	MP1A	Y	-101.765	.75
47	MP1A	My	-.051	.75
48	MP1A	Mz	-.085	.75
49	MP1A	Y	-101.765	6
50	MP1A	My	-.051	6



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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
51	MP1A	Mz	-.085	6
52	MP1B	Y	-101.765	.75
53	MP1B	My	.035	.75
54	MP1B	Mz	.092	.75
55	MP1B	Y	-101.765	6
56	MP1B	My	.035	6
57	MP1B	Mz	.092	6
58	MP1C	Y	-101.765	.75
59	MP1C	My	-.085	.75
60	MP1C	Mz	.051	.75
61	MP1C	Y	-101.765	6
62	MP1C	My	-.085	6
63	MP1C	Mz	.051	6
64	MP1A	Y	-44.365	3.5
65	MP1A	My	.022	3.5
66	MP1A	Mz	0	3.5
67	MP1B	Y	-44.365	3.5
68	MP1B	My	-.022	3.5
69	MP1B	Mz	-.004	3.5
70	MP1C	Y	-44.365	3.5
71	MP1C	My	0	3.5
72	MP1C	Mz	-.022	3.5
73	RRUA	Y	-39.894	1
74	RRUA	My	.02	1
75	RRUA	Mz	0	1
76	OVP1	Y	-54.637	.75
77	OVP1	My	0	.75
78	OVP1	Mz	0	.75
79	OVP2	Y	-54.637	.75
80	OVP2	My	0	.75
81	OVP2	Mz	0	.75

### Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	RRUB	X	0	1
2	RRUB	Z	-75.489	1
3	RRUB	Mx	0	1
4	RRUC	X	0	1
5	RRUC	Z	-75.489	1
6	RRUC	Mx	0	1
7	M201	X	0	11
8	M201	Z	-14.181	11
9	M201	Mx	.007	11
10	MP3A	X	0	2.5
11	MP3A	Z	-95.938	2.5
12	MP3A	Mx	0	2.5
13	MP3A	X	0	4.25
14	MP3A	Z	-95.938	4.25
15	MP3A	Mx	0	4.25
16	MP3B	X	0	2.5
17	MP3B	Z	-94.042	2.5
18	MP3B	Mx	-.008	2.5
19	MP3B	X	0	4.25
20	MP3B	Z	-94.042	4.25
21	MP3B	Mx	-.008	4.25
22	MP3C	X	0	2.5
23	MP3C	Z	-33.04	2.5
24	MP3C	Mx	-.017	2.5

**Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP3C	X	0	4.25
26	MP3C	Z	-33.04	4.25
27	MP3C	Mx	-.017	4.25
28	MP1A	X	0	.75
29	MP1A	Z	-388.892	.75
30	MP1A	Mx	-.324	.75
31	MP1A	X	0	6
32	MP1A	Z	-388.892	6
33	MP1A	Mx	-.324	6
34	MP1B	X	0	.75
35	MP1B	Z	-382.75	.75
36	MP1B	Mx	.281	.75
37	MP1B	X	0	6
38	MP1B	Z	-382.75	6
39	MP1B	Mx	.281	6
40	MP1C	X	0	.75
41	MP1C	Z	-185.211	.75
42	MP1C	Mx	-.093	.75
43	MP1C	X	0	6
44	MP1C	Z	-185.211	6
45	MP1C	Mx	-.093	6
46	MP1A	X	0	.75
47	MP1A	Z	-388.892	.75
48	MP1A	Mx	.324	.75
49	MP1A	X	0	6
50	MP1A	Z	-388.892	6
51	MP1A	Mx	.324	6
52	MP1B	X	0	.75
53	MP1B	Z	-382.75	.75
54	MP1B	Mx	-.347	.75
55	MP1B	X	0	6
56	MP1B	Z	-382.75	6
57	MP1B	Mx	-.347	6
58	MP1C	X	0	.75
59	MP1C	Z	-185.211	.75
60	MP1C	Mx	-.093	.75
61	MP1C	X	0	6
62	MP1C	Z	-185.211	6
63	MP1C	Mx	-.093	6
64	MP1A	X	0	3.5
65	MP1A	Z	-75.489	3.5
66	MP1A	Mx	0	3.5
67	MP1B	X	0	3.5
68	MP1B	Z	-74.74	3.5
69	MP1B	Mx	.006	3.5
70	MP1C	X	0	3.5
71	MP1C	Z	-50.651	3.5
72	MP1C	Mx	.025	3.5
73	RRUA	X	0	1
74	RRUA	Z	-75.489	1
75	RRUA	Mx	0	1
76	OVP1	X	0	.75
77	OVP1	Z	-121.757	.75
78	OVP1	Mx	0	.75
79	OVP2	X	0	.75
80	OVP2	Z	-121.757	.75
81	OVP2	Mx	0	.75



### Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	33.483	1
2	RRUB	Z	-57.995	1
3	RRUB	Mx	.017	1
4	RRUC	X	33.483	1
5	RRUC	Z	-57.995	1
6	RRUC	Mx	.017	1
7	M201	X	11.162	11
8	M201	Z	-19.334	11
9	M201	Mx	.01	11
10	MP3A	X	40.107	2.5
11	MP3A	Z	-69.467	2.5
12	MP3A	Mx	-.02	2.5
13	MP3A	X	40.107	4.25
14	MP3A	Z	-69.467	4.25
15	MP3A	Mx	-.02	4.25
16	MP3B	X	44.29	2.5
17	MP3B	Z	-76.713	2.5
18	MP3B	Mx	.015	2.5
19	MP3B	X	44.29	4.25
20	MP3B	Z	-76.713	4.25
21	MP3B	Mx	.015	4.25
22	MP3C	X	24.382	2.5
23	MP3C	Z	-42.231	2.5
24	MP3C	Mx	-.021	2.5
25	MP3C	X	24.382	4.25
26	MP3C	Z	-42.231	4.25
27	MP3C	Mx	-.021	4.25
28	MP1A	X	168.986	.75
29	MP1A	Z	-292.692	.75
30	MP1A	Mx	-.328	.75
31	MP1A	X	168.986	6
32	MP1A	Z	-292.692	6
33	MP1A	Mx	-.328	6
34	MP1B	X	182.533	.75
35	MP1B	Z	-316.156	.75
36	MP1B	Mx	.348	.75
37	MP1B	X	182.533	6
38	MP1B	Z	-316.156	6
39	MP1B	Mx	.348	6
40	MP1C	X	118.066	.75
41	MP1C	Z	-204.496	.75
42	MP1C	Mx	-.004	.75
43	MP1C	X	118.066	6
44	MP1C	Z	-204.496	6
45	MP1C	Mx	-.004	6
46	MP1A	X	168.986	.75
47	MP1A	Z	-292.692	.75
48	MP1A	Mx	.159	.75
49	MP1A	X	168.986	6
50	MP1A	Z	-292.692	6
51	MP1A	Mx	.159	6
52	MP1B	X	182.533	.75
53	MP1B	Z	-316.156	.75
54	MP1B	Mx	-.223	.75
55	MP1B	X	182.533	6
56	MP1B	Z	-316.156	6
57	MP1B	Mx	-.223	6
58	MP1C	X	118.066	.75
59	MP1C	Z	-204.496	.75

**Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
60	MP1C	Mx	-.201	.75
61	MP1C	X	118.066	6
62	MP1C	Z	-204.496	6
63	MP1C	Mx	-.201	6
64	MP1A	X	34.64	3.5
65	MP1A	Z	-59.998	3.5
66	MP1A	Mx	.017	3.5
67	MP1B	X	36.292	3.5
68	MP1B	Z	-62.86	3.5
69	MP1B	Mx	-.012	3.5
70	MP1C	X	28.43	3.5
71	MP1C	Z	-49.243	3.5
72	MP1C	Mx	.025	3.5
73	RRUA	X	33.483	1
74	RRUA	Z	-57.995	1
75	RRUA	Mx	.017	1
76	OVP1	X	55.543	.75
77	OVP1	Z	-96.203	.75
78	OVP1	Mx	0	.75
79	OVP2	X	55.543	.75
80	OVP2	Z	-96.203	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 5 : Antenna Wo (60 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	43.232	1
2	RRUB	Z	-24.96	1
3	RRUB	Mx	.022	1
4	RRUC	X	43.232	1
5	RRUC	Z	-24.96	1
6	RRUC	Mx	.022	1
7	M201	X	33.438	11
8	M201	Z	-19.306	11
9	M201	Mx	.01	11
10	MP3A	X	42.231	2.5
11	MP3A	Z	-24.382	2.5
12	MP3A	Mx	-.021	2.5
13	MP3A	X	42.231	4.25
14	MP3A	Z	-24.382	4.25
15	MP3A	Mx	-.021	4.25
16	MP3B	X	51.12	2.5
17	MP3B	Z	-29.514	2.5
18	MP3B	Mx	.023	2.5
19	MP3B	X	51.12	4.25
20	MP3B	Z	-29.514	4.25
21	MP3B	Mx	.023	4.25
22	MP3C	X	69.467	2.5
23	MP3C	Z	-40.107	2.5
24	MP3C	Mx	-.02	2.5
25	MP3C	X	69.467	4.25
26	MP3C	Z	-40.107	4.25
27	MP3C	Mx	-.02	4.25
28	MP1A	X	204.496	.75
29	MP1A	Z	-118.066	.75
30	MP1A	Mx	-.201	.75
31	MP1A	X	204.496	6
32	MP1A	Z	-118.066	6
33	MP1A	Mx	-.201	6

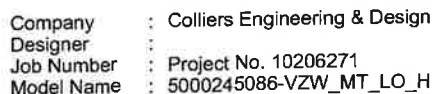


**Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
34	MP1B	X	233.279	.75
35	MP1B	Z	-134.684	.75
36	MP1B	Mx	.247	.75
37	MP1B	X	233.279	6
38	MP1B	Z	-134.684	6
39	MP1B	Mx	.247	6
40	MP1C	X	292.692	.75
41	MP1C	Z	-168.986	.75
42	MP1C	Mx	.159	.75
43	MP1C	X	292.692	6
44	MP1C	Z	-168.986	6
45	MP1C	Mx	.159	6
46	MP1A	X	204.496	.75
47	MP1A	Z	-118.066	.75
48	MP1A	Mx	-.004	.75
49	MP1A	X	204.496	6
50	MP1A	Z	-118.066	6
51	MP1A	Mx	-.004	6
52	MP1B	X	233.279	.75
53	MP1B	Z	-134.684	.75
54	MP1B	Mx	-.041	.75
55	MP1B	X	233.279	6
56	MP1B	Z	-134.684	6
57	MP1B	Mx	-.041	6
58	MP1C	X	292.692	.75
59	MP1C	Z	-168.986	.75
60	MP1C	Mx	-.328	.75
61	MP1C	X	292.692	6
62	MP1C	Z	-168.986	6
63	MP1C	Mx	-.328	6
64	MP1A	X	49.243	3.5
65	MP1A	Z	-28.43	3.5
66	MP1A	Mx	.025	3.5
67	MP1B	X	52.753	3.5
68	MP1B	Z	-30.457	3.5
69	MP1B	Mx	-.023	3.5
70	MP1C	X	59.998	3.5
71	MP1C	Z	-34.64	3.5
72	MP1C	Mx	.017	3.5
73	RRUA	X	43.232	1
74	RRUA	Z	-24.96	1
75	RRUA	Mx	.022	1
76	OVP1	X	77.718	.75
77	OVP1	Z	-44.871	.75
78	OVP1	Mx	0	.75
79	OVP2	X	77.718	.75
80	OVP2	Z	-44.871	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 6 : Antenna Wo (90 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	RRUB	X	41.397	1
2	RRUB	Z	0	1
3	RRUB	Mx	.021	1
4	RRUC	X	41.397	1
5	RRUC	Z	0	1
6	RRUC	Mx	.021	1
7	M201	X	46.755	11



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Member	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	M201	Z	0	11
9	M201	Mx	0	11
10	MP3A	X	33.04	2.5
11	MP3A	Z	0	2.5
12	MP3A	Mx	-.017	2.5
13	MP3A	X	33.04	4.25
14	MP3A	Z	0	4.25
15	MP3A	Mx	-.017	4.25
16	MP3B	X	34.937	2.5
17	MP3B	Z	0	2.5
18	MP3B	Mx	.017	2.5
19	MP3B	X	34.937	4.25
20	MP3B	Z	0	4.25
21	MP3B	Mx	.017	4.25
22	MP3C	X	95.938	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0	2.5
25	MP3C	X	95.938	4.25
26	MP3C	Z	0	4.25
27	MP3C	Mx	0	4.25
28	MP1A	X	185.211	.75
29	MP1A	Z	0	.75
30	MP1A	Mx	-.093	.75
31	MP1A	X	185.211	6
32	MP1A	Z	0	6
33	MP1A	Mx	-.093	6
34	MP1B	X	191.353	.75
35	MP1B	Z	0	.75
36	MP1B	Mx	.122	.75
37	MP1B	X	191.353	6
38	MP1B	Z	0	6
39	MP1B	Mx	.122	6
40	MP1C	X	388.892	.75
41	MP1C	Z	0	.75
42	MP1C	Mx	.324	.75
43	MP1C	X	388.892	6
44	MP1C	Z	0	6
45	MP1C	Mx	.324	6
46	MP1A	X	185.211	.75
47	MP1A	Z	0	.75
48	MP1A	Mx	-.093	.75
49	MP1A	X	185.211	6
50	MP1A	Z	0	6
51	MP1A	Mx	-.093	6
52	MP1B	X	191.353	.75
53	MP1B	Z	0	.75
54	MP1B	Mx	.067	.75
55	MP1B	X	191.353	6
56	MP1B	Z	0	6
57	MP1B	Mx	.067	6
58	MP1C	X	388.892	.75
59	MP1C	Z	0	.75
60	MP1C	Mx	-.324	.75
61	MP1C	X	388.892	6
62	MP1C	Z	0	6
63	MP1C	Mx	-.324	6
64	MP1A	X	50.651	3.5
65	MP1A	Z	0	3.5
66	MP1A	Mx	.025	3.5



### Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
67	MP1B	X	51.4	3.5
68	MP1B	Z	0	3.5
69	MP1B	Mx	-.025	3.5
70	MP1C	X	75.489	3.5
71	MP1C	Z	0	3.5
72	MP1C	Mx	0	3.5
73	RRUA	X	41.397	1
74	RRUA	Z	0	1
75	RRUA	Mx	.021	1
76	OVP1	X	79.069	.75
77	OVP1	Z	0	.75
78	OVP1	Mx	0	.75
79	OVP2	X	79.069	.75
80	OVP2	Z	0	.75
81	OVP2	Mx	0	.75

### Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	43.232	1
2	RRUB	Z	24.96	1
3	RRUB	Mx	.022	1
4	RRUC	X	43.232	1
5	RRUC	Z	24.96	1
6	RRUC	Mx	.022	1
7	M201	X	33.438	11
8	M201	Z	19.306	11
9	M201	Mx	-.01	11
10	MP3A	X	42.231	2.5
11	MP3A	Z	24.382	2.5
12	MP3A	Mx	-.021	2.5
13	MP3A	X	42.231	4.25
14	MP3A	Z	24.382	4.25
15	MP3A	Mx	-.021	4.25
16	MP3B	X	34.985	2.5
17	MP3B	Z	20.199	2.5
18	MP3B	Mx	.019	2.5
19	MP3B	X	34.985	4.25
20	MP3B	Z	20.199	4.25
21	MP3B	Mx	.019	4.25
22	MP3C	X	69.467	2.5
23	MP3C	Z	40.107	2.5
24	MP3C	Mx	.02	2.5
25	MP3C	X	69.467	4.25
26	MP3C	Z	40.107	4.25
27	MP3C	Mx	.02	4.25
28	MP1A	X	204.496	.75
29	MP1A	Z	118.066	.75
30	MP1A	Mx	-.004	.75
31	MP1A	X	204.496	6
32	MP1A	Z	118.066	6
33	MP1A	Mx	-.004	6
34	MP1B	X	181.032	.75
35	MP1B	Z	104.519	.75
36	MP1B	Mx	.039	.75
37	MP1B	X	181.032	6
38	MP1B	Z	104.519	6
39	MP1B	Mx	.039	6
40	MP1C	X	292.692	.75

**Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP1C	Z	168.986	.75
42	MP1C	Mx	.328	.75
43	MP1C	X	292.692	6
44	MP1C	Z	168.986	6
45	MP1C	Mx	.328	6
46	MP1A	X	204.496	.75
47	MP1A	Z	118.066	.75
48	MP1A	Mx	-.201	.75
49	MP1A	X	204.496	6
50	MP1A	Z	118.066	6
51	MP1A	Mx	-.201	6
52	MP1B	X	181.032	.75
53	MP1B	Z	104.519	.75
54	MP1B	Mx	.158	.75
55	MP1B	X	181.032	6
56	MP1B	Z	104.519	6
57	MP1B	Mx	.158	6
58	MP1C	X	292.692	.75
59	MP1C	Z	168.986	.75
60	MP1C	Mx	-.159	.75
61	MP1C	X	292.692	6
62	MP1C	Z	168.986	6
63	MP1C	Mx	-.159	6
64	MP1A	X	49.243	3.5
65	MP1A	Z	28.43	3.5
66	MP1A	Mx	.025	3.5
67	MP1B	X	46.381	3.5
68	MP1B	Z	26.778	3.5
69	MP1B	Mx	-.025	3.5
70	MP1C	X	59.998	3.5
71	MP1C	Z	34.64	3.5
72	MP1C	Mx	-.017	3.5
73	RRUA	X	43.232	1
74	RRUA	Z	24.96	1
75	RRUA	Mx	.022	1
76	OVP1	X	77.718	.75
77	OVP1	Z	44.871	.75
78	OVP1	Mx	0	.75
79	OVP2	X	77.718	.75
80	OVP2	Z	44.871	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 8 : Antenna Wo (150 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	33.483	1
2	RRUB	Z	57.995	1
3	RRUB	Mx	.017	1
4	RRUC	X	33.483	1
5	RRUC	Z	57.995	1
6	RRUC	Mx	.017	1
7	M201	X	11.162	11
8	M201	Z	19.334	11
9	M201	Mx	-.01	11
10	MP3A	X	40.107	2.5
11	MP3A	Z	69.467	2.5
12	MP3A	Mx	-.02	2.5
13	MP3A	X	40.107	4.25
14	MP3A	Z	69.467	4.25



**Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP3A	Mx	-.02	4.25
16	MP3B	X	34.975	2.5
17	MP3B	Z	60.579	2.5
18	MP3B	Mx	.022	2.5
19	MP3B	X	34.975	4.25
20	MP3B	Z	60.579	4.25
21	MP3B	Mx	.022	4.25
22	MP3C	X	24.382	2.5
23	MP3C	Z	42.231	2.5
24	MP3C	Mx	.021	2.5
25	MP3C	X	24.382	4.25
26	MP3C	Z	42.231	4.25
27	MP3C	Mx	.021	4.25
28	MP1A	X	168.986	.75
29	MP1A	Z	292.692	.75
30	MP1A	Mx	.159	.75
31	MP1A	X	168.986	6
32	MP1A	Z	292.692	6
33	MP1A	Mx	.159	6
34	MP1B	X	152.368	.75
35	MP1B	Z	263.909	.75
36	MP1B	Mx	-.097	.75
37	MP1B	X	152.368	6
38	MP1B	Z	263.909	6
39	MP1B	Mx	-.097	6
40	MP1C	X	118.066	.75
41	MP1C	Z	204.496	.75
42	MP1C	Mx	.201	.75
43	MP1C	X	118.066	6
44	MP1C	Z	204.496	6
45	MP1C	Mx	.201	6
46	MP1A	X	168.986	.75
47	MP1A	Z	292.692	.75
48	MP1A	Mx	-.328	.75
49	MP1A	X	168.986	6
50	MP1A	Z	292.692	6
51	MP1A	Mx	-.328	6
52	MP1B	X	152.368	.75
53	MP1B	Z	263.909	.75
54	MP1B	Mx	.292	.75
55	MP1B	X	152.368	6
56	MP1B	Z	263.909	6
57	MP1B	Mx	.292	6
58	MP1C	X	118.066	.75
59	MP1C	Z	204.496	.75
60	MP1C	Mx	.004	.75
61	MP1C	X	118.066	6
62	MP1C	Z	204.496	6
63	MP1C	Mx	.004	6
64	MP1A	X	34.64	3.5
65	MP1A	Z	59.998	3.5
66	MP1A	Mx	.017	3.5
67	MP1B	X	32.613	3.5
68	MP1B	Z	56.488	3.5
69	MP1B	Mx	-.021	3.5
70	MP1C	X	28.43	3.5
71	MP1C	Z	49.243	3.5
72	MP1C	Mx	-.025	3.5
73	RRUA	X	33.483	1

### Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	RRUA	Z	57.995	1
75	RRUA	Mx	.017	1
76	OVP1	X	55.543	.75
77	OVP1	Z	96.203	.75
78	OVP1	Mx	0	.75
79	OVP2	X	55.543	.75
80	OVP2	Z	96.203	.75
81	OVP2	Mx	0	.75

### Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	0	1
2	RRUB	Z	75.489	1
3	RRUB	Mx	0	1
4	RRUC	X	0	1
5	RRUC	Z	75.489	1
6	RRUC	Mx	0	1
7	M201	X	0	11
8	M201	Z	14.181	11
9	M201	Mx	-.007	11
10	MP3A	X	0	2.5
11	MP3A	Z	95.938	2.5
12	MP3A	Mx	0	2.5
13	MP3A	X	0	4.25
14	MP3A	Z	95.938	4.25
15	MP3A	Mx	0	4.25
16	MP3B	X	0	2.5
17	MP3B	Z	94.042	2.5
18	MP3B	Mx	.008	2.5
19	MP3B	X	0	4.25
20	MP3B	Z	94.042	4.25
21	MP3B	Mx	.008	4.25
22	MP3C	X	0	2.5
23	MP3C	Z	33.04	2.5
24	MP3C	Mx	.017	2.5
25	MP3C	X	0	4.25
26	MP3C	Z	33.04	4.25
27	MP3C	Mx	.017	4.25
28	MP1A	X	0	.75
29	MP1A	Z	388.892	.75
30	MP1A	Mx	.324	.75
31	MP1A	X	0	6
32	MP1A	Z	388.892	6
33	MP1A	Mx	.324	6
34	MP1B	X	0	.75
35	MP1B	Z	382.75	.75
36	MP1B	Mx	-.281	.75
37	MP1B	X	0	6
38	MP1B	Z	382.75	6
39	MP1B	Mx	-.281	6
40	MP1C	X	0	.75
41	MP1C	Z	185.211	.75
42	MP1C	Mx	.093	.75
43	MP1C	X	0	6
44	MP1C	Z	185.211	6
45	MP1C	Mx	.093	6
46	MP1A	X	0	.75
47	MP1A	Z	388.892	.75

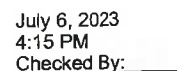


### Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
48	MP1A	Mx	-.324	.75
49	MP1A	X	0	6
50	MP1A	Z	388.892	6
51	MP1A	Mx	-.324	6
52	MP1B	X	0	.75
53	MP1B	Z	382.75	.75
54	MP1B	Mx	.347	.75
55	MP1B	X	0	6
56	MP1B	Z	382.75	6
57	MP1B	Mx	.347	6
58	MP1C	X	0	.75
59	MP1C	Z	185.211	.75
60	MP1C	Mx	.093	.75
61	MP1C	X	0	6
62	MP1C	Z	185.211	6
63	MP1C	Mx	.093	6
64	MP1A	X	0	3.5
65	MP1A	Z	75.489	3.5
66	MP1A	Mx	0	3.5
67	MP1B	X	0	3.5
68	MP1B	Z	74.74	3.5
69	MP1B	Mx	-.006	3.5
70	MP1C	X	0	3.5
71	MP1C	Z	50.651	3.5
72	MP1C	Mx	-.025	3.5
73	RRUA	X	0	1
74	RRUA	Z	75.489	1
75	RRUA	Mx	0	1
76	OVP1	X	0	.75
77	OVP1	Z	121.757	.75
78	OVP1	Mx	0	.75
79	OVP2	X	0	.75
80	OVP2	Z	121.757	.75
81	OVP2	Mx	0	.75

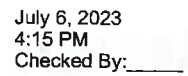
### Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-33.483	1
2	RRUB	Z	57.995	1
3	RRUB	Mx	-.017	1
4	RRUC	X	-33.483	1
5	RRUC	Z	57.995	1
6	RRUC	Mx	-.017	1
7	M201	X	-11.162	11
8	M201	Z	19.334	11
9	M201	Mx	-.01	11
10	MP3A	X	-40.107	2.5
11	MP3A	Z	69.467	2.5
12	MP3A	Mx	.02	2.5
13	MP3A	X	-40.107	4.25
14	MP3A	Z	69.467	4.25
15	MP3A	Mx	.02	4.25
16	MP3B	X	-44.29	2.5
17	MP3B	Z	76.713	2.5
18	MP3B	Mx	-.015	2.5
19	MP3B	X	-44.29	4.25
20	MP3B	Z	76.713	4.25
21	MP3B	Mx	-.015	4.25



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Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
81 OVP2	Mx	0	.75

**Member Point Loads (BLC 11 : Antenna Wo (240 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location(ft.%)
1	RRUB	X	-43.232	1
2	RRUB	Z	24.96	1
3	RRUB	Mx	-.022	1
4	RRUC	X	-43.232	1
5	RRUC	Z	24.96	1
6	RRUC	Mx	-.022	1
7	M201	X	-33.438	11
8	M201	Z	19.306	11
9	M201	Mx	-.01	11
10	MP3A	X	-42.231	2.5
11	MP3A	Z	24.382	2.5
12	MP3A	Mx	.021	2.5
13	MP3A	X	-42.231	4.25
14	MP3A	Z	24.382	4.25
15	MP3A	Mx	.021	4.25
16	MP3B	X	-51.12	2.5
17	MP3B	Z	29.514	2.5
18	MP3B	Mx	-.023	2.5
19	MP3B	X	-51.12	4.25
20	MP3B	Z	29.514	4.25
21	MP3B	Mx	-.023	4.25
22	MP3C	X	-69.467	2.5
23	MP3C	Z	40.107	2.5
24	MP3C	Mx	.02	2.5
25	MP3C	X	-69.467	4.25
26	MP3C	Z	40.107	4.25
27	MP3C	Mx	.02	4.25
28	MP1A	X	-204.496	.75
29	MP1A	Z	118.066	.75
30	MP1A	Mx	.201	.75
31	MP1A	X	-204.496	6
32	MP1A	Z	118.066	6
33	MP1A	Mx	.201	6
34	MP1B	X	-233.279	.75
35	MP1B	Z	134.684	.75
36	MP1B	Mx	-.247	.75
37	MP1B	X	-233.279	6
38	MP1B	Z	134.684	6
39	MP1B	Mx	-.247	6
40	MP1C	X	-292.692	.75
41	MP1C	Z	168.986	.75
42	MP1C	Mx	-.159	.75
43	MP1C	X	-292.692	6
44	MP1C	Z	168.986	6
45	MP1C	Mx	-.159	6
46	MP1A	X	-204.496	.75
47	MP1A	Z	118.066	.75
48	MP1A	Mx	.004	.75
49	MP1A	X	-204.496	6
50	MP1A	Z	118.066	6
51	MP1A	Mx	.004	6
52	MP1B	X	-233.279	.75
53	MP1B	Z	134.684	.75
54	MP1B	Mx	.041	.75

**Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
55	MP1B	X	-233.279	6
56	MP1B	Z	134.684	6
57	MP1B	Mx	.041	6
58	MP1C	X	-292.692	.75
59	MP1C	Z	168.986	.75
60	MP1C	Mx	.328	.75
61	MP1C	X	-292.692	6
62	MP1C	Z	168.986	6
63	MP1C	Mx	.328	6
64	MP1A	X	-49.243	3.5
65	MP1A	Z	28.43	3.5
66	MP1A	Mx	-.025	3.5
67	MP1B	X	-52.753	3.5
68	MP1B	Z	30.457	3.5
69	MP1B	Mx	.023	3.5
70	MP1C	X	-59.998	3.5
71	MP1C	Z	34.64	3.5
72	MP1C	Mx	-.017	3.5
73	RRUA	X	-43.232	1
74	RRUA	Z	24.96	1
75	RRUA	Mx	-.022	1
76	OVP1	X	-77.718	.75
77	OVP1	Z	44.871	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-77.718	.75
80	OVP2	Z	44.871	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 12 : Antenna Wo (270 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-41.397	1
2	RRUB	Z	0	1
3	RRUB	Mx	-.021	1
4	RRUC	X	-41.397	1
5	RRUC	Z	0	1
6	RRUC	Mx	-.021	1
7	M201	X	-46.755	11
8	M201	Z	0	11
9	M201	Mx	0	11
10	MP3A	X	-33.04	2.5
11	MP3A	Z	0	2.5
12	MP3A	Mx	.017	2.5
13	MP3A	X	-33.04	4.25
14	MP3A	Z	0	4.25
15	MP3A	Mx	.017	4.25
16	MP3B	X	-34.937	2.5
17	MP3B	Z	0	2.5
18	MP3B	Mx	-.017	2.5
19	MP3B	X	-34.937	4.25
20	MP3B	Z	0	4.25
21	MP3B	Mx	-.017	4.25
22	MP3C	X	-95.938	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0	2.5
25	MP3C	X	-95.938	4.25
26	MP3C	Z	0	4.25
27	MP3C	Mx	0	4.25
28	MP1A	X	-185.211	.75

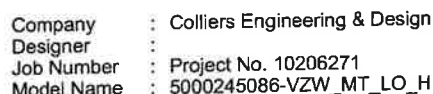


**Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
29	MP1A	Z	0	.75
30	MP1A	Mx	.093	.75
31	MP1A	X	-185.211	6
32	MP1A	Z	0	6
33	MP1A	Mx	.093	6
34	MP1B	X	-191.353	.75
35	MP1B	Z	0	.75
36	MP1B	Mx	-.122	.75
37	MP1B	X	-191.353	6
38	MP1B	Z	0	6
39	MP1B	Mx	-.122	6
40	MP1C	X	-388.892	.75
41	MP1C	Z	0	.75
42	MP1C	Mx	-.324	.75
43	MP1C	X	-388.892	6
44	MP1C	Z	0	6
45	MP1C	Mx	-.324	6
46	MP1A	X	-185.211	.75
47	MP1A	Z	0	.75
48	MP1A	Mx	.093	.75
49	MP1A	X	-185.211	6
50	MP1A	Z	0	6
51	MP1A	Mx	.093	6
52	MP1B	X	-191.353	.75
53	MP1B	Z	0	.75
54	MP1B	Mx	-.067	.75
55	MP1B	X	-191.353	6
56	MP1B	Z	0	6
57	MP1B	Mx	-.067	6
58	MP1C	X	-388.892	.75
59	MP1C	Z	0	.75
60	MP1C	Mx	.324	.75
61	MP1C	X	-388.892	6
62	MP1C	Z	0	6
63	MP1C	Mx	.324	6
64	MP1A	X	-50.651	3.5
65	MP1A	Z	0	3.5
66	MP1A	Mx	-.025	3.5
67	MP1B	X	-51.4	3.5
68	MP1B	Z	0	3.5
69	MP1B	Mx	.025	3.5
70	MP1C	X	-75.489	3.5
71	MP1C	Z	0	3.5
72	MP1C	Mx	0	3.5
73	RRUA	X	-41.397	1
74	RRUA	Z	0	1
75	RRUA	Mx	-.021	1
76	OVP1	X	-79.069	.75
77	OVP1	Z	0	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-79.069	.75
80	OVP2	Z	0	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 13 : Antenna Wo (300 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-43.232	1
2	RRUB	Z	-24.96	1



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Member	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft. %]
3	RRUB	Mx	-.022	1
4	RRUC	X	-43.232	1
5	RRUC	Z	-24.96	1
6	RRUC	Mx	-.022	1
7	M201	X	-33.438	11
8	M201	Z	-19.306	11
9	M201	Mx	.01	11
10	MP3A	X	-42.231	2.5
11	MP3A	Z	-24.382	2.5
12	MP3A	Mx	.021	2.5
13	MP3A	X	-42.231	4.25
14	MP3A	Z	-24.382	4.25
15	MP3A	Mx	.021	4.25
16	MP3B	X	-34.985	2.5
17	MP3B	Z	-20.199	2.5
18	MP3B	Mx	-.019	2.5
19	MP3B	X	-34.985	4.25
20	MP3B	Z	-20.199	4.25
21	MP3B	Mx	-.019	4.25
22	MP3C	X	-69.467	2.5
23	MP3C	Z	-40.107	2.5
24	MP3C	Mx	-.02	2.5
25	MP3C	X	-69.467	4.25
26	MP3C	Z	-40.107	4.25
27	MP3C	Mx	-.02	4.25
28	MP1A	X	-204.496	.75
29	MP1A	Z	-118.066	.75
30	MP1A	Mx	.004	.75
31	MP1A	X	-204.496	6
32	MP1A	Z	-118.066	6
33	MP1A	Mx	.004	6
34	MP1B	X	-181.032	.75
35	MP1B	Z	-104.519	.75
36	MP1B	Mx	-.039	.75
37	MP1B	X	-181.032	6
38	MP1B	Z	-104.519	6
39	MP1B	Mx	-.039	6
40	MP1C	X	-292.692	.75
41	MP1C	Z	-168.986	.75
42	MP1C	Mx	-.328	.75
43	MP1C	X	-292.692	6
44	MP1C	Z	-168.986	6
45	MP1C	Mx	-.328	6
46	MP1A	X	-204.496	.75
47	MP1A	Z	-118.066	.75
48	MP1A	Mx	.201	.75
49	MP1A	X	-204.496	6
50	MP1A	Z	-118.066	6
51	MP1A	Mx	.201	6
52	MP1B	X	-181.032	.75
53	MP1B	Z	-104.519	.75
54	MP1B	Mx	-.158	.75
55	MP1B	X	-181.032	6
56	MP1B	Z	-104.519	6
57	MP1B	Mx	-.158	6
58	MP1C	X	-292.692	.75
59	MP1C	Z	-168.986	.75
60	MP1C	Mx	.159	.75
61	MP1C	X	-292.692	6



**Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
62	MP1C	Z	-168.986	6
63	MP1C	Mx	.159	6
64	MP1A	X	-49.243	3.5
65	MP1A	Z	-28.43	3.5
66	MP1A	Mx	-.025	3.5
67	MP1B	X	-46.381	3.5
68	MP1B	Z	-26.778	3.5
69	MP1B	Mx	.025	3.5
70	MP1C	X	-59.998	3.5
71	MP1C	Z	-34.64	3.5
72	MP1C	Mx	.017	3.5
73	RRUA	X	-43.232	1
74	RRUA	Z	-24.96	1
75	RRUA	Mx	-.022	1
76	OVP1	X	-77.718	.75
77	OVP1	Z	-44.871	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-77.718	.75
80	OVP2	Z	-44.871	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 14 : Antenna Wo (330 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-33.483	1
2	RRUB	Z	-57.995	1
3	RRUB	Mx	-.017	1
4	RRUC	X	-33.483	1
5	RRUC	Z	-57.995	1
6	RRUC	Mx	-.017	1
7	M201	X	-11.162	11
8	M201	Z	-19.334	11
9	M201	Mx	.01	11
10	MP3A	X	-40.107	2.5
11	MP3A	Z	-69.467	2.5
12	MP3A	Mx	.02	2.5
13	MP3A	X	-40.107	4.25
14	MP3A	Z	-69.467	4.25
15	MP3A	Mx	.02	4.25
16	MP3B	X	-34.975	2.5
17	MP3B	Z	-60.579	2.5
18	MP3B	Mx	-.022	2.5
19	MP3B	X	-34.975	4.25
20	MP3B	Z	-60.579	4.25
21	MP3B	Mx	-.022	4.25
22	MP3C	X	-24.382	2.5
23	MP3C	Z	-42.231	2.5
24	MP3C	Mx	-.021	2.5
25	MP3C	X	-24.382	4.25
26	MP3C	Z	-42.231	4.25
27	MP3C	Mx	-.021	4.25
28	MP1A	X	-168.986	.75
29	MP1A	Z	-292.692	.75
30	MP1A	Mx	-.159	.75
31	MP1A	X	-168.986	6
32	MP1A	Z	-292.692	6
33	MP1A	Mx	-.159	6
34	MP1B	X	-152.368	.75
35	MP1B	Z	-263.909	.75

**Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
36	MP1B	Mx	.097	.75
37	MP1B	X	-152.368	6
38	MP1B	Z	-263.909	6
39	MP1B	Mx	.097	6
40	MP1C	X	-118.066	.75
41	MP1C	Z	-204.496	.75
42	MP1C	Mx	-.201	.75
43	MP1C	X	-118.066	6
44	MP1C	Z	-204.496	6
45	MP1C	Mx	-.201	6
46	MP1A	X	-168.986	.75
47	MP1A	Z	-292.692	.75
48	MP1A	Mx	.328	.75
49	MP1A	X	-168.986	6
50	MP1A	Z	-292.692	6
51	MP1A	Mx	.328	6
52	MP1B	X	-152.368	.75
53	MP1B	Z	-263.909	.75
54	MP1B	Mx	-.292	.75
55	MP1B	X	-152.368	6
56	MP1B	Z	-263.909	6
57	MP1B	Mx	-.292	6
58	MP1C	X	-118.066	.75
59	MP1C	Z	-204.496	.75
60	MP1C	Mx	-.004	.75
61	MP1C	X	-118.066	6
62	MP1C	Z	-204.496	6
63	MP1C	Mx	-.004	6
64	MP1A	X	-34.64	3.5
65	MP1A	Z	-59.998	3.5
66	MP1A	Mx	-.017	3.5
67	MP1B	X	-32.613	3.5
68	MP1B	Z	-56.488	3.5
69	MP1B	Mx	.021	3.5
70	MP1C	X	-28.43	3.5
71	MP1C	Z	-49.243	3.5
72	MP1C	Mx	.025	3.5
73	RRUA	X	-33.483	1
74	RRUA	Z	-57.995	1
75	RRUA	Mx	-.017	1
76	OVP1	X	-55.543	.75
77	OVP1	Z	-96.203	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-55.543	.75
80	OVP2	Z	-96.203	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 15 : Antenna Wi (0 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	0	1
2	RRUB	Z	-16.091	1
3	RRUB	Mx	0	1
4	RRUC	X	0	1
5	RRUC	Z	-16.091	1
6	RRUC	Mx	0	1
7	M201	X	0	11
8	M201	Z	-3.323	11
9	M201	Mx	.002	11



**Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude/lb.k-ft	Location/ft.%1
10	MP3A	X	0	2.5
11	MP3A	Z	-19.204	2.5
12	MP3A	Mx	0	2.5
13	MP3A	X	0	4.25
14	MP3A	Z	-19.204	4.25
15	MP3A	Mx	0	4.25
16	MP3B	X	0	2.5
17	MP3B	Z	-18.872	2.5
18	MP3B	Mx	-.002	2.5
19	MP3B	X	0	4.25
20	MP3B	Z	-18.872	4.25
21	MP3B	Mx	-.002	4.25
22	MP3C	X	0	2.5
23	MP3C	Z	-8.175	2.5
24	MP3C	Mx	-.004	2.5
25	MP3C	X	0	4.25
26	MP3C	Z	-8.175	4.25
27	MP3C	Mx	-.004	4.25
28	MP1A	X	0	.75
29	MP1A	Z	-61.621	.75
30	MP1A	Mx	-.051	.75
31	MP1A	X	0	6
32	MP1A	Z	-61.621	6
33	MP1A	Mx	-.051	6
34	MP1B	X	0	.75
35	MP1B	Z	-60.696	.75
36	MP1B	Mx	.045	.75
37	MP1B	X	0	6
38	MP1B	Z	-60.696	6
39	MP1B	Mx	.045	6
40	MP1C	X	0	.75
41	MP1C	Z	-30.961	.75
42	MP1C	Mx	-.015	.75
43	MP1C	X	0	6
44	MP1C	Z	-30.961	6
45	MP1C	Mx	-.015	6
46	MP1A	X	0	.75
47	MP1A	Z	-61.621	.75
48	MP1A	Mx	.051	.75
49	MP1A	X	0	6
50	MP1A	Z	-61.621	6
51	MP1A	Mx	.051	6
52	MP1B	X	0	.75
53	MP1B	Z	-60.696	.75
54	MP1B	Mx	-.055	.75
55	MP1B	X	0	6
56	MP1B	Z	-60.696	6
57	MP1B	Mx	-.055	6
58	MP1C	X	0	.75
59	MP1C	Z	-30.961	.75
60	MP1C	Mx	-.015	.75
61	MP1C	X	0	6
62	MP1C	Z	-30.961	6
63	MP1C	Mx	-.015	6
64	MP1A	X	0	3.5
65	MP1A	Z	-16.091	3.5
66	MP1A	Mx	0	3.5
67	MP1B	X	0	3.5
68	MP1B	Z	-15.943	3.5



### Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
69	MP1B	Mx	.001	3.5
70	MP1C	X	0	3.5
71	MP1C	Z	-11.188	3.5
72	MP1C	Mx	.006	3.5
73	RRUA	X	0	1
74	RRUA	Z	-16.091	1
75	RRUA	Mx	0	1
76	OVP1	X	0	.75
77	OVP1	Z	-20.969	.75
78	OVP1	Mx	0	.75
79	OVP2	X	0	.75
80	OVP2	Z	-20.969	.75
81	OVP2	Mx	0	.75

### Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	7.2	1
2	RRUB	Z	-12.47	1
3	RRUB	Mx	.004	1
4	RRUC	X	7.2	1
5	RRUC	Z	-12.47	1
6	RRUC	Mx	.004	1
7	M201	X	2.351	11
8	M201	Z	-4.072	11
9	M201	Mx	.002	11
10	MP3A	X	8.223	2.5
11	MP3A	Z	-14.243	2.5
12	MP3A	Mx	-.004	2.5
13	MP3A	X	8.223	4.25
14	MP3A	Z	-14.243	4.25
15	MP3A	Mx	-.004	4.25
16	MP3B	X	8.957	2.5
17	MP3B	Z	-15.514	2.5
18	MP3B	Mx	.003	2.5
19	MP3B	X	8.957	4.25
20	MP3B	Z	-15.514	4.25
21	MP3B	Mx	.003	4.25
22	MP3C	X	5.466	2.5
23	MP3C	Z	-9.467	2.5
24	MP3C	Mx	-.005	2.5
25	MP3C	X	5.466	4.25
26	MP3C	Z	-9.467	4.25
27	MP3C	Mx	-.005	4.25
28	MP1A	X	26.978	.75
29	MP1A	Z	-46.727	.75
30	MP1A	Mx	-.052	.75
31	MP1A	X	26.978	6
32	MP1A	Z	-46.727	6
33	MP1A	Mx	-.052	6
34	MP1B	X	29.017	.75
35	MP1B	Z	-50.259	.75
36	MP1B	Mx	.055	.75
37	MP1B	X	29.017	6
38	MP1B	Z	-50.259	6
39	MP1B	Mx	.055	6
40	MP1C	X	19.313	.75
41	MP1C	Z	-33.451	.75
42	MP1C	Mx	-.000631	.75

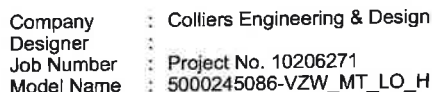
**Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
43	MP1C	X	19.313	6
44	MP1C	Z	-33.451	6
45	MP1C	Mx	-.000631	6
46	MP1A	X	26.978	.75
47	MP1A	Z	-46.727	.75
48	MP1A	Mx	.025	.75
49	MP1A	X	26.978	6
50	MP1A	Z	-46.727	6
51	MP1A	Mx	.025	6
52	MP1B	X	29.017	.75
53	MP1B	Z	-50.259	.75
54	MP1B	Mx	-.036	.75
55	MP1B	X	29.017	6
56	MP1B	Z	-50.259	6
57	MP1B	Mx	-.036	6
58	MP1C	X	19.313	.75
59	MP1C	Z	-33.451	.75
60	MP1C	Mx	-.033	.75
61	MP1C	X	19.313	6
62	MP1C	Z	-33.451	6
63	MP1C	Mx	-.033	6
64	MP1A	X	7.432	3.5
65	MP1A	Z	-12.873	3.5
66	MP1A	Mx	.004	3.5
67	MP1B	X	7.759	3.5
68	MP1B	Z	-13.438	3.5
69	MP1B	Mx	-.003	3.5
70	MP1C	X	6.207	3.5
71	MP1C	Z	-10.75	3.5
72	MP1C	Mx	.005	3.5
73	RRUA	X	7.2	1
74	RRUA	Z	-12.47	1
75	RRUA	Mx	.004	1
76	OVP1	X	9.641	.75
77	OVP1	Z	-16.699	.75
78	OVP1	Mx	0	.75
79	OVP2	X	9.641	.75
80	OVP2	Z	-16.699	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 17 : Antenna Wi (60 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	9.54	1
2	RRUB	Z	-5.508	1
3	RRUB	Mx	.005	1
4	RRUC	X	9.54	1
5	RRUC	Z	-5.508	1
6	RRUC	Mx	.005	1
7	M201	X	6.46	11
8	M201	Z	-3.73	11
9	M201	Mx	.002	11
10	MP3A	X	9.467	2.5
11	MP3A	Z	-5.466	2.5
12	MP3A	Mx	-.005	2.5
13	MP3A	X	9.467	4.25
14	MP3A	Z	-5.466	4.25
15	MP3A	Mx	-.005	4.25
16	MP3B	X	11.026	2.5

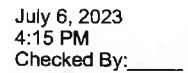




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Member	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP3B	Z	-6.366	2.5
18	MP3B	Mx	.005	2.5
19	MP3B	X	11.026	4.25
20	MP3B	Z	-6.366	4.25
21	MP3B	Mx	.005	4.25
22	MP3C	X	14.243	2.5
23	MP3C	Z	-8.223	2.5
24	MP3C	Mx	-.004	2.5
25	MP3C	X	14.243	4.25
26	MP3C	Z	-8.223	4.25
27	MP3C	Mx	-.004	4.25
28	MP1A	X	33.451	.75
29	MP1A	Z	-19.313	.75
30	MP1A	Mx	-.033	.75
31	MP1A	X	33.451	6
32	MP1A	Z	-19.313	6
33	MP1A	Mx	-.033	6
34	MP1B	X	37.784	.75
35	MP1B	Z	-21.814	.75
36	MP1B	Mx	.04	.75
37	MP1B	X	37.784	6
38	MP1B	Z	-21.814	6
39	MP1B	Mx	.04	6
40	MP1C	X	46.727	.75
41	MP1C	Z	-26.978	.75
42	MP1C	Mx	.025	.75
43	MP1C	X	46.727	6
44	MP1C	Z	-26.978	6
45	MP1C	Mx	.025	6
46	MP1A	X	33.451	.75
47	MP1A	Z	-19.313	.75
48	MP1A	Mx	-.000631	.75
49	MP1A	X	33.451	6
50	MP1A	Z	-19.313	6
51	MP1A	Mx	-.000631	6
52	MP1B	X	37.784	.75
53	MP1B	Z	-21.814	.75
54	MP1B	Mx	-.007	.75
55	MP1B	X	37.784	6
56	MP1B	Z	-21.814	6
57	MP1B	Mx	-.007	6
58	MP1C	X	46.727	.75
59	MP1C	Z	-26.978	.75
60	MP1C	Mx	-.052	.75
61	MP1C	X	46.727	6
62	MP1C	Z	-26.978	6
63	MP1C	Mx	-.052	6
64	MP1A	X	10.75	3.5
65	MP1A	Z	-6.207	3.5
66	MP1A	Mx	.005	3.5
67	MP1B	X	11.443	3.5
68	MP1B	Z	-6.607	3.5
69	MP1B	Mx	-.005	3.5
70	MP1C	X	12.873	3.5
71	MP1C	Z	-7.432	3.5
72	MP1C	Mx	.004	3.5
73	RRUA	X	9.54	1
74	RRUA	Z	-5.508	1
75	RRUA	Mx	.005	1





	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
76	OVP1	X	13.778	.75
77	OVP1	Z	-7.955	.75
78	OVP1	Mx	0	.75
79	OVP2	X	13.778	.75
80	OVP2	Z	-7.955	.75
81	OVP2	Mx	0	.75

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	9.325	1
2	RRUB	Z	0	1
3	RRUB	Mx	.005	1
4	RRUC	X	9.325	1
5	RRUC	Z	0	1
6	RRUC	Mx	.005	1
7	M201	X	8.839	11
8	M201	Z	0	11
9	M201	Mx	0	11
10	MP3A	X	8.175	2.5
11	MP3A	Z	0	2.5
12	MP3A	Mx	-.004	2.5
13	MP3A	X	8.175	4.25
14	MP3A	Z	0	4.25
15	MP3A	Mx	-.004	4.25
16	MP3B	X	8.507	2.5
17	MP3B	Z	0	2.5
18	MP3B	Mx	.004	2.5
19	MP3B	X	8.507	4.25
20	MP3B	Z	0	4.25
21	MP3B	Mx	.004	4.25
22	MP3C	X	19.204	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0	2.5
25	MP3C	X	19.204	4.25
26	MP3C	Z	0	4.25
27	MP3C	Mx	0	4.25
28	MP1A	X	30.961	.75
29	MP1A	Z	0	.75
30	MP1A	Mx	-.015	.75
31	MP1A	X	30.961	6
32	MP1A	Z	0	6
33	MP1A	Mx	-.015	6
34	MP1B	X	31.885	.75
35	MP1B	Z	0	.75
36	MP1B	Mx	.02	.75
37	MP1B	X	31.885	6
38	MP1B	Z	0	6
39	MP1B	Mx	.02	6
40	MP1C	X	61.621	.75
41	MP1C	Z	0	.75
42	MP1C	Mx	.051	.75
43	MP1C	X	61.621	6
44	MP1C	Z	0	6
45	MP1C	Mx	.051	6
46	MP1A	X	30.961	.75
47	MP1A	Z	0	.75
48	MP1A	Mx	-.015	.75
49	MP1A	X	30.961	6

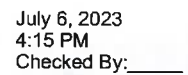
**Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
50	MP1A	Z	0	6
51	MP1A	Mx	-.015	6
52	MP1B	X	31.885	.75
53	MP1B	Z	0	.75
54	MP1B	Mx	.011	.75
55	MP1B	X	31.885	6
56	MP1B	Z	0	6
57	MP1B	Mx	.011	6
58	MP1C	X	61.621	.75
59	MP1C	Z	0	.75
60	MP1C	Mx	-.051	.75
61	MP1C	X	61.621	6
62	MP1C	Z	0	6
63	MP1C	Mx	-.051	6
64	MP1A	X	11.188	3.5
65	MP1A	Z	0	3.5
66	MP1A	Mx	.006	3.5
67	MP1B	X	11.336	3.5
68	MP1B	Z	0	3.5
69	MP1B	Mx	-.006	3.5
70	MP1C	X	16.091	3.5
71	MP1C	Z	0	3.5
72	MP1C	Mx	0	3.5
73	RRUA	X	9.325	1
74	RRUA	Z	0	1
75	RRUA	Mx	.005	1
76	OVP1	X	14.223	.75
77	OVP1	Z	0	.75
78	OVP1	Mx	0	.75
79	OVP2	X	14.223	.75
80	OVP2	Z	0	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 19 : Antenna Wi (120 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	9.54	1
2	RRUB	Z	5.508	1
3	RRUB	Mx	.005	1
4	RRUC	X	9.54	1
5	RRUC	Z	5.508	1
6	RRUC	Mx	.005	1
7	M201	X	6.46	11
8	M201	Z	3.73	11
9	M201	Mx	-.002	11
10	MP3A	X	9.467	2.5
11	MP3A	Z	5.466	2.5
12	MP3A	Mx	-.005	2.5
13	MP3A	X	9.467	4.25
14	MP3A	Z	5.466	4.25
15	MP3A	Mx	-.005	4.25
16	MP3B	X	8.197	2.5
17	MP3B	Z	4.732	2.5
18	MP3B	Mx	.004	2.5
19	MP3B	X	8.197	4.25
20	MP3B	Z	4.732	4.25
21	MP3B	Mx	.004	4.25
22	MP3C	X	14.243	2.5
23	MP3C	Z	8.223	2.5





	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
24	MP3C	Mx	.004	2.5
25	MP3C	X	14.243	4.25
26	MP3C	Z	8.223	4.25
27	MP3C	Mx	.004	4.25
28	MP1A	X	33.451	.75
29	MP1A	Z	19.313	.75
30	MP1A	Mx	-.000631	.75
31	MP1A	X	33.451	6
32	MP1A	Z	19.313	6
33	MP1A	Mx	-.000631	6
34	MP1B	X	29.919	.75
35	MP1B	Z	17.274	.75
36	MP1B	Mx	.006	.75
37	MP1B	X	29.919	6
38	MP1B	Z	17.274	6
39	MP1B	Mx	.006	6
40	MP1C	X	46.727	.75
41	MP1C	Z	26.978	.75
42	MP1C	Mx	.052	.75
43	MP1C	X	46.727	6
44	MP1C	Z	26.978	6
45	MP1C	Mx	.052	6
46	MP1A	X	33.451	.75
47	MP1A	Z	19.313	.75
48	MP1A	Mx	-.033	.75
49	MP1A	X	33.451	6
50	MP1A	Z	19.313	6
51	MP1A	Mx	-.033	6
52	MP1B	X	29.919	.75
53	MP1B	Z	17.274	.75
54	MP1B	Mx	.026	.75
55	MP1B	X	29.919	6
56	MP1B	Z	17.274	6
57	MP1B	Mx	.026	6
58	MP1C	X	46.727	.75
59	MP1C	Z	26.978	.75
60	MP1C	Mx	-.025	.75
61	MP1C	X	46.727	6
62	MP1C	Z	26.978	6
63	MP1C	Mx	-.025	6
64	MP1A	X	10.75	3.5
65	MP1A	Z	6.207	3.5
66	MP1A	Mx	.005	3.5
67	MP1B	X	10.186	3.5
68	MP1B	Z	5.881	3.5
69	MP1B	Mx	-.006	3.5
70	MP1C	X	12.873	3.5
71	MP1C	Z	7.432	3.5
72	MP1C	Mx	-.004	3.5
73	RRUA	X	9.54	1
74	RRUA	Z	5.508	1
75	RRUA	Mx	.005	1
76	OVP1	X	13.778	.75
77	OVP1	Z	7.955	.75
78	OVP1	Mx	0	.75
79	OVP2	X	13.778	.75
80	OVP2	Z	7.955	.75
81	OVP2	Mx	0	.75



**Member Point Loads (BLC 20 : Antenna Wi (150 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	7.2	1
2	RRUB	Z	12.47	1
3	RRUB	Mx	.004	1
4	RRUC	X	7.2	1
5	RRUC	Z	12.47	1
6	RRUC	Mx	.004	1
7	M201	X	2.351	11
8	M201	Z	4.072	11
9	M201	Mx	-.002	11
10	MP3A	X	8.223	2.5
11	MP3A	Z	14.243	2.5
12	MP3A	Mx	-.004	2.5
13	MP3A	X	8.223	4.25
14	MP3A	Z	14.243	4.25
15	MP3A	Mx	-.004	4.25
16	MP3B	X	7.324	2.5
17	MP3B	Z	12.685	2.5
18	MP3B	Mx	.005	2.5
19	MP3B	X	7.324	4.25
20	MP3B	Z	12.685	4.25
21	MP3B	Mx	.005	4.25
22	MP3C	X	5.466	2.5
23	MP3C	Z	9.467	2.5
24	MP3C	Mx	.005	2.5
25	MP3C	X	5.466	4.25
26	MP3C	Z	9.467	4.25
27	MP3C	Mx	.005	4.25
28	MP1A	X	26.978	.75
29	MP1A	Z	46.727	.75
30	MP1A	Mx	.025	.75
31	MP1A	X	26.978	6
32	MP1A	Z	46.727	6
33	MP1A	Mx	.025	6
34	MP1B	X	24.476	.75
35	MP1B	Z	42.394	.75
36	MP1B	Mx	-.016	.75
37	MP1B	X	24.476	6
38	MP1B	Z	42.394	6
39	MP1B	Mx	-.016	6
40	MP1C	X	19.313	.75
41	MP1C	Z	33.451	.75
42	MP1C	Mx	.033	.75
43	MP1C	X	19.313	6
44	MP1C	Z	33.451	6
45	MP1C	Mx	.033	6
46	MP1A	X	26.978	.75
47	MP1A	Z	46.727	.75
48	MP1A	Mx	-.052	.75
49	MP1A	X	26.978	6
50	MP1A	Z	46.727	6
51	MP1A	Mx	-.052	6
52	MP1B	X	24.476	.75
53	MP1B	Z	42.394	.75
54	MP1B	Mx	.047	.75
55	MP1B	X	24.476	6
56	MP1B	Z	42.394	6
57	MP1B	Mx	.047	6
58	MP1C	X	19.313	.75
59	MP1C	Z	33.451	.75

**Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
60	MP1C	Mx	.000631	.75
61	MP1C	X	19.313	6
62	MP1C	Z	33.451	6
63	MP1C	Mx	.000631	6
64	MP1A	X	7.432	3.5
65	MP1A	Z	12.873	3.5
66	MP1A	Mx	.004	3.5
67	MP1B	X	7.032	3.5
68	MP1B	Z	12.181	3.5
69	MP1B	Mx	-.005	3.5
70	MP1C	X	6.207	3.5
71	MP1C	Z	10.75	3.5
72	MP1C	Mx	-.005	3.5
73	RRUA	X	7.2	1
74	RRUA	Z	12.47	1
75	RRUA	Mx	.004	1
76	OVP1	X	9.641	.75
77	OVP1	Z	16.699	.75
78	OVP1	Mx	0	.75
79	OVP2	X	9.641	.75
80	OVP2	Z	16.699	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 21 : Antenna Wi (180 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	0	1
2	RRUB	Z	16.091	1
3	RRUB	Mx	0	1
4	RRUC	X	0	1
5	RRUC	Z	16.091	1
6	RRUC	Mx	0	1
7	M201	X	0	11
8	M201	Z	3.323	11
9	M201	Mx	-.002	11
10	MP3A	X	0	2.5
11	MP3A	Z	19.204	2.5
12	MP3A	Mx	0	2.5
13	MP3A	X	0	4.25
14	MP3A	Z	19.204	4.25
15	MP3A	Mx	0	4.25
16	MP3B	X	0	2.5
17	MP3B	Z	18.872	2.5
18	MP3B	Mx	.002	2.5
19	MP3B	X	0	4.25
20	MP3B	Z	18.872	4.25
21	MP3B	Mx	.002	4.25
22	MP3C	X	0	2.5
23	MP3C	Z	8.175	2.5
24	MP3C	Mx	.004	2.5
25	MP3C	X	0	4.25
26	MP3C	Z	8.175	4.25
27	MP3C	Mx	.004	4.25
28	MP1A	X	0	.75
29	MP1A	Z	61.621	.75
30	MP1A	Mx	.051	.75
31	MP1A	X	0	6
32	MP1A	Z	61.621	6
33	MP1A	Mx	.051	6



**Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
34	MP1B	X	0	.75
35	MP1B	Z	60.696	.75
36	MP1B	Mx	-.045	.75
37	MP1B	X	0	6
38	MP1B	Z	60.696	6
39	MP1B	Mx	-.045	6
40	MP1C	X	0	.75
41	MP1C	Z	30.961	.75
42	MP1C	Mx	.015	.75
43	MP1C	X	0	6
44	MP1C	Z	30.961	6
45	MP1C	Mx	.015	6
46	MP1A	X	0	.75
47	MP1A	Z	61.621	.75
48	MP1A	Mx	-.051	.75
49	MP1A	X	0	6
50	MP1A	Z	61.621	6
51	MP1A	Mx	-.051	6
52	MP1B	X	0	.75
53	MP1B	Z	60.696	.75
54	MP1B	Mx	.055	.75
55	MP1B	X	0	6
56	MP1B	Z	60.696	6
57	MP1B	Mx	.055	6
58	MP1C	X	0	.75
59	MP1C	Z	30.961	.75
60	MP1C	Mx	.015	.75
61	MP1C	X	0	6
62	MP1C	Z	30.961	6
63	MP1C	Mx	.015	6
64	MP1A	X	0	3.5
65	MP1A	Z	16.091	3.5
66	MP1A	Mx	0	3.5
67	MP1B	X	0	3.5
68	MP1B	Z	15.943	3.5
69	MP1B	Mx	-.001	3.5
70	MP1C	X	0	3.5
71	MP1C	Z	11.188	3.5
72	MP1C	Mx	-.006	3.5
73	RRUA	X	0	1
74	RRUA	Z	16.091	1
75	RRUA	Mx	0	1
76	OVP1	X	0	.75
77	OVP1	Z	20.969	.75
78	OVP1	Mx	0	.75
79	OVP2	X	0	.75
80	OVP2	Z	20.969	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 22 : Antenna Wi (210 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-7.2	1
2	RRUB	Z	12.47	1
3	RRUB	Mx	-.004	1
4	RRUC	X	-7.2	1
5	RRUC	Z	12.47	1
6	RRUC	Mx	-.004	1
7	M201	X	-2.351	11



**Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	M201	Z	4.072	11
9	M201	Mx	-.002	11
10	MP3A	X	-8.223	2.5
11	MP3A	Z	14.243	2.5
12	MP3A	Mx	.004	2.5
13	MP3A	X	-8.223	4.25
14	MP3A	Z	14.243	4.25
15	MP3A	Mx	.004	4.25
16	MP3B	X	-8.957	2.5
17	MP3B	Z	15.514	2.5
18	MP3B	Mx	-.003	2.5
19	MP3B	X	-8.957	4.25
20	MP3B	Z	15.514	4.25
21	MP3B	Mx	-.003	4.25
22	MP3C	X	-5.466	2.5
23	MP3C	Z	9.467	2.5
24	MP3C	Mx	.005	2.5
25	MP3C	X	-5.466	4.25
26	MP3C	Z	9.467	4.25
27	MP3C	Mx	.005	4.25
28	MP1A	X	-26.978	.75
29	MP1A	Z	46.727	.75
30	MP1A	Mx	.052	.75
31	MP1A	X	-26.978	6
32	MP1A	Z	46.727	6
33	MP1A	Mx	.052	6
34	MP1B	X	-29.017	.75
35	MP1B	Z	50.259	.75
36	MP1B	Mx	-.055	.75
37	MP1B	X	-29.017	6
38	MP1B	Z	50.259	6
39	MP1B	Mx	-.055	6
40	MP1C	X	-19.313	.75
41	MP1C	Z	33.451	.75
42	MP1C	Mx	.000631	.75
43	MP1C	X	-19.313	6
44	MP1C	Z	33.451	6
45	MP1C	Mx	.000631	6
46	MP1A	X	-26.978	.75
47	MP1A	Z	46.727	.75
48	MP1A	Mx	-.025	.75
49	MP1A	X	-26.978	6
50	MP1A	Z	46.727	6
51	MP1A	Mx	-.025	6
52	MP1B	X	-29.017	.75
53	MP1B	Z	50.259	.75
54	MP1B	Mx	.036	.75
55	MP1B	X	-29.017	6
56	MP1B	Z	50.259	6
57	MP1B	Mx	.036	6
58	MP1C	X	-19.313	.75
59	MP1C	Z	33.451	.75
60	MP1C	Mx	.033	.75
61	MP1C	X	-19.313	6
62	MP1C	Z	33.451	6
63	MP1C	Mx	.033	6
64	MP1A	X	-7.432	3.5
65	MP1A	Z	12.873	3.5
66	MP1A	Mx	-.004	3.5

**Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
67	MP1B	X	-7.759	3.5
68	MP1B	Z	13.438	3.5
69	MP1B	Mx	.003	3.5
70	MP1C	X	-6.207	3.5
71	MP1C	Z	10.75	3.5
72	MP1C	Mx	-.005	3.5
73	RRUA	X	-7.2	1
74	RRUA	Z	12.47	1
75	RRUA	Mx	-.004	1
76	OVP1	X	-9.641	.75
77	OVP1	Z	16.699	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-9.641	.75
80	OVP2	Z	16.699	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 23 : Antenna Wi (240 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-9.54	1
2	RRUB	Z	5.508	1
3	RRUB	Mx	-.005	1
4	RRUC	X	-9.54	1
5	RRUC	Z	5.508	1
6	RRUC	Mx	-.005	1
7	M201	X	-6.46	11
8	M201	Z	3.73	11
9	M201	Mx	-.002	11
10	MP3A	X	-9.467	2.5
11	MP3A	Z	5.466	2.5
12	MP3A	Mx	.005	2.5
13	MP3A	X	-9.467	4.25
14	MP3A	Z	5.466	4.25
15	MP3A	Mx	.005	4.25
16	MP3B	X	-11.026	2.5
17	MP3B	Z	6.366	2.5
18	MP3B	Mx	-.005	2.5
19	MP3B	X	-11.026	4.25
20	MP3B	Z	6.366	4.25
21	MP3B	Mx	-.005	4.25
22	MP3C	X	-14.243	2.5
23	MP3C	Z	8.223	2.5
24	MP3C	Mx	.004	2.5
25	MP3C	X	-14.243	4.25
26	MP3C	Z	8.223	4.25
27	MP3C	Mx	.004	4.25
28	MP1A	X	-33.451	.75
29	MP1A	Z	19.313	.75
30	MP1A	Mx	.033	.75
31	MP1A	X	-33.451	6
32	MP1A	Z	19.313	6
33	MP1A	Mx	.033	6
34	MP1B	X	-37.784	.75
35	MP1B	Z	21.814	.75
36	MP1B	Mx	-.04	.75
37	MP1B	X	-37.784	6
38	MP1B	Z	21.814	6
39	MP1B	Mx	-.04	6
40	MP1C	X	-46.727	.75



**Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP1C	Z	26.978	.75
42	MP1C	Mx	-.025	.75
43	MP1C	X	-46.727	6
44	MP1C	Z	26.978	6
45	MP1C	Mx	-.025	6
46	MP1A	X	-33.451	.75
47	MP1A	Z	19.313	.75
48	MP1A	Mx	.000631	.75
49	MP1A	X	-33.451	6
50	MP1A	Z	19.313	6
51	MP1A	Mx	.000631	6
52	MP1B	X	-37.784	.75
53	MP1B	Z	21.814	.75
54	MP1B	Mx	.007	.75
55	MP1B	X	-37.784	6
56	MP1B	Z	21.814	6
57	MP1B	Mx	.007	6
58	MP1C	X	-46.727	.75
59	MP1C	Z	26.978	.75
60	MP1C	Mx	.052	.75
61	MP1C	X	-46.727	6
62	MP1C	Z	26.978	6
63	MP1C	Mx	.052	6
64	MP1A	X	-10.75	3.5
65	MP1A	Z	6.207	3.5
66	MP1A	Mx	-.005	3.5
67	MP1B	X	-11.443	3.5
68	MP1B	Z	6.607	3.5
69	MP1B	Mx	.005	3.5
70	MP1C	X	-12.873	3.5
71	MP1C	Z	7.432	3.5
72	MP1C	Mx	-.004	3.5
73	RRUA	X	-9.54	1
74	RRUA	Z	5.508	1
75	RRUA	Mx	-.005	1
76	OVP1	X	-13.778	.75
77	OVP1	Z	7.955	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-13.778	.75
80	OVP2	Z	7.955	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 24 : Antenna Wi (270 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-9.325	1
2	RRUB	Z	0	1
3	RRUB	Mx	-.005	1
4	RRUC	X	-9.325	1
5	RRUC	Z	0	1
6	RRUC	Mx	-.005	1
7	M201	X	-8.839	11
8	M201	Z	0	11
9	M201	Mx	0	11
10	MP3A	X	-8.175	2.5
11	MP3A	Z	0	2.5
12	MP3A	Mx	.004	2.5
13	MP3A	X	-8.175	4.25
14	MP3A	Z	0	4.25



**Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
15	MP3A	Mx	.004	4.25
16	MP3B	X	-8.507	2.5
17	MP3B	Z	0	2.5
18	MP3B	Mx	-.004	2.5
19	MP3B	X	-8.507	4.25
20	MP3B	Z	0	4.25
21	MP3B	Mx	-.004	4.25
22	MP3C	X	-19.204	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0	2.5
25	MP3C	X	-19.204	4.25
26	MP3C	Z	0	4.25
27	MP3C	Mx	0	4.25
28	MP1A	X	-30.961	.75
29	MP1A	Z	0	.75
30	MP1A	Mx	.015	.75
31	MP1A	X	-30.961	6
32	MP1A	Z	0	6
33	MP1A	Mx	.015	6
34	MP1B	X	-31.885	.75
35	MP1B	Z	0	.75
36	MP1B	Mx	-.02	.75
37	MP1B	X	-31.885	6
38	MP1B	Z	0	6
39	MP1B	Mx	-.02	6
40	MP1C	X	-61.621	.75
41	MP1C	Z	0	.75
42	MP1C	Mx	-.051	.75
43	MP1C	X	-61.621	6
44	MP1C	Z	0	6
45	MP1C	Mx	-.051	6
46	MP1A	X	-30.961	.75
47	MP1A	Z	0	.75
48	MP1A	Mx	.015	.75
49	MP1A	X	-30.961	6
50	MP1A	Z	0	6
51	MP1A	Mx	.015	6
52	MP1B	X	-31.885	.75
53	MP1B	Z	0	.75
54	MP1B	Mx	-.011	.75
55	MP1B	X	-31.885	6
56	MP1B	Z	0	6
57	MP1B	Mx	-.011	6
58	MP1C	X	-61.621	.75
59	MP1C	Z	0	.75
60	MP1C	Mx	.051	.75
61	MP1C	X	-61.621	6
62	MP1C	Z	0	6
63	MP1C	Mx	.051	6
64	MP1A	X	-11.188	3.5
65	MP1A	Z	0	3.5
66	MP1A	Mx	-.006	3.5
67	MP1B	X	-11.336	3.5
68	MP1B	Z	0	3.5
69	MP1B	Mx	.006	3.5
70	MP1C	X	-16.091	3.5
71	MP1C	Z	0	3.5
72	MP1C	Mx	0	3.5
73	RRUA	X	-9.325	1

**Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	RRUA	Z	0	1
75	RRUA	Mx	-.005	1
76	OVP1	X	-14.223	.75
77	OVP1	Z	0	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-14.223	.75
80	OVP2	Z	0	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 25 : Antenna Wi (300 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-9.54	1
2	RRUB	Z	-5.508	1
3	RRUB	Mx	-.005	1
4	RRUC	X	-9.54	1
5	RRUC	Z	-5.508	1
6	RRUC	Mx	-.005	1
7	M201	X	-6.46	11
8	M201	Z	-3.73	11
9	M201	Mx	.002	11
10	MP3A	X	-9.467	2.5
11	MP3A	Z	-5.466	2.5
12	MP3A	Mx	.005	2.5
13	MP3A	X	-9.467	4.25
14	MP3A	Z	-5.466	4.25
15	MP3A	Mx	.005	4.25
16	MP3B	X	-8.197	2.5
17	MP3B	Z	-4.732	2.5
18	MP3B	Mx	-.004	2.5
19	MP3B	X	-8.197	4.25
20	MP3B	Z	-4.732	4.25
21	MP3B	Mx	-.004	4.25
22	MP3C	X	-14.243	2.5
23	MP3C	Z	-8.223	2.5
24	MP3C	Mx	-.004	2.5
25	MP3C	X	-14.243	4.25
26	MP3C	Z	-8.223	4.25
27	MP3C	Mx	-.004	4.25
28	MP1A	X	-33.451	.75
29	MP1A	Z	-19.313	.75
30	MP1A	Mx	.000631	.75
31	MP1A	X	-33.451	6
32	MP1A	Z	-19.313	6
33	MP1A	Mx	.000631	6
34	MP1B	X	-29.919	.75
35	MP1B	Z	-17.274	.75
36	MP1B	Mx	-.006	.75
37	MP1B	X	-29.919	6
38	MP1B	Z	-17.274	6
39	MP1B	Mx	-.006	6
40	MP1C	X	-46.727	.75
41	MP1C	Z	-26.978	.75
42	MP1C	Mx	-.052	.75
43	MP1C	X	-46.727	6
44	MP1C	Z	-26.978	6
45	MP1C	Mx	-.052	6
46	MP1A	X	-33.451	.75
47	MP1A	Z	-19.313	.75



**Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
48	MP1A	Mx	.033	.75
49	MP1A	X	-33.451	6
50	MP1A	Z	-19.313	6
51	MP1A	Mx	.033	6
52	MP1B	X	-29.919	.75
53	MP1B	Z	-17.274	.75
54	MP1B	Mx	-.026	.75
55	MP1B	X	-29.919	6
56	MP1B	Z	-17.274	6
57	MP1B	Mx	-.026	6
58	MP1C	X	-46.727	.75
59	MP1C	Z	-26.978	.75
60	MP1C	Mx	.025	.75
61	MP1C	X	-46.727	6
62	MP1C	Z	-26.978	6
63	MP1C	Mx	.025	6
64	MP1A	X	-10.75	3.5
65	MP1A	Z	-6.207	3.5
66	MP1A	Mx	-.005	3.5
67	MP1B	X	-10.186	3.5
68	MP1B	Z	-5.881	3.5
69	MP1B	Mx	.006	3.5
70	MP1C	X	-12.873	3.5
71	MP1C	Z	-7.432	3.5
72	MP1C	Mx	.004	3.5
73	RRUA	X	-9.54	1
74	RRUA	Z	-5.508	1
75	RRUA	Mx	-.005	1
76	OVP1	X	-13.778	.75
77	OVP1	Z	-7.955	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-13.778	.75
80	OVP2	Z	-7.955	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 26 : Antenna Wi (330 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-7.2	1
2	RRUB	Z	-12.47	1
3	RRUB	Mx	-.004	1
4	RRUC	X	-7.2	1
5	RRUC	Z	-12.47	1
6	RRUC	Mx	-.004	1
7	M201	X	-2.351	11
8	M201	Z	-4.072	11
9	M201	Mx	.002	11
10	MP3A	X	-8.223	2.5
11	MP3A	Z	-14.243	2.5
12	MP3A	Mx	.004	2.5
13	MP3A	X	-8.223	4.25
14	MP3A	Z	-14.243	4.25
15	MP3A	Mx	.004	4.25
16	MP3B	X	-7.324	2.5
17	MP3B	Z	-12.685	2.5
18	MP3B	Mx	-.005	2.5
19	MP3B	X	-7.324	4.25
20	MP3B	Z	-12.685	4.25
21	MP3B	Mx	-.005	4.25



**Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude(lb.k-ft)	Location(ft.%)
22	MP3C	X	-5.466	2.5
23	MP3C	Z	-9.467	2.5
24	MP3C	Mx	-.005	2.5
25	MP3C	X	-5.466	4.25
26	MP3C	Z	-9.467	4.25
27	MP3C	Mx	-.005	4.25
28	MP1A	X	-26.978	.75
29	MP1A	Z	-46.727	.75
30	MP1A	Mx	-.025	.75
31	MP1A	X	-26.978	6
32	MP1A	Z	-46.727	6
33	MP1A	Mx	-.025	6
34	MP1B	X	-24.476	.75
35	MP1B	Z	-42.394	.75
36	MP1B	Mx	.016	.75
37	MP1B	X	-24.476	6
38	MP1B	Z	-42.394	6
39	MP1B	Mx	.016	6
40	MP1C	X	-19.313	.75
41	MP1C	Z	-33.451	.75
42	MP1C	Mx	-.033	.75
43	MP1C	X	-19.313	6
44	MP1C	Z	-33.451	6
45	MP1C	Mx	-.033	6
46	MP1A	X	-26.978	.75
47	MP1A	Z	-46.727	.75
48	MP1A	Mx	.052	.75
49	MP1A	X	-26.978	6
50	MP1A	Z	-46.727	6
51	MP1A	Mx	.052	6
52	MP1B	X	-24.476	.75
53	MP1B	Z	-42.394	.75
54	MP1B	Mx	-.047	.75
55	MP1B	X	-24.476	6
56	MP1B	Z	-42.394	6
57	MP1B	Mx	-.047	6
58	MP1C	X	-19.313	.75
59	MP1C	Z	-33.451	.75
60	MP1C	Mx	-.000631	.75
61	MP1C	X	-19.313	6
62	MP1C	Z	-33.451	6
63	MP1C	Mx	-.000631	6
64	MP1A	X	-7.432	3.5
65	MP1A	Z	-12.873	3.5
66	MP1A	Mx	-.004	3.5
67	MP1B	X	-7.032	3.5
68	MP1B	Z	-12.181	3.5
69	MP1B	Mx	.005	3.5
70	MP1C	X	-6.207	3.5
71	MP1C	Z	-10.75	3.5
72	MP1C	Mx	.005	3.5
73	RRUA	X	-7.2	1
74	RRUA	Z	-12.47	1
75	RRUA	Mx	-.004	1
76	OVP1	X	-9.641	.75
77	OVP1	Z	-16.699	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-9.641	.75
80	OVP2	Z	-16.699	.75



Company : Colliers Engineering & Design  
 Designer :  
 Job Number : Project No. 10206271  
 Model Name : 5000245086-VZW\_MT\_LO\_H

July 6, 2023  
 4:15 PM  
 Checked By: \_\_\_\_\_

### Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
81	OVP2	Mx	0	.75

### Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	0	1
2	RRUB	Z	-4.02	1
3	RRUB	Mx	0	1
4	RRUC	X	0	1
5	RRUC	Z	-4.02	1
6	RRUC	Mx	0	1
7	M201	X	0	11
8	M201	Z	-755	11
9	M201	Mx	.000378	11
10	MP3A	X	0	2.5
11	MP3A	Z	-5.109	2.5
12	MP3A	Mx	0	2.5
13	MP3A	X	0	4.25
14	MP3A	Z	-5.109	4.25
15	MP3A	Mx	0	4.25
16	MP3B	X	0	2.5
17	MP3B	Z	-5.008	2.5
18	MP3B	Mx	-.000435	2.5
19	MP3B	X	0	4.25
20	MP3B	Z	-5.008	4.25
21	MP3B	Mx	-.000435	4.25
22	MP3C	X	0	2.5
23	MP3C	Z	-1.76	2.5
24	MP3C	Mx	-.00088	2.5
25	MP3C	X	0	4.25
26	MP3C	Z	-1.76	4.25
27	MP3C	Mx	-.00088	4.25
28	MP1A	X	0	.75
29	MP1A	Z	-20.71	.75
30	MP1A	Mx	-.017	.75
31	MP1A	X	0	6
32	MP1A	Z	-20.71	6
33	MP1A	Mx	-.017	6
34	MP1B	X	0	.75
35	MP1B	Z	-20.383	.75
36	MP1B	Mx	.015	.75
37	MP1B	X	0	6
38	MP1B	Z	-20.383	6
39	MP1B	Mx	.015	6
40	MP1C	X	0	.75
41	MP1C	Z	-9.863	.75
42	MP1C	Mx	-.005	.75
43	MP1C	X	0	6
44	MP1C	Z	-9.863	6
45	MP1C	Mx	-.005	6
46	MP1A	X	0	.75
47	MP1A	Z	-20.71	.75
48	MP1A	Mx	.017	.75
49	MP1A	X	0	6
50	MP1A	Z	-20.71	6
51	MP1A	Mx	.017	6
52	MP1B	X	0	.75
53	MP1B	Z	-20.383	.75
54	MP1B	Mx	-.018	.75



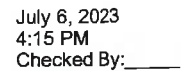
**Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
55	MP1B	X	0	6
56	MP1B	Z	-20.383	6
57	MP1B	Mx	-.018	6
58	MP1C	X	0	.75
59	MP1C	Z	-9.863	.75
60	MP1C	Mx	-.005	.75
61	MP1C	X	0	6
62	MP1C	Z	-9.863	6
63	MP1C	Mx	-.005	6
64	MP1A	X	0	3.5
65	MP1A	Z	-4.02	3.5
66	MP1A	Mx	0	3.5
67	MP1B	X	0	3.5
68	MP1B	Z	-3.98	3.5
69	MP1B	Mx	.000346	3.5
70	MP1C	X	0	3.5
71	MP1C	Z	-2.697	3.5
72	MP1C	Mx	.001	3.5
73	RRUA	X	0	1
74	RRUA	Z	-4.02	1
75	RRUA	Mx	0	1
76	OVP1	X	0	.75
77	OVP1	Z	-6.484	.75
78	OVP1	Mx	0	.75
79	OVP2	X	0	.75
80	OVP2	Z	-6.484	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 28 : Antenna Wm (30 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	1.783	1
2	RRUB	Z	-3.088	1
3	RRUB	Mx	.000892	1
4	RRUC	X	1.783	1
5	RRUC	Z	-3.088	1
6	RRUC	Mx	.000892	1
7	M201	X	.594	11
8	M201	Z	-1.03	11
9	M201	Mx	.000515	11
10	MP3A	X	2.136	2.5
11	MP3A	Z	-3.699	2.5
12	MP3A	Mx	-.001	2.5
13	MP3A	X	2.136	4.25
14	MP3A	Z	-3.699	4.25
15	MP3A	Mx	-.001	4.25
16	MP3B	X	2.359	2.5
17	MP3B	Z	-4.085	2.5
18	MP3B	Mx	.000807	2.5
19	MP3B	X	2.359	4.25
20	MP3B	Z	-4.085	4.25
21	MP3B	Mx	.000807	4.25
22	MP3C	X	1.298	2.5
23	MP3C	Z	-2.249	2.5
24	MP3C	Mx	-.001	2.5
25	MP3C	X	1.298	4.25
26	MP3C	Z	-2.249	4.25
27	MP3C	Mx	-.001	4.25
28	MP1A	X	8.999	.75





	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	2.302	1
2	RRUB	Z	-1.329	1

**Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	RRUB	Mx	.001	1
4	RRUC	X	2.302	1
5	RRUC	Z	-1.329	1
6	RRUC	Mx	.001	1
7	M201	X	1.781	11
8	M201	Z	-1.028	11
9	M201	Mx	.000514	11
10	MP3A	X	2.249	2.5
11	MP3A	Z	-1.298	2.5
12	MP3A	Mx	-.001	2.5
13	MP3A	X	2.249	4.25
14	MP3A	Z	-1.298	4.25
15	MP3A	Mx	-.001	4.25
16	MP3B	X	2.722	2.5
17	MP3B	Z	-1.572	2.5
18	MP3B	Mx	.001	2.5
19	MP3B	X	2.722	4.25
20	MP3B	Z	-1.572	4.25
21	MP3B	Mx	.001	4.25
22	MP3C	X	3.699	2.5
23	MP3C	Z	-2.136	2.5
24	MP3C	Mx	-.001	2.5
25	MP3C	X	3.699	4.25
26	MP3C	Z	-2.136	4.25
27	MP3C	Mx	-.001	4.25
28	MP1A	X	10.89	.75
29	MP1A	Z	-6.288	.75
30	MP1A	Mx	-.011	.75
31	MP1A	X	10.89	6
32	MP1A	Z	-6.288	6
33	MP1A	Mx	-.011	6
34	MP1B	X	12.423	.75
35	MP1B	Z	-7.172	.75
36	MP1B	Mx	.013	.75
37	MP1B	X	12.423	6
38	MP1B	Z	-7.172	6
39	MP1B	Mx	.013	6
40	MP1C	X	15.587	.75
41	MP1C	Z	-8.999	.75
42	MP1C	Mx	.008	.75
43	MP1C	X	15.587	6
44	MP1C	Z	-8.999	6
45	MP1C	Mx	.008	6
46	MP1A	X	10.89	.75
47	MP1A	Z	-6.288	.75
48	MP1A	Mx	-.000205	.75
49	MP1A	X	10.89	6
50	MP1A	Z	-6.288	6
51	MP1A	Mx	-.000205	6
52	MP1B	X	12.423	.75
53	MP1B	Z	-7.172	.75
54	MP1B	Mx	-.002	.75
55	MP1B	X	12.423	6
56	MP1B	Z	-7.172	6
57	MP1B	Mx	-.002	6
58	MP1C	X	15.587	.75
59	MP1C	Z	-8.999	.75
60	MP1C	Mx	-.017	.75
61	MP1C	X	15.587	6



**Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
62	MP1C	Z	-8.999	6
63	MP1C	Mx	-.017	6
64	MP1A	X	2.622	3.5
65	MP1A	Z	-1.514	3.5
66	MP1A	Mx	.001	3.5
67	MP1B	X	2.809	3.5
68	MP1B	Z	-1.622	3.5
69	MP1B	Mx	-.001	3.5
70	MP1C	X	3.195	3.5
71	MP1C	Z	-1.845	3.5
72	MP1C	Mx	.000922	3.5
73	RRUA	X	2.302	1
74	RRUA	Z	-1.329	1
75	RRUA	Mx	.001	1
76	OVP1	X	4.139	.75
77	OVP1	Z	-2.39	.75
78	OVP1	Mx	0	.75
79	OVP2	X	4.139	.75
80	OVP2	Z	-2.39	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 30 : Antenna Wm (90 Deg))**

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	RRUB	X	2.205	1
2	RRUB	Z	0	1
3	RRUB	Mx	.001	1
4	RRUC	X	2.205	1
5	RRUC	Z	0	1
6	RRUC	Mx	.001	1
7	M201	X	2.49	11
8	M201	Z	0	11
9	M201	Mx	0	11
10	MP3A	X	1.76	2.5
11	MP3A	Z	0	2.5
12	MP3A	Mx	-.00088	2.5
13	MP3A	X	1.76	4.25
14	MP3A	Z	0	4.25
15	MP3A	Mx	-.00088	4.25
16	MP3B	X	1.861	2.5
17	MP3B	Z	0	2.5
18	MP3B	Mx	.000916	2.5
19	MP3B	X	1.861	4.25
20	MP3B	Z	0	4.25
21	MP3B	Mx	.000916	4.25
22	MP3C	X	5.109	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0	2.5
25	MP3C	X	5.109	4.25
26	MP3C	Z	0	4.25
27	MP3C	Mx	0	4.25
28	MP1A	X	9.863	.75
29	MP1A	Z	0	.75
30	MP1A	Mx	-.005	.75
31	MP1A	X	9.863	6
32	MP1A	Z	0	6
33	MP1A	Mx	-.005	6
34	MP1B	X	10.19	.75
35	MP1B	Z	0	.75



**Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP1B	Mx	.006	.75
37	MP1B	X	10.19	6
38	MP1B	Z	0	6
39	MP1B	Mx	.006	6
40	MP1C	X	20.71	.75
41	MP1C	Z	0	.75
42	MP1C	Mx	.017	.75
43	MP1C	X	20.71	6
44	MP1C	Z	0	6
45	MP1C	Mx	.017	6
46	MP1A	X	9.863	.75
47	MP1A	Z	0	.75
48	MP1A	Mx	-.005	.75
49	MP1A	X	9.863	6
50	MP1A	Z	0	6
51	MP1A	Mx	-.005	6
52	MP1B	X	10.19	.75
53	MP1B	Z	0	.75
54	MP1B	Mx	.004	.75
55	MP1B	X	10.19	6
56	MP1B	Z	0	6
57	MP1B	Mx	.004	6
58	MP1C	X	20.71	.75
59	MP1C	Z	0	.75
60	MP1C	Mx	-.017	.75
61	MP1C	X	20.71	6
62	MP1C	Z	0	6
63	MP1C	Mx	-.017	6
64	MP1A	X	2.697	3.5
65	MP1A	Z	0	3.5
66	MP1A	Mx	.001	3.5
67	MP1B	X	2.737	3.5
68	MP1B	Z	0	3.5
69	MP1B	Mx	-.001	3.5
70	MP1C	X	4.02	3.5
71	MP1C	Z	0	3.5
72	MP1C	Mx	0	3.5
73	RRUA	X	2.205	1
74	RRUA	Z	0	1
75	RRUA	Mx	.001	1
76	OVP1	X	4.211	.75
77	OVP1	Z	0	.75
78	OVP1	Mx	0	.75
79	OVP2	X	4.211	.75
80	OVP2	Z	0	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 31 : Antenna Wm (120 Deg))**

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	RRUB	X	2.302	1
2	RRUB	Z	1.329	1
3	RRUB	Mx	.001	1
4	RRUC	X	2.302	1
5	RRUC	Z	1.329	1
6	RRUC	Mx	.001	1
7	M201	X	1.781	11
8	M201	Z	1.028	11
9	M201	Mx	-.000514	11

**Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)**

	Member Label	Direction	Magnitude(lb.k-ft)	Location(ft.%)
10	MP3A	X	2.249	2.5
11	MP3A	Z	1.298	2.5
12	MP3A	Mx	-.001	2.5
13	MP3A	X	2.249	4.25
14	MP3A	Z	1.298	4.25
15	MP3A	Mx	-.001	4.25
16	MP3B	X	1.863	2.5
17	MP3B	Z	1.076	2.5
18	MP3B	Mx	.001	2.5
19	MP3B	X	1.863	4.25
20	MP3B	Z	1.076	4.25
21	MP3B	Mx	.001	4.25
22	MP3C	X	3.699	2.5
23	MP3C	Z	2.136	2.5
24	MP3C	Mx	.001	2.5
25	MP3C	X	3.699	4.25
26	MP3C	Z	2.136	4.25
27	MP3C	Mx	.001	4.25
28	MP1A	X	10.89	.75
29	MP1A	Z	6.288	.75
30	MP1A	Mx	-.000205	.75
31	MP1A	X	10.89	6
32	MP1A	Z	6.288	6
33	MP1A	Mx	-.000205	6
34	MP1B	X	9.641	.75
35	MP1B	Z	5.566	.75
36	MP1B	Mx	.002	.75
37	MP1B	X	9.641	6
38	MP1B	Z	5.566	6
39	MP1B	Mx	.002	6
40	MP1C	X	15.587	.75
41	MP1C	Z	8.999	.75
42	MP1C	Mx	.017	.75
43	MP1C	X	15.587	6
44	MP1C	Z	8.999	6
45	MP1C	Mx	.017	6
46	MP1A	X	10.89	.75
47	MP1A	Z	6.288	.75
48	MP1A	Mx	-.011	.75
49	MP1A	X	10.89	6
50	MP1A	Z	6.288	6
51	MP1A	Mx	-.011	6
52	MP1B	X	9.641	.75
53	MP1B	Z	5.566	.75
54	MP1B	Mx	.008	.75
55	MP1B	X	9.641	6
56	MP1B	Z	5.566	6
57	MP1B	Mx	.008	6
58	MP1C	X	15.587	.75
59	MP1C	Z	8.999	.75
60	MP1C	Mx	-.008	.75
61	MP1C	X	15.587	6
62	MP1C	Z	8.999	6
63	MP1C	Mx	-.008	6
64	MP1A	X	2.622	3.5
65	MP1A	Z	1.514	3.5
66	MP1A	Mx	.001	3.5
67	MP1B	X	2.47	3.5
68	MP1B	Z	1.426	3.5



### Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
69	MP1B	Mx	-.001	3.5
70	MP1C	X	3.195	3.5
71	MP1C	Z	1.845	3.5
72	MP1C	Mx	-.000922	3.5
73	RRUA	X	2.302	1
74	RRUA	Z	1.329	1
75	RRUA	Mx	.001	1
76	OVP1	X	4.139	.75
77	OVP1	Z	2.39	.75
78	OVP1	Mx	0	.75
79	OVP2	X	4.139	.75
80	OVP2	Z	2.39	.75
81	OVP2	Mx	0	.75

### Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	1.783	1
2	RRUB	Z	3.088	1
3	RRUB	Mx	.000892	1
4	RRUC	X	1.783	1
5	RRUC	Z	3.088	1
6	RRUC	Mx	.000892	1
7	M201	X	.594	11
8	M201	Z	1.03	11
9	M201	Mx	-.000515	11
10	MP3A	X	2.136	2.5
11	MP3A	Z	3.699	2.5
12	MP3A	Mx	-.001	2.5
13	MP3A	X	2.136	4.25
14	MP3A	Z	3.699	4.25
15	MP3A	Mx	-.001	4.25
16	MP3B	X	1.863	2.5
17	MP3B	Z	3.226	2.5
18	MP3B	Mx	.001	2.5
19	MP3B	X	1.863	4.25
20	MP3B	Z	3.226	4.25
21	MP3B	Mx	.001	4.25
22	MP3C	X	1.298	2.5
23	MP3C	Z	2.249	2.5
24	MP3C	Mx	.001	2.5
25	MP3C	X	1.298	4.25
26	MP3C	Z	2.249	4.25
27	MP3C	Mx	.001	4.25
28	MP1A	X	8.999	.75
29	MP1A	Z	15.587	.75
30	MP1A	Mx	.008	.75
31	MP1A	X	8.999	6
32	MP1A	Z	15.587	6
33	MP1A	Mx	.008	6
34	MP1B	X	8.114	.75
35	MP1B	Z	14.054	.75
36	MP1B	Mx	-.005	.75
37	MP1B	X	8.114	6
38	MP1B	Z	14.054	6
39	MP1B	Mx	-.005	6
40	MP1C	X	6.288	.75
41	MP1C	Z	10.89	.75
42	MP1C	Mx	.011	.75



**Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
43	MP1C	X	6.288	6
44	MP1C	Z	10.89	6
45	MP1C	Mx	.011	6
46	MP1A	X	8.999	.75
47	MP1A	Z	15.587	.75
48	MP1A	Mx	-.017	.75
49	MP1A	X	8.999	6
50	MP1A	Z	15.587	6
51	MP1A	Mx	-.017	6
52	MP1B	X	8.114	.75
53	MP1B	Z	14.054	.75
54	MP1B	Mx	.016	.75
55	MP1B	X	8.114	6
56	MP1B	Z	14.054	6
57	MP1B	Mx	.016	6
58	MP1C	X	6.288	.75
59	MP1C	Z	10.89	.75
60	MP1C	Mx	.000205	.75
61	MP1C	X	6.288	6
62	MP1C	Z	10.89	6
63	MP1C	Mx	.000205	6
64	MP1A	X	1.845	3.5
65	MP1A	Z	3.195	3.5
66	MP1A	Mx	.000922	3.5
67	MP1B	X	1.737	3.5
68	MP1B	Z	3.008	3.5
69	MP1B	Mx	-.001	3.5
70	MP1C	X	1.514	3.5
71	MP1C	Z	2.622	3.5
72	MP1C	Mx	-.001	3.5
73	RRUA	X	1.783	1
74	RRUA	Z	3.088	1
75	RRUA	Mx	.000892	1
76	OVP1	X	2.958	.75
77	OVP1	Z	5.123	.75
78	OVP1	Mx	0	.75
79	OVP2	X	2.958	.75
80	OVP2	Z	5.123	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 33 : Antenna Wm (180 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	0	1
2	RRUB	Z	4.02	1
3	RRUB	Mx	0	1
4	RRUC	X	0	1
5	RRUC	Z	4.02	1
6	RRUC	Mx	0	1
7	M201	X	0	11
8	M201	Z	.755	11
9	M201	Mx	-.000378	11
10	MP3A	X	0	2.5
11	MP3A	Z	5.109	2.5
12	MP3A	Mx	0	2.5
13	MP3A	X	0	4.25
14	MP3A	Z	5.109	4.25
15	MP3A	Mx	0	4.25
16	MP3B	X	0	2.5

**Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP3B	Z	5.008	2.5
18	MP3B	Mx	.000435	2.5
19	MP3B	X	0	4.25
20	MP3B	Z	5.008	4.25
21	MP3B	Mx	.000435	4.25
22	MP3C	X	0	2.5
23	MP3C	Z	1.76	2.5
24	MP3C	Mx	.00088	2.5
25	MP3C	X	0	4.25
26	MP3C	Z	1.76	4.25
27	MP3C	Mx	.00088	4.25
28	MP1A	X	0	.75
29	MP1A	Z	20.71	.75
30	MP1A	Mx	.017	.75
31	MP1A	X	0	6
32	MP1A	Z	20.71	6
33	MP1A	Mx	.017	6
34	MP1B	X	0	.75
35	MP1B	Z	20.383	.75
36	MP1B	Mx	-.015	.75
37	MP1B	X	0	6
38	MP1B	Z	20.383	6
39	MP1B	Mx	-.015	6
40	MP1C	X	0	.75
41	MP1C	Z	9.863	.75
42	MP1C	Mx	.005	.75
43	MP1C	X	0	6
44	MP1C	Z	9.863	6
45	MP1C	Mx	.005	6
46	MP1A	X	0	.75
47	MP1A	Z	20.71	.75
48	MP1A	Mx	-.017	.75
49	MP1A	X	0	6
50	MP1A	Z	20.71	6
51	MP1A	Mx	-.017	6
52	MP1B	X	0	.75
53	MP1B	Z	20.383	.75
54	MP1B	Mx	.018	.75
55	MP1B	X	0	6
56	MP1B	Z	20.383	6
57	MP1B	Mx	.018	6
58	MP1C	X	0	.75
59	MP1C	Z	9.863	.75
60	MP1C	Mx	.005	.75
61	MP1C	X	0	6
62	MP1C	Z	9.863	6
63	MP1C	Mx	.005	6
64	MP1A	X	0	3.5
65	MP1A	Z	4.02	3.5
66	MP1A	Mx	0	3.5
67	MP1B	X	0	3.5
68	MP1B	Z	3.98	3.5
69	MP1B	Mx	-.000346	3.5
70	MP1C	X	0	3.5
71	MP1C	Z	2.697	3.5
72	MP1C	Mx	-.001	3.5
73	RRUA	X	0	1
74	RRUA	Z	4.02	1
75	RRUA	Mx	0	1



### Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
76	OVP1	X	0	.75
77	OVP1	Z	6.484	.75
78	OVP1	Mx	0	.75
79	OVP2	X	0	.75
80	OVP2	Z	6.484	.75
81	OVP2	Mx	0	.75

### Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-1.783	1
2	RRUB	Z	3.088	1
3	RRUB	Mx	-.000892	1
4	RRUC	X	-1.783	1
5	RRUC	Z	3.088	1
6	RRUC	Mx	-.000892	1
7	M201	X	-.594	11
8	M201	Z	1.03	11
9	M201	Mx	-.000515	11
10	MP3A	X	-2.136	2.5
11	MP3A	Z	3.699	2.5
12	MP3A	Mx	.001	2.5
13	MP3A	X	-2.136	4.25
14	MP3A	Z	3.699	4.25
15	MP3A	Mx	.001	4.25
16	MP3B	X	-2.359	2.5
17	MP3B	Z	4.085	2.5
18	MP3B	Mx	-.000807	2.5
19	MP3B	X	-2.359	4.25
20	MP3B	Z	4.085	4.25
21	MP3B	Mx	-.000807	4.25
22	MP3C	X	-1.298	2.5
23	MP3C	Z	2.249	2.5
24	MP3C	Mx	.001	2.5
25	MP3C	X	-1.298	4.25
26	MP3C	Z	2.249	4.25
27	MP3C	Mx	.001	4.25
28	MP1A	X	-8.999	.75
29	MP1A	Z	15.587	.75
30	MP1A	Mx	.017	.75
31	MP1A	X	-8.999	6
32	MP1A	Z	15.587	6
33	MP1A	Mx	.017	6
34	MP1B	X	-9.721	.75
35	MP1B	Z	16.837	.75
36	MP1B	Mx	-.019	.75
37	MP1B	X	-9.721	6
38	MP1B	Z	16.837	6
39	MP1B	Mx	-.019	6
40	MP1C	X	-6.288	.75
41	MP1C	Z	10.89	.75
42	MP1C	Mx	.000205	.75
43	MP1C	X	-6.288	6
44	MP1C	Z	10.89	6
45	MP1C	Mx	.000205	6
46	MP1A	X	-8.999	.75
47	MP1A	Z	15.587	.75
48	MP1A	Mx	-.008	.75
49	MP1A	X	-8.999	6



**Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
50	MP1A	Z	15.587	6
51	MP1A	Mx	-.008	6
52	MP1B	X	-9.721	.75
53	MP1B	Z	16.837	.75
54	MP1B	Mx	.012	.75
55	MP1B	X	-9.721	6
56	MP1B	Z	16.837	6
57	MP1B	Mx	.012	6
58	MP1C	X	-6.288	.75
59	MP1C	Z	10.89	.75
60	MP1C	Mx	.011	.75
61	MP1C	X	-6.288	6
62	MP1C	Z	10.89	6
63	MP1C	Mx	.011	6
64	MP1A	X	-1.845	3.5
65	MP1A	Z	3.195	3.5
66	MP1A	Mx	-.000922	3.5
67	MP1B	X	-1.933	3.5
68	MP1B	Z	3.348	3.5
69	MP1B	Mx	.000661	3.5
70	MP1C	X	-1.514	3.5
71	MP1C	Z	2.622	3.5
72	MP1C	Mx	-.001	3.5
73	RRUA	X	-1.783	1
74	RRUA	Z	3.088	1
75	RRUA	Mx	-.000892	1
76	OVP1	X	-2.958	.75
77	OVP1	Z	5.123	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-2.958	.75
80	OVP2	Z	5.123	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 35 : Antenna Wm (240 Deg))**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-2.302	1
2	RRUB	Z	1.329	1
3	RRUB	Mx	-.001	1
4	RRUC	X	-2.302	1
5	RRUC	Z	1.329	1
6	RRUC	Mx	-.001	1
7	M201	X	-1.781	11
8	M201	Z	1.028	11
9	M201	Mx	-.000514	11
10	MP3A	X	-2.249	2.5
11	MP3A	Z	1.298	2.5
12	MP3A	Mx	.001	2.5
13	MP3A	X	-2.249	4.25
14	MP3A	Z	1.298	4.25
15	MP3A	Mx	.001	4.25
16	MP3B	X	-2.722	2.5
17	MP3B	Z	1.572	2.5
18	MP3B	Mx	-.001	2.5
19	MP3B	X	-2.722	4.25
20	MP3B	Z	1.572	4.25
21	MP3B	Mx	-.001	4.25
22	MP3C	X	-3.699	2.5
23	MP3C	Z	2.136	2.5

**Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)**

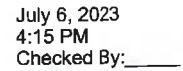
	Member Label	Direction	Magnitude(lb.k-ft)	Location(ft.%)
24	MP3C	Mx	.001	2.5
25	MP3C	X	-3.699	4.25
26	MP3C	Z	2.136	4.25
27	MP3C	Mx	.001	4.25
28	MP1A	X	-10.89	.75
29	MP1A	Z	6.288	.75
30	MP1A	Mx	.011	.75
31	MP1A	X	-10.89	6
32	MP1A	Z	6.288	6
33	MP1A	Mx	.011	6
34	MP1B	X	-12.423	.75
35	MP1B	Z	7.172	.75
36	MP1B	Mx	-.013	.75
37	MP1B	X	-12.423	6
38	MP1B	Z	7.172	6
39	MP1B	Mx	-.013	6
40	MP1C	X	-15.587	.75
41	MP1C	Z	8.999	.75
42	MP1C	Mx	-.008	.75
43	MP1C	X	-15.587	6
44	MP1C	Z	8.999	6
45	MP1C	Mx	-.008	6
46	MP1A	X	-10.89	.75
47	MP1A	Z	6.288	.75
48	MP1A	Mx	.000205	.75
49	MP1A	X	-10.89	6
50	MP1A	Z	6.288	6
51	MP1A	Mx	.000205	6
52	MP1B	X	-12.423	.75
53	MP1B	Z	7.172	.75
54	MP1B	Mx	.002	.75
55	MP1B	X	-12.423	6
56	MP1B	Z	7.172	6
57	MP1B	Mx	.002	6
58	MP1C	X	-15.587	.75
59	MP1C	Z	8.999	.75
60	MP1C	Mx	.017	.75
61	MP1C	X	-15.587	6
62	MP1C	Z	8.999	6
63	MP1C	Mx	.017	6
64	MP1A	X	-2.622	3.5
65	MP1A	Z	1.514	3.5
66	MP1A	Mx	-.001	3.5
67	MP1B	X	-2.809	3.5
68	MP1B	Z	1.622	3.5
69	MP1B	Mx	.001	3.5
70	MP1C	X	-3.195	3.5
71	MP1C	Z	1.845	3.5
72	MP1C	Mx	-.000922	3.5
73	RRUA	X	-2.302	1
74	RRUA	Z	1.329	1
75	RRUA	Mx	-.001	1
76	OVP1	X	-4.139	.75
77	OVP1	Z	2.39	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-4.139	.75
80	OVP2	Z	2.39	.75
81	OVP2	Mx	0	.75



**Member Point Loads (BLC 36 : Antenna Wm (270 Deg))**

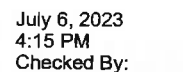
	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-2.205	1
2	RRUB	Z	0	1
3	RRUB	Mx	-.001	1
4	RRUC	X	-2.205	1
5	RRUC	Z	0	1
6	RRUC	Mx	-.001	1
7	M201	X	-2.49	11
8	M201	Z	0	11
9	M201	Mx	0	11
10	MP3A	X	-1.76	2.5
11	MP3A	Z	0	2.5
12	MP3A	Mx	.00088	2.5
13	MP3A	X	-1.76	4.25
14	MP3A	Z	0	4.25
15	MP3A	Mx	.00088	4.25
16	MP3B	X	-1.861	2.5
17	MP3B	Z	0	2.5
18	MP3B	Mx	-.000916	2.5
19	MP3B	X	-1.861	4.25
20	MP3B	Z	0	4.25
21	MP3B	Mx	-.000916	4.25
22	MP3C	X	-5.109	2.5
23	MP3C	Z	0	2.5
24	MP3C	Mx	0	2.5
25	MP3C	X	-5.109	4.25
26	MP3C	Z	0	4.25
27	MP3C	Mx	0	4.25
28	MP1A	X	-9.863	.75
29	MP1A	Z	0	.75
30	MP1A	Mx	.005	.75
31	MP1A	X	-9.863	6
32	MP1A	Z	0	6
33	MP1A	Mx	.005	6
34	MP1B	X	-10.19	.75
35	MP1B	Z	0	.75
36	MP1B	Mx	-.006	.75
37	MP1B	X	-10.19	6
38	MP1B	Z	0	6
39	MP1B	Mx	-.006	6
40	MP1C	X	-20.71	.75
41	MP1C	Z	0	.75
42	MP1C	Mx	-.017	.75
43	MP1C	X	-20.71	6
44	MP1C	Z	0	6
45	MP1C	Mx	-.017	6
46	MP1A	X	-9.863	.75
47	MP1A	Z	0	.75
48	MP1A	Mx	.005	.75
49	MP1A	X	-9.863	6
50	MP1A	Z	0	6
51	MP1A	Mx	.005	6
52	MP1B	X	-10.19	.75
53	MP1B	Z	0	.75
54	MP1B	Mx	-.004	.75
55	MP1B	X	-10.19	6
56	MP1B	Z	0	6
57	MP1B	Mx	-.004	6
58	MP1C	X	-20.71	.75
59	MP1C	Z	0	.75





	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
60	MP1C	Mx	.017	.75
61	MP1C	X	-20.71	6
62	MP1C	Z	0	6
63	MP1C	Mx	.017	6
64	MP1A	X	-2.697	3.5
65	MP1A	Z	0	3.5
66	MP1A	Mx	-.001	3.5
67	MP1B	X	-2.737	3.5
68	MP1B	Z	0	3.5
69	MP1B	Mx	.001	3.5
70	MP1C	X	-4.02	3.5
71	MP1C	Z	0	3.5
72	MP1C	Mx	0	3.5
73	RRUA	X	-2.205	1
74	RRUA	Z	0	1
75	RRUA	Mx	-.001	1
76	OVP1	X	-4.211	.75
77	OVP1	Z	0	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-4.211	.75
80	OVP2	Z	0	.75
81	OVP2	Mx	0	.75

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	-2.302	1
2	RRUB	Z	-1.329	1
3	RRUB	Mx	-.001	1
4	RRUC	X	-2.302	1
5	RRUC	Z	-1.329	1
6	RRUC	Mx	-.001	1
7	M201	X	-1.781	11
8	M201	Z	-1.028	11
9	M201	Mx	.000514	11
10	MP3A	X	-2.249	2.5
11	MP3A	Z	-1.298	2.5
12	MP3A	Mx	.001	2.5
13	MP3A	X	-2.249	4.25
14	MP3A	Z	-1.298	4.25
15	MP3A	Mx	.001	4.25
16	MP3B	X	-1.863	2.5
17	MP3B	Z	-1.076	2.5
18	MP3B	Mx	-.001	2.5
19	MP3B	X	-1.863	4.25
20	MP3B	Z	-1.076	4.25
21	MP3B	Mx	-.001	4.25
22	MP3C	X	-3.699	2.5
23	MP3C	Z	-2.136	2.5
24	MP3C	Mx	-.001	2.5
25	MP3C	X	-3.699	4.25
26	MP3C	Z	-2.136	4.25
27	MP3C	Mx	-.001	4.25
28	MP1A	X	-10.89	.75
29	MP1A	Z	-6.288	.75
30	MP1A	Mx	.000205	.75
31	MP1A	X	-10.89	6
32	MP1A	Z	-6.288	6
33	MP1A	Mx	.000205	6



	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
34	MP1B	X	-9.641	.75
35	MP1B	Z	-5.566	.75
36	MP1B	Mx	-.002	.75
37	MP1B	X	-9.641	6
38	MP1B	Z	-5.566	6
39	MP1B	Mx	-.002	6
40	MP1C	X	-15.587	.75
41	MP1C	Z	-8.999	.75
42	MP1C	Mx	-.017	.75
43	MP1C	X	-15.587	6
44	MP1C	Z	-8.999	6
45	MP1C	Mx	-.017	6
46	MP1A	X	-10.89	.75
47	MP1A	Z	-6.288	.75
48	MP1A	Mx	.011	.75
49	MP1A	X	-10.89	6
50	MP1A	Z	-6.288	6
51	MP1A	Mx	.011	6
52	MP1B	X	-9.641	.75
53	MP1B	Z	-5.566	.75
54	MP1B	Mx	-.008	.75
55	MP1B	X	-9.641	6
56	MP1B	Z	-5.566	6
57	MP1B	Mx	-.008	6
58	MP1C	X	-15.587	.75
59	MP1C	Z	-8.999	.75
60	MP1C	Mx	.008	.75
61	MP1C	X	-15.587	6
62	MP1C	Z	-8.999	6
63	MP1C	Mx	.008	6
64	MP1A	X	-2.622	3.5
65	MP1A	Z	-1.514	3.5
66	MP1A	Mx	-.001	3.5
67	MP1B	X	-2.47	3.5
68	MP1B	Z	-1.426	3.5
69	MP1B	Mx	.001	3.5
70	MP1C	X	-3.195	3.5
71	MP1C	Z	-1.845	3.5
72	MP1C	Mx	.000922	3.5
73	RRUA	X	-2.302	1
74	RRUA	Z	-1.329	1
75	RRUA	Mx	-.001	1
76	OVP1	X	-4.139	.75
77	OVP1	Z	-2.39	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-4.139	.75
80	OVP2	Z	-2.39	.75
81	OVP2	Mx	0	.75

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	RRUB	X	-1.783	1
2	RRUB	Z	-3.088	1
3	RRUB	Mx	-.000892	1
4	RRUC	X	-1.783	1
5	RRUC	Z	-3.088	1
6	RRUC	Mx	-.000892	1
7	M201	X	-.594	11



**Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude(lb.k-ft)	Location(ft.%)
8	M201	Z	-1.03	11
9	M201	Mx	.000515	11
10	MP3A	X	-2.136	2.5
11	MP3A	Z	-3.699	2.5
12	MP3A	Mx	.001	2.5
13	MP3A	X	-2.136	4.25
14	MP3A	Z	-3.699	4.25
15	MP3A	Mx	.001	4.25
16	MP3B	X	-1.863	2.5
17	MP3B	Z	-3.226	2.5
18	MP3B	Mx	-.001	2.5
19	MP3B	X	-1.863	4.25
20	MP3B	Z	-3.226	4.25
21	MP3B	Mx	-.001	4.25
22	MP3C	X	-1.298	2.5
23	MP3C	Z	-2.249	2.5
24	MP3C	Mx	-.001	2.5
25	MP3C	X	-1.298	4.25
26	MP3C	Z	-2.249	4.25
27	MP3C	Mx	-.001	4.25
28	MP1A	X	-8.999	.75
29	MP1A	Z	-15.587	.75
30	MP1A	Mx	-.008	.75
31	MP1A	X	-8.999	6
32	MP1A	Z	-15.587	6
33	MP1A	Mx	-.008	6
34	MP1B	X	-8.114	.75
35	MP1B	Z	-14.054	.75
36	MP1B	Mx	.005	.75
37	MP1B	X	-8.114	6
38	MP1B	Z	-14.054	6
39	MP1B	Mx	.005	6
40	MP1C	X	-6.288	.75
41	MP1C	Z	-10.89	.75
42	MP1C	Mx	-.011	.75
43	MP1C	X	-6.288	6
44	MP1C	Z	-10.89	6
45	MP1C	Mx	-.011	6
46	MP1A	X	-8.999	.75
47	MP1A	Z	-15.587	.75
48	MP1A	Mx	.017	.75
49	MP1A	X	-8.999	6
50	MP1A	Z	-15.587	6
51	MP1A	Mx	.017	6
52	MP1B	X	-8.114	.75
53	MP1B	Z	-14.054	.75
54	MP1B	Mx	-.016	.75
55	MP1B	X	-8.114	6
56	MP1B	Z	-14.054	6
57	MP1B	Mx	-.016	6
58	MP1C	X	-6.288	.75
59	MP1C	Z	-10.89	.75
60	MP1C	Mx	-.000205	.75
61	MP1C	X	-6.288	6
62	MP1C	Z	-10.89	6
63	MP1C	Mx	-.000205	6
64	MP1A	X	-1.845	3.5
65	MP1A	Z	-3.195	3.5
66	MP1A	Mx	-.000922	3.5



**Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
67	MP1B	X	-1.737	3.5
68	MP1B	Z	-3.008	3.5
69	MP1B	Mx	.001	3.5
70	MP1C	X	-1.514	3.5
71	MP1C	Z	-2.622	3.5
72	MP1C	Mx	.001	3.5
73	RRUA	X	-1.783	1
74	RRUA	Z	-3.088	1
75	RRUA	Mx	-.000892	1
76	OVP1	X	-2.958	.75
77	OVP1	Z	-5.123	.75
78	OVP1	Mx	0	.75
79	OVP2	X	-2.958	.75
80	OVP2	Z	-5.123	.75
81	OVP2	Mx	0	.75

**Member Point Loads (BLC 77 : Lm1)**

	Member Label	Direction	Magnitude[lb.k.ft]	Location[ft.%]
1	M130	Y	-500	0

**Member Point Loads (BLC 78 : Lm2)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	M39	Y	-500	0

**Member Point Loads (BLC 79 : Lv1)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M109	Y	-250	0

**Member Point Loads (BLC 80 : Lv2)**

Member Label	Direction	Magnitude[lb.k.ft]	Location[ft. %]
1 M109	Y	-250	%50

**Member Point Loads (BLC 81 : Antenna Ev)**

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	Y	-2.879	1
2	RRUB	My	.001	1
3	RRUB	Mz	0	1
4	RRUC	Y	-2.879	1
5	RRUC	My	.001	1
6	RRUC	Mz	0	1
7	M201	Y	-.721	11
8	M201	My	0	11
9	M201	Mz	-.00036	11
10	MP3A	Y	-1.784	2.5
11	MP3A	My	-.000892	2.5
12	MP3A	Mz	0	2.5
13	MP3A	Y	-1.784	4.25
14	MP3A	My	-.000892	4.25
15	MP3A	Mz	0	4.25
16	MP3B	Y	-1.784	2.5
17	MP3B	My	.000878	2.5
18	MP3B	Mz	.000155	2.5
19	MP3B	Y	-1.784	4.25
20	MP3B	My	.000878	4.25
21	MP3B	Mz	.000155	4.25
22	MP3C	Y	-1.784	2.5

### Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
23	MP3C	My	0	2.5
24	MP3C	Mz	.000892	2.5
25	MP3C	Y	-1.784	4.25
26	MP3C	My	0	4.25
27	MP3C	Mz	.000892	4.25
28	MP1A	Y	-1.63	.75
29	MP1A	My	-.000815	.75
30	MP1A	Mz	.001	.75
31	MP1A	Y	-1.63	6
32	MP1A	My	-.000815	6
33	MP1A	Mz	.001	6
34	MP1B	Y	-1.63	.75
35	MP1B	My	.001	.75
36	MP1B	Mz	-.001	.75
37	MP1B	Y	-1.63	6
38	MP1B	My	.001	6
39	MP1B	Mz	-.001	6
40	MP1C	Y	-1.63	.75
41	MP1C	My	.001	.75
42	MP1C	Mz	.000815	.75
43	MP1C	Y	-1.63	6
44	MP1C	My	.001	6
45	MP1C	Mz	.000815	6
46	MP1A	Y	-1.63	.75
47	MP1A	My	-.000815	.75
48	MP1A	Mz	-.001	.75
49	MP1A	Y	-1.63	6
50	MP1A	My	-.000815	6
51	MP1A	Mz	-.001	6
52	MP1B	Y	-1.63	.75
53	MP1B	My	.000567	.75
54	MP1B	Mz	.001	.75
55	MP1B	Y	-1.63	6
56	MP1B	My	.000567	6
57	MP1B	Mz	.001	6
58	MP1C	Y	-1.63	.75
59	MP1C	My	-.001	.75
60	MP1C	Mz	.000815	.75
61	MP1C	Y	-1.63	6
62	MP1C	My	-.001	6
63	MP1C	Mz	.000815	6
64	MP1A	Y	-3.457	3.5
65	MP1A	My	.002	3.5
66	MP1A	Mz	0	3.5
67	MP1B	Y	-3.457	3.5
68	MP1B	My	-.002	3.5
69	MP1B	Mz	-.0003	3.5
70	MP1C	Y	-3.457	3.5
71	MP1C	My	0	3.5
72	MP1C	Mz	-.002	3.5
73	RRUA	Y	-2.879	1
74	RRUA	My	.001	1
75	RRUA	Mz	0	1
76	OVP1	Y	-1.102	.75
77	OVP1	My	0	.75
78	OVP1	Mz	0	.75
79	OVP2	Y	-1.102	.75
80	OVP2	My	0	.75
81	OVP2	Mz	0	.75



### Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	Z	-7.199	1
2	RRUB	Mx	0	1
3	RRUC	Z	-7.199	1
4	RRUC	Mx	0	1
5	M201	Z	-1.802	11
6	M201	Mx	.000901	11
7	MP3A	Z	-4.46	2.5
8	MP3A	Mx	0	2.5
9	MP3A	Z	-4.46	4.25
10	MP3A	Mx	0	4.25
11	MP3B	Z	-4.46	2.5
12	MP3B	Mx	-.000387	2.5
13	MP3B	Z	-4.46	4.25
14	MP3B	Mx	-.000387	4.25
15	MP3C	Z	-4.46	2.5
16	MP3C	Mx	-.002	2.5
17	MP3C	Z	-4.46	4.25
18	MP3C	Mx	-.002	4.25
19	MP1A	Z	-4.076	.75
20	MP1A	Mx	-.003	.75
21	MP1A	Z	-4.076	6
22	MP1A	Mx	-.003	6
23	MP1B	Z	-4.076	.75
24	MP1B	Mx	.003	.75
25	MP1B	Z	-4.076	6
26	MP1B	Mx	.003	6
27	MP1C	Z	-4.076	.75
28	MP1C	Mx	-.002	.75
29	MP1C	Z	-4.076	6
30	MP1C	Mx	-.002	6
31	MP1A	Z	-4.076	.75
32	MP1A	Mx	.003	.75
33	MP1A	Z	-4.076	6
34	MP1A	Mx	.003	6
35	MP1B	Z	-4.076	.75
36	MP1B	Mx	-.004	.75
37	MP1B	Z	-4.076	6
38	MP1B	Mx	-.004	6
39	MP1C	Z	-4.076	.75
40	MP1C	Mx	-.002	.75
41	MP1C	Z	-4.076	6
42	MP1C	Mx	-.002	6
43	MP1A	Z	-8.643	3.5
44	MP1A	Mx	0	3.5
45	MP1B	Z	-8.643	3.5
46	MP1B	Mx	.00075	3.5
47	MP1C	Z	-8.643	3.5
48	MP1C	Mx	.004	3.5
49	RRUA	Z	-7.199	1
50	RRUA	Mx	0	1
51	OVP1	Z	-2.755	.75
52	OVP1	Mx	0	.75
53	OVP2	Z	-2.755	.75
54	OVP2	Mx	0	.75

### Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	RRUB	X	7.199	1



### Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
2	RRUB	Mx	.004	1
3	RRUC	X	7.199	1
4	RRUC	Mx	.004	1
5	M201	X	1.802	11
6	M201	Mx	0	11
7	MP3A	X	4.46	2.5
8	MP3A	Mx	-.002	2.5
9	MP3A	X	4.46	4.25
10	MP3A	Mx	-.002	4.25
11	MP3B	X	4.46	2.5
12	MP3B	Mx	.002	2.5
13	MP3B	X	4.46	4.25
14	MP3B	Mx	.002	4.25
15	MP3C	X	4.46	2.5
16	MP3C	Mx	0	2.5
17	MP3C	X	4.46	4.25
18	MP3C	Mx	0	4.25
19	MP1A	X	4.076	.75
20	MP1A	Mx	-.002	.75
21	MP1A	X	4.076	6
22	MP1A	Mx	-.002	6
23	MP1B	X	4.076	.75
24	MP1B	Mx	.003	.75
25	MP1B	X	4.076	6
26	MP1B	Mx	.003	6
27	MP1C	X	4.076	.75
28	MP1C	Mx	.003	.75
29	MP1C	X	4.076	6
30	MP1C	Mx	.003	6
31	MP1A	X	4.076	.75
32	MP1A	Mx	-.002	.75
33	MP1A	X	4.076	6
34	MP1A	Mx	-.002	6
35	MP1B	X	4.076	.75
36	MP1B	Mx	.001	.75
37	MP1B	X	4.076	6
38	MP1B	Mx	.001	6
39	MP1C	X	4.076	.75
40	MP1C	Mx	-.003	.75
41	MP1C	X	4.076	6
42	MP1C	Mx	-.003	6
43	MP1A	X	8.643	3.5
44	MP1A	Mx	.004	3.5
45	MP1B	X	8.643	3.5
46	MP1B	Mx	-.004	3.5
47	MP1C	X	8.643	3.5
48	MP1C	Mx	0	3.5
49	RRUA	X	7.199	1
50	RRUA	Mx	.004	1
51	OVP1	X	2.755	.75
52	OVP1	Mx	0	.75
53	OVP2	X	2.755	.75
54	OVP2	Mx	0	.75

### Member Area Loads

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

### 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	N214A	max	292.434	11	584.989	13	1012.123	1	-.634	69	.747	1	-.046	7
2		min	-323.218	4	204.707	69	-1321.302	7	-1.831	13	-1.191	7	-.435	37
3	N215A	max	473.459	8	760.816	22	456.85	3	.673	13	1.423	5	2.426	22
4		min	-870.032	2	263.18	68	-262.775	9	.208	70	-1.874	11	.842	66
5	N253C	max	749.047	11	614.701	20	735.721	12	1.532	19	1.877	4	-.431	67
6		min	-515.161	5	209.331	65	-512.206	6	.53	75	-2.187	10	-1.337	22
7	N249	max	1603.973	20	1146.613	20	-266.743	2	0	39	.672	5	.01	21
8		min	-39.065	2	310.745	2	-6189.295	20	-.003	21	-.779	11	-.002	39
9	N247A	max	-243.163	5	941.172	14	5392.071	14	0	40	.737	5	.009	14
10		min	-1258.238	14	325.412	70	1463.491	8	-.002	14	-.314	11	-.001	40
11	N248A	max	5496.176	22	827.023	22	-228.404	4	.018	14	.81	13	0	8
12		min	624.759	4	230.945	4	-1271.365	22	0	8	-.14	7	-.003	14
13	N251A	max	748.301	10	1058.043	16	1212.454	16	.023	21	.585	4	0	43
14		min	-6034.981	16	135.202	10	60.573	10	.002	43	-.801	10	-.004	21
15	N250B	max	4222.622	24	1290.138	13	5354.564	13	0	43	.656	4	0	43
16		min	223.521	6	320.027	7	172.487	7	-.006	13	-1.052	10	-.009	13
17	N259	max	-871.757	1	1049.157	18	-880.933	1	.002	4	.948	17	.003	4
18		min	-3862.723	18	360.043	75	-4727.888	19	-.007	22	-.188	11	-.01	22
19	Totals:	max	7051.183	10	7982.241	16	8533.345	1						
20		min	-7051.165	4	2750.884	72	-8533.35	7						

### Envelope AISC 15th(360-16): LRFD Steel Code Checks

Member	Shape	Code Check	Lo...	LC	Shear Check	Lo...	phi*P...	phi*P...	phi*M...	phi*M...	Eqn
1	M165B	PL3/8x7	.891	0	.045	.333 z	226699...	73710	.499	10.749	H1-1b
2	M165A	PL3/8x7	.857	0	.045	.333 z	136699...	73710	.499	10.749	H1-1b
3	M22	PL3/8x7	.777	0	.039	.333 z	146699...	73710	.499	10.673	H1-1b
4	M149A	PL3/8x7	.749	0	.042	.333 z	216699...	73710	.499	10.749	H1-1b
5	M223	PIPE 1.25	.724	0	.093	3.25	221760...	1968...	.801	.801	H1-1b
6	M220	PL3/8x7	.718	0	.057	0 y	136699...	73710	.499	10.749	H1-1b
7	M153B	PL3/8x7	.674	0	.065	0 y	216699...	73710	.499	10.749	H1-1b
8	M110	PIPE 2.5	.593	7.6...	.191	4.0...	7 1455...	50715	3.596	3.596	H1-1b
9	M133	PIPE 3.0	.575	6.12	.173	5.99	202825...	65205	5.749	5.749	H1-1b
10	OVP2	PIPE 2.0	.551	4.2...	.125	1.0...	232380...	32130	1.872	1.872	H1-1b
11	M109	PIPE 2.5	.536	7.6...	.127	4.8...	1 1455...	50715	3.596	3.596	H1-1b
12	M210	PIPE 2.5	.488	0	.108	.556	234630...	50715	3.596	3.596	H1-1b
13	OVP1	PIPE 2.0	.478	4.2...	.095	4.2...	232380...	32130	1.872	1.872	H1-1b
14	M228	PIPE 2.0	.476	1.3...	.155	1.3...	103099...	32130	1.872	1.872	H1-1b
15	M209	PIPE 2.5	.470	0	.106	.556	144630...	50715	3.596	3.596	H1-1b
16	M208	PIPE 2.5	.463	3.3...	.245	3.3...	104587...	50715	3.596	3.596	H1-1b
17	M170	PIPE 2.5	.442	0	.136	.556	224630...	50715	3.596	3.596	H1-1b
18	MP3A	PIPE 2.0	.428	2.4...	.164	3.9...	8 1491...	32130	1.872	1.872	H1-1b
19	M169	PIPE 2.5	.426	0	.141	.556	134630...	50715	3.596	3.596	H1-1b
20	M168	PIPE 2.5	.422	3.3...	.197	.146	1 4587...	50715	3.596	3.596	H1-1b
21	MP1B	PIPE 2.0	.421	2.4...	.182	.917	12 1491...	32130	1.872	1.872	H1-1b
22	MP1C	PIPE 2.0	.410	2.4...	.173	.917	2 1491...	32130	1.872	1.872	H1-1b
23	M183	PIPE 1.25	.405	0	.075	0	231760...	1968...	.801	.801	H1-1b
24	M149	HSS3X3...	.397	4.6...	.061	4.6... y	138505...	101016	8.556	8.556	H1-1b
25	MP2C	PIPE 2.0	.396	1	.141	3.9...	10 1491...	32130	1.872	1.872	H1-1b
26	M26	PIPE 2.0	.395	1.3...	.146	1.3...	7 3099...	32130	1.872	1.872	H1-1b
27	M141	PIPE 3.0	.392	6.25	.229	6.25	132825...	65205	5.749	5.749	H1-1b
28	M137	PIPE 3.0	.390	6.51	.176	6.51	222825...	65205	5.749	5.749	H1-1b
29	M150	HSS3X3...	.383	4.7...	.049	4.7... y	228482...	101016	8.556	8.556	H1-1b
30	MP3B	PIPE 2.0	.382	2.4...	.109	3.9...	11 1491...	32130	1.872	1.872	H1-1b
31	M126	PIPE 2.5	.374	0	.122	.556	234630...	50715	3.596	3.596	H1-1b
32	M125	PIPE 2.5	.371	0	.125	.556	194630...	50715	3.596	3.596	H1-1b
33	M151	PIPE 2.0	.366	0	.077	0	112232...	32130	1.872	1.872	H1-1b



### Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

Member	Shape	Code Check	Lo...	LC	Shear Check	Lo...	phi*P...	phi*P...	phi*M...	phi*M...	Eqn
34	M124	PIPE 2.5	.364	.146	19	.249	.146	7 4587...	50715	3.596 3.596	H1-1b
35	M162	PIPE 2.5	.352	7.6...	10	.135	7.6...	1 1455...	50715	3.596 3.596	H1-1b
36	M23A	PIPE 1.25	.349	3.25	14	.055	3.25	231760...	1968...	.801 .801	H1-1b
37	M202	PIPE 2.5	.335	4.8...	4	.138	4.8...	101455...	50715	3.596 3.596	H1-1b
38	M201	PIPE 2.5	.332	4.8...	10	.147	7.6...	4 1455...	50715	3.596 3.596	H1-1b
39	M118	HSS3X3...	.315	0	7	.105	0 z	7 7743...	78246	6.796 6.796	H1-1b
40	M161	PIPE 2.5	.308	4.8...	7	.133	7.6...	1 1455...	50715	3.596 3.596	H1-1b
41	MP2A	PIPE 2.0	.306	1	20	.082	3.9...	111491...	32130	1.872 1.872	H1-1b
42	M148	HSS3X3...	.303	4.72	19	.063	4.72 y	228485...	101016	8.556 8.556	H1-1b
43	MP2B	PIPE 2.0	.300	1	22	.093	3.9...	3 1491...	32130	1.872 1.872	H1-1b
44	M188	PIPE 2.0	.288	1.3...	7	.107	0	7 3099...	32130	1.872 1.872	H1-1b
45	RRUB	PIPE 2.0	.280	0	21	.104	0	8 3099...	32130	1.872 1.872	H1-1b
46	RRUA	PIPE 2.0	.269	0	29	.058	0	1 3099...	32130	1.872 1.872	H1-1b
47	M122A	PIPE 2.0	.269	4.1...	6	.025	8.3...	221388...	32130	1.872 1.872	H1-1a
48	M27	PIPE 2.0	.266	0	44	.102	0	7 3099...	32130	1.872 1.872	H1-1b
49	M123A	PIPE 2.0	.265	4.2...	2	.030	8.5...	221344...	32130	1.872 1.872	H1-1a
50	M20	HSS3X3...	.258	0	1	.083	0 z	7 7743...	78246	6.796 6.796	H1-1b
51	M152	PIPE 2.0	.254	0	26	.076	0	222311...	32130	1.872 1.872	H1-1b
52	M121	PIPE 2.0	.252	4.4...	21	.029	0	221268...	32130	1.872 1.872	H1-1a
53	MP1A	PIPE 2.0	.252	1	24	.173	.917	5 1491...	32130	1.872 1.872	H1-1b
54	M153A	PIPE 1.5	.243	3.13	10	.068	0	101127...	2359...	1.105 1.105	H1-1a
55	M116	HSS3X3...	.241	1.1...	1	.088	1.1... z	1 7743...	78246	6.796 6.796	H1-1b
56	RRUC	PIPE 2.0	.234	0	14	.107	0	103099...	32130	1.872 1.872	H1-1b
57	MP3C	PIPE 2.0	.230	2.4...	2	.079	3.9...	4 1491...	32130	1.872 1.872	H1-1b
58	M153	PIPE 2.0	.221	0	7	.034	0	108058...	32130	1.872 1.872	H1-1b
59	M216	HSS3X3...	.183	1.1...	10	.071	1.1... z	107743...	78246	6.796 6.796	H1-1b
60	M203	HSS3X3...	.181	1.1...	10	.069	1.1... z	107743...	78246	6.796 6.796	H1-1b
61	M18	HSS3X3...	.179	1.1...	1	.067	1.1... z	1 7743...	78246	6.796 6.796	H1-1b
62	M165	HSS3X3...	.175	0	11	.069	1.1... z	117743...	78246	6.796 6.796	H1-1b
63	M187	PIPE 2.0	.174	2.6...	13	.074	0	1 3099...	32130	1.872 1.872	H1-1b
64	M176	HSS3X3...	.171	1.1...	7	.062	1.1... z	7 7743...	78246	6.796 6.796	H1-1b
65	M163	HSS3X3...	.170	1.1...	7	.060	1.1... z	7 7743...	78246	6.796 6.796	H1-1b
66	M227	PIPE 2.0	.166	2.6...	17	.077	0	4 3099...	32130	1.872 1.872	H1-1b
67	M204	HSS3X3...	.160	.667	3	.068	.667 y	4 7721...	78246	6.796 6.796	H1-1b
68	M127	PIPE 2.0	.158	2.6...	37	.060	2.6...	1 2950...	32130	1.872 1.872	H1-1b
69	M172	PIPE 2.0	.158	2.6...	13	.057	0	1 2950...	32130	1.872 1.872	H1-1b
70	M205	HSS3X3...	.150	0	2	.060	1.1... z	7 7743...	78246	6.796 6.796	H1-1b
71	M151A	PIPE 1.5	.149	6.3...	2	.076	0	7 1109...	2359...	1.105 1.105	H1-...
72	M212	PIPE 2.0	.142	0	4	.066	0	4 2950...	32130	1.872 1.872	H1-1b
73	M164	HSS3X3...	.142	.667	12	.067	.667 y	1 7721...	78246	6.796 6.796	H1-1b
74	M177	HSS3X3...	.137	.667	18	.055	.667 y	6 7721...	78246	6.796 6.796	H1-1b
75	M128	PIPE 2.0	.134	0	7	.061	0	7 2950...	32130	1.872 1.872	H1-1b
76	M171	PIPE 2.0	.133	2.6...	19	.057	2.6...	7 2950...	32130	1.872 1.872	H1-1b
77	M19	HSS3X3...	.128	.667	1	.081	.667 y	2 7721...	78246	6.796 6.796	H1-1b
78	M117	HSS3X3...	.128	.667	7	.062	.667 z	1 7721...	78246	6.796 6.796	H1-1b
79	M217	HSS3X3...	.128	.667	21	.059	.667 y	107721...	78246	6.796 6.796	H1-1b
80	M178	HSS3X3...	.127	0	1	.056	1.1... y	137743...	78246	6.796 6.796	H1-1b
81	M152A	PIPE 1.5	.124	0	7	.062	6.33	8 1108...	2359...	1.105 1.105	H1-...
82	M211	PIPE 2.0	.119	2.6...	10	.070	2.6...	102950...	32130	1.872 1.872	H1-1b
83	M218	HSS3X3...	.114	0	4	.051	1.1... y	4 7743...	78246	6.796 6.796	H1-1b
84	M28	PIPE 2.0	.101	0	30	.029	0	2 3099...	32130	1.872 1.872	H1-1b
85	M126A	PIPE 2.0	.085	4.2...	8	.029	8.5...	231344...	32130	1.872 1.872	H1-1b
86	M125A	PIPE 2.0	.084	4.1...	11	.023	8.3...	231388...	32130	1.872 1.872	H1-1b
87	M186	PIPE 2.0	.080	0	4	.038	2.6...	1 3099...	32130	1.872 1.872	H1-1b
88	M124A	PIPE 2.0	.080	4.4...	15	.029	0	221268...	32130	1.872 1.872	H1-1b
89	M185	PIPE 2.0	.079	2.6...	7	.052	0	7 3099...	32130	1.872 1.872	H1-1b
90	M226	PIPE 2.0	.073	2.6...	10	.036	2.6...	4 3099...	32130	1.872 1.872	H1-1b
91	M225	PIPE 2.0	.071	2.6...	10	.061	0	103099...	32130	1.872 1.872	H1-1b
92	M25	PIPE 2.0	.068	0	2	.053	0	1 3099...	32130	1.872 1.872	H1-1b





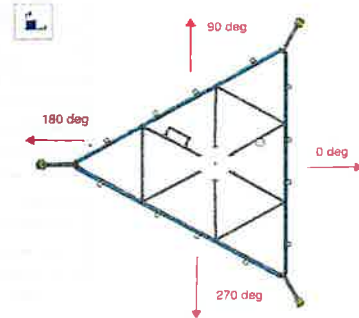
Company : Colliers Engineering & Design  
Designer :  
Job Number : Project No. 10206271  
Model Name : 5000245086-VZW\_MT\_LO\_H

July 6, 2023  
4:15 PM  
Checked By: \_\_\_\_\_

**Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)**

	Member	Shape	Code Check	Lo...	LC	Shear Check	Lo...	phi*P	phi*P	phi*M	phi*M	Eqn
93	M24	SR 0.5	.000	0	75	.000	0	75571.3	6350.4	.052	.052	1 H1-1a
94	M184	SR 0.5	.000	0	75	.000	0	75571.3	6350.4	.052	.052	1 H1-1a
95	M224	SR 0.5	.000	0	75	.000	0	75571.3	6350.4	.052	.052	1 H1-1a

Custom Orientation Required

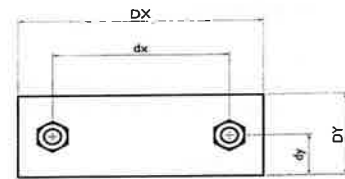
Yes[illegible]

## Yes

## Vertical (top)

**Bolt Overall Utilization:**

2 (Horizontal)
5
0.75
A325N
0.75
21.2
2.3
29.8
17.9
71.0%



## No

## Version 1.01

**Yes**

A diagram of a triangular truss structure. The truss consists of three main members forming a triangle, with internal members connecting the joints. External forces are applied at the joints, represented by red arrows. The forces are labeled with their magnitudes and directions: 50 deg (upward), 180 deg (leftward), 0 deg (rightward), and 270 deg (downward). A small square symbol is shown at one of the internal joints, indicating a right angle.

**Yes**

Parallel

4

4

6

A325N

0.625

5.3

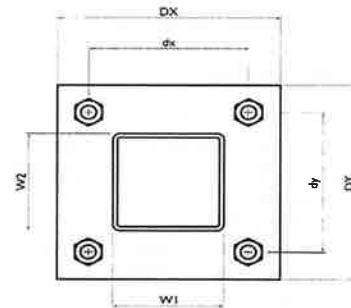
0.2

20.7

12.4

**25.6%**

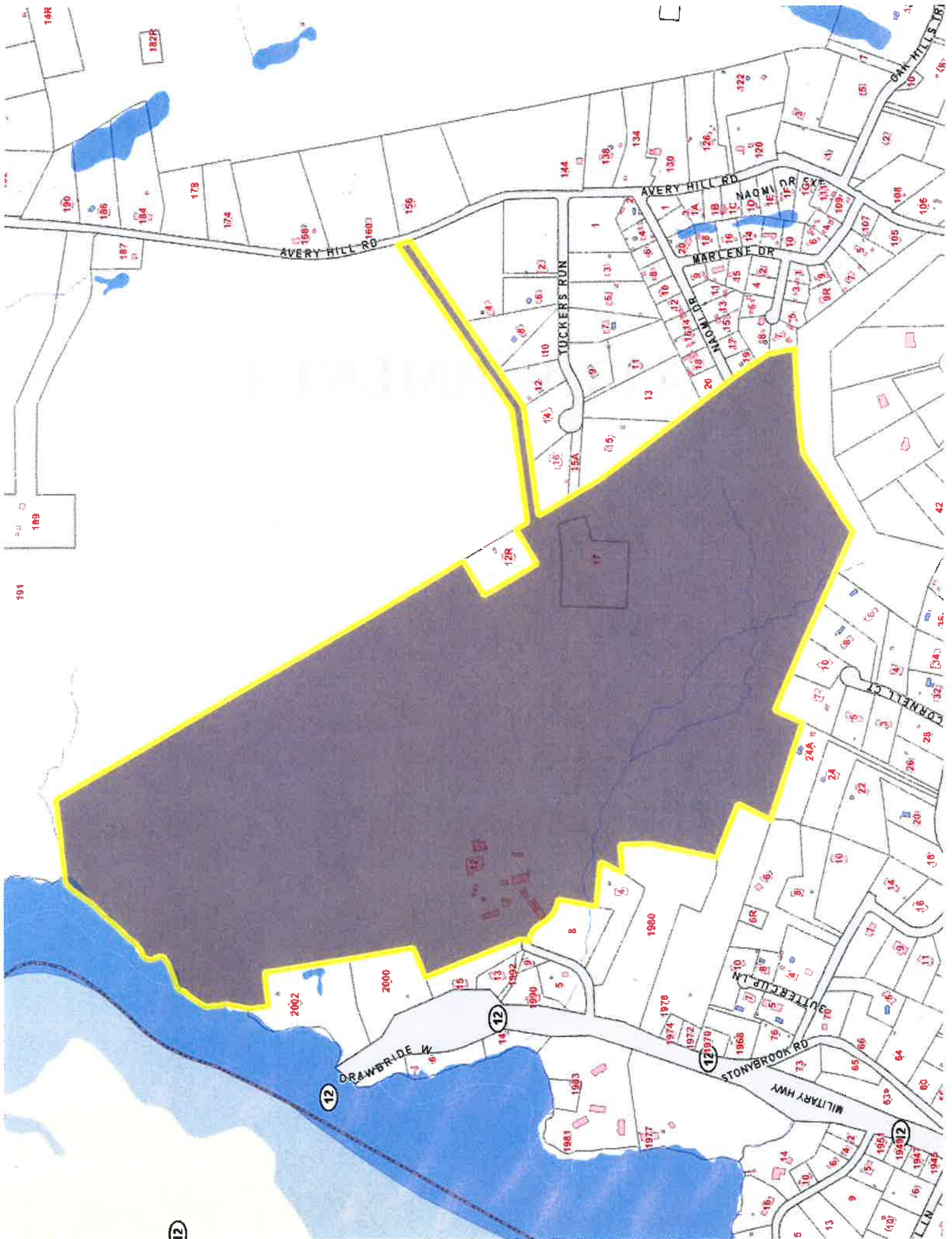
No





# **ATTACHMENT 4**

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# Town of Ledyard Property Summary Report

## 12 ORCHARD DR

<b>PARCEL ID:</b>	24-1790-12
<b>LOCATION:</b>	12 ORCHARD DR
<b>OWNER NAME:</b>	HOLMBERG RICHARD H + DIANE Y



<b>OWNER OF RECORD</b>
HOLMBERG RICHARD H + DIANE Y
4 ORCHARD DR
GALES FERRY, CT 06339

<b>LIVING AREA:</b>	2382	<b>ZONING:</b>	R40	<b>ACREAGE:</b>	139.61
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### SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
HOLMBERG RICHARD H + DIANE Y	407/ 329	22-Jul-2005	\$0.00
HOLMBERG RICHARD H + DIANE Y	329/1023	02-May-2002	\$0.00
HOLMBERG RICHARD H	00153/0417	11-Jun-1986	\$0.00

### CURRENT ASSESSED VALUE

<b>TOTAL:</b>	\$340,760.00	<b>IMPROVEMENTS:</b>	\$226,100.00	<b>LAND:</b>	\$114,660.00
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### ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2018	\$340,760.00	\$226,100.00	\$114,660.00
2017	\$340,760.00	\$226,100.00	\$114,660.00
2016	\$340,760.00	\$226,100.00	\$114,660.00
2015	\$340,760.00	\$226,100.00	\$114,660.00
2014	\$301,310.00	\$210,840.00	\$90,470.00




# **ATTACHMENT 5**

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Verizon/Ledyard North  
**Certificate of Mailing — Firm**

Name and Address of Sender  Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103		TOTAL NO. of Pieces Listed by Sender  3	TOTAL NO. of Pieces Received at Post Office™  3	Affix Stamp Here <i>Postmark with Date of Receipt.</i>  neopost 09/13/2023 <b>US POSTAGE \$003.19<sup>0</sup></b>   ZIP 06103 041L12203937			
USPS® Tracking Number Firm-specific Identifier		Address (Name, Street, City, State, and ZIP Code™)		Postage	Fee	Special Handling	Parcel Airlift
1.		Fred Allyn III, Mayor Town of Ledyard 741 Colonel Ledyard Highway Ledyard, CT 06339					
2.		Juliet Hodge, Director of Planning and Acting Zoning & Wetlands Enforcement Official Town of Ledyard 741 Colonel Ledyard Highway Ledyard, CT 06339					
3.		Richard and Diane Holmberg 4 Orchard Drive Gales Ferry, CT 06339					
4.							
5.							
6.							

