Robinson+Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts and New York

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**
26 Mell Road (a.k.a. 20 Nygren Road), Lisbon, 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 Town of Lisbon ("Town") in January of 1998. Cellco's shared use of the tower was approved by the Siting Council ("Council") in December of 2000 (TS-VER-073-001117). A copy of the Town approval and the Cellco's tower share approval are included in Attachment 1.

Cellco's proposed modification involves the installation of four (4) interference mitigation filters ("filters") on Cellco's 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 Lisbon'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 modifications will not result in an increase in the height of the 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:
Thomas Sparkman, First Selectman
Michael Murphy, Town Planner
Estate of Stanley Wildowsky, Jr., Property Owner
Kamoya Bautista De Leon, Verizon Wireless

ATTACHMENT 1

PLANNING & ZONING COMMISSION
TOWN OF LISBON
1 Newent Road
Lisbon, Connecticut 06351

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 5, 1998

Mr. Scott Thomae
SBA, Inc.
125 Shaws Cove #116
New London, Connecticut 06320

RE: Special Permit Application-SBA, Inc./NEXTEL Communications
26 Mell Road

Dear Mr. Thomae:

At the regular meeting of the Lisbon Planning and Zoning Commission held on January 5, 1998, your Special Permit application to construct a wireless telecommunications facility at 26 Mell Road was reviewed and approved with conditions which are attached to the enclosed form.

Please note that no approved Special Permit shall be effective until a copy of the enclosed completed form is recorded in the land records of the Town of Lisbon. The Town Clerk shall index the same in the grantor's index under the name of the record owner and the record owner shall pay for such recording, Section 8-3d, Connecticut General Statutes.

Sincerely,

Robert Adams, Chairman
Lisbon Planning and Zoning Commission

RA/ml

c: Rex Champany, Building Inspector/ZEO
File

PLANNING & ZONING COMMISSION
TOWN OF LISBON
1 Newent Road
Lisbon, Connecticut 06351

LEGAL NOTICE

NOTICE OF DECISION

At the regular meeting of the Lisbon Planning and Zoning Commission held in the Lisbon Town Hall on January 5, 1999, the following action was taken:

1. An application by Gran-Lee, LLC for a Special Permit to develop an eating and drinking establishment together with the development of joint access and parking facilities for lots 7 and 8 at 106 and 110 River Road.
   APPROVED WITH CONDITIONS
2. An application by Gran-Lee, LLC and Lisbon Land Assoc., Inc. for a Zoning Permit for an eating and drinking establishment together with the development of joint access and parking facilities for lots 7 and 8 at 106 and 110 River Road, Lisbon
   APPROVED WITH CONDITIONS
3. An application by SBA, Inc. And NEXTEL Communications for a Special Permit to construct a wireless telecommunications facility at 26 Mell Road, Lisbon, CT
   APPROVED WITH CONDITIONS

Robert Adams, Chairman

PLEASE PUBLISH "THE BULLETIN": 1 X IMMEDIATELY

FAX MEMO
PAGES 1 DATE 1/7/99 FAX
TO Danielson Bulletin
FROM Lisbon P&Z - Marlene
CO. Town of Lisbon
PH # 376-3400 FAX # 376-6545

RECEIVED FOR RECORD AT LISBON,
ON 1/7/99 AT 2:30 pm
ATTEST: BETSY M. BARRETT, TOWN CLERK

b). Regulations - Final revisions in progress.

OLD BUSINESS:

a). Wheelabrator Boat Launch

Mr. John O'Rourke, Operations Mgr. representing Wheelabrator, informed the Commission that the open space improvements have been completed, and the conditions of the Special Permit have been completed. A final inspection is needed then the certificate of zoning compliance be issued.

A motion was made by William Kuusela, seconded by Dennis Savage, to have the Town's Attorney and Engineer look into the original permit and Host Town Agreement to make sure that they're in total compliance before we issue the final permits.

VOTE: UNANIMOUS MOTION CARRIED

b). Special Permit Apl., Gran-Lee LLC

Mr. Rabbitt read his Planner's Letter-1/5/99, with eleven (11) recommended conditions. He also recommended that #11 include "right hand only stop".

William Belisle motioned that we approve the Special Permit with the condition that the egress be limited to one lane at its intersection of Rt. 12, and the Planner's eleven conditions. There was no second to the motion.

Mr. Kuusela then motioned (to approve) and to ask to have the exit and entrance reversed and with the Planner's eleven conditions. The motion was seconded by George Williams. The motion was withdrawn by Mr. Kuusela. Mr. Williams withdrew his second.

A motion was made by Dennis Duplice to approve with a single lane exit (remove the right hand northbound turning lane), the addition of another handicapped space (western most space of the existing office space), and with the Planner's eleven conditions.

VOTE: William Belisle-YES, William Kuusela-NO, David Gagnon-YES, Lawrence Alice-ABSTAIN, George Williams-NO, Dennis Savage-YES, Dennis Duplice-YES, Robert Adams-ABSTAIN

MOTION CARRIED

c). Zoning Permit Apl. Gran-Lee LLC & Lisbon Land Assoc., Inc.

A motion was made by Dennis Duplice, seconded by William Belisle, to approve with the same conditions as the Special Permit: a single lane exit (remove the right hand northbound turning lane), the addition of another handicapped space (western most space of existing office space), and the Planners eleven conditions.

VOTE: William Belisle-YES, William Kuusela-NO, David Gagnon-YES, Lawrence Alice-ABSTAIN, George Williams-NO, Dennis Savage-YES, Dennis Duplice-YES, Robert Adams-ABSTAIN

MOTION CARRIED

d). Special Permit Apl. SBA Inc./NEXTEL

Mr. Rabbitt read his Planner's Letter, 1/5/99 with two (2) recommended conditions. He also

recommended a third condition; the applicant must meet with Section 9.13.5b. (of the Zoning Regulations) to control the fall zone.
A motion was made by Dennis Duplice, seconded by George Williams, to approve with the three conditions. VOTE: UNANIMOUS MOTION CARRIED

RECEIPT OF NEW APPLICATIONS: none

NEW BUSINESS:

a). Zoning Permit Apl.-M. Patterson
Mr. Adams noted a completed application from Mark Patterson, $60 fee payment for a Zoning Permit for a Home Occupation (hair salon) at 5 Kendall Road, and a Letter of Consent from Richard Patterson, owner.
A motion was made by William Kuusela, seconded by Lawrence Alice, to accept the application for review. VOTE: UNANIMOUS MOTION CARRIED
Dennis Duplice motioned to table. David Gagnon seconded the motion.
VOTE: UNANIMOUS MOTION CARRIED

OTHER BUSINESS:
After a brief discussion, it was the general consensus of those present to have Rex Champany. Building Inspector/ZEO, investigate reports of an active sand and gravel operation on Ross Hill Road.

Dennis Duplice motioned to adjourn at 8:35 p.m. David Gagnon seconded the motion.
VOTE: UNANIMOUS MOTION CARRIED

Marlene LePine, clerk

APPROVED_____
Robert Adams, Chairman

RECEIVED FOR RECORD AT LISBON,
CT 1/7/99 AT 2:30pm
ATTEST: BETSY M. BARRETT, TOWN CLERK

Attn: Tom White

SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS
5 Connecticut Avenue, Norwich, Connecticut 06360
(860) 889-2324/Fax: (860) 889-1222/Email: seccog@snet.net

January 5, 1999

Robert Adams, Chairman
Lisbon Planning and Zoning Commission
Town of Lisbon
1 Newent Road
Lisbon, CT 06351

RE: SBA Inc. and Nextel Communications Special Permit Application

Dear: Mr. Adams:

I prepared a review of the application by SBA Inc. and Nextel Communications for a Wireless Telecommunications Facility at 26 Mell Road, Assessor's Map 9, Lot 73.

The application was received by the Lisbon Planning & Zoning Commission on October 6, 1998. The Commission scheduled a public hearing on October 29, 1998 at 7:00 PM. The Commission has 30 days to close the public hearing. The applicant may grant one or more extensions of time up to a total of an additional 30 days. The public hearing was closed on December 1, 1998. The Commission must make a decision within 65 days of the close of the public hearing, unless, the applicant agrees to one or more extensions of time, which may be up to a total of an additional 65 days. However, since a site plan is part of the application, the Commission has 65 days to render a decision on a site plan from the date of receipt. The applicant may consent to one or more extensions of such period, provided the total time does not exceed two further sixty-five-day periods, or may withdraw such application. The applicant did grant an extension on December 1, 1998, 35 days Consequently, decision needs to be made by January 5, 1999, unless the applicant grants and extension of time.

Presently the plans submitted by the applicant would meet the Town of Lisbon Zoning Regulations with the addition of the 2 conditions stated below. However, the planner reserves the right to comment on the application after reviewing the conditions with the Planning and Zoning Commission based on the public record.

1. The applicant shall modify their existing site plan to show that all new utilities will be installed underground.
2. The applicant shall post surety in the amount of $10,000 prior to any construction, grading and/or excavation activity, and/or prior to the issuance of a building permit. The final type of surety to be determined by Planning Commission Counsel.

If you have any questions please call me at 1-860-889-2324.

Sincerely,

James D. Rabbitt, AICP
Lisbon Town Planner/SCCOG Senior Planner

special permit review-3.wpd

Lisbon CT0167-S

PLANNING & ZONING COMMISSION
TOWN OF LISBON
1 Newent Road
Lisbon, Connecticut 06351

LEGAL NOTICE

NOTICE OF DECISION

At the regular meeting of the Lisbon Planning and Zoning Commission held in the Lisbon Town Hall on January 5, 1999, the following action was taken:

1. An application by Gran-Lee, LLC for a Special Permit to develop an eating and drinking establishment together with the development of joint access and parking facilities for lots 7 and 8 at 106 and 110 River Road.
APPROVED WITH CONDITIONS
2. An application by Gran-Lee, LLC and Lisbon Land Assoc., Inc. for a Zoning Permit for an eating and drinking establishment together with the development of joint access and parking facilities for lots 7 and 8 at 106 and 110 River Road, Lisbon
APPROVED WITH CONDITIONS
3. An application by SBA, Inc. And NEXTEL Communications for a Special Permit to construct a wireless telecommunications facility at 26 Mell Road, Lisbon, CT
APPROVED WITH CONDITIONS

Robert Adams, Chairman

PLEASE PUBLISH "THE BULLETIN": 1 X IMMEDIATELY

RECEIVED FOR RECORD AT LISBON,
ON: 1/7/99 AT 2:30pm
ATTEST: BETSY M. BARRETT, TOWN CLERK

BOOK 87 PAGE 781

APPLICATION FOR SPECIAL PERMIT

Lisbon Planning and Zoning Commission

To be completed by the Applicant: Date: 10/01/98

Name and Address of Applicant: SBA Inc. 125 Shaw Street #116 New London, CT
06320 / Nextel Communications 100 Corporate Pine Rocky Hill, CT 06067

The undersigned does hereby request a Special Permit as required by Section 2.11.9.1.36.7.11 of the Lisbon Zoning Regulations.

Location of Property 26 Mill Road / Map 9 Lot 73

Owner of Record of Property Stanley Wiedowsky

Description of Proposed Use Please refer to Project Description on the title page of Mill Road Zoning Drawings or page four of the Project Narrative.

(The applicant shall submit with this completed application a site plan as prescribed in Section 10 of the Lisbon Zoning Regulations.)

Signature of Applicant: [signature] As Agent

To be completed by the Commission: Application No.

Date of Submission: 10-16-98

Date of Receipt: 10-16-98 Fee Paid: $ 810.00 P.C. 11/16/98

Date of Action: 1/5/99

Date of Public Hearing: 10/29/98

Approved: With attached conditions Denied:

Reasons for ~~denial~~ or modifications: Approved with the attached conditions:
Planner's (James D. Rabbitt, AICP) letter-January 5, 1999.

RECEIVED FOR RECORD AT LISBON,
CT on 1/20/99 AT 10:30 am
ATTEST: BETSY M. BARRETT, TOWN CLERK

Approved with Conditions

Signature [signature]

(No approved special permit shall be effective until a copy of this completed form is recorded in the land records of the Town of Lisbon. The Town Clerk shall index the same in the grantor's index under the name of the record owner and the record owner shall pay for such recording. Sec. 8-3d, Connecticut General Statutes.)

December 19, 2000

Sandy M. Carter
Verizon Wireless
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

RE: **TS-VER-073-001117** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 20 Nygren Road, Lisbon, Connecticut.

Dear Ms. Carter:

At a public meeting held December 14, 2000, 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. This facility has also 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.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated November 16, 2000.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/FOC/laf

c: Honorable Thomas W. Sparkman, First Selectman, Town of Lisbon
Ester McNany, SBA, Inc.
Ronald C. Clark, Nextel Communications
Julie M. Cashin, Esq., Hurwitz & Sagarin, LLC
J. Brendan Sharkey, VoiceStream Wireless Corporation

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

BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
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

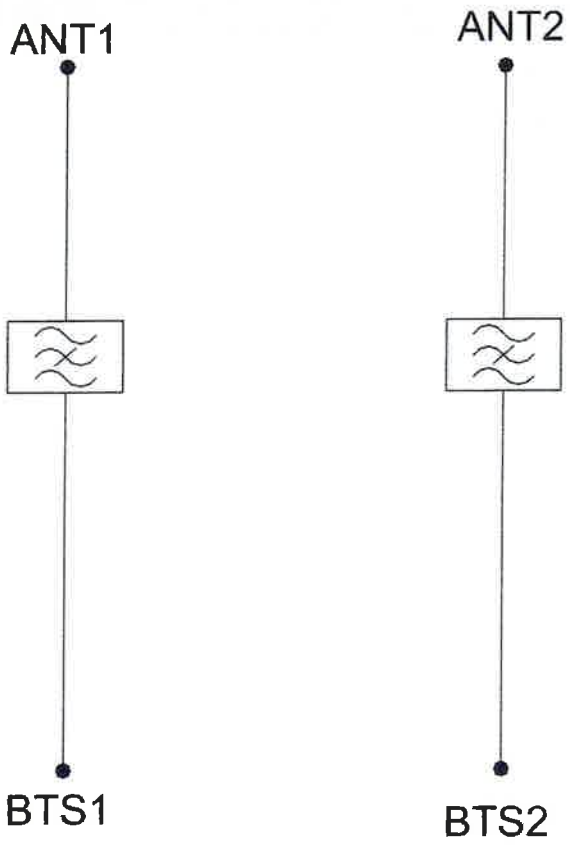
MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm | 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8.0 kg | 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ORDERING INFORMATION

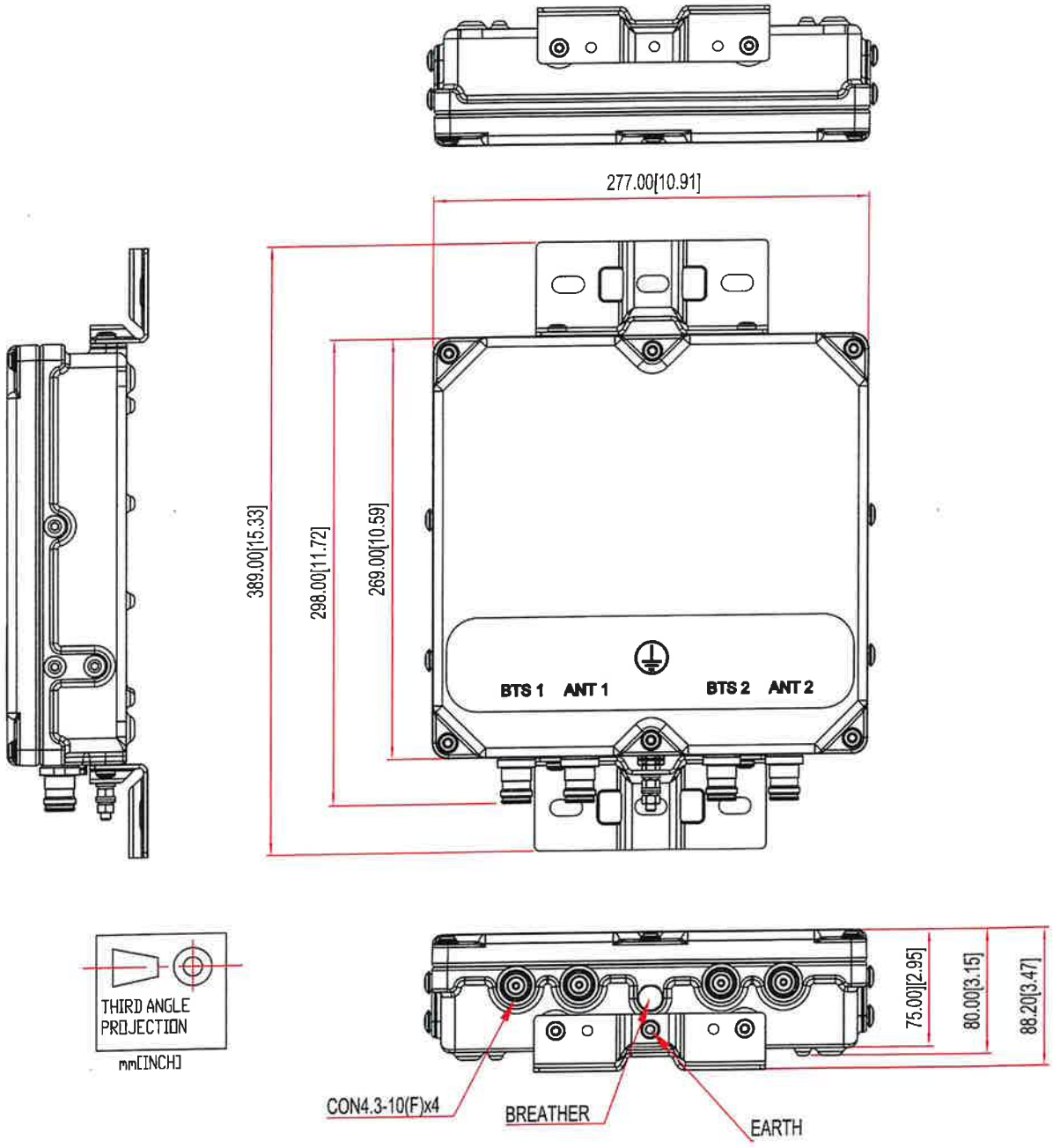
PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
BSF0020F3V1	TWIN, 2 in / 2 out	DC/AISG PASS NO BRACKET	4.3-10 (F)
BSF0020F3V1-1	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)
BSF0020F3V1-2	QUAD, 4 in / 4 out	DC/AISG PASS	4.3-10 (F)

ELECTRICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

MECHANICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ATTACHMENT 3

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

Structural Analysis Report

Existing 195 ft Nudd Corporation Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT00167-S
Customer Site Name: Lisbon
Carrier Name: Verizon (App#: 232525, V#2)
Carrier Site ID / Name: 5000246009 / LISBON CT
Site Location: 26 Mell Road
Lisbon, Connecticut
New London County
Latitude: 41.591033
Longitude: -72.016960

Analysis Result:

Max Structural Usage: 84.4% [Pass]
Max Foundation Usage: 47.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Wei-Hsiang Chen

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

Structural Analysis Report

Existing 195 ft Nudd Corporation Monopole
Customer Name: SBA Communications Corp
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Analysis Result:

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

Report Prepared By: Wei-Hsiang Chen

Introduction

The purpose of this report is to summarize the analysis results on the 195 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A. Nudd Corporation Project #6531, dated February 4, 1999. Semaan Engineering solutions site #CT00167S Modification package, dated May 7, 2002.
Foundation Drawing	Fred A. Nudd Corporation Project #6531, dated February 4, 1999.
Geotechnical Report	Jaworski Geotech Inc., project #C98343G, dated August 5, 1998.
Modification Drawings	N/A
Mount Analysis	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	124.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.19$, $S_1 = 0.054$

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.

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	195.0	3	Ericsson - AIR6449 B41 - Panel	Platform w/ handrails [Site Pro RMQP-4096-HK]	(6) 1 5/8" (6) 1.9" Fiber	T-Mobile
2		3	RFS APXVAALL24-43-U-NA20 - Panel			
3		3	RFS APX16DWV-16DWVS-E-A20 - Panel			
4		3	Ericsson KRY 112 144/1			
5		3	Ericsson 4449 B71 + B85			
6		3	Ericsson 4424 B25			
7		3	Ericsson 4415 B66A			
8	173.0	3	Commscope DT465B-2XR - Panel	(3) Sector Frame (1) Tie-Back Components: (3) relocate pipe stiff-arms (1) Handrail Components-V-Brace Kit SitePro1 Park PRK-SFR-K-L (1) Handrail Components-(3) Pipe2.O STD (2.375" O.D.) x 7'+/- Horizontal Rail; Sitepro1 SCX x-K cross-over plates [(3) total rails; (6) SCX]	(4) 1-1/4" Fiber	Sprint Nextel
9		3	RFS - APXVSPP18-C-A20 - Panel			
10		4	RFS ACU-A20-N RET			
11		3	ALU 1900 MHz RRH			
12		6	ALU 800 MHz RRH			
13		3	ALU 800 MHz Filter			
14		3	ALU TD-RRH8x20-25 RRUs			
-	159.0	3	Samsung VZS01 - Panel	Platform w/ handrails	(10) 1 5/8" (2) 1 5/8" Hybrid (1) 1/2"	Verizon
-		3	Antel BXA-70080-4BF- Panel			
-		6	Commscope SBNHH-1D65B- Panel			
-		3	Samsung B2/B66A RRH-BR049 RRU			
-		3	Samsung B5/B13 RRH-BR04C RRU			
-		2	Rfs Celwave DB-T1-6Z-8AB-0Z-OVP			
-		1	Lucent KS24019-L112A-GPS			
23	145.0	3	Commscope FFVV-65B-R2 - Panel	Platform w/ handrail [Commscope MC-PK8-DSH]	(1) 1.6" Hybrid	Dish Wireless
24		3	Fujitsu TA08025-B604			
25		3	Fujitsu TA08025-B605			
26		1	Raycap RDIC-9181-PF-48 - OVP			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
15	159.0	3	Samsung VZS01 - Panel	Platform w/ handrails	(10) 1 5/8" (2) 1 5/8" Hybrid (1) 1/2"	Verizon
16		3	Samsung B2/B66A RRH-BR049 RRU			
17		3	Samsung B5/B13 RRH-BR04C RRU			
18		4	Kaelus BSF0020F3V1-1 - Filter			
19		6	Commscope SBNHH-1D65B - Panel			
20		3	Antel BXA-70080-4BF - Panel			
21		2	Rfs Celwave DB-T1-6Z-8AB-0Z - OVP			
22		1	Lucent KS24019-L112A - GPS			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**84.4%**	**69.5%**	**48.4%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	6163.3	45.7	63.5

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

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4127 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

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

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

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

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

Usage Diagram - Max Ratio 74.33% at 140.0ft

Structure:	CT00167-S-SBA	**Code:**	EIA/TIA-222-H	7/13/2023
Site Name:	Lisbon	**Exposure:**	C	
Height:	195.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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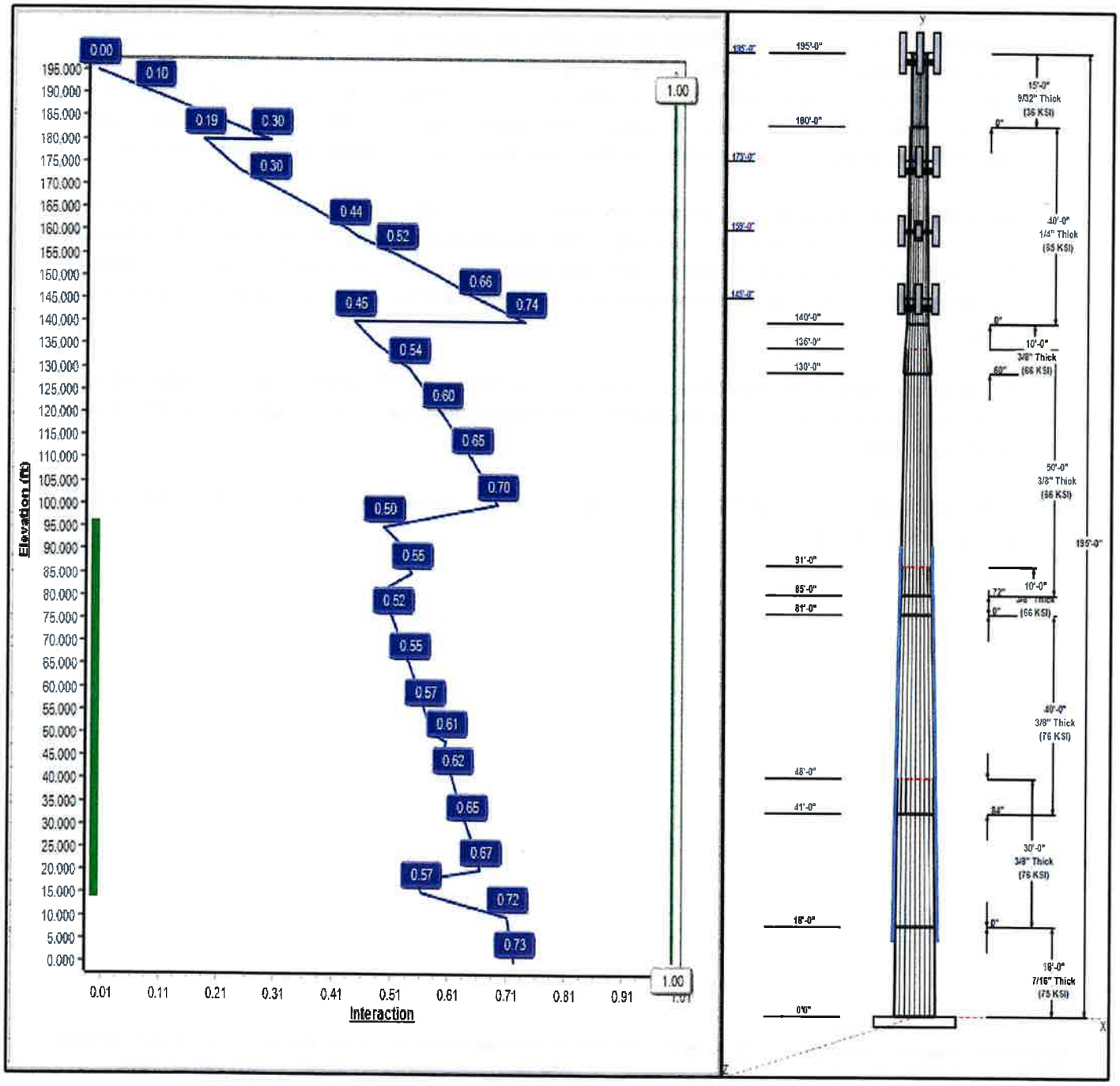
Dead Load Factor:	1.20
Wind Load Factor:	1.00

Load Case : 1.2D + 1.0W 124 mph Wind

Iterations: 25



Structure: CT00167-S-SBA

Type: Custom
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23750

7/13/2023

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Shaft Properties

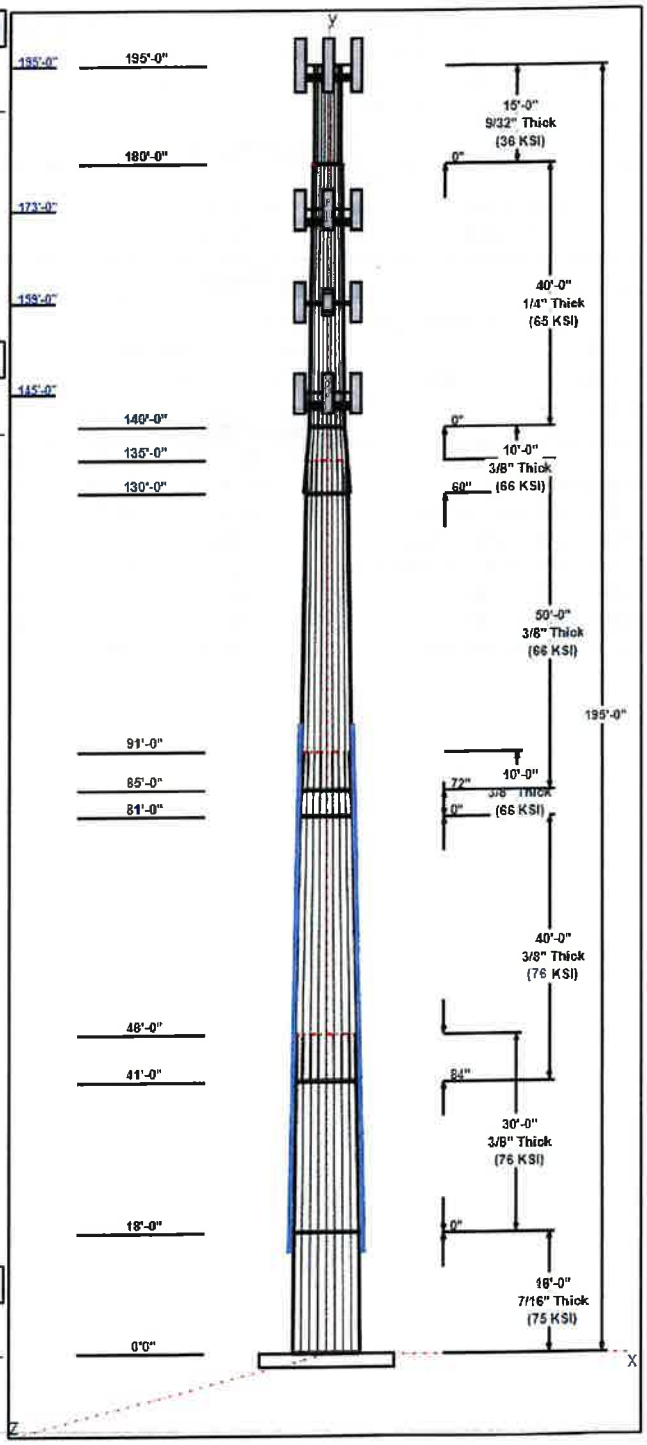
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	18.00	60.23	64.50	0.438		0.23750	75
2	30.00	53.10	60.23	0.375	Butt	0.23750	76
3	40.00	46.01	55.51	0.375	Slip	0.23750	76
4	10.00	43.64	46.01	0.375	Butt	0.23750	66
5	50.00	33.94	45.81	0.375	Slip	0.23750	66
6	10.00	33.50	35.88	0.375	Slip	0.23750	66
7	40.00	24.00	33.50	0.250	Butt	0.23750	65
8	15.00	24.00	24.00	0.281	Butt	0.00000	36

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
195.00	195.00	3	AIR6449 B41	T-Mobile
195.00	195.00	3	APXVAALL24-43-U-NA20	T-Mobile
195.00	195.00	3	APX16DWV-16DWVS-E-A	T-Mobile
195.00	195.00	3	Ericsson KRY 112 144/1	T-Mobile
195.00	195.00	3	Ericsson 4449 B71 + B85	T-Mobile
195.00	195.00	3	Ericsson 4424 B25	T-Mobile
195.00	195.00	3	Ericsson 4415 B66A	T-Mobile
195.00	195.00	1	RMQP-4096-HK	T-Mobile
173.00	173.00	3	Sector Frame-Pipe/Rod	Sprint Nextel
173.00	173.00	3	APXVSPP18-C-A20	Sprint Nextel
173.00	173.00	3	ALU 1900 MHz RRH	Sprint Nextel
173.00	173.00	6	ALU 800 MHz RRH	Sprint Nextel
173.00	173.00	3	ALU 800 MHz Filter	Sprint Nextel
173.00	173.00	4	RFS ACU-A20-N RET	Sprint Nextel
173.00	173.00	3	DT465B-2XR	Sprint Nextel
173.00	173.00	3	ALU TD-RRH8x20-25	Sprint Nextel
159.00	159.00	3	Samsung VZS01	Verizon
159.00	159.00	3	Samsung B2/B66A	Verizon
159.00	159.00	3	Samsung B5/B13	Verizon
159.00	159.00	1	Lucent KS24019-L112A	Verizon
159.00	159.00	1	Low Profile Platform-flat	Verizon
159.00	159.00	6	SBNHH-1D65B	Verizon
159.00	159.00	3	BXA-70080-4BF	Verizon
159.00	159.00	2	Rfs Celwave	Verizon
159.00	159.00	4	BSF0020F3V1-1	Verizon
145.00	145.00	3	FFVV-65B-R2	Dish Wireless
145.00	145.00	3	TA08025-B604	Dish Wireless
145.00	145.00	3	TA08025-B605	Dish Wireless
145.00	145.00	1	RDIC-9181-PF-48	Dish Wireless
145.00	145.00	1	MC-PK8-DSH	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	195.00	Inside	1 5/8" Coax	T-Mobile
0.00	195.00	Inside	1.9" Fiber	T-Mobile
0.00	195.00	Outside	Safety Cable	
0.00	195.00	Outside	Step bolts (ladder)	
0.00	173.00	Inside	1-1/4" Fiber	Sprint Nextel
0.00	159.00	Inside	1 5/8" Coax	Verizon
0.00	159.00	Inside	1 5/8" Hybrid	Verizon
0.00	159.00	Inside	1/2" Coax	Verizon



0.00	145.00	Outside	1.6" Hybrid	Dish Wireless
90.00	105.00	Outside	Reinforcing channels	
60.00	90.00	Outside	Reinforcing channels	
15.00	60.00	Outside	Reinforcing channels	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
26	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.7500	52.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 124 mph Wind	6163.3	45.7	63.5
0.9D + 1.0W 124 mph Wind	6086.7	45.7	47.6
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1524.3	11.5	84.9
1.2D + 1.0Ev + 1.0Eh	253.2	1.4	64.8
0.9D + 1.0Ev + 1.0Eh	250.7	1.4	48.9
1.0D + 1.0W 60 mph Wind	1282.9	9.6	53.0

Structure: CT00167-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Lisbon
Height: 195.00 (ft)

7/13/2023

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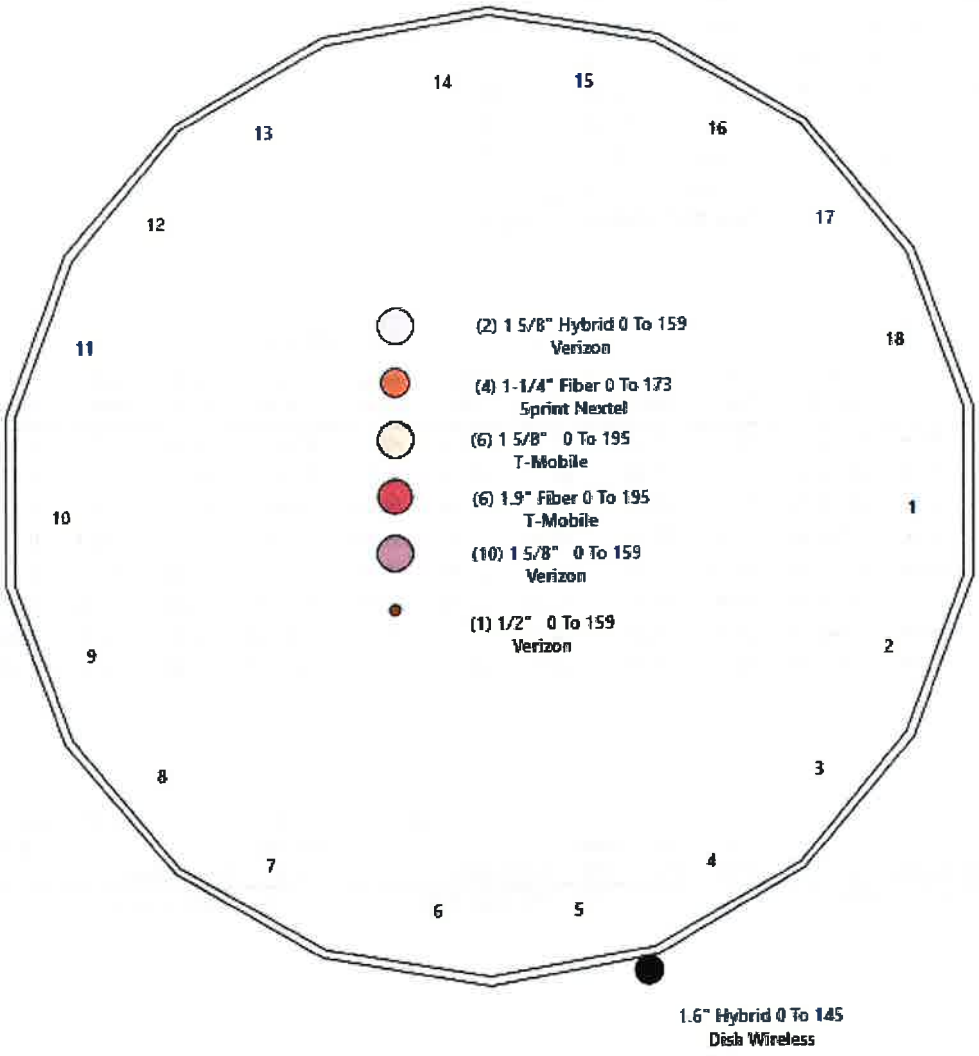

Shaft Properties

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 5	

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	18.000	0.4375	75		0.00	5,267
2	18	30.000	0.3750	76	Flange	0.00	6,839
3	18	40.000	0.3750	76	Slip	84.00	8,163
4	18	10.000	0.3750	66	Flange	0.00	1,800
5	18	50.000	0.3750	66	Slip	72.00	7,999
6	18	10.000	0.3750	66	Slip	60.00	1,390
7	18	40.000	0.2500	65	Flange	0.00	3,078
8	R	15.000	0.2813	36	Flange	0.00	1,081
					Total Shaft Weight:		**35,616**

	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	64.50	0.00	88.96	46124.76	24.59	147.43	60.23	18.00	83.02	37493.3	22.86	137.6	0.237500
2	60.23	18.00	71.23	32238.00	26.91	160.60	53.10	48.00	62.75	22040.7	23.56	141.6	0.237500
3	55.51	41.00	65.63	25206.75	24.69	148.03	46.01	81.00	54.32	14293.5	20.22	122.7	0.237500
4	46.01	81.00	54.32	14293.59	20.22	122.70	43.64	91.00	51.49	12176.1	19.11	116.3	0.237500
5	45.81	85.00	54.08	14106.49	20.13	122.17	33.94	135.00	39.95	5685.11	14.55	90.50	0.237500
6	35.88	130.0	42.25	6727.61	15.46	95.67	33.50	140.00	39.43	5465.67	14.34	89.33	0.237500
7	33.50	140.0	26.38	3685.19	22.22	134.00	24.00	180.00	18.84	1343.00	15.52	96.00	0.237500
8	24.00	180.0	21.18	1505.17	13.63	85.32	24.00	195.00	21.18	1505.17	13.63	85.32	0.000000

Additional Steel

							Intermediate Connectors		Termination Connectors			
Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
15.00	95.00	6	PLT C6x10.5 (no hole)	65	80	1.00	5/8" Hollo Bolt	0.00	AJM20&sleeve	24.00	3	3

Load Summary

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	195.00	AIR6449 B41	3	103.00	5.65	0.71	196.84	6.301	0.71	0.00	0.00
2	195.00	APXVAALL24-43-U-NA20	3	99.00	20.24	0.73	380.26	21.525	0.73	0.00	0.00
3	195.00	APX16DWV-16DWVS-E-A20	3	40.70	6.61	0.62	120.81	8.101	0.62	0.00	0.00
4	195.00	Ericsson KRY 112 144/1	3	11.00	0.41	0.67	18.38	0.735	0.67	0.00	0.00
5	195.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	112.72	2.360	0.67	0.00	0.00
6	195.00	Ericsson 4424 B25	3	88.00	2.05	0.67	142.98	2.446	0.67	0.00	0.00
7	195.00	Ericsson 4415 B66A	3	49.60	1.64	0.67	85.27	2.005	0.67	0.00	0.00
8	195.00	RMQP-4096-HK	1	2645.00	51.70	1.00	4540.52	77.882	1.00	0.00	0.00
9	173.00	Sector Frame-Pipe/Rod	3	700.00	26.00	0.75	1070.11	34.837	0.75	0.00	0.00
10	173.00	APXVSPP18-C-A20	3	57.00	8.02	0.83	173.89	9.909	0.83	0.00	0.00
11	173.00	ALU 1900 MHz RRH	3	44.00	3.80	0.67	117.82	4.740	0.67	0.00	0.00
12	173.00	ALU 800 MHz RRH	6	53.00	2.49	0.67	103.02	3.264	0.67	0.00	0.00
13	173.00	ALU 800 MHz Filter	3	10.00	0.42	0.67	23.30	0.628	0.67	0.00	0.00
14	173.00	RFS ACU-A20-N RET	4	1.00	0.14	0.67	3.91	0.341	0.67	0.00	0.00
15	173.00	DT465B-2XR	3	58.00	9.10	0.83	205.03	9.988	0.83	0.00	0.00
16	173.00	ALU TD-RRH8x20-25 RRUs	3	70.00	4.05	0.67	139.75	4.585	0.67	0.00	0.00
17	159.00	Samsung VZS01	3	87.10	4.30	0.69	156.36	4.882	0.69	0.00	0.00
18	159.00	Samsung B2/B66A RRH-BR049	3	84.40	1.87	0.67	131.74	2.243	0.67	0.00	0.00
19	159.00	Samsung B5/B13 RRH-BR04C	3	70.30	1.87	0.67	112.98	2.243	0.67	0.00	0.00
20	159.00	Lucent KS24019-L112A	1	5.00	0.12	1.00	49.59	0.258	1.00	0.00	0.00
21	159.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	1902.17	39.043	1.00	0.00	0.00
22	159.00	SBNHH-1D65B	6	40.00	8.16	0.83	167.72	9.011	0.83	0.00	0.00
23	159.00	BXA-70080-4BF	3	12.00	3.56	0.88	71.25	4.798	0.89	0.00	0.00
24	159.00	Rfs Celwave DB-T1-6Z-8AB-0Z ODU	2	18.90	4.80	0.71	109.71	5.373	0.71	0.00	0.00
25	159.00	BSF0020F3V1-1	4	17.60	1.58	0.75	37.61	2.184	0.75	0.00	0.00
26	145.00	FFVV-65B-R2	3	70.80	12.27	0.74	260.28	13.238	0.74	0.00	0.00
27	145.00	TA08025-B604	3	63.90	1.96	0.67	97.54	2.333	0.67	0.00	0.00
28	145.00	TA08025-B605	3	75.00	1.96	0.67	109.75	2.333	0.67	0.00	0.00
29	145.00	RDIC-9181-PF-48	1	15.90	3.18	1.00	53.77	3.712	1.00	0.00	0.00
30	145.00	MC-PK8-DSH	1	1727.00	37.59	1.00	2848.41	68.973	1.00	0.00	0.00
		Totals:	**87**	**11,864.10**			**22,585.50**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	195.00	(6) 1 5/8" Coax	0.00	Inside
0.00	195.00	(6) 1.9" Fiber	0.00	Inside
0.00	195.00	(1) Safety Cable	0.00	Outside
0.00	195.00	(1) Step bolts (ladder)	0.00	Outside
0.00	173.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	159.00	(10) 1 5/8" Coax	0.00	Inside
0.00	159.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	159.00	(1) 1/2" Coax	0.00	Inside
0.00	145.00	(1) 1.6" Hybrid	0.00	Outside
90.00	105.00	(2) Reinforcing channels	0.00	Outside
60.00	90.00	(2) Reinforcing channels	2.00	Outside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
15.00	60.00	(2) Reinforcing channels			2.00	Outside					

Shaft Section Properties

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	75	81	0.0				
5.00		0.4375	63.313	87.307	43607.0	24.11	144.71	75	82	1499.5				
10.00		0.4375	62.125	85.658	41182.6	23.63	142.00	75	83	1471.4				
15.00	RB1	0.4375	60.938	84.009	38849.8	23.15	139.29	75	83	1443.3	18.54	9762.2	9762.2	246.0
18.00	Top - Section 1	0.4375	60.225	83.019	37493.3	22.86	137.66	75	84	852.5	18.54	9549.1	9549.1	147.6
18.00	Bot - Section 2	0.3750	60.225	71.234	32238.0	26.67	160.60	76	79					
20.00		0.3750	59.750	70.669	31476.5	26.68	159.33	76	79	482.9	18.54	9408.4	9408.4	98.4
25.00		0.3750	58.563	69.255	29625.4	26.13	156.17	76	80	1190.3	18.54	9061.0	9061.0	246.0
30.00		0.3750	57.375	67.842	27848.4	25.57	153.00	76	81	1166.3	18.54	8720.2	8720.2	246.0
35.00		0.3750	56.188	66.428	26143.9	25.01	149.83	76	81	1142.2	18.54	8385.9	8385.9	246.0
40.00		0.3750	55.000	65.015	24510.4	24.45	146.67	76	82	1118.2	18.54	8058.2	8058.2	246.0
41.00	Bot - Section 3	0.3750	54.763	64.732	24192.1	24.34	146.03	76	82	220.8	18.54	7993.5	7993.5	49.2
45.00		0.3750	53.813	63.602	22946.4	23.89	143.50	76	83	1758.9	18.54	7939.1	7939.1	196.8
48.00	Top - Section 2	0.3750	53.850	63.646	22994.7	23.91	143.60	76	83	1299.0	18.54	7747.1	7747.1	147.6
50.00		0.3750	53.375	63.081	22387.4	23.69	142.33	76	83	431.2	18.54	7620.3	7620.3	98.4
55.00		0.3750	52.188	61.668	20916.0	23.13	139.17	76	84	1061.2	18.54	7308.1	7308.1	246.0
60.00		0.3750	51.000	60.254	19510.6	22.57	136.00	76	85	1037.2	18.54	7002.4	7002.4	246.0
65.00		0.3750	49.813	58.841	18169.6	22.01	132.83	76	86	1013.1	18.54	6703.2	6703.2	246.0
70.00		0.3750	48.625	57.427	16891.5	21.45	129.67	76	87	989.1	18.54	6410.6	6410.6	246.0
75.00		0.3750	47.438	56.014	15674.7	20.89	126.50	76	87	965.0	18.54	6124.4	6124.4	246.0
80.00		0.3750	46.250	54.601	14517.9	20.34	123.33	76	88	941.0	18.54	5844.9	5844.9	246.0
81.00	Top - Section 3	0.3750	46.013	54.318	14293.6	20.22	122.70	76	88	185.3	18.54	5789.7	5789.7	49.2
81.00	Bot - Section 4	0.3750	46.013	54.318	14293.6	20.22	122.70	66	79					
85.00	Bot - Section 5	0.3750	45.063	53.187	13419.4	19.78	120.17	66	79	731.6	18.54	5571.8	5571.8	196.8
90.00		0.3750	43.875	51.774	12377.8	19.22	117.00	66	80	1801.0	18.54	5472.9	5472.9	246.0
91.00	Top - Section 4	0.3750	44.388	52.384	12820.5	19.46	118.37	66	80	354.4	18.54	5419.6	5419.6	49.2
95.00	RT1	0.3750	43.438	51.253	12008.1	19.01	115.83	66	80	705.3	18.54	5208.8	5208.8	196.8
100.00		0.3750	42.250	49.840	11041.8	18.46	112.67	66	81	860.0				
105.00		0.3750	41.063	48.427	10128.8	17.90	109.50	66	81	835.9				
110.00		0.3750	39.875	47.013	9267.6	17.34	106.33	66	82	811.9				
115.00		0.3750	38.688	45.600	8456.6	16.78	103.17	66	83	787.9				
120.00		0.3750	37.500	44.186	7694.4	16.22	100.00	66	83	763.8				
125.00		0.3750	36.313	42.773	6979.4	15.66	96.83	66	84	739.8				
130.00	Bot - Section 6	0.3750	35.125	41.360	6310.2	15.11	93.67	66	84	715.7				
135.00	Top - Section 5	0.3750	34.688	40.839	6074.8	14.90	92.50	66	84	1398.5				
140.00	Top - Section 6	0.3750	33.500	39.426	5465.7	14.34	89.33	66	84	682.8				
140.00	Bot - Section 7	0.2500	33.500	26.383	3685.2	21.51	134.00	65	75					
145.00		0.2500	32.313	25.441	3304.3	21.38	129.25	65	76	440.9				
150.00		0.2500	31.125	24.498	2950.6	20.54	124.50	65	77	424.8				
155.00		0.2500	29.938	23.556	2623.0	19.70	119.75	65	78	408.8				
159.00		0.2500	28.988	22.802	2379.2	19.03	115.95	65	79	315.5				
160.00		0.2500	28.750	22.614	2320.7	18.87	115.00	65	79	77.3				
165.00		0.2500	27.563	21.672	2042.5	18.03	110.25	65	80	376.7				
170.00		0.2500	26.375	20.729	1787.5	17.19	105.50	65	81	360.7				
173.00		0.2500	25.663	20.164	1645.2	16.69	102.65	65	82	208.7				
175.00		0.2500	25.188	19.787	1554.7	16.35	100.75	65	82	135.9				
180.00	Top - Section 7	0.2500	24.000	18.845	1343.0	15.52	96.00	65	83	328.6				
180.00	Bot - Section 8	0.2813	24.000	21.176	1505.2	13.79	85.32	36	46					
185.00		0.2813	24.000	21.176	1505.2	13.63	85.32	36	46	360.3				
190.00		0.2813	24.000	21.176	1505.2	13.63	85.32	36	46	360.3				

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ixp (in^4)	Additional Reinforcing Iyp (in^4)	Additional Reinforcing Weight (lb)
195.00		0.2813	24.000	21.176	1505.2	13.63	85.32	36	46	360.3				
									Total Weight	35616.0				4182.0

Wind Loading - Shaft

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	31.479	34.63	620.95	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	31.479	34.63	609.52	0.730	0.000	5.00	27.038	19.74	683.5	0.0	1799.3
10.00		1.00	0.85	31.479	34.63	598.09	0.730	0.000	5.00	26.536	19.37	670.8	0.0	1765.7
15.00	RB1	1.00	0.85	31.479	34.63	586.66	0.730	0.000	5.00	26.034	19.00	658.1	0.0	1732.0
18.00	Top - Section 1	1.00	0.88	32.668	35.93	590.64	0.730	0.000	3.00	15.379	11.23	403.4	0.0	1023.0
20.00		1.00	0.90	33.401	36.74	592.52	0.730	0.000	2.00	10.152	7.41	272.3	0.0	579.4
25.00		1.00	0.95	35.007	38.51	594.55	0.730	0.000	5.00	25.029	18.27	703.6	0.0	1428.4
30.00		1.00	0.98	36.377	40.01	593.78	0.730	0.000	5.00	24.526	17.90	716.4	0.0	1399.5
35.00		1.00	1.01	37.577	41.33	591.00	0.730	0.000	5.00	24.024	17.54	724.9	0.0	1370.7
40.00		1.00	1.04	38.648	42.51	586.70	0.730	0.000	5.00	23.521	17.17	730.0	0.0	1341.8
41.00	Bot - Section 3	1.00	1.05	38.850	42.73	585.68	0.730	0.000	1.00	4.644	3.39	144.9	0.0	264.9
45.00		1.00	1.07	39.619	43.58	581.19	0.730	0.000	4.00	18.629	13.60	592.7	0.0	2110.7
48.00	Top - Section 2	1.00	1.08	40.161	44.18	577.41	0.730	0.000	3.00	13.761	10.05	443.8	0.0	1558.8
50.00		1.00	1.09	40.507	44.56	582.90	0.730	0.000	2.00	9.073	6.62	295.1	0.0	517.5
55.00		1.00	1.12	41.328	45.46	575.67	0.730	0.000	5.00	22.331	16.30	741.1	0.0	1273.5
60.00		1.00	1.14	42.092	46.30	567.75	0.730	0.000	5.00	21.829	15.94	737.8	0.0	1244.6
65.00		1.00	1.16	42.808	47.09	559.22	0.730	0.000	5.00	21.327	15.57	733.1	0.0	1215.8
70.00		1.00	1.17	43.481	47.83	550.17	0.730	0.000	5.00	20.824	15.20	727.1	0.0	1186.9
75.00		1.00	1.19	44.117	48.53	540.64	0.730	0.000	5.00	20.322	14.83	719.9	0.0	1158.0
80.00		1.00	1.21	44.721	49.19	530.70	0.730	0.000	5.00	19.819	14.47	711.7	0.0	1129.2
81.00	Top - Section 3	1.00	1.21	44.838	49.32	528.67	0.730	0.000	1.00	3.904	2.85	140.5	0.0	222.4
85.00	Bot - Section 5	1.00	1.22	45.295	49.82	520.39	0.730	0.000	4.00	15.413	11.25	560.6	0.0	878.0
90.00		1.00	1.24	45.843	50.43	509.73	0.730	0.000	5.00	19.132	13.97	704.3	0.0	2161.2
91.00	Top - Section 4	1.00	1.24	45.950	50.55	507.56	0.730	0.000	1.00	3.766	2.75	139.0	0.0	425.3
95.00	RT1	1.00	1.25	46.368	51.00	507.53	0.730	0.000	4.00	14.863	10.85	553.4	0.0	846.4
100.00		1.00	1.27	46.872	51.56	496.33	0.730	0.000	5.00	18.127	13.23	682.3	0.0	1032.0
105.00		1.00	1.28	47.355	52.09	484.86	0.730	0.000	5.00	17.625	12.87	670.2	0.0	1003.1
110.00		1.00	1.29	47.822	52.60	473.15	0.730	0.000	5.00	17.122	12.50	657.5	0.0	974.3
115.00		1.00	1.30	48.271	53.10	461.21	0.730	0.000	5.00	16.620	12.13	644.2	0.0	945.4
120.00		1.00	1.32	48.706	53.58	449.06	0.730	0.000	5.00	16.117	11.77	630.4	0.0	916.6
125.00		1.00	1.33	49.126	54.04	436.71	0.730	0.000	5.00	15.615	11.40	616.0	0.0	887.7
130.00	Bot - Section 6	1.00	1.34	49.533	54.49	424.18	0.730	0.000	5.00	15.112	11.03	601.1	0.0	858.9
135.00	Top - Section 5	1.00	1.35	49.928	54.92	411.47	0.730	0.000	5.00	14.927	10.90	598.5	0.0	1678.2
140.00	Top - Section 6	1.00	1.36	50.312	55.34	407.72	0.730	0.000	5.00	14.425	10.53	582.8	0.0	819.4
145.00	Appurtenance(s)	1.00	1.37	50.685	55.75	394.73	0.730	0.000	5.00	13.922	10.16	566.6	0.0	529.0
150.00		1.00	1.38	51.048	56.15	381.58	0.730	0.000	5.00	13.420	9.80	550.1	0.0	509.8
155.00		1.00	1.39	51.402	56.54	368.29	0.730	0.000	5.00	12.918	9.43	533.2	0.0	490.6
159.00	Appurtenance(s)	1.00	1.40	51.678	56.85	357.56	0.730	0.000	4.00	9.972	7.28	413.8	0.0	378.6
160.00		1.00	1.40	51.747	56.92	354.87	0.730	0.000	1.00	2.443	1.78	101.5	0.0	92.7
165.00		1.00	1.41	52.083	57.29	341.31	0.730	0.000	5.00	11.913	8.70	498.2	0.0	452.1
170.00		1.00	1.42	52.411	57.65	327.64	0.730	0.000	5.00	11.410	8.33	480.2	0.0	432.8
173.00	Appurtenance(s)	1.00	1.42	52.605	57.87	319.37	0.730	0.000	3.00	6.605	4.82	279.0	0.0	250.5
175.00		1.00	1.42	52.732	58.01	313.84	0.730	0.000	2.00	4.303	3.14	182.2	0.0	163.1
180.00	Top - Section 7	1.00	1.43	53.046	58.35	299.93	0.730	0.000	5.00	10.405	7.60	443.2	0.0	394.4
185.00		1.00	1.44	53.353	58.69	300.80	0.730	0.000	5.00	10.154	7.41	435.0	0.0	432.4
190.00		1.00	1.45	53.653	59.02	301.64	0.730	0.000	5.00	10.154	7.41	437.5	0.0	432.4
195.00	Appurtenance(s)	1.00	1.46	53.947	59.34	302.47	0.730	0.000	5.00	10.154	7.41	439.9	0.0	432.4

Wind Loading - Shaft

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Totals:	**195.00**	**24,551.3**	**42,739.2**

Discrete Appurtenance Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 25

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	195.00	Ericsson KRY 112 144/1	3	53.947	59.342	0.50	0.75	0.62	39.60	0.000	0.000	36.68	0.00	0.00
2	195.00	AIR6449 B41	3	53.947	59.342	0.53	0.75	9.03	370.80	0.000	0.000	535.61	0.00	0.00
3	195.00	APXVAALL24-43-U-NA20	3	53.947	59.342	0.55	0.75	33.24	356.40	0.000	0.000	1972.78	0.00	0.00
4	195.00	APX16DWV-16DWVS-E-A	3	53.947	59.342	0.46	0.75	9.22	146.52	0.000	0.000	547.19	0.00	0.00
5	195.00	RMQP-4096-HK	1	53.947	59.342	1.00	1.00	51.70	3174.00	0.000	0.000	3067.98	0.00	0.00
6	195.00	Ericsson 4449 B71 + B85	3	53.947	59.342	0.50	0.75	2.97	263.52	0.000	0.000	176.23	0.00	0.00
7	195.00	Ericsson 4424 B25	3	53.947	59.342	0.50	0.75	3.09	316.80	0.000	0.000	183.39	0.00	0.00
8	195.00	Ericsson 4415 B66A	3	53.947	59.342	0.50	0.75	2.47	178.56	0.000	0.000	146.71	0.00	0.00
9	173.00	ALU TD-RRH8x20-25	3	52.605	57.865	0.54	0.80	6.51	252.00	0.000	0.000	376.84	0.00	0.00
10	173.00	DT465B-2XR	3	52.605	57.865	0.66	0.80	18.13	208.80	0.000	0.000	1048.93	0.00	0.00
11	173.00	RFS ACU-A20-N RET	4	52.605	57.865	0.54	0.80	0.30	4.80	0.000	0.000	17.37	0.00	0.00
12	173.00	ALU 800 MHz Filter	3	52.605	57.865	0.54	0.80	0.68	36.00	0.000	0.000	39.08	0.00	0.00
13	173.00	ALU 800 MHz RRH	6	52.605	57.865	0.54	0.80	8.01	381.60	0.000	0.000	463.37	0.00	0.00
14	173.00	ALU 1900 MHz RRH	3	52.605	57.865	0.54	0.80	6.11	158.40	0.000	0.000	353.58	0.00	0.00
15	173.00	APXVSPP18-C-A20	3	52.605	57.865	0.66	0.80	15.98	205.20	0.000	0.000	924.44	0.00	0.00
16	173.00	Sector Frame-Pipe/Rod	3	52.605	57.865	0.60	0.80	46.80	2520.00	0.000	0.000	2708.09	0.00	0.00
17	159.00	Lucent KS24019-L112A	1	51.678	56.846	0.75	0.75	0.09	6.00	0.000	0.000	5.12	0.00	0.00
18	159.00	Samsung VZS01	3	51.678	56.846	0.52	0.75	6.68	313.56	0.000	0.000	379.49	0.00	0.00
19	159.00	Samsung B2/B66A	3	51.678	56.846	0.50	0.75	2.82	303.84	0.000	0.000	160.25	0.00	0.00
20	159.00	Samsung B5/B13	3	51.678	56.846	0.50	0.75	2.82	253.08	0.000	0.000	160.25	0.00	0.00
21	159.00	BSF0020F3V1-1	4	51.678	56.846	0.56	0.75	3.56	84.48	0.000	0.000	202.09	0.00	0.00
22	159.00	Low Profile Platform-flat	1	51.678	56.846	1.00	1.00	25.00	1440.00	0.000	0.000	1421.15	0.00	0.00
23	159.00	SBNHH-1D65B	6	51.678	56.846	0.62	0.75	30.48	288.00	0.000	0.000	1732.54	0.00	0.00
24	159.00	BXA-70080-4BF	3	51.678	56.846	0.66	0.75	7.05	43.20	0.000	0.000	400.70	0.00	0.00
25	159.00	Rfs Celwave	2	51.678	56.846	0.53	0.75	5.11	45.36	0.000	0.000	290.60	0.00	0.00
26	145.00	MC-PK8-DSH	1	50.685	55.754	1.00	1.00	37.59	2072.40	0.000	0.000	2095.78	0.00	0.00
27	145.00	RDIC-9181-PF-48	1	50.685	55.754	1.00	1.00	3.18	19.08	0.000	0.000	177.30	0.00	0.00
28	145.00	TA08025-B605	3	50.685	55.754	0.50	0.75	2.95	270.00	0.000	0.000	164.74	0.00	0.00
29	145.00	TA08025-B604	3	50.685	55.754	0.50	0.75	2.95	230.04	0.000	0.000	164.74	0.00	0.00
30	145.00	FFVV-65B-R2	3	50.685	55.754	0.55	0.75	20.43	254.88	0.000	0.000	1139.02	0.00	0.00
							Totals:		**14,236.92**			**21,092.04**		

Total Applied Force Summary

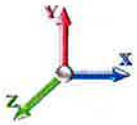
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		683.47	1987.58	0.00	0.00
10.00		670.77	1953.92	0.00	0.00
15.00		658.07	1920.25	0.00	0.00
18.00		403.43	1135.99	0.00	0.00
20.00		272.29	654.73	0.00	0.00
25.00		703.58	1616.63	0.00	0.00
30.00		716.43	1587.77	0.00	0.00
35.00		724.91	1558.91	0.00	0.00
40.00		729.98	1530.06	0.00	0.00
41.00		144.88	302.55	0.00	0.00
45.00		592.66	2261.29	0.00	0.00
48.00		443.77	1671.73	0.00	0.00
50.00		295.13	592.77	0.00	0.00
55.00		741.11	1461.71	0.00	0.00
60.00		737.83	1432.86	0.00	0.00
65.00		733.09	1404.00	0.00	0.00
70.00		727.08	1375.14	0.00	0.00
75.00		719.92	1346.29	0.00	0.00
80.00		711.72	1317.43	0.00	0.00
81.00		140.55	260.02	0.00	0.00
85.00		560.61	1028.55	0.00	0.00
90.00		704.28	2349.42	0.00	0.00
91.00		138.96	462.96	0.00	0.00
95.00		553.41	996.96	0.00	0.00
100.00		682.26	1220.23	0.00	0.00
105.00		670.20	1191.37	0.00	0.00
110.00		657.50	1162.52	0.00	0.00
115.00		644.21	1133.66	0.00	0.00
120.00		630.36	1104.81	0.00	0.00
125.00		615.98	1075.95	0.00	0.00
130.00		601.10	1047.09	0.00	0.00
135.00		598.47	1866.46	0.00	0.00
140.00		582.77	1007.61	0.00	0.00
145.00	(11) attachments	4308.22	3563.67	0.00	0.00
150.00		550.11	687.11	0.00	0.00
155.00		533.18	667.88	0.00	0.00
159.00	(26) attachments	5166.01	3297.97	0.00	0.00
160.00		101.51	112.88	0.00	0.00
165.00		498.22	552.84	0.00	0.00
170.00		480.22	533.60	0.00	0.00
173.00	(28) attachments	6210.72	4077.73	0.00	0.00
175.00		182.20	197.10	0.00	0.00
180.00		443.23	479.29	0.00	0.00
185.00		435.03	517.27	0.00	0.00
190.00		437.48	517.27	0.00	0.00
195.00	(22) attachments	7106.45	5363.47	0.00	0.00

Total Applied Force Summary

Structure:	CT00167-S-SBA		**Code:**	TIA-222-H	7/13/2023
Site Name:	Lisbon		**Exposure:**	C	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Totals:	**45,643.36**	**63,587.30**	**0.00**	**0.00**

TES
Tower Engineering Solutions

Linear Appurtenance Segment Forces (Factored)

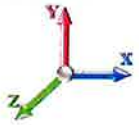
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	6.24
5.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	10.92
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	6.24
10.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	10.92
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	6.24
15.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	10.92
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	32.668	0.00	0.98
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	32.668	0.00	3.74
18.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	32.668	0.00	6.55
18.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.50	0.00	0.033	0.000	32.668	0.00	0.00
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	33.401	0.00	0.66
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	33.401	0.00	2.50
20.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	33.401	0.00	4.37
20.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.33	0.00	0.033	0.000	33.401	0.00	0.00
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	35.007	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	35.007	0.00	6.24
25.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	35.007	0.00	10.92
25.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.033	0.000	35.007	0.00	0.00
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	36.377	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	36.377	0.00	6.24
30.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	36.377	0.00	10.92
30.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.034	0.000	36.377	0.00	0.00
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	37.577	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	37.577	0.00	6.24
35.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	37.577	0.00	10.92
35.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.035	0.000	37.577	0.00	0.00
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	38.648	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	38.648	0.00	6.24
40.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	38.648	0.00	10.92
40.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.035	0.000	38.648	0.00	0.00
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	38.850	0.00	0.33
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	38.850	0.00	1.25
41.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	38.850	0.00	2.18
41.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.17	0.00	0.036	0.000	38.850	0.00	0.00
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	39.619	0.00	1.31
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	39.619	0.00	4.99
45.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	39.619	0.00	8.74
45.00	Reinforcing channels	Yes	4.00	0.000	2.00	0.67	0.00	0.036	0.000	39.619	0.00	0.00
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	40.161	0.00	0.98
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	40.161	0.00	3.74
48.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	40.161	0.00	6.55
48.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.50	0.00	0.037	0.000	40.161	0.00	0.00
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	40.507	0.00	0.66
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	40.507	0.00	2.50

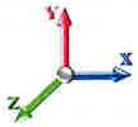
Linear Appurtenance Segment Forces (Factored)

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
50.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	40.507	0.00	4.37
50.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.33	0.00	0.037	0.000	40.507	0.00	0.00
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	41.328	0.00	1.64
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	41.328	0.00	6.24
55.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	41.328	0.00	10.92
55.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.037	0.000	41.328	0.00	0.00
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	42.092	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	42.092	0.00	6.24
60.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	42.092	0.00	10.92
60.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.038	0.000	42.092	0.00	0.00
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	42.808	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	42.808	0.00	6.24
65.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	42.808	0.00	10.92
65.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.039	0.000	42.808	0.00	0.00
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	43.481	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	43.481	0.00	6.24
70.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	43.481	0.00	10.92
70.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.040	0.000	43.481	0.00	0.00
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	44.117	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	44.117	0.00	6.24
75.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	44.117	0.00	10.92
75.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.041	0.000	44.117	0.00	0.00
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	44.721	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	44.721	0.00	6.24
80.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	44.721	0.00	10.92
80.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.042	0.000	44.721	0.00	0.00
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	44.838	0.00	0.33
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	44.838	0.00	1.25
81.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	44.838	0.00	2.18
81.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.17	0.00	0.043	0.000	44.838	0.00	0.00
85.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	45.295	0.00	1.31
85.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	45.295	0.00	4.99
85.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	45.295	0.00	8.74
85.00	Reinforcing channels	Yes	4.00	0.000	2.00	0.67	0.00	0.043	0.000	45.295	0.00	0.00
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	45.843	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	45.843	0.00	6.24
90.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	45.843	0.00	10.92
90.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.044	0.000	45.843	0.00	0.00
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	0.33
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	1.25
91.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	2.18
91.00	Reinforcing channels	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	0.00
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	1.31
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	4.99
95.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	8.74
95.00	Reinforcing channels	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	0.00
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	1.64

Linear Appurtenance Segment Forces (Factored)

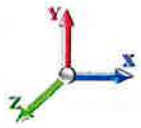
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	6.24
100.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	10.92
100.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	0.00
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	1.64
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	6.24
105.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	10.92
105.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	0.00
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.822	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.822	0.00	6.24
110.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.822	0.00	10.92
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.271	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.271	0.00	6.24
115.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.271	0.00	10.92
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.706	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.706	0.00	6.24
120.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.706	0.00	10.92
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.126	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.126	0.00	6.24
125.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.126	0.00	10.92
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.533	0.00	1.64
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.533	0.00	6.24
130.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.533	0.00	10.92
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.928	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.928	0.00	6.24
135.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.928	0.00	10.92
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.312	0.00	1.64
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.312	0.00	6.24
140.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.312	0.00	10.92
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.685	0.00	1.64
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.685	0.00	6.24
145.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.685	0.00	10.92
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.048	0.00	1.64
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.048	0.00	6.24
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.402	0.00	1.64
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.402	0.00	6.24
159.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	51.678	0.00	1.31
159.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	51.678	0.00	4.99
160.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	51.747	0.00	0.33
160.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	51.747	0.00	1.25
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.083	0.00	1.64
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.083	0.00	6.24
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.411	0.00	1.64
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.411	0.00	6.24
173.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.605	0.00	0.98
173.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.605	0.00	3.74
175.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.732	0.00	0.66
175.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.732	0.00	2.50

Linear Appurtenance Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
180.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.046	0.00	1.64
180.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.046	0.00	6.24
185.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.353	0.00	1.64
185.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.353	0.00	6.24
190.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.653	0.00	1.64
190.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.653	0.00	6.24
195.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.947	0.00	1.64
195.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.947	0.00	6.24
										Totals:	**0.0**	**623.9**

Calculated Forces

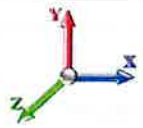
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

TES Tower Engineering Solutions

Load Case: 1.2D + 1.0W 124 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-63.51	-45.75	0.00	-6163.3	0.00	6163.35	6497.76	1801.35	9574.51	8573.64	0.00	0.000	0.000	0.729
5.00	-61.38	-45.26	0.00	-5934.6	0.00	5934.61	6432.14	1767.96	9222.85	8328.66	0.10	-0.187	0.000	0.723
10.00	-59.28	-44.78	0.00	-5708.2	0.00	5708.29	6364.44	1734.57	8877.76	8084.28	0.40	-0.376	0.000	0.716
15.00	-57.25	-44.25	0.00	-5484.3	0.00	5484.39	6294.68	1701.18	8539.25	7840.66	0.90	-0.570	0.000	0.567
18.00	-56.06	-43.91	0.00	-5351.6	0.00	5351.64	6251.82	1681.14	8339.30	7694.92	1.29	-0.665	0.000	0.562
18.00	-56.06	-43.91	0.00	-5351.6	0.00	5351.64	5035.78	1461.72	7258.43	6211.14	1.29	-0.665	0.000	0.599
20.00	-55.31	-43.75	0.00	-5263.8	0.00	5263.81	5016.94	1450.12	7143.68	6138.49	1.58	-0.729	0.000	0.670
25.00	-53.57	-43.19	0.00	-5045.0	0.00	5045.06	4968.35	1421.12	6860.79	5956.70	2.44	-0.908	0.000	0.658
30.00	-51.86	-42.62	0.00	-4829.0	0.00	4829.09	4917.65	1392.11	6583.61	5774.82	3.49	-1.090	0.000	0.646
35.00	-50.18	-42.02	0.00	-4616.0	0.00	4616.02	4864.84	1363.11	6312.15	5593.00	4.73	-1.274	0.000	0.634
40.00	-48.59	-41.35	0.00	-4405.9	0.00	4405.92	4809.92	1334.11	6046.41	5411.42	6.16	-1.460	0.000	0.622
41.00	-48.22	-41.28	0.00	-4364.5	0.00	4364.57	4798.68	1328.31	5993.94	5375.14	6.47	-1.498	0.000	0.619
45.00	-45.88	-40.73	0.00	-4199.4	0.00	4199.47	4752.88	1305.11	5786.38	5230.21	7.79	-1.649	0.000	0.605
48.00	-44.16	-40.31	0.00	-4077.2	0.00	4077.29	4754.71	1306.02	5794.50	5235.93	8.86	-1.764	0.000	0.609
50.00	-43.48	-40.09	0.00	-3996.6	0.00	3996.67	4731.34	1294.42	5692.02	5163.58	9.62	-1.841	0.000	0.586
55.00	-41.92	-39.44	0.00	-3796.2	0.00	3796.20	4671.41	1265.42	5439.81	4983.15	11.65	-2.025	0.000	0.572
60.00	-40.39	-38.78	0.00	-3599.0	0.00	3599.01	4609.37	1236.42	5193.31	4803.47	13.87	-2.212	0.000	0.559
65.00	-38.89	-38.12	0.00	-3405.1	0.00	3405.10	4545.22	1207.41	4952.53	4624.69	16.28	-2.400	0.000	0.545
70.00	-37.42	-37.46	0.00	-3214.4	0.00	3214.49	4478.96	1178.41	4717.47	4446.98	18.90	-2.589	0.000	0.531
75.00	-35.99	-36.80	0.00	-3027.2	0.00	3027.20	4410.58	1149.41	4488.12	4270.48	21.71	-2.779	0.000	0.517
80.00	-34.64	-36.09	0.00	-2843.2	0.00	2843.21	4340.09	1120.41	4264.49	4095.36	24.72	-2.971	0.000	0.502
81.00	-34.32	-35.99	0.00	-2807.1	0.00	2807.12	4325.74	1114.61	4220.44	4060.52	25.35	-3.010	0.000	0.499
81.00	-34.32	-35.99	0.00	-2807.1	0.00	2807.12	3843.52	967.95	3665.12	3607.87	25.35	-3.010	0.000	0.562
85.00	-33.22	-35.48	0.00	-2663.1	0.00	2663.15	3789.25	947.80	3514.12	3482.28	27.94	-3.165	0.000	0.548
90.00	-30.85	-34.71	0.00	-2485.7	0.00	2485.74	3719.86	922.61	3329.84	3326.92	31.36	-3.358	0.000	0.526
91.00	-30.33	-34.59	0.00	-2451.0	0.00	2451.04	3750.02	933.48	3408.76	3393.74	32.06	-3.398	0.000	0.534
95.00	-29.27	-34.07	0.00	-2312.6	0.00	2312.68	3693.87	913.33	3263.20	3270.16	34.97	-3.552	0.000	0.500
100.00	-27.96	-33.42	0.00	-2142.3	0.00	2142.35	3622.15	888.15	3085.71	3117.47	38.79	-3.736	0.000	0.696
105.00	-26.67	-32.79	0.00	-1975.2	0.00	1975.27	3548.72	862.96	2913.18	2966.89	42.84	-4.001	0.000	0.675
110.00	-25.41	-32.17	0.00	-1811.3	0.00	1811.31	3473.57	837.77	2745.61	2818.54	47.17	-4.267	0.000	0.651
115.00	-24.18	-31.55	0.00	-1650.4	0.00	1650.46	3396.72	812.59	2583.01	2672.54	51.78	-4.533	0.000	0.626
120.00	-22.99	-30.94	0.00	-1492.6	0.00	1492.69	3318.16	787.40	2425.37	2529.02	56.67	-4.797	0.000	0.599
125.00	-21.83	-30.33	0.00	-1337.9	0.00	1337.99	3226.71	762.22	2272.69	2379.87	61.83	-5.059	0.000	0.571
130.00	-20.71	-29.73	0.00	-1186.3	0.00	1186.32	3120.09	737.03	2124.98	2224.41	67.26	-5.316	0.000	0.542
135.00	-18.79	-29.04	0.00	-1037.6	0.00	1037.65	3080.81	727.75	2071.81	2168.45	72.95	-5.567	0.000	0.486
140.00	-17.73	-28.43	0.00	-892.44	0.00	892.44	2974.19	702.56	1930.89	2020.17	78.90	-5.808	0.000	0.449
140.00	-17.73	-28.43	0.00	-892.44	0.00	892.44	1787.24	463.02	1277.34	1223.14	78.90	-5.808	0.000	0.743
145.00	-14.52	-23.85	0.00	-750.28	0.00	750.28	1745.97	446.48	1187.73	1151.90	85.09	-6.022	0.000	0.663
150.00	-13.78	-23.29	0.00	-631.06	0.00	631.06	1703.02	429.95	1101.38	1081.63	91.55	-6.319	0.000	0.594
155.00	-13.08	-22.74	0.00	-514.59	0.00	514.59	1658.40	413.41	1018.29	1012.45	98.31	-6.595	0.000	0.519
159.00	-10.37	-17.25	0.00	-423.62	0.00	423.62	1621.51	400.18	954.16	957.99	103.91	-6.799	0.000	0.450
160.00	-10.23	-17.16	0.00	-406.37	0.00	406.37	1612.12	396.87	938.45	944.50	105.34	-6.848	0.000	0.438
165.00	-9.68	-16.63	0.00	-320.57	0.00	320.57	1564.16	380.34	861.88	877.89	112.61	-7.071	0.000	0.373
170.00	-9.17	-16.12	0.00	-237.40	0.00	237.40	1514.53	363.80	788.56	812.74	120.11	-7.266	0.000	0.300
173.00	-5.91	-9.44	0.00	-189.05	0.00	189.05	1483.95	353.88	746.14	774.41	124.70	-7.367	0.000	0.249
175.00	-5.72	-9.25	0.00	-170.16	0.00	170.16	1463.23	347.27	718.50	749.18	127.79	-7.429	0.000	0.232
180.00	-5.28	-8.76	0.00	-123.93	0.00	123.93	1400.09	330.73	651.70	682.38	135.62	-7.564	0.000	0.186
180.00	-5.28	-8.76	0.00	-123.93	0.00	123.93	871.37	205.83	405.06	423.57	135.62	-7.564	0.000	0.300

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

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185.00	-4.82	-8.26	0.00	-80.14	0.00	80.14	871.37	205.83	405.06	423.57	143.58	-7.672	0.000	0.196
190.00	-4.36	-7.76	0.00	-38.82	0.00	38.82	871.37	205.83	405.06	423.57	151.63	-7.728	0.000	0.098
195.00	0.00	-7.11	0.00	0.00	0.00	0.00	871.37	205.83	405.06	423.57	159.71	-7.747	0.000	0.001

Wind Loading - Shaft

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00

Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	31.479	34.63	620.95	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	31.479	34.63	609.52	0.730	0.000	5.00	27.038	19.74	683.5	0.0	1349.5
10.00		1.00	0.85	31.479	34.63	598.09	0.730	0.000	5.00	26.536	19.37	670.8	0.0	1324.3
15.00	RB1	1.00	0.85	31.479	34.63	586.66	0.730	0.000	5.00	26.034	19.00	658.1	0.0	1299.0
18.00	Top - Section 1	1.00	0.88	32.668	35.93	590.64	0.730	0.000	3.00	15.379	11.23	403.4	0.0	767.3
20.00		1.00	0.90	33.401	36.74	592.52	0.730	0.000	2.00	10.152	7.41	272.3	0.0	434.6
25.00		1.00	0.95	35.007	38.51	594.55	0.730	0.000	5.00	25.029	18.27	703.6	0.0	1071.3
30.00		1.00	0.98	36.377	40.01	593.78	0.730	0.000	5.00	24.526	17.90	716.4	0.0	1049.6
35.00		1.00	1.01	37.577	41.33	591.00	0.730	0.000	5.00	24.024	17.54	724.9	0.0	1028.0
40.00		1.00	1.04	38.648	42.51	586.70	0.730	0.000	5.00	23.521	17.17	730.0	0.0	1006.4
41.00	Bot - Section 3	1.00	1.05	38.850	42.73	585.68	0.730	0.000	1.00	4.644	3.39	144.9	0.0	198.7
45.00		1.00	1.07	39.619	43.58	581.19	0.730	0.000	4.00	18.629	13.60	592.7	0.0	1583.0
48.00	Top - Section 2	1.00	1.08	40.161	44.18	577.41	0.730	0.000	3.00	13.761	10.05	443.8	0.0	1169.1
50.00		1.00	1.09	40.507	44.56	582.90	0.730	0.000	2.00	9.073	6.62	295.1	0.0	388.1
55.00		1.00	1.12	41.328	45.46	575.67	0.730	0.000	5.00	22.331	16.30	741.1	0.0	955.1
60.00		1.00	1.14	42.092	46.30	567.75	0.730	0.000	5.00	21.829	15.94	737.8	0.0	933.5
65.00		1.00	1.16	42.808	47.09	559.22	0.730	0.000	5.00	21.327	15.57	733.1	0.0	911.8
70.00		1.00	1.17	43.481	47.83	550.17	0.730	0.000	5.00	20.824	15.20	727.1	0.0	890.2
75.00		1.00	1.19	44.117	48.53	540.64	0.730	0.000	5.00	20.322	14.83	719.9	0.0	868.5
80.00		1.00	1.21	44.721	49.19	530.70	0.730	0.000	5.00	19.819	14.47	711.7	0.0	846.9
81.00	Top - Section 3	1.00	1.21	44.838	49.32	528.67	0.730	0.000	1.00	3.904	2.85	140.5	0.0	166.8
85.00	Bot - Section 5	1.00	1.22	45.295	49.82	520.39	0.730	0.000	4.00	15.413	11.25	560.6	0.0	658.5
90.00		1.00	1.24	45.843	50.43	509.73	0.730	0.000	5.00	19.132	13.97	704.3	0.0	1620.9
91.00	Top - Section 4	1.00	1.24	45.950	50.55	507.56	0.730	0.000	1.00	3.766	2.75	139.0	0.0	319.0
95.00	RT1	1.00	1.25	46.368	51.00	507.53	0.730	0.000	4.00	14.863	10.85	553.4	0.0	634.8
100.00		1.00	1.27	46.872	51.56	496.33	0.730	0.000	5.00	18.127	13.23	682.3	0.0	774.0
105.00		1.00	1.28	47.355	52.09	484.86	0.730	0.000	5.00	17.625	12.87	670.2	0.0	752.4
110.00		1.00	1.29	47.822	52.60	473.15	0.730	0.000	5.00	17.122	12.50	657.5	0.0	730.7
115.00		1.00	1.30	48.271	53.10	461.21	0.730	0.000	5.00	16.620	12.13	644.2	0.0	709.1
120.00		1.00	1.32	48.706	53.58	449.06	0.730	0.000	5.00	16.117	11.77	630.4	0.0	687.4
125.00		1.00	1.33	49.126	54.04	436.71	0.730	0.000	5.00	15.615	11.40	616.0	0.0	665.8
130.00	Bot - Section 6	1.00	1.34	49.533	54.49	424.18	0.730	0.000	5.00	15.112	11.03	601.1	0.0	644.1
135.00	Top - Section 5	1.00	1.35	49.928	54.92	411.47	0.730	0.000	5.00	14.927	10.90	598.5	0.0	1258.7
140.00	Top - Section 6	1.00	1.36	50.312	55.34	407.72	0.730	0.000	5.00	14.425	10.53	582.8	0.0	614.5
145.00	Appurtenance(s)	1.00	1.37	50.685	55.75	394.73	0.730	0.000	5.00	13.922	10.16	566.6	0.0	396.8
150.00		1.00	1.38	51.048	56.15	381.58	0.730	0.000	5.00	13.420	9.80	550.1	0.0	382.3
155.00		1.00	1.39	51.402	56.54	368.29	0.730	0.000	5.00	12.918	9.43	533.2	0.0	367.9
159.00	Appurtenance(s)	1.00	1.40	51.678	56.85	357.56	0.730	0.000	4.00	9.972	7.28	413.8	0.0	283.9
160.00		1.00	1.40	51.747	56.92	354.87	0.730	0.000	1.00	2.443	1.78	101.5	0.0	69.5
165.00		1.00	1.41	52.083	57.29	341.31	0.730	0.000	5.00	11.913	8.70	498.2	0.0	339.1
170.00		1.00	1.42	52.411	57.65	327.64	0.730	0.000	5.00	11.410	8.33	480.2	0.0	324.6
173.00	Appurtenance(s)	1.00	1.42	52.605	57.87	319.37	0.730	0.000	3.00	6.605	4.82	279.0	0.0	187.9
175.00		1.00	1.42	52.732	58.01	313.84	0.730	0.000	2.00	4.303	3.14	182.2	0.0	122.4
180.00	Top - Section 7	1.00	1.43	53.046	58.35	299.93	0.730	0.000	5.00	10.405	7.60	443.2	0.0	295.8
185.00		1.00	1.44	53.353	58.69	300.80	0.730	0.000	5.00	10.154	7.41	435.0	0.0	324.3
190.00		1.00	1.45	53.653	59.02	301.64	0.730	0.000	5.00	10.154	7.41	437.5	0.0	324.3
195.00	Appurtenance(s)	1.00	1.46	53.947	59.34	302.47	0.730	0.000	5.00	10.154	7.41	439.9	0.0	324.3

Wind Loading - Shaft

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Totals:	**195.00**	**24,551.3**	**32,054.4**

Discrete Appurtenance Forces

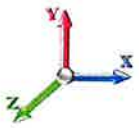
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

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	195.00	Ericsson KRY 112 144/1	3	53.947	59.342	0.50	0.75	0.62	29.70	0.000	0.000	36.68	0.00	0.00
2	195.00	AIR6449 B41	3	53.947	59.342	0.53	0.75	9.03	278.10	0.000	0.000	535.61	0.00	0.00
3	195.00	APXVAALL24-43-U-NA20	3	53.947	59.342	0.55	0.75	33.24	267.30	0.000	0.000	1972.78	0.00	0.00
4	195.00	APX16DWV-16DWVS-E-A	3	53.947	59.342	0.46	0.75	9.22	109.89	0.000	0.000	547.19	0.00	0.00
5	195.00	RMQP-4096-HK	1	53.947	59.342	1.00	1.00	51.70	2380.50	0.000	0.000	3067.98	0.00	0.00
6	195.00	Ericsson 4449 B71 + B85	3	53.947	59.342	0.50	0.75	2.97	197.64	0.000	0.000	176.23	0.00	0.00
7	195.00	Ericsson 4424 B25	3	53.947	59.342	0.50	0.75	3.09	237.60	0.000	0.000	183.39	0.00	0.00
8	195.00	Ericsson 4415 B66A	3	53.947	59.342	0.50	0.75	2.47	133.92	0.000	0.000	146.71	0.00	0.00
9	173.00	ALU TD-RRH8x20-25	3	52.605	57.865	0.54	0.80	6.51	189.00	0.000	0.000	376.84	0.00	0.00
10	173.00	DT465B-2XR	3	52.605	57.865	0.66	0.80	18.13	156.60	0.000	0.000	1048.93	0.00	0.00
11	173.00	RFS ACU-A20-N RET	4	52.605	57.865	0.54	0.80	0.30	3.60	0.000	0.000	17.37	0.00	0.00
12	173.00	ALU 800 MHz Filter	3	52.605	57.865	0.54	0.80	0.68	27.00	0.000	0.000	39.08	0.00	0.00
13	173.00	ALU 800 MHz RRH	6	52.605	57.865	0.54	0.80	8.01	286.20	0.000	0.000	463.37	0.00	0.00
14	173.00	ALU 1900 MHz RRH	3	52.605	57.865	0.54	0.80	6.11	118.80	0.000	0.000	353.58	0.00	0.00
15	173.00	APXVSPP18-C-A20	3	52.605	57.865	0.66	0.80	15.98	153.90	0.000	0.000	924.44	0.00	0.00
16	173.00	Sector Frame-Pipe/Rod	3	52.605	57.865	0.60	0.80	46.80	1890.00	0.000	0.000	2708.09	0.00	0.00
17	159.00	Lucent KS24019-L112A	1	51.678	56.846	0.75	0.75	0.09	4.50	0.000	0.000	5.12	0.00	0.00
18	159.00	Samsung VZS01	3	51.678	56.846	0.52	0.75	6.68	235.17	0.000	0.000	379.49	0.00	0.00
19	159.00	Samsung B2/B66A	3	51.678	56.846	0.50	0.75	2.82	227.88	0.000	0.000	160.25	0.00	0.00
20	159.00	Samsung B5/B13	3	51.678	56.846	0.50	0.75	2.82	189.81	0.000	0.000	160.25	0.00	0.00
21	159.00	BSF0020F3V1-1	4	51.678	56.846	0.56	0.75	3.56	63.36	0.000	0.000	202.09	0.00	0.00
22	159.00	Low Profile Platform-flat	1	51.678	56.846	1.00	1.00	25.00	1080.00	0.000	0.000	1421.15	0.00	0.00
23	159.00	SBNHH-1D65B	6	51.678	56.846	0.62	0.75	30.48	216.00	0.000	0.000	1732.54	0.00	0.00
24	159.00	BXA-70080-4BF	3	51.678	56.846	0.66	0.75	7.05	32.40	0.000	0.000	400.70	0.00	0.00
25	159.00	Rfs Celwave	2	51.678	56.846	0.53	0.75	5.11	34.02	0.000	0.000	290.60	0.00	0.00
26	145.00	MC-PK8-DSH	1	50.685	55.754	1.00	1.00	37.59	1554.30	0.000	0.000	2095.78	0.00	0.00
27	145.00	RDIC-9181-PF-48	1	50.685	55.754	1.00	1.00	3.18	14.31	0.000	0.000	177.30	0.00	0.00
28	145.00	TA08025-B605	3	50.685	55.754	0.50	0.75	2.95	202.50	0.000	0.000	164.74	0.00	0.00
29	145.00	TA08025-B604	3	50.685	55.754	0.50	0.75	2.95	172.53	0.000	0.000	164.74	0.00	0.00
30	145.00	FFVV-65B-R2	3	50.685	55.754	0.55	0.75	20.43	191.16	0.000	0.000	1139.02	0.00	0.00
							Totals:		**10,677.69**			**21,092.04**		

Total Applied Force Summary

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00

Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		683.47	1490.69	0.00	0.00
10.00		670.77	1465.44	0.00	0.00
15.00		658.07	1440.19	0.00	0.00
18.00		403.43	851.99	0.00	0.00
20.00		272.29	491.05	0.00	0.00
25.00		703.58	1212.47	0.00	0.00
30.00		716.43	1190.83	0.00	0.00
35.00		724.91	1169.19	0.00	0.00
40.00		729.98	1147.54	0.00	0.00
41.00		144.88	226.91	0.00	0.00
45.00		592.66	1695.97	0.00	0.00
48.00		443.77	1253.80	0.00	0.00
50.00		295.13	444.57	0.00	0.00
55.00		741.11	1096.28	0.00	0.00
60.00		737.83	1074.64	0.00	0.00
65.00		733.09	1053.00	0.00	0.00
70.00		727.08	1031.36	0.00	0.00
75.00		719.92	1009.72	0.00	0.00
80.00		711.72	988.07	0.00	0.00
81.00		140.55	195.02	0.00	0.00
85.00		560.61	771.41	0.00	0.00
90.00		704.28	1762.07	0.00	0.00
91.00		138.96	347.22	0.00	0.00
95.00		553.41	747.72	0.00	0.00
100.00		682.26	915.17	0.00	0.00
105.00		670.20	893.53	0.00	0.00
110.00		657.50	871.89	0.00	0.00
115.00		644.21	850.25	0.00	0.00
120.00		630.36	828.60	0.00	0.00
125.00		615.98	806.96	0.00	0.00
130.00		601.10	785.32	0.00	0.00
135.00		598.47	1399.85	0.00	0.00
140.00		582.77	755.70	0.00	0.00
145.00	(11) attachments	4308.22	2672.75	0.00	0.00
150.00		550.11	515.33	0.00	0.00
155.00		533.18	500.91	0.00	0.00
159.00	(26) attachments	5166.01	2473.48	0.00	0.00
160.00		101.51	84.66	0.00	0.00
165.00		498.22	414.63	0.00	0.00
170.00		480.22	400.20	0.00	0.00
173.00	(28) attachments	6210.72	3058.30	0.00	0.00
175.00		182.20	147.83	0.00	0.00
180.00		443.23	359.47	0.00	0.00
185.00		435.03	387.95	0.00	0.00
190.00		437.48	387.95	0.00	0.00
195.00	(22) attachments	7106.45	4022.60	0.00	0.00

Total Applied Force Summary

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Totals:	**45,643.36**	**47,690.48**	**0.00**	**0.00**

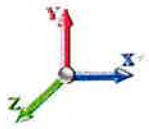
Linear Appurtenance Segment Forces (Factored)

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	4.68
5.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	8.19
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	4.68
10.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	8.19
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	4.68
15.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.479	0.00	8.19
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	32.668	0.00	0.74
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	32.668	0.00	2.81
18.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	32.668	0.00	4.91
18.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.50	0.00	0.033	0.000	32.668	0.00	0.00
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	33.401	0.00	0.49
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	33.401	0.00	1.87
20.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	33.401	0.00	3.28
20.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.33	0.00	0.033	0.000	33.401	0.00	0.00
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	35.007	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	35.007	0.00	4.68
25.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	35.007	0.00	8.19
25.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.033	0.000	35.007	0.00	0.00
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	36.377	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	36.377	0.00	4.68
30.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	36.377	0.00	8.19
30.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.034	0.000	36.377	0.00	0.00
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	37.577	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	37.577	0.00	4.68
35.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	37.577	0.00	8.19
35.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.035	0.000	37.577	0.00	0.00
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	38.648	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	38.648	0.00	4.68
40.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	38.648	0.00	8.19
40.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.035	0.000	38.648	0.00	0.00
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	38.850	0.00	0.25
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	38.850	0.00	0.94
41.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	38.850	0.00	1.64
41.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.17	0.00	0.036	0.000	38.850	0.00	0.00
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	39.619	0.00	0.98
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	39.619	0.00	3.74
45.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	39.619	0.00	6.55
45.00	Reinforcing channels	Yes	4.00	0.000	2.00	0.67	0.00	0.036	0.000	39.619	0.00	0.00
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	40.161	0.00	0.74
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	40.161	0.00	2.81
48.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	40.161	0.00	4.91
48.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.50	0.00	0.037	0.000	40.161	0.00	0.00
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	40.507	0.00	0.49
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	40.507	0.00	1.87

Linear Appurtenance Segment Forces (Factored)

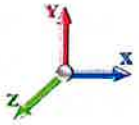
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
50.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	40.507	0.00	3.28
50.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.33	0.00	0.037	0.000	40.507	0.00	0.00
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	41.328	0.00	1.23
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	41.328	0.00	4.68
55.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	41.328	0.00	8.19
55.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.037	0.000	41.328	0.00	0.00
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	42.092	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	42.092	0.00	4.68
60.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	42.092	0.00	8.19
60.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.038	0.000	42.092	0.00	0.00
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	42.808	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	42.808	0.00	4.68
65.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	42.808	0.00	8.19
65.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.039	0.000	42.808	0.00	0.00
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	43.481	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	43.481	0.00	4.68
70.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	43.481	0.00	8.19
70.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.040	0.000	43.481	0.00	0.00
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	44.117	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	44.117	0.00	4.68
75.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	44.117	0.00	8.19
75.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.041	0.000	44.117	0.00	0.00
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	44.721	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	44.721	0.00	4.68
80.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	44.721	0.00	8.19
80.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.042	0.000	44.721	0.00	0.00
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	44.838	0.00	0.25
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	44.838	0.00	0.94
81.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	44.838	0.00	1.64
81.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.17	0.00	0.043	0.000	44.838	0.00	0.00
85.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	45.295	0.00	0.98
85.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	45.295	0.00	3.74
85.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	45.295	0.00	6.55
85.00	Reinforcing channels	Yes	4.00	0.000	2.00	0.67	0.00	0.043	0.000	45.295	0.00	0.00
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	45.843	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	45.843	0.00	4.68
90.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	45.843	0.00	8.19
90.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.044	0.000	45.843	0.00	0.00
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	0.25
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	0.94
91.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	1.64
91.00	Reinforcing channels	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	45.950	0.00	0.00
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	0.98
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	3.74
95.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	6.55
95.00	Reinforcing channels	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	46.368	0.00	0.00
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	1.23

Linear Appurtenance Segment Forces (Factored)

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00

Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	4.68
100.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	8.19
100.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.872	0.00	0.00
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	1.23
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	4.68
105.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	8.19
105.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.355	0.00	0.00
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.822	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.822	0.00	4.68
110.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.822	0.00	8.19
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.271	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.271	0.00	4.68
115.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.271	0.00	8.19
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.706	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.706	0.00	4.68
120.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.706	0.00	8.19
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.126	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.126	0.00	4.68
125.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.126	0.00	8.19
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.533	0.00	1.23
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.533	0.00	4.68
130.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.533	0.00	8.19
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.928	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.928	0.00	4.68
135.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	49.928	0.00	8.19
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.312	0.00	1.23
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.312	0.00	4.68
140.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.312	0.00	8.19
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.685	0.00	1.23
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.685	0.00	4.68
145.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	50.685	0.00	8.19
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.048	0.00	1.23
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.048	0.00	4.68
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.402	0.00	1.23
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	51.402	0.00	4.68
159.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	51.678	0.00	0.98
159.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	51.678	0.00	3.74
160.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	51.747	0.00	0.25
160.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	51.747	0.00	0.94
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.083	0.00	1.23
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.083	0.00	4.68
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.411	0.00	1.23
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	52.411	0.00	4.68
173.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.605	0.00	0.74
173.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	52.605	0.00	2.81
175.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.732	0.00	0.49
175.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.732	0.00	1.87

Linear Appurtenance Segment Forces (Factored)

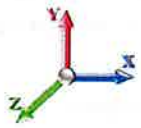
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
180.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.046	0.00	1.23
180.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.046	0.00	4.68
185.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.353	0.00	1.23
185.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.353	0.00	4.68
190.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.653	0.00	1.23
190.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.653	0.00	4.68
195.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.947	0.00	1.23
195.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	53.947	0.00	4.68
									Totals:		**0.0**	**467.9**

Calculated Forces

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 124 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00

Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.61	-45.72	0.00	-6086.7	0.00	6086.74	6497.76	1801.35	9574.51	8573.64	0.00	0.000	0.000	0.718
5.00	-45.98	-45.18	0.00	-5858.1	0.00	5858.13	6432.14	1767.96	9222.85	8328.66	0.10	-0.184	0.000	0.711
10.00	-44.37	-44.65	0.00	-5632.2	0.00	5632.21	6364.44	1734.57	8877.76	8084.28	0.39	-0.372	0.000	0.704
15.00	-42.83	-44.09	0.00	-5408.9	0.00	5408.95	6294.68	1701.18	8539.25	7840.66	0.88	-0.562	0.000	0.558
18.00	-41.92	-43.73	0.00	-5276.6	0.00	5276.68	6251.82	1681.14	8339.30	7694.92	1.27	-0.656	0.000	0.553
18.00	-41.92	-43.73	0.00	-5276.6	0.00	5276.68	5035.78	1461.72	7258.43	6211.14	1.27	-0.656	0.000	0.589
20.00	-41.34	-43.54	0.00	-5189.2	0.00	5189.22	5016.94	1450.12	7143.68	6138.49	1.56	-0.719	0.000	0.658
25.00	-40.00	-42.95	0.00	-4971.5	0.00	4971.50	4968.35	1421.12	6860.79	5956.70	2.41	-0.896	0.000	0.646
30.00	-38.69	-42.33	0.00	-4756.7	0.00	4756.77	4917.65	1392.11	6583.61	5774.82	3.44	-1.075	0.000	0.634
35.00	-37.41	-41.70	0.00	-4545.1	0.00	4545.11	4864.84	1363.11	6312.15	5593.00	4.66	-1.256	0.000	0.622
40.00	-36.20	-41.01	0.00	-4336.6	0.00	4336.60	4809.92	1334.11	6046.41	5411.42	6.08	-1.439	0.000	0.610
41.00	-35.91	-40.92	0.00	-4295.5	0.00	4295.59	4798.68	1328.31	5993.94	5375.14	6.38	-1.477	0.000	0.607
45.00	-34.14	-40.36	0.00	-4131.9	0.00	4131.90	4752.88	1305.11	5786.38	5230.21	7.68	-1.626	0.000	0.593
48.00	-32.83	-39.94	0.00	-4010.8	0.00	4010.81	4754.71	1306.02	5794.50	5235.93	8.74	-1.738	0.000	0.598
50.00	-32.31	-39.70	0.00	-3930.9	0.00	3930.94	4731.34	1294.42	5692.02	5163.58	9.49	-1.814	0.000	0.574
55.00	-31.11	-39.02	0.00	-3732.4	0.00	3732.44	4671.41	1265.42	5439.81	4983.15	11.48	-1.996	0.000	0.561
60.00	-29.94	-38.34	0.00	-3537.3	0.00	3537.33	4609.37	1236.42	5193.31	4803.47	13.67	-2.179	0.000	0.548
65.00	-28.80	-37.66	0.00	-3345.6	0.00	3345.62	4545.22	1207.41	4952.53	4624.69	16.05	-2.363	0.000	0.534
70.00	-27.68	-36.98	0.00	-3157.3	0.00	3157.32	4478.96	1178.41	4717.47	4446.98	18.63	-2.549	0.000	0.520
75.00	-26.58	-36.30	0.00	-2972.4	0.00	2972.42	4410.58	1149.41	4488.12	4270.48	21.40	-2.736	0.000	0.506
80.00	-25.56	-35.59	0.00	-2790.9	0.00	2790.91	4340.09	1120.41	4264.49	4095.36	24.36	-2.925	0.000	0.491
81.00	-25.31	-35.49	0.00	-2755.3	0.00	2755.31	4325.74	1114.61	4220.44	4060.52	24.98	-2.963	0.000	0.488
81.00	-25.31	-35.49	0.00	-2755.3	0.00	2755.31	3843.52	967.95	3665.12	3607.87	24.98	-2.963	0.000	0.550
85.00	-24.47	-34.96	0.00	-2613.3	0.00	2613.37	3789.25	947.80	3514.12	3482.28	27.53	-3.115	0.000	0.536
90.00	-22.68	-34.20	0.00	-2438.5	0.00	2438.59	3719.86	922.61	3329.84	3326.92	30.89	-3.305	0.000	0.514
91.00	-22.29	-34.08	0.00	-2404.3	0.00	2404.39	3750.02	933.48	3408.76	3393.74	31.59	-3.343	0.000	0.522
95.00	-21.48	-33.54	0.00	-2268.0	0.00	2268.07	3693.87	913.33	3263.20	3270.16	34.45	-3.494	0.000	0.489
100.00	-20.48	-32.89	0.00	-2100.3	0.00	2100.35	3622.15	888.15	3085.71	3117.47	38.20	-3.675	0.000	0.681
105.00	-19.49	-32.25	0.00	-1935.9	0.00	1935.93	3548.72	862.96	2913.18	2966.89	42.19	-3.935	0.000	0.659
110.00	-18.52	-31.61	0.00	-1774.7	0.00	1774.70	3473.57	837.77	2745.61	2818.54	46.45	-4.195	0.000	0.636
115.00	-17.58	-30.99	0.00	-1616.6	0.00	1616.64	3396.72	812.59	2583.01	2672.54	50.98	-4.456	0.000	0.612
120.00	-16.67	-30.37	0.00	-1461.7	0.00	1461.70	3318.16	787.40	2425.37	2529.02	55.78	-4.714	0.000	0.584
125.00	-15.78	-29.76	0.00	-1309.8	0.00	1309.87	3226.71	762.22	2272.69	2379.87	60.85	-4.971	0.000	0.557
130.00	-14.93	-29.15	0.00	-1161.0	0.00	1161.09	3120.09	737.03	2124.98	2224.41	66.19	-5.223	0.000	0.528
135.00	-13.47	-28.48	0.00	-1015.3	0.00	1015.33	3080.81	727.75	2071.81	2168.45	71.78	-5.468	0.000	0.474
140.00	-12.67	-27.88	0.00	-872.92	0.00	872.92	2974.19	702.56	1930.89	2020.17	77.63	-5.704	0.000	0.438
140.00	-12.67	-27.88	0.00	-872.92	0.00	872.92	1787.24	463.02	1277.34	1223.14	77.63	-5.704	0.000	0.724
145.00	-10.34	-23.37	0.00	-733.53	0.00	733.53	1745.97	446.48	1187.73	1151.90	83.71	-5.913	0.000	0.645
150.00	-9.78	-22.81	0.00	-616.69	0.00	616.69	1703.02	429.95	1101.38	1081.63	90.05	-6.204	0.000	0.579
155.00	-9.25	-22.27	0.00	-502.62	0.00	502.62	1658.40	413.41	1018.29	1012.45	96.68	-6.474	0.000	0.505
159.00	-7.35	-16.87	0.00	-413.56	0.00	413.56	1621.51	400.18	954.16	957.99	102.18	-6.672	0.000	0.438
160.00	-7.23	-16.77	0.00	-396.69	0.00	396.69	1612.12	396.87	938.45	944.50	103.58	-6.721	0.000	0.426
165.00	-6.82	-16.25	0.00	-312.82	0.00	312.82	1564.16	380.34	861.88	877.89	110.72	-6.938	0.000	0.363
170.00	-6.45	-15.74	0.00	-231.55	0.00	231.55	1514.53	363.80	788.56	812.74	118.08	-7.128	0.000	0.291
173.00	-4.18	-9.21	0.00	-184.32	0.00	184.32	1483.95	353.88	746.14	774.41	122.58	-7.227	0.000	0.242
175.00	-4.04	-9.01	0.00	-165.91	0.00	165.91	1463.23	347.27	718.50	749.18	125.61	-7.288	0.000	0.225
180.00	-3.72	-8.54	0.00	-120.85	0.00	120.85	1400.09	330.73	651.70	682.38	133.29	-7.419	0.000	0.180
180.00	-3.72	-8.54	0.00	-120.85	0.00	120.85	871.37	205.83	405.06	423.57	133.29	-7.419	0.000	0.291

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H
Site Name:	Lisbon	**Exposure:**	C
Height:	195.00 (ft)	**Crest Height:**	0.00
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock
Gh:	1.1	**Topography:** 1	**Struct Class:** II

7/13/2023

Tower Engineering Solutions

185.00	-3.38	-8.06	0.00	-78.17	0.00	78.17	871.37	205.83	405.06	423.57	141.10	-7.524	0.000	0.190
190.00	-3.05	-7.58	0.00	-37.88	0.00	37.88	871.37	205.83	405.06	423.57	148.99	-7.579	0.000	0.094
195.00	0.00	-7.11	0.00	0.00	0.00	0.00	871.37	205.83	405.06	423.57	156.92	-7.597	0.000	0.001

Wind Loading - Shaft

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 24

Elev (ft)	Description	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	5.118	5.63	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.118	5.63	0.00	1.200	0.828	5.00	27.728	33.27	187.3	332.8	2132.1
10.00		1.00	0.85	5.118	5.63	0.00	1.200	0.887	5.00	27.276	32.73	184.3	350.4	2116.0
15.00	RB1	1.00	0.85	5.118	5.63	0.00	1.200	0.924	5.00	26.804	32.16	181.1	358.2	2090.2
18.00	Top - Section 1	1.00	0.88	5.312	5.84	0.00	1.200	0.941	3.00	15.850	19.02	111.1	216.4	1239.5
20.00		1.00	0.90	5.431	5.97	0.00	1.200	0.951	2.00	10.469	12.56	75.0	144.7	724.1
25.00		1.00	0.95	5.692	6.26	0.00	1.200	0.973	5.00	25.839	31.01	194.1	362.8	1791.2
30.00		1.00	0.98	5.915	6.51	0.00	1.200	0.991	5.00	25.352	30.42	197.9	362.2	1761.7
35.00		1.00	1.01	6.110	6.72	0.00	1.200	1.006	5.00	24.862	29.83	200.5	360.4	1731.1
40.00		1.00	1.04	6.284	6.91	0.00	1.200	1.019	5.00	24.371	29.25	202.2	357.8	1699.6
41.00	Bot - Section 3	1.00	1.05	6.317	6.95	0.00	1.200	1.022	1.00	4.814	5.78	40.1	71.4	336.3
45.00		1.00	1.07	6.442	7.09	0.00	1.200	1.032	4.00	19.317	23.18	164.2	287.4	2398.1
48.00	Top - Section 2	1.00	1.08	6.530	7.18	0.00	1.200	1.038	3.00	14.280	17.14	123.1	214.2	1773.0
50.00		1.00	1.09	6.586	7.24	0.00	1.200	1.042	2.00	9.421	11.30	81.9	142.2	659.6
55.00		1.00	1.12	6.720	7.39	0.00	1.200	1.052	5.00	23.208	27.85	205.9	351.0	1624.5
60.00		1.00	1.14	6.844	7.53	0.00	1.200	1.062	5.00	22.714	27.26	205.2	346.2	1590.9
65.00		1.00	1.16	6.960	7.66	0.00	1.200	1.070	5.00	22.218	26.66	204.1	341.1	1556.9
70.00		1.00	1.17	7.070	7.78	0.00	1.200	1.078	5.00	21.723	26.07	202.7	335.7	1522.6
75.00		1.00	1.19	7.173	7.89	0.00	1.200	1.086	5.00	21.226	25.47	201.0	330.0	1488.0
80.00		1.00	1.21	7.271	8.00	0.00	1.200	1.093	5.00	20.730	24.88	199.0	324.0	1453.2
81.00	Top - Section 3	1.00	1.21	7.290	8.02	0.00	1.200	1.094	1.00	4.086	4.90	39.3	64.6	286.9
85.00	Bot - Section 5	1.00	1.22	7.365	8.10	0.00	1.200	1.099	4.00	16.146	19.38	157.0	254.3	1132.3
90.00		1.00	1.24	7.454	8.20	0.00	1.200	1.106	5.00	20.053	24.06	197.3	316.7	2477.9
91.00	Top - Section 4	1.00	1.24	7.471	8.22	0.00	1.200	1.107	1.00	3.951	4.74	39.0	63.1	488.4
95.00	RT1	1.00	1.25	7.539	8.29	0.00	1.200	1.112	4.00	15.604	18.73	155.3	248.2	1094.5
100.00		1.00	1.27	7.621	8.38	0.00	1.200	1.117	5.00	19.058	22.87	191.7	303.5	1335.5
105.00		1.00	1.28	7.700	8.47	0.00	1.200	1.123	5.00	18.560	22.27	188.6	296.7	1299.8
110.00		1.00	1.29	7.775	8.55	0.00	1.200	1.128	5.00	18.062	21.67	185.4	289.7	1264.0
115.00		1.00	1.30	7.848	8.63	0.00	1.200	1.133	5.00	17.564	21.08	182.0	282.6	1228.0
120.00		1.00	1.32	7.919	8.71	0.00	1.200	1.138	5.00	17.065	20.48	178.4	275.4	1191.9
125.00		1.00	1.33	7.987	8.79	0.00	1.200	1.142	5.00	16.567	19.88	174.7	268.0	1155.7
130.00	Bot - Section 6	1.00	1.34	8.054	8.86	0.00	1.200	1.147	5.00	16.068	19.28	170.8	260.6	1119.4
135.00	Top - Section 5	1.00	1.35	8.118	8.93	0.00	1.200	1.151	5.00	15.887	19.06	170.2	258.4	1936.7
140.00	Top - Section 6	1.00	1.36	8.180	9.00	0.00	1.200	1.155	5.00	15.388	18.47	166.2	250.8	1070.2
145.00	Appurtenance(s)	1.00	1.37	8.241	9.07	0.00	1.200	1.160	5.00	14.889	17.87	162.0	243.1	772.1
150.00		1.00	1.38	8.300	9.13	0.00	1.200	1.163	5.00	14.390	17.27	157.7	235.3	745.1
155.00		1.00	1.39	8.357	9.19	0.00	1.200	1.167	5.00	13.890	16.67	153.2	227.4	718.0
159.00	Appurtenance(s)	1.00	1.40	8.402	9.24	0.00	1.200	1.170	4.00	10.753	12.90	119.3	176.8	555.4
160.00		1.00	1.40	8.414	9.25	0.00	1.200	1.171	1.00	2.638	3.17	29.3	43.9	136.6
165.00		1.00	1.41	8.468	9.32	0.00	1.200	1.175	5.00	12.892	15.47	144.1	211.4	663.5
170.00		1.00	1.42	8.522	9.37	0.00	1.200	1.178	5.00	12.392	14.87	139.4	203.3	636.1
173.00	Appurtenance(s)	1.00	1.42	8.553	9.41	0.00	1.200	1.180	3.00	7.195	8.63	81.2	119.0	369.5
175.00		1.00	1.42	8.574	9.43	0.00	1.200	1.182	2.00	4.697	5.64	53.2	78.0	241.2
180.00	Top - Section 7	1.00	1.43	8.625	9.49	0.00	1.200	1.185	5.00	11.393	13.67	129.7	186.9	581.2
185.00		1.00	1.44	8.675	9.54	0.00	1.200	1.188	5.00	11.144	13.37	127.6	187.4	619.8
190.00		1.00	1.45	8.724	9.60	0.00	1.200	1.191	5.00	11.147	13.38	128.4	187.9	620.3
195.00	Appurtenance(s)	1.00	1.46	8.771	9.65	0.00	1.200	1.194	5.00	11.150	13.38	129.1	188.4	620.8

Wind Loading - Shaft

Structure:	CT00167-S-SBA		**Code:**	TIA-222-H	7/13/2023
Site Name:	Lisbon		**Exposure:**	C	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Totals:	**195.00**	**6,910.6**	**54,049.5**

Discrete Appurtenance Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	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	195.00	Ericsson KRY 112 144/1	3	8.771	9.648	0.50	0.75	1.11	52.44	0.000	0.000	10.69	0.00	0.00
2	195.00	AIR6449 B41	3	8.771	9.648	0.53	0.75	10.07	557.23	0.000	0.000	97.11	0.00	0.00
3	195.00	APXVAALL24-43-U-NA20	3	8.771	9.648	0.55	0.75	35.36	1200.19	0.000	0.000	341.12	0.00	0.00
4	195.00	APX16DWV-16DWVS-E-A	3	8.771	9.648	0.46	0.75	11.30	286.36	0.000	0.000	109.03	0.00	0.00
5	195.00	RMQP-4096-HK	1	8.771	9.648	1.00	1.00	77.88	4314.52	0.000	0.000	751.45	0.00	0.00
6	195.00	Ericsson 4449 B71 + B85	3	8.771	9.648	0.50	0.75	3.56	206.88	0.000	0.000	34.32	0.00	0.00
7	195.00	Ericsson 4424 B25	3	8.771	9.648	0.50	0.75	3.69	481.73	0.000	0.000	35.57	0.00	0.00
8	195.00	Ericsson 4415 B66A	3	8.771	9.648	0.50	0.75	3.02	285.56	0.000	0.000	29.17	0.00	0.00
9	173.00	ALU TD-RRH8x20-25	3	8.553	9.408	0.54	0.80	7.37	461.25	0.000	0.000	69.37	0.00	0.00
10	173.00	DT465B-2XR	3	8.553	9.408	0.66	0.80	19.90	649.90	0.000	0.000	187.19	0.00	0.00
11	173.00	RFS ACU-A20-N RET	4	8.553	9.408	0.54	0.80	0.73	11.22	0.000	0.000	6.87	0.00	0.00
12	173.00	ALU 800 MHz Filter	3	8.553	9.408	0.54	0.80	1.01	75.89	0.000	0.000	9.50	0.00	0.00
13	173.00	ALU 800 MHz RRH	6	8.553	9.408	0.54	0.80	10.50	555.09	0.000	0.000	98.74	0.00	0.00
14	173.00	ALU 1900 MHz RRH	3	8.553	9.408	0.54	0.80	7.62	286.26	0.000	0.000	71.71	0.00	0.00
15	173.00	APXVSPP18-C-A20	3	8.553	9.408	0.66	0.80	19.74	407.37	0.000	0.000	185.71	0.00	0.00
16	173.00	Sector Frame-Pipe/Rod	3	8.553	9.408	0.60	0.80	62.71	4080.33	0.000	0.000	589.97	0.00	0.00
17	159.00	Lucent KS24019-L112A	1	8.402	9.243	0.75	0.75	0.19	53.29	0.000	0.000	1.79	0.00	0.00
18	159.00	Samsung VZS01	3	8.402	9.243	0.52	0.75	7.58	521.33	0.000	0.000	70.05	0.00	0.00
19	159.00	Samsung B2/B66A	3	8.402	9.243	0.50	0.75	3.38	445.86	0.000	0.000	31.25	0.00	0.00
20	159.00	Samsung B5/B13	3	8.402	9.243	0.50	0.75	3.38	381.11	0.000	0.000	31.25	0.00	0.00
21	159.00	BSF0020F3V1-1	4	8.402	9.243	0.56	0.75	4.91	103.73	0.000	0.000	45.42	0.00	0.00
22	159.00	Low Profile Platform-flat	1	8.402	9.243	1.00	1.00	39.04	1842.17	0.000	0.000	360.86	0.00	0.00
23	159.00	SBNHH-1D65B	6	8.402	9.243	0.62	0.75	33.66	1054.29	0.000	0.000	311.07	0.00	0.00
24	159.00	BXA-70080-4BF	3	8.402	9.243	0.66	0.75	9.55	145.05	0.000	0.000	88.31	0.00	0.00
25	159.00	Rfs Celwave	2	8.402	9.243	0.53	0.75	5.72	226.98	0.000	0.000	52.89	0.00	0.00
26	145.00	MC-PK8-DSH	1	8.241	9.065	1.00	1.00	68.97	2820.81	0.000	0.000	625.24	0.00	0.00
27	145.00	RDIC-9181-PF-48	1	8.241	9.065	1.00	1.00	3.71	39.45	0.000	0.000	33.65	0.00	0.00
28	145.00	TA08025-B605	3	8.241	9.065	0.50	0.75	3.52	336.45	0.000	0.000	31.88	0.00	0.00
29	145.00	TA08025-B604	3	8.241	9.065	0.50	0.75	3.52	294.66	0.000	0.000	31.88	0.00	0.00
30	145.00	FFVV-65B-R2	3	8.241	9.065	0.55	0.75	22.04	625.91	0.000	0.000	199.80	0.00	0.00
							Totals:		**22,803.32**			**4,542.87**		

Total Applied Force Summary

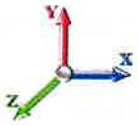
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		187.34	2342.57	0.00	0.00
10.00		184.28	2328.97	0.00	0.00
15.00		181.09	2304.73	0.00	0.00
18.00		111.13	1376.76	0.00	0.00
20.00		75.05	815.92	0.00	0.00
25.00		194.14	2022.04	0.00	0.00
30.00		197.93	1993.78	0.00	0.00
35.00		200.51	1964.19	0.00	0.00
40.00		202.15	1933.58	0.00	0.00
41.00		40.14	383.16	0.00	0.00
45.00		164.25	2585.96	0.00	0.00
48.00		123.08	1914.15	0.00	0.00
50.00		81.90	753.85	0.00	0.00
55.00		205.86	1860.74	0.00	0.00
60.00		205.19	1827.75	0.00	0.00
65.00		204.13	1794.37	0.00	0.00
70.00		202.71	1760.64	0.00	0.00
75.00		200.98	1726.61	0.00	0.00
80.00		198.96	1692.31	0.00	0.00
81.00		39.32	334.77	0.00	0.00
85.00		156.96	1323.90	0.00	0.00
90.00		197.30	2717.90	0.00	0.00
91.00		38.96	534.52	0.00	0.00
95.00		155.29	1279.29	0.00	0.00
100.00		191.72	1566.83	0.00	0.00
105.00		188.63	1531.50	0.00	0.00
110.00		185.38	1488.23	0.00	0.00
115.00		181.96	1452.53	0.00	0.00
120.00		178.39	1416.70	0.00	0.00
125.00		174.67	1380.74	0.00	0.00
130.00		170.82	1344.67	0.00	0.00
135.00		170.24	2162.12	0.00	0.00
140.00		166.16	1295.86	0.00	0.00
145.00	(11) attachments	1084.41	5115.30	0.00	0.00
150.00		157.65	943.69	0.00	0.00
155.00		153.24	916.69	0.00	0.00
159.00	(26) attachments	1112.15	5488.30	0.00	0.00
160.00		29.30	161.07	0.00	0.00
165.00		144.10	785.89	0.00	0.00
170.00		139.39	758.65	0.00	0.00
173.00	(28) attachments	1300.30	6970.38	0.00	0.00
175.00		53.15	283.90	0.00	0.00
180.00		129.70	688.14	0.00	0.00
185.00		127.61	726.77	0.00	0.00
190.00		128.36	727.39	0.00	0.00
195.00	(22) attachments	1537.56	8112.91	0.00	0.00

Total Applied Force Summary

Structure:	CT00167-S-SBA		**Code:**	TIA-222-H	7/13/2023
Site Name:	Lisbon		**Exposure:**	C	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 36

Totals:	**11,453.51**	**84,890.72**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

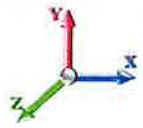
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

TES Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	7.09
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	12.60
5.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	21.33
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	7.80
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	13.37
10.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	22.32
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	8.26
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	13.87
15.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.118	0.00	22.96
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	5.312	0.00	5.09
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	5.312	0.00	8.46
18.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	5.312	0.00	13.95
18.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.97	0.00	0.033	0.000	5.312	0.00	8.14
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	5.431	0.00	3.44
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	5.431	0.00	5.70
20.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	5.431	0.00	9.37
20.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.65	0.00	0.033	0.000	5.431	0.00	5.50
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	5.692	0.00	8.89
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	5.692	0.00	14.55
25.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	5.692	0.00	23.82
25.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.64	0.00	0.033	0.000	5.692	0.00	14.18
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	5.915	0.00	9.13
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	5.915	0.00	14.80
30.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	5.915	0.00	24.14
30.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.66	0.00	0.034	0.000	5.915	0.00	14.53
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.110	0.00	9.34
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.110	0.00	15.03
35.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.110	0.00	24.43
35.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.67	0.00	0.035	0.000	6.110	0.00	14.84
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.284	0.00	9.53
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.284	0.00	15.23
40.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.284	0.00	24.68
40.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.68	0.00	0.035	0.000	6.284	0.00	15.11
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	6.317	0.00	1.91
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	6.317	0.00	3.05
41.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	6.317	0.00	4.95
41.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.34	0.00	0.036	0.000	6.317	0.00	3.03
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	6.442	0.00	7.76
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	6.442	0.00	12.33
45.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	6.442	0.00	19.92
45.00	Reinforcing channels	Yes	4.00	0.000	2.00	1.35	0.00	0.036	0.000	6.442	0.00	12.29
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	6.530	0.00	5.88
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	6.530	0.00	9.31
48.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	6.530	0.00	15.02
48.00	Reinforcing channels	Yes	3.00	0.000	2.00	1.02	0.00	0.037	0.000	6.530	0.00	9.30
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	6.586	0.00	3.94
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	6.586	0.00	6.23

Linear Appurtenance Segment Forces (Factored)

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
50.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	6.586	0.00	10.04
50.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.68	0.00	0.037	0.000	6.586	0.00	6.23
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	6.720	0.00	10.00
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	6.720	0.00	15.73
55.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	6.720	0.00	25.30
55.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.71	0.00	0.037	0.000	6.720	0.00	15.79
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	6.844	0.00	10.13
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	6.844	0.00	15.87
60.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	6.844	0.00	25.48
60.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.72	0.00	0.038	0.000	6.844	0.00	15.98
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	6.960	0.00	10.25
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	6.960	0.00	16.00
65.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	6.960	0.00	25.64
65.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.73	0.00	0.039	0.000	6.960	0.00	16.15
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	7.070	0.00	10.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	7.070	0.00	16.12
70.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	7.070	0.00	25.80
70.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.73	0.00	0.040	0.000	7.070	0.00	16.32
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	7.173	0.00	10.48
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	7.173	0.00	16.24
75.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	7.173	0.00	25.94
75.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.74	0.00	0.041	0.000	7.173	0.00	16.48
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	7.271	0.00	10.58
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	7.271	0.00	16.35
80.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	7.271	0.00	26.08
80.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.74	0.00	0.042	0.000	7.271	0.00	16.62
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	7.290	0.00	2.12
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	7.290	0.00	3.27
81.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	7.290	0.00	5.22
81.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.35	0.00	0.043	0.000	7.290	0.00	3.33
85.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	7.365	0.00	8.54
85.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	7.365	0.00	13.16
85.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	7.365	0.00	20.97
85.00	Reinforcing channels	Yes	4.00	0.000	2.00	1.40	0.00	0.043	0.000	7.365	0.00	13.41
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	7.454	0.00	10.77
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	7.454	0.00	16.56
90.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	7.454	0.00	26.33
90.00	Reinforcing channels	Yes	5.00	0.000	2.00	1.75	0.00	0.044	0.000	7.454	0.00	16.90
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.471	0.00	2.16
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.471	0.00	3.32
91.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.471	0.00	5.27
91.00	Reinforcing channels	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.471	0.00	1.50
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.539	0.00	8.69
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.539	0.00	13.32
95.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.539	0.00	21.16
95.00	Reinforcing channels	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.539	0.00	6.04
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.621	0.00	10.95

Linear Appurtenance Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 39	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.621	0.00	16.74
100.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.621	0.00	26.57
100.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.621	0.00	7.63
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.700	0.00	11.03
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.700	0.00	16.83
105.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.700	0.00	26.67
105.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.700	0.00	7.70
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.775	0.00	11.11
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.775	0.00	16.92
110.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.775	0.00	26.78
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.848	0.00	11.19
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.848	0.00	17.00
115.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.848	0.00	26.88
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.919	0.00	11.26
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.919	0.00	17.08
120.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.919	0.00	26.98
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.987	0.00	11.34
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.987	0.00	17.15
125.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.987	0.00	27.07
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.054	0.00	11.41
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.054	0.00	17.23
130.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.054	0.00	27.16
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	11.47
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	17.30
135.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	27.25
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.180	0.00	11.54
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.180	0.00	17.37
140.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.180	0.00	27.33
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.241	0.00	11.60
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.241	0.00	17.43
145.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.241	0.00	27.42
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.300	0.00	11.66
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.300	0.00	17.50
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.357	0.00	11.72
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.357	0.00	17.56
159.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.402	0.00	9.42
159.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.402	0.00	14.09
160.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.414	0.00	2.36
160.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.414	0.00	3.53
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.468	0.00	11.84
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.468	0.00	17.69
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.522	0.00	11.89
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.522	0.00	17.75
173.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.553	0.00	7.16
173.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.553	0.00	10.67
175.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.574	0.00	4.78
175.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.574	0.00	7.12

Linear Appurtenance Segment Forces (Factored)

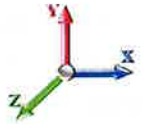
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
180.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.625	0.00	12.00
180.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.625	0.00	17.86
185.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.675	0.00	12.05
185.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.675	0.00	17.91
190.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.724	0.00	12.10
190.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.724	0.00	17.97
195.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.771	0.00	12.15
195.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.771	0.00	18.02
										Totals:	**0.0**	**2,050.6**

Calculated Forces

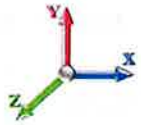
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

TES Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-84.89	-11.49	0.00	-1524.3	0.00	1524.32	6497.76	1801.35	9574.51	8573.64	0.00	0.000	0.000	0.191
5.00	-82.53	-11.37	0.00	-1466.8	0.00	1466.88	6432.14	1767.96	9222.85	8328.66	0.02	-0.046	0.000	0.189
10.00	-80.20	-11.25	0.00	-1410.0	0.00	1410.05	6364.44	1734.57	8877.76	8084.28	0.10	-0.093	0.000	0.187
15.00	-77.89	-11.11	0.00	-1353.8	0.00	1353.83	6294.68	1701.18	8539.25	7840.66	0.22	-0.141	0.000	0.148
18.00	-76.50	-11.02	0.00	-1320.5	0.00	1320.50	6251.82	1681.14	8339.30	7694.92	0.32	-0.164	0.000	0.147
18.00	-76.50	-11.02	0.00	-1320.5	0.00	1320.50	5035.78	1461.72	7258.43	6211.14	0.32	-0.164	0.000	0.156
20.00	-75.68	-10.98	0.00	-1298.4	0.00	1298.47	5016.94	1450.12	7143.68	6138.49	0.39	-0.180	0.000	0.175
25.00	-73.65	-10.84	0.00	-1243.5	0.00	1243.56	4968.35	1421.12	6860.79	5956.70	0.60	-0.224	0.000	0.172
30.00	-71.65	-10.69	0.00	-1189.3	0.00	1189.37	4917.65	1392.11	6583.61	5774.82	0.86	-0.269	0.000	0.168
35.00	-69.68	-10.53	0.00	-1135.9	0.00	1135.94	4864.84	1363.11	6312.15	5593.00	1.17	-0.314	0.000	0.165
40.00	-67.74	-10.35	0.00	-1083.2	0.00	1083.28	4809.92	1334.11	6046.41	5411.42	1.52	-0.360	0.000	0.162
41.00	-67.36	-10.34	0.00	-1072.9	0.00	1072.93	4798.68	1328.31	5993.94	5375.14	1.60	-0.369	0.000	0.161
45.00	-64.77	-10.19	0.00	-1031.5	0.00	1031.58	4752.88	1305.11	5786.38	5230.21	1.92	-0.407	0.000	0.157
48.00	-62.85	-10.08	0.00	-1001.0	0.00	1001.01	4754.71	1306.02	5794.50	5235.93	2.19	-0.435	0.000	0.158
50.00	-62.09	-10.03	0.00	-980.85	0.00	980.85	4731.34	1294.42	5692.02	5163.58	2.37	-0.454	0.000	0.152
55.00	-60.22	-9.85	0.00	-930.72	0.00	930.72	4671.41	1265.42	5439.81	4983.15	2.87	-0.499	0.000	0.148
60.00	-58.39	-9.68	0.00	-881.46	0.00	881.46	4609.37	1236.42	5193.31	4803.47	3.42	-0.545	0.000	0.145
65.00	-56.59	-9.50	0.00	-833.07	0.00	833.07	4545.22	1207.41	4952.53	4624.69	4.02	-0.591	0.000	0.141
70.00	-54.82	-9.32	0.00	-785.56	0.00	785.56	4478.96	1178.41	4717.47	4446.98	4.66	-0.637	0.000	0.137
75.00	-53.09	-9.15	0.00	-738.93	0.00	738.93	4410.58	1149.41	4488.12	4270.48	5.35	-0.683	0.000	0.134
80.00	-51.40	-8.95	0.00	-693.20	0.00	693.20	4340.09	1120.41	4264.49	4095.36	6.09	-0.730	0.000	0.130
81.00	-51.06	-8.93	0.00	-684.25	0.00	684.25	4325.74	1114.61	4220.44	4060.52	6.25	-0.740	0.000	0.129
81.00	-51.06	-8.93	0.00	-684.25	0.00	684.25	3843.52	967.95	3665.12	3607.87	6.25	-0.740	0.000	0.145
85.00	-49.73	-8.79	0.00	-648.53	0.00	648.53	3789.25	947.80	3514.12	3482.28	6.88	-0.778	0.000	0.141
90.00	-47.01	-8.58	0.00	-604.57	0.00	604.57	3719.86	922.61	3329.84	3326.92	7.72	-0.824	0.000	0.135
91.00	-46.48	-8.55	0.00	-595.99	0.00	595.99	3750.02	933.48	3408.76	3393.74	7.90	-0.834	0.000	0.137
95.00	-45.19	-8.41	0.00	-561.78	0.00	561.78	3693.87	913.33	3263.20	3270.16	8.61	-0.871	0.000	0.129
100.00	-43.62	-8.24	0.00	-519.73	0.00	519.73	3622.15	888.15	3085.71	3117.47	9.55	-0.916	0.000	0.179
105.00	-42.08	-8.07	0.00	-478.55	0.00	478.55	3548.72	862.96	2913.18	2966.89	10.54	-0.980	0.000	0.173
110.00	-40.59	-7.90	0.00	-438.20	0.00	438.20	3473.57	837.77	2745.61	2818.54	11.60	-1.045	0.000	0.167
115.00	-39.13	-7.74	0.00	-398.68	0.00	398.68	3396.72	812.59	2583.01	2672.54	12.73	-1.109	0.000	0.161
120.00	-37.71	-7.57	0.00	-360.00	0.00	360.00	3318.16	787.40	2425.37	2529.02	13.93	-1.173	0.000	0.154
125.00	-36.33	-7.41	0.00	-322.13	0.00	322.13	3226.71	762.22	2272.69	2379.87	15.19	-1.236	0.000	0.147
130.00	-34.98	-7.25	0.00	-285.09	0.00	285.09	3120.09	737.03	2124.98	2224.41	16.52	-1.298	0.000	0.139
135.00	-32.81	-7.06	0.00	-248.86	0.00	248.86	3080.81	727.75	2071.81	2168.45	17.91	-1.358	0.000	0.126
140.00	-31.52	-6.89	0.00	-213.56	0.00	213.56	2974.19	702.56	1930.89	2020.17	19.36	-1.416	0.000	0.116
140.00	-31.52	-6.89	0.00	-213.56	0.00	213.56	1787.24	463.02	1277.34	1223.14	19.36	-1.416	0.000	0.192
145.00	-26.42	-5.71	0.00	-179.10	0.00	179.10	1745.97	446.48	1187.73	1151.90	20.87	-1.467	0.000	0.171
150.00	-25.48	-5.56	0.00	-150.56	0.00	150.56	1703.02	429.95	1101.38	1081.63	22.45	-1.538	0.000	0.154
155.00	-24.56	-5.40	0.00	-122.79	0.00	122.79	1658.40	413.41	1018.29	1012.45	24.10	-1.604	0.000	0.136
159.00	-19.10	-4.14	0.00	-101.18	0.00	101.18	1621.51	400.18	954.16	957.99	25.46	-1.652	0.000	0.118
160.00	-18.94	-4.12	0.00	-97.04	0.00	97.04	1612.12	396.87	938.45	944.50	25.81	-1.664	0.000	0.115
165.00	-18.16	-3.97	0.00	-76.43	0.00	76.43	1564.16	380.34	861.88	877.89	27.58	-1.717	0.000	0.099
170.00	-17.40	-3.82	0.00	-56.58	0.00	56.58	1514.53	363.80	788.56	812.74	29.41	-1.764	0.000	0.081
173.00	-10.47	-2.31	0.00	-45.13	0.00	45.13	1483.95	353.88	746.14	774.41	30.52	-1.788	0.000	0.065
175.00	-10.19	-2.25	0.00	-40.52	0.00	40.52	1463.23	347.27	718.50	749.18	31.27	-1.803	0.000	0.061
180.00	-9.50	-2.10	0.00	-29.28	0.00	29.28	1400.09	330.73	651.70	682.38	33.18	-1.835	0.000	0.050
180.00	-9.50	-2.10	0.00	-29.28	0.00	29.28	871.37	205.83	405.06	423.57	33.18	-1.835	0.000	0.080

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 42	

Tower Engineering Solutions

185.00	-8.78	-1.95	0.00	-18.78	0.00	18.78	871.37	205.83	405.06	423.57	35.12	-1.860	0.000	0.054
190.00	-8.06	-1.80	0.00	-9.01	0.00	9.01	871.37	205.83	405.06	423.57	37.07	-1.873	0.000	0.031
195.00	0.00	-1.54	0.00	0.00	0.00	0.00	871.37	205.83	405.06	423.57	39.04	-1.878	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 43	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.11		**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.03		**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28	**SA**	0.01		**S1**	0.05
							Seismic Importance Factor	1.00

R: 1.50

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)
0.00		0.00	0.00	0.00	0.00
5.00		1687.6	2.50	38.48	0.01
10.00		1659.6	7.50	37.84	0.13
15.00	RB1	1631.5	12.50	37.20	0.34
18.00	Top - Section 1	965.48	16.50	22.01	0.21
20.00		558.16	19.00	12.73	0.09
25.00		1378.5	22.50	31.43	0.78
30.00		1354.5	27.50	30.88	1.13
35.00		1330.4	32.50	30.33	1.52
40.00		1306.4	37.50	29.79	1.96
41.00	Bot - Section 3	258.40	40.50	5.89	0.09
45.00		1909.5	43.00	43.54	5.49
48.00	Top - Section 2	1411.9	46.50	32.19	3.51
50.00		506.52	49.00	11.55	0.50
55.00		1249.4	52.50	28.49	3.51
60.00		1225.4	57.50	27.94	4.05
65.00		1201.3	62.50	27.39	4.59
70.00		1177.3	67.50	26.84	5.15
75.00		1153.2	72.50	26.29	5.70
80.00		1129.2	77.50	25.75	6.24
81.00	Top - Section 3	222.96	80.50	5.08	0.26
85.00	Bot - Section 5	882.22	83.00	20.11	4.37
90.00		1989.2	87.50	45.35	24.69
91.00	Top - Section 4	392.07	90.50	8.94	1.03
95.00	RT1	855.90	93.00	19.51	5.16
100.00		1048.2	97.50	23.90	8.51
105.00		1024.1	102.50	23.35	8.98
110.00		1000.1	107.50	22.80	9.42
115.00		976.09	112.50	22.25	9.83
120.00		952.04	117.50	21.71	10.20
125.00		928.00	122.50	21.16	10.53
130.00	Bot - Section 6	903.95	127.50	20.61	10.82
135.00	Top - Section 5	1586.7	132.50	36.18	36.02
140.00	Top - Section 6	871.04	137.50	19.86	11.69
145.00	Appurtenance(s)	3001.1	142.50	68.43	149.03
150.00		602.15	147.50	13.73	6.43
155.00		586.12	152.50	13.36	6.51
159.00	Appurtenance(s)	2771.9	157.00	63.20	154.33
160.00		97.42	159.50	2.22	0.20
165.00		477.49	162.50	10.89	4.91
170.00		461.46	167.50	10.52	4.87
173.00	Appurtenance(s)	3408.1	171.50	77.71	278.40
175.00		169.91	174.00	3.87	0.71
180.00	Top - Section 7	413.56	177.50	9.43	4.39
185.00		445.21	182.50	10.15	5.38
190.00		445.21	187.50	10.15	5.68

Seismic Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 44

195.00	Appurtenance(s)		4483.7	192.50	102.23	607.06		
		Totals:	**54,091.3**		**1,233.3**	**1,424.4**	**Total Wind:**	**45,643.4**

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 45	

TES Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.11			**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.03			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28	**SA**	0.01			**S1**	0.05
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-64.82	-1.43	0.00	-253.22	0.00	253.22	6497.76	1801.35	9574.51	8573.64		0.00	0.00	0.040
5.00	-62.79	-1.44	0.00	-246.08	0.00	246.08	6432.14	1767.96	9222.85	8328.66		0.00	-0.01	0.039
10.00	-60.80	-1.44	0.00	-238.90	0.00	238.90	6364.44	1734.57	8877.76	8084.28		0.02	-0.02	0.039
15.00	-58.84	-1.45	0.00	-231.68	0.00	231.68	6294.68	1701.18	8539.25	7840.66		0.04	-0.02	0.031
18.00	-57.69	-1.45	0.00	-227.34	0.00	227.34	6251.82	1681.14	8339.30	7694.92		0.05	-0.03	0.031
18.00	-57.69	-1.45	0.00	-227.34	0.00	227.34	5035.78	1461.72	7258.43	6211.14		0.05	-0.03	0.033
20.00	-57.02	-1.46	0.00	-224.43	0.00	224.43	5016.94	1450.12	7143.68	6138.49		0.07	-0.03	0.037
25.00	-55.37	-1.46	0.00	-217.15	0.00	217.15	4968.35	1421.12	6860.79	5956.70		0.10	-0.04	0.037
30.00	-53.75	-1.47	0.00	-209.84	0.00	209.84	4917.65	1392.11	6583.61	5774.82		0.15	-0.05	0.036
35.00	-52.16	-1.47	0.00	-202.51	0.00	202.51	4864.84	1363.11	6312.15	5593.00		0.20	-0.05	0.036
40.00	-50.60	-1.47	0.00	-195.15	0.00	195.15	4809.92	1334.11	6046.41	5411.42		0.26	-0.06	0.035
41.00	-50.29	-1.48	0.00	-193.67	0.00	193.67	4798.68	1328.31	5993.94	5375.14		0.27	-0.06	0.035
45.00	-47.99	-1.47	0.00	-187.77	0.00	187.77	4752.88	1305.11	5786.38	5230.21		0.33	-0.07	0.034
48.00	-46.28	-1.47	0.00	-183.35	0.00	183.35	4754.71	1306.02	5794.50	5235.93		0.38	-0.08	0.035
50.00	-45.68	-1.47	0.00	-180.41	0.00	180.41	4731.34	1294.42	5692.02	5163.58		0.41	-0.08	0.034
55.00	-44.19	-1.47	0.00	-173.04	0.00	173.04	4671.41	1265.42	5439.81	4983.15		0.50	-0.09	0.033
60.00	-42.73	-1.47	0.00	-165.67	0.00	165.67	4609.37	1236.42	5193.31	4803.47		0.59	-0.10	0.032
65.00	-41.30	-1.47	0.00	-158.30	0.00	158.30	4545.22	1207.41	4952.53	4624.69		0.70	-0.10	0.032
70.00	-39.90	-1.47	0.00	-150.93	0.00	150.93	4478.96	1178.41	4717.47	4446.98		0.81	-0.11	0.031
75.00	-38.52	-1.47	0.00	-143.57	0.00	143.57	4410.58	1149.41	4488.12	4270.48		0.94	-0.12	0.031
80.00	-37.18	-1.46	0.00	-136.22	0.00	136.22	4340.09	1120.41	4264.49	4095.36		1.07	-0.13	0.030
81.00	-36.91	-1.47	0.00	-134.75	0.00	134.75	4325.74	1114.61	4220.44	4060.52		1.10	-0.13	0.030
81.00	-36.91	-1.47	0.00	-134.75	0.00	134.75	3843.52	967.95	3665.12	3607.87		1.10	-0.13	0.034
85.00	-35.87	-1.46	0.00	-128.89	0.00	128.89	3789.25	947.80	3514.12	3482.28		1.21	-0.14	0.033
90.00	-33.47	-1.44	0.00	-121.56	0.00	121.56	3719.86	922.61	3329.84	3326.92		1.36	-0.15	0.032
91.00	-33.00	-1.44	0.00	-120.12	0.00	120.12	3750.02	933.48	3408.76	3393.74		1.40	-0.15	0.032
95.00	-31.98	-1.43	0.00	-114.37	0.00	114.37	3693.87	913.33	3263.20	3270.16		1.53	-0.16	0.031
100.00	-30.74	-1.43	0.00	-107.20	0.00	107.20	3622.15	888.15	3085.71	3117.47		1.70	-0.17	0.043
105.00	-29.52	-1.42	0.00	-100.06	0.00	100.06	3548.72	862.96	2913.18	2966.89		1.88	-0.18	0.042
110.00	-28.34	-1.42	0.00	-92.94	0.00	92.94	3473.57	837.77	2745.61	2818.54		2.08	-0.20	0.041
115.00	-27.18	-1.41	0.00	-85.86	0.00	85.86	3396.72	812.59	2583.01	2672.54		2.30	-0.21	0.040
120.00	-26.05	-1.40	0.00	-78.82	0.00	78.82	3318.16	787.40	2425.37	2529.02		2.52	-0.22	0.039
125.00	-24.96	-1.39	0.00	-71.81	0.00	71.81	3226.71	762.22	2272.69	2379.87		2.77	-0.24	0.038
130.00	-23.89	-1.38	0.00	-64.85	0.00	64.85	3120.09	737.03	2124.98	2224.41		3.02	-0.25	0.037
135.00	-21.99	-1.34	0.00	-57.94	0.00	57.94	3080.81	727.75	2071.81	2168.45		3.29	-0.27	0.034
140.00	-20.96	-1.33	0.00	-51.23	0.00	51.23	2974.19	702.56	1930.89	2020.17		3.58	-0.28	0.032
140.00	-20.96	-1.33	0.00	-51.23	0.00	51.23	1787.24	463.02	1277.34	1223.14		3.58	-0.28	0.054
145.00	-17.33	-1.17	0.00	-44.57	0.00	44.57	1745.97	446.48	1187.73	1151.90		3.88	-0.29	0.049
150.00	-16.62	-1.16	0.00	-38.72	0.00	38.72	1703.02	429.95	1101.38	1081.63		4.19	-0.31	0.046
155.00	-15.94	-1.16	0.00	-32.90	0.00	32.90	1658.40	413.41	1018.29	1012.45		4.53	-0.33	0.042
159.00	-12.58	-0.99	0.00	-28.27	0.00	28.27	1621.51	400.18	954.16	957.99		4.81	-0.34	0.037
160.00	-12.47	-0.99	0.00	-27.29	0.00	27.29	1612.12	396.87	938.45	944.50		4.88	-0.34	0.037
165.00	-11.90	-0.98	0.00	-22.35	0.00	22.35	1564.16	380.34	861.88	877.89		5.24	-0.36	0.033
170.00	-11.36	-0.98	0.00	-17.44	0.00	17.44	1514.53	363.80	788.56	812.74		5.63	-0.37	0.029
173.00	-7.21	-0.67	0.00	-14.51	0.00	14.51	1483.95	353.88	746.14	774.41		5.86	-0.38	0.024
175.00	-7.00	-0.67	0.00	-13.17	0.00	13.17	1463.23	347.27	718.50	749.18		6.02	-0.38	0.022
180.00	-6.52	-0.66	0.00	-9.82	0.00	9.82	1400.09	330.73	651.70	682.38		6.43	-0.40	0.019

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 46

Tower Engineering Solutions

180.00	-6.52	-0.66	0.00	-9.82	0.00	9.82	871.37	205.83	405.06	423.57	6.43	-0.40	0.031
185.00	-5.99	-0.66	0.00	-6.51	0.00	6.51	871.37	205.83	405.06	423.57	6.85	-0.40	0.022
190.00	-5.46	-0.65	0.00	-3.23	0.00	3.23	871.37	205.83	405.06	423.57	7.28	-0.41	0.014
195.00	0.00	-0.61	0.00	0.00	0.00	0.00	871.37	205.83	405.06	423.57	7.71	-0.41	0.000

Seismic Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 47	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.11	**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.03	**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28	**SA**	0.01	**S1**	0.05
						Seismic Importance Factor	1.00

R: 1.50

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)
0.00		0.00	0.00	0.00	0.00
5.00		1640.6	2.50	37.41	0.01
10.00		1612.5	7.50	36.77	0.12
15.00	RB1	1584.5	12.50	36.13	0.33
18.00	Top - Section 1	937.25	16.50	21.37	0.20
20.00		539.33	19.00	12.30	0.09
25.00		1331.5	22.50	30.36	0.75
30.00		1307.4	27.50	29.81	1.08
35.00		1283.4	32.50	29.26	1.45
40.00		1259.3	37.50	28.71	1.86
41.00	Bot - Section 3	248.99	40.50	5.68	0.09
45.00		1871.8	43.00	42.68	5.42
48.00	Top - Section 2	1383.7	46.50	31.55	3.46
50.00		487.70	49.00	11.12	0.48
55.00		1202.4	52.50	27.41	3.33
60.00		1178.3	57.50	26.87	3.84
65.00		1154.3	62.50	26.32	4.35
70.00		1130.2	67.50	25.77	4.87
75.00		1106.2	72.50	25.22	5.38
80.00		1082.1	77.50	24.67	5.88
81.00	Top - Section 3	213.55	80.50	4.87	0.25
85.00	Bot - Section 5	844.58	83.00	19.26	4.11
90.00		1942.1	87.50	44.28	24.15
91.00	Top - Section 4	382.66	90.50	8.72	1.00
95.00	RT1	818.25	93.00	18.66	4.84
100.00		1001.1	97.50	22.83	7.97
105.00		977.13	102.50	22.28	8.39
110.00		953.08	107.50	21.73	8.78
115.00		929.03	112.50	21.18	9.13
120.00		904.99	117.50	20.63	9.45
125.00		880.94	122.50	20.09	9.74
130.00	Bot - Section 6	856.89	127.50	19.54	9.98
135.00	Top - Section 5	1539.7	132.50	35.11	34.80
140.00	Top - Section 6	823.98	137.50	18.79	10.73
145.00	Appurtenance(s)	2954.0	142.50	67.35	148.15
150.00		557.82	147.50	12.72	5.66
155.00		541.79	152.50	12.35	5.71
159.00	Appurtenance(s)	2736.4	157.00	62.39	154.33
160.00		92.38	159.50	2.11	0.18
165.00		452.30	162.50	10.31	4.52
170.00		436.27	167.50	9.95	4.46
173.00	Appurtenance(s)	3393.0	171.50	77.36	283.12
175.00		161.42	174.00	3.68	0.66
180.00	Top - Section 7	392.33	177.50	8.95	4.05
185.00		423.98	182.50	9.67	5.01
190.00		423.98	187.50	9.67	5.28

Seismic Segment Forces (Factored)

Structure:	CT00167-S-SBA		**Code:**	TIA-222-H	7/13/2023
Site Name:	Lisbon		**Exposure:**	C	
Height:	195.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 48

195.00	Appurtenance(s)	4462.4	192.50	101.74	616.97		
	Totals:	**52,438.5**		**1,195.6**	**1,424.4**	**Total Wind:**	**45,643.4**

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 49	

TES Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.11			**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.03			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28	**SA**	0.01			**S1**	0.05
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-48.89	-1.43	0.00	-250.66	0.00	250.66	6497.76	1801.35	9574.51	8573.64		0.00	0.00	0.037
5.00	-47.36	-1.43	0.00	-243.52	0.00	243.52	6432.14	1767.96	9222.85	8328.66		0.00	-0.01	0.037
10.00	-45.86	-1.44	0.00	-236.36	0.00	236.36	6364.44	1734.57	8877.76	8084.28		0.02	-0.02	0.036
15.00	-44.38	-1.44	0.00	-229.17	0.00	229.17	6294.68	1701.18	8539.25	7840.66		0.04	-0.02	0.029
18.00	-43.51	-1.44	0.00	-224.84	0.00	224.84	6251.82	1681.14	8339.30	7694.92		0.05	-0.03	0.029
18.00	-43.51	-1.44	0.00	-224.84	0.00	224.84	5035.78	1461.72	7258.43	6211.14		0.05	-0.03	0.031
20.00	-43.00	-1.45	0.00	-221.95	0.00	221.95	5016.94	1450.12	7143.68	6138.49		0.06	-0.03	0.035
25.00	-41.76	-1.45	0.00	-214.71	0.00	214.71	4968.35	1421.12	6860.79	5956.70		0.10	-0.04	0.034
30.00	-40.54	-1.46	0.00	-207.45	0.00	207.45	4917.65	1392.11	6583.61	5774.82		0.14	-0.05	0.034
35.00	-39.34	-1.46	0.00	-200.18	0.00	200.18	4864.84	1363.11	6312.15	5593.00		0.20	-0.05	0.033
40.00	-38.16	-1.46	0.00	-192.88	0.00	192.88	4809.92	1334.11	6046.41	5411.42		0.26	-0.06	0.033
41.00	-37.93	-1.46	0.00	-191.43	0.00	191.43	4798.68	1328.31	5993.94	5375.14		0.27	-0.06	0.033
45.00	-36.19	-1.46	0.00	-185.58	0.00	185.58	4752.88	1305.11	5786.38	5230.21		0.33	-0.07	0.032
48.00	-34.91	-1.46	0.00	-181.21	0.00	181.21	4754.71	1306.02	5794.50	5235.93		0.37	-0.07	0.032
50.00	-34.45	-1.46	0.00	-178.30	0.00	178.30	4731.34	1294.42	5692.02	5163.58		0.40	-0.08	0.031
55.00	-33.33	-1.46	0.00	-171.01	0.00	171.01	4671.41	1265.42	5439.81	4983.15		0.49	-0.09	0.031
60.00	-32.22	-1.46	0.00	-163.72	0.00	163.72	4609.37	1236.42	5193.31	4803.47		0.58	-0.10	0.030
65.00	-31.15	-1.46	0.00	-156.44	0.00	156.44	4545.22	1207.41	4952.53	4624.69		0.69	-0.10	0.030
70.00	-30.09	-1.45	0.00	-149.17	0.00	149.17	4478.96	1178.41	4717.47	4446.98		0.80	-0.11	0.029
75.00	-29.05	-1.45	0.00	-141.90	0.00	141.90	4410.58	1149.41	4488.12	4270.48		0.92	-0.12	0.029
80.00	-28.04	-1.44	0.00	-134.65	0.00	134.65	4340.09	1120.41	4264.49	4095.36		1.06	-0.13	0.028
81.00	-27.84	-1.45	0.00	-133.21	0.00	133.21	4325.74	1114.61	4220.44	4060.52		1.08	-0.13	0.028
81.00	-27.84	-1.45	0.00	-133.21	0.00	133.21	3843.52	967.95	3665.12	3607.87		1.08	-0.13	0.032
85.00	-27.05	-1.44	0.00	-127.42	0.00	127.42	3789.25	947.80	3514.12	3482.28		1.20	-0.14	0.031
90.00	-25.24	-1.42	0.00	-120.20	0.00	120.20	3719.86	922.61	3329.84	3326.92		1.35	-0.15	0.030
91.00	-24.89	-1.42	0.00	-118.79	0.00	118.79	3750.02	933.48	3408.76	3393.74		1.38	-0.15	0.030
95.00	-24.12	-1.41	0.00	-113.12	0.00	113.12	3693.87	913.33	3263.20	3270.16		1.51	-0.16	0.029
100.00	-23.18	-1.41	0.00	-106.04	0.00	106.04	3622.15	888.15	3085.71	3117.47		1.68	-0.17	0.040
105.00	-22.27	-1.40	0.00	-99.00	0.00	99.00	3548.72	862.96	2913.18	2966.89		1.86	-0.18	0.040
110.00	-21.37	-1.40	0.00	-91.99	0.00	91.99	3473.57	837.77	2745.61	2818.54		2.06	-0.19	0.039
115.00	-20.50	-1.39	0.00	-85.01	0.00	85.01	3396.72	812.59	2583.01	2672.54		2.27	-0.21	0.038
120.00	-19.65	-1.38	0.00	-78.07	0.00	78.07	3318.16	787.40	2425.37	2529.02		2.49	-0.22	0.037
125.00	-18.82	-1.37	0.00	-71.17	0.00	71.17	3226.71	762.22	2272.69	2379.87		2.73	-0.24	0.036
130.00	-18.02	-1.36	0.00	-64.30	0.00	64.30	3120.09	737.03	2124.98	2224.41		2.99	-0.25	0.035
135.00	-16.58	-1.33	0.00	-57.49	0.00	57.49	3080.81	727.75	2071.81	2168.45		3.26	-0.26	0.032
140.00	-15.81	-1.32	0.00	-50.86	0.00	50.86	2974.19	702.56	1930.89	2020.17		3.54	-0.28	0.030
140.00	-15.81	-1.32	0.00	-50.86	0.00	50.86	1787.24	463.02	1277.34	1223.14		3.54	-0.28	0.050
145.00	-13.07	-1.16	0.00	-44.28	0.00	44.28	1745.97	446.48	1187.73	1151.90		3.83	-0.29	0.046
150.00	-12.54	-1.15	0.00	-38.50	0.00	38.50	1703.02	429.95	1101.38	1081.63		4.15	-0.31	0.043
155.00	-12.03	-1.15	0.00	-32.74	0.00	32.74	1658.40	413.41	1018.29	1012.45		4.48	-0.32	0.040
159.00	-9.49	-0.98	0.00	-28.15	0.00	28.15	1621.51	400.18	954.16	957.99		4.75	-0.34	0.035
160.00	-9.40	-0.98	0.00	-27.17	0.00	27.17	1612.12	396.87	938.45	944.50		4.82	-0.34	0.035
165.00	-8.98	-0.98	0.00	-22.26	0.00	22.26	1564.16	380.34	861.88	877.89		5.19	-0.36	0.031
170.00	-8.57	-0.97	0.00	-17.38	0.00	17.38	1514.53	363.80	788.56	812.74		5.57	-0.37	0.027
173.00	-5.44	-0.67	0.00	-14.47	0.00	14.47	1483.95	353.88	746.14	774.41		5.80	-0.38	0.022
175.00	-5.28	-0.67	0.00	-13.14	0.00	13.14	1463.23	347.27	718.50	749.18		5.96	-0.38	0.021
180.00	-4.92	-0.66	0.00	-9.81	0.00	9.81	1400.09	330.73	651.70	682.38		6.37	-0.39	0.018

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 50

Tower Engineering Solutions

180.00	-4.92	-0.66	0.00	-9.81	0.00	9.81	871.37	205.83	405.06	423.57	6.37	-0.39	0.029
185.00	-4.52	-0.65	0.00	-6.50	0.00	6.50	871.37	205.83	405.06	423.57	6.78	-0.40	0.021
190.00	-4.12	-0.65	0.00	-3.23	0.00	3.23	871.37	205.83	405.06	423.57	7.20	-0.41	0.012
195.00	0.00	-0.62	0.00	0.00	0.00	0.00	871.37	205.83	405.06	423.57	7.63	-0.41	0.000

Wind Loading - Shaft

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 51	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	6.594	7.25	300.46	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.594	7.25	294.93	0.730	0.000	5.00	27.038	19.74	143.2	0.0	1499.5
10.00		1.00	0.85	6.594	7.25	289.40	0.730	0.000	5.00	26.536	19.37	140.5	0.0	1471.4
15.00	RB1	1.00	0.85	6.594	7.25	283.87	0.730	0.000	5.00	26.034	19.00	137.9	0.0	1443.3
18.00	Top - Section 1	1.00	0.88	6.844	7.53	285.79	0.730	0.000	3.00	15.379	11.23	84.5	0.0	852.5
20.00		1.00	0.90	6.997	7.70	286.70	0.730	0.000	2.00	10.152	7.41	57.0	0.0	482.9
25.00		1.00	0.95	7.334	8.07	287.68	0.730	0.000	5.00	25.029	18.27	147.4	0.0	1190.3
30.00		1.00	0.98	7.621	8.38	287.31	0.730	0.000	5.00	24.526	17.90	150.1	0.0	1166.3
35.00		1.00	1.01	7.872	8.66	285.97	0.730	0.000	5.00	24.024	17.54	151.9	0.0	1142.2
40.00		1.00	1.04	8.096	8.91	283.89	0.730	0.000	5.00	23.521	17.17	152.9	0.0	1118.2
41.00	Bot - Section 3	1.00	1.05	8.139	8.95	283.40	0.730	0.000	1.00	4.644	3.39	30.3	0.0	220.8
45.00		1.00	1.07	8.300	9.13	281.22	0.730	0.000	4.00	18.629	13.60	124.2	0.0	1758.9
48.00	Top - Section 2	1.00	1.08	8.413	9.25	279.39	0.730	0.000	3.00	13.761	10.05	93.0	0.0	1299.0
50.00		1.00	1.09	8.486	9.33	282.05	0.730	0.000	2.00	9.073	6.62	61.8	0.0	431.2
55.00		1.00	1.12	8.658	9.52	278.55	0.730	0.000	5.00	22.331	16.30	155.3	0.0	1061.2
60.00		1.00	1.14	8.818	9.70	274.72	0.730	0.000	5.00	21.829	15.94	154.6	0.0	1037.2
65.00		1.00	1.16	8.968	9.86	270.59	0.730	0.000	5.00	21.327	15.57	153.6	0.0	1013.1
70.00		1.00	1.17	9.109	10.02	266.21	0.730	0.000	5.00	20.824	15.20	152.3	0.0	989.1
75.00		1.00	1.19	9.242	10.17	261.60	0.730	0.000	5.00	20.322	14.83	150.8	0.0	965.0
80.00		1.00	1.21	9.368	10.31	256.79	0.730	0.000	5.00	19.819	14.47	149.1	0.0	941.0
81.00	Top - Section 3	1.00	1.21	9.393	10.33	255.81	0.730	0.000	1.00	3.904	2.85	29.4	0.0	185.3
85.00	Bot - Section 5	1.00	1.22	9.489	10.44	251.80	0.730	0.000	4.00	15.413	11.25	117.4	0.0	731.6
90.00		1.00	1.24	9.604	10.56	246.64	0.730	0.000	5.00	19.132	13.97	147.5	0.0	1801.0
91.00	Top - Section 4	1.00	1.24	9.626	10.59	245.59	0.730	0.000	1.00	3.766	2.75	29.1	0.0	354.4
95.00	RT1	1.00	1.25	9.713	10.68	245.58	0.730	0.000	4.00	14.863	10.85	115.9	0.0	705.3
100.00		1.00	1.27	9.819	10.80	240.16	0.730	0.000	5.00	18.127	13.23	142.9	0.0	860.0
105.00		1.00	1.28	9.920	10.91	234.61	0.730	0.000	5.00	17.625	12.87	140.4	0.0	835.9
110.00		1.00	1.29	10.018	11.02	228.94	0.730	0.000	5.00	17.122	12.50	137.7	0.0	811.9
115.00		1.00	1.30	10.112	11.12	223.17	0.730	0.000	5.00	16.620	12.13	135.0	0.0	787.9
120.00		1.00	1.32	10.203	11.22	217.29	0.730	0.000	5.00	16.117	11.77	132.1	0.0	763.8
125.00		1.00	1.33	10.291	11.32	211.31	0.730	0.000	5.00	15.615	11.40	129.0	0.0	739.8
130.00	Bot - Section 6	1.00	1.34	10.377	11.41	205.25	0.730	0.000	5.00	15.112	11.03	125.9	0.0	715.7
135.00	Top - Section 5	1.00	1.35	10.459	11.51	199.10	0.730	0.000	5.00	14.927	10.90	125.4	0.0	1398.5
140.00	Top - Section 6	1.00	1.36	10.540	11.59	197.29	0.730	0.000	5.00	14.425	10.53	122.1	0.0	682.8
145.00	Appurtenance(s)	1.00	1.37	10.618	11.68	191.00	0.730	0.000	5.00	13.922	10.16	118.7	0.0	440.9
150.00		1.00	1.38	10.694	11.76	184.64	0.730	0.000	5.00	13.420	9.80	115.2	0.0	424.8
155.00		1.00	1.39	10.768	11.84	178.21	0.730	0.000	5.00	12.918	9.43	111.7	0.0	408.8
159.00	Appurtenance(s)	1.00	1.40	10.826	11.91	173.01	0.730	0.000	4.00	9.972	7.28	86.7	0.0	315.5
160.00		1.00	1.40	10.840	11.92	171.71	0.730	0.000	1.00	2.443	1.78	21.3	0.0	77.3
165.00		1.00	1.41	10.911	12.00	165.15	0.730	0.000	5.00	11.913	8.70	104.4	0.0	376.7
170.00		1.00	1.42	10.979	12.08	158.53	0.730	0.000	5.00	11.410	8.33	100.6	0.0	360.7
173.00	Appurtenance(s)	1.00	1.42	11.020	12.12	154.53	0.730	0.000	3.00	6.605	4.82	58.4	0.0	208.7
175.00		1.00	1.42	11.047	12.15	151.86	0.730	0.000	2.00	4.303	3.14	38.2	0.0	135.9
180.00	Top - Section 7	1.00	1.43	11.112	12.22	145.13	0.730	0.000	5.00	10.405	7.60	92.9	0.0	328.6
185.00		1.00	1.44	11.177	12.29	145.55	0.730	0.000	5.00	10.154	7.41	91.1	0.0	360.3
190.00		1.00	1.45	11.240	12.36	145.96	0.730	0.000	5.00	10.154	7.41	91.6	0.0	360.3
195.00	Appurtenance(s)	1.00	1.46	11.301	12.43	146.36	0.730	0.000	5.00	10.154	7.41	92.1	0.0	360.3

Wind Loading - Shaft

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 52	

Totals:	**195.00**	**5,143.2**	**35,616.0**

Discrete Appurtenance Forces

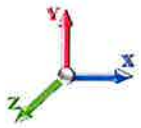
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 53	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	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	195.00	Ericsson KRY 112 144/1	3	11.301	12.431	0.50	0.75	0.62	33.00	0.000	0.000	7.68	0.00	0.00
2	195.00	AIR6449 B41	3	11.301	12.431	0.53	0.75	9.03	309.00	0.000	0.000	112.20	0.00	0.00
3	195.00	APXVAALL24-43-U-NA20	3	11.301	12.431	0.55	0.75	33.24	297.00	0.000	0.000	413.27	0.00	0.00
4	195.00	APX16DWV-16DWVS-E-A	3	11.301	12.431	0.46	0.75	9.22	122.10	0.000	0.000	114.63	0.00	0.00
5	195.00	RMQP-4096-HK	1	11.301	12.431	1.00	1.00	51.70	2645.00	0.000	0.000	642.70	0.00	0.00
6	195.00	Ericsson 4449 B71 + B85	3	11.301	12.431	0.50	0.75	2.97	219.60	0.000	0.000	36.92	0.00	0.00
7	195.00	Ericsson 4424 B25	3	11.301	12.431	0.50	0.75	3.09	264.00	0.000	0.000	38.42	0.00	0.00
8	195.00	Ericsson 4415 B66A	3	11.301	12.431	0.50	0.75	2.47	148.80	0.000	0.000	30.73	0.00	0.00
9	173.00	ALU TD-RRH8x20-25	3	11.020	12.122	0.54	0.80	6.51	210.00	0.000	0.000	78.94	0.00	0.00
10	173.00	DT465B-2XR	3	11.020	12.122	0.66	0.80	18.13	174.00	0.000	0.000	219.74	0.00	0.00
11	173.00	RFS ACU-A20-N RET	4	11.020	12.122	0.54	0.80	0.30	4.00	0.000	0.000	3.64	0.00	0.00
12	173.00	ALU 800 MHz Filter	3	11.020	12.122	0.54	0.80	0.68	30.00	0.000	0.000	8.19	0.00	0.00
13	173.00	ALU 800 MHz RRH	6	11.020	12.122	0.54	0.80	8.01	318.00	0.000	0.000	97.07	0.00	0.00
14	173.00	ALU 1900 MHz RRH	3	11.020	12.122	0.54	0.80	6.11	132.00	0.000	0.000	74.07	0.00	0.00
15	173.00	APXVSPP18-C-A20	3	11.020	12.122	0.66	0.80	15.98	171.00	0.000	0.000	193.66	0.00	0.00
16	173.00	Sector Frame-Pipe/Rod	3	11.020	12.122	0.60	0.80	46.80	2100.00	0.000	0.000	567.31	0.00	0.00
17	159.00	Lucent KS24019-L112A	1	10.826	11.908	0.75	0.75	0.09	5.00	0.000	0.000	1.07	0.00	0.00
18	159.00	Samsung VZS01	3	10.826	11.908	0.52	0.75	6.68	261.30	0.000	0.000	79.50	0.00	0.00
19	159.00	Samsung B2/B66A	3	10.826	11.908	0.50	0.75	2.82	253.20	0.000	0.000	33.57	0.00	0.00
20	159.00	Samsung B5/B13	3	10.826	11.908	0.50	0.75	2.82	210.90	0.000	0.000	33.57	0.00	0.00
21	159.00	BSF0020F3V1-1	4	10.826	11.908	0.56	0.75	3.56	70.40	0.000	0.000	42.33	0.00	0.00
22	159.00	Low Profile Platform-flat	1	10.826	11.908	1.00	1.00	25.00	1200.00	0.000	0.000	297.71	0.00	0.00
23	159.00	SBNHH-1D65B	6	10.826	11.908	0.62	0.75	30.48	240.00	0.000	0.000	362.94	0.00	0.00
24	159.00	BXA-70080-4BF	3	10.826	11.908	0.66	0.75	7.05	36.00	0.000	0.000	83.94	0.00	0.00
25	159.00	Rfs Celwave	2	10.826	11.908	0.53	0.75	5.11	37.80	0.000	0.000	60.88	0.00	0.00
26	145.00	MC-PK8-DSH	1	10.618	11.680	1.00	1.00	37.59	1727.00	0.000	0.000	439.04	0.00	0.00
27	145.00	RDIC-9181-PF-48	1	10.618	11.680	1.00	1.00	3.18	15.90	0.000	0.000	37.14	0.00	0.00
28	145.00	TA08025-B605	3	10.618	11.680	0.50	0.75	2.95	225.00	0.000	0.000	34.51	0.00	0.00
29	145.00	TA08025-B604	3	10.618	11.680	0.50	0.75	2.95	191.70	0.000	0.000	34.51	0.00	0.00
30	145.00	FFVV-65B-R2	3	10.618	11.680	0.55	0.75	20.43	212.40	0.000	0.000	238.61	0.00	0.00
							Totals:		**11,864.10**			**4,418.48**		

Total Applied Force Summary

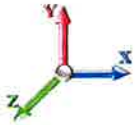
Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 54	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		143.18	1656.32	0.00	0.00
10.00		140.52	1628.26	0.00	0.00
15.00		137.86	1600.21	0.00	0.00
18.00		84.51	946.66	0.00	0.00
20.00		57.04	545.61	0.00	0.00
25.00		147.39	1347.19	0.00	0.00
30.00		150.08	1323.14	0.00	0.00
35.00		151.86	1299.09	0.00	0.00
40.00		152.92	1275.05	0.00	0.00
41.00		30.35	252.12	0.00	0.00
45.00		124.15	1884.41	0.00	0.00
48.00		92.96	1393.11	0.00	0.00
50.00		61.83	493.97	0.00	0.00
55.00		155.25	1218.09	0.00	0.00
60.00		154.56	1194.05	0.00	0.00
65.00		153.57	1170.00	0.00	0.00
70.00		152.31	1145.95	0.00	0.00
75.00		150.81	1121.91	0.00	0.00
80.00		149.10	1097.86	0.00	0.00
81.00		29.44	216.69	0.00	0.00
85.00		117.44	857.13	0.00	0.00
90.00		147.54	1957.85	0.00	0.00
91.00		29.11	385.80	0.00	0.00
95.00		115.93	830.80	0.00	0.00
100.00		142.92	1016.86	0.00	0.00
105.00		140.40	992.81	0.00	0.00
110.00		137.74	968.77	0.00	0.00
115.00		134.95	944.72	0.00	0.00
120.00		132.05	920.67	0.00	0.00
125.00		129.04	896.62	0.00	0.00
130.00		125.92	872.58	0.00	0.00
135.00		125.37	1555.38	0.00	0.00
140.00		122.08	839.67	0.00	0.00
145.00	(11) attachments	902.51	2969.73	0.00	0.00
150.00		115.24	572.59	0.00	0.00
155.00		111.69	556.56	0.00	0.00
159.00	(26) attachments	1082.21	2748.31	0.00	0.00
160.00		21.26	94.06	0.00	0.00
165.00		104.37	460.70	0.00	0.00
170.00		100.60	444.67	0.00	0.00
173.00	(28) attachments	1301.06	3398.11	0.00	0.00
175.00		38.17	164.25	0.00	0.00
180.00		92.85	399.41	0.00	0.00
185.00		91.13	431.06	0.00	0.00
190.00		91.65	431.06	0.00	0.00
195.00	(22) attachments	1488.70	4469.56	0.00	0.00

Total Applied Force Summary

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 55	

Tower Engineering Solutions

Totals:	**9,561.63**	**52,989.42**	**0.00**	**0.00**

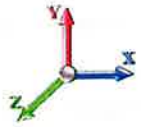
Linear Appurtenance Segment Forces (Factored)

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	5.20
5.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	9.10
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	5.20
10.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	9.10
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	5.20
15.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	9.10
18.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	6.844	0.00	0.82
18.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	6.844	0.00	3.12
18.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.033	0.000	6.844	0.00	5.46
18.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.50	0.00	0.033	0.000	6.844	0.00	0.00
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	6.997	0.00	0.55
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	6.997	0.00	2.08
20.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.033	0.000	6.997	0.00	3.64
20.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.33	0.00	0.033	0.000	6.997	0.00	0.00
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	7.334	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	7.334	0.00	5.20
25.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	7.334	0.00	9.10
25.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.033	0.000	7.334	0.00	0.00
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	7.621	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	7.621	0.00	5.20
30.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	7.621	0.00	9.10
30.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.034	0.000	7.621	0.00	0.00
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	7.872	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	7.872	0.00	5.20
35.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	7.872	0.00	9.10
35.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.035	0.000	7.872	0.00	0.00
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	8.096	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	8.096	0.00	5.20
40.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	8.096	0.00	9.10
40.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.035	0.000	8.096	0.00	0.00
41.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	8.139	0.00	0.27
41.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	8.139	0.00	1.04
41.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.036	0.000	8.139	0.00	1.82
41.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.17	0.00	0.036	0.000	8.139	0.00	0.00
45.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	8.300	0.00	1.09
45.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	8.300	0.00	4.16
45.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.036	0.000	8.300	0.00	7.28
45.00	Reinforcing channels	Yes	4.00	0.000	2.00	0.67	0.00	0.036	0.000	8.300	0.00	0.00
48.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	8.413	0.00	0.82
48.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	8.413	0.00	3.12
48.00	1.6" Hybrid	Yes	3.00	0.000	0.00	0.00	0.00	0.037	0.000	8.413	0.00	5.46
48.00	Reinforcing channels	Yes	3.00	0.000	2.00	0.50	0.00	0.037	0.000	8.413	0.00	0.00
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	8.486	0.00	0.55
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	8.486	0.00	2.08

Linear Appurtenance Segment Forces (Factored)

Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 7/13/2023
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00

Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
50.00	1.6" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.037	0.000	8.486	0.00	3.64
50.00	Reinforcing channels	Yes	2.00	0.000	2.00	0.33	0.00	0.037	0.000	8.486	0.00	0.00
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	8.658	0.00	1.37
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	8.658	0.00	5.20
55.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.037	0.000	8.658	0.00	9.10
55.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.037	0.000	8.658	0.00	0.00
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	8.818	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	8.818	0.00	5.20
60.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	8.818	0.00	9.10
60.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.038	0.000	8.818	0.00	0.00
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	8.968	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	8.968	0.00	5.20
65.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.039	0.000	8.968	0.00	9.10
65.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.039	0.000	8.968	0.00	0.00
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	9.109	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	9.109	0.00	5.20
70.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.040	0.000	9.109	0.00	9.10
70.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.040	0.000	9.109	0.00	0.00
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	9.242	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	9.242	0.00	5.20
75.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.041	0.000	9.242	0.00	9.10
75.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.041	0.000	9.242	0.00	0.00
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	9.368	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	9.368	0.00	5.20
80.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	9.368	0.00	9.10
80.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.042	0.000	9.368	0.00	0.00
81.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	9.393	0.00	0.27
81.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	9.393	0.00	1.04
81.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.043	0.000	9.393	0.00	1.82
81.00	Reinforcing channels	Yes	1.00	0.000	2.00	0.17	0.00	0.043	0.000	9.393	0.00	0.00
85.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	9.489	0.00	1.09
85.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	9.489	0.00	4.16
85.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.043	0.000	9.489	0.00	7.28
85.00	Reinforcing channels	Yes	4.00	0.000	2.00	0.67	0.00	0.043	0.000	9.489	0.00	0.00
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	9.604	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	9.604	0.00	5.20
90.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	9.604	0.00	9.10
90.00	Reinforcing channels	Yes	5.00	0.000	2.00	0.83	0.00	0.044	0.000	9.604	0.00	0.00
91.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.626	0.00	0.27
91.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.626	0.00	1.04
91.00	1.6" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.626	0.00	1.82
91.00	Reinforcing channels	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.626	0.00	0.00
95.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.713	0.00	1.09
95.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.713	0.00	4.16
95.00	1.6" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.713	0.00	7.28
95.00	Reinforcing channels	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.713	0.00	0.00
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.819	0.00	1.37

Linear Appurtenance Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 58	

TES Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.819	0.00	5.20
100.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.819	0.00	9.10
100.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.819	0.00	0.00
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.920	0.00	1.37
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.920	0.00	5.20
105.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.920	0.00	9.10
105.00	Reinforcing channels	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.920	0.00	0.00
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.018	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.018	0.00	5.20
110.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.018	0.00	9.10
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.112	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.112	0.00	5.20
115.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.112	0.00	9.10
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.203	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.203	0.00	5.20
120.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.203	0.00	9.10
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.291	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.291	0.00	5.20
125.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.291	0.00	9.10
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.377	0.00	1.37
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.377	0.00	5.20
130.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.377	0.00	9.10
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.459	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.459	0.00	5.20
135.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.459	0.00	9.10
140.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.540	0.00	1.37
140.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.540	0.00	5.20
140.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.540	0.00	9.10
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.618	0.00	1.37
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.618	0.00	5.20
145.00	1.6" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.618	0.00	9.10
150.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.694	0.00	1.37
150.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.694	0.00	5.20
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.768	0.00	1.37
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.768	0.00	5.20
159.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.826	0.00	1.09
159.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	10.826	0.00	4.16
160.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.840	0.00	0.27
160.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	10.840	0.00	1.04
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.911	0.00	1.37
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.911	0.00	5.20
170.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.979	0.00	1.37
170.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.979	0.00	5.20
173.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.020	0.00	0.82
173.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.020	0.00	3.12
175.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.047	0.00	0.55
175.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.047	0.00	2.08

Linear Appurtenance Segment Forces (Factored)

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 59	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
180.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.112	0.00	1.37
180.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.112	0.00	5.20
185.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.177	0.00	1.37
185.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.177	0.00	5.20
190.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.240	0.00	1.37
190.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.240	0.00	5.20
195.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.301	0.00	1.37
195.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.301	0.00	5.20
										Totals:	**0.0**	**519.9**

Calculated Forces

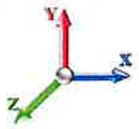
Structure: CT00167-S-SBA
Site Name: Lisbon
Height: 195.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: B - Competent Rock
Struct Class: II

7/13/2023

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.99	-9.58	0.00	-1282.9	0.00	1282.95	6497.76	1801.35	9574.51	8573.64	0.00	0.000	0.000	0.158
5.00	-51.32	-9.47	0.00	-1235.0	0.00	1235.05	6432.14	1767.96	9222.85	8328.66	0.02	-0.039	0.000	0.156
10.00	-49.69	-9.36	0.00	-1187.7	0.00	1187.70	6364.44	1734.57	8877.76	8084.28	0.08	-0.078	0.000	0.155
15.00	-48.08	-9.25	0.00	-1140.8	0.00	1140.88	6294.68	1701.18	8539.25	7840.66	0.19	-0.119	0.000	0.123
18.00	-47.13	-9.17	0.00	-1113.1	0.00	1113.14	6251.82	1681.14	8339.30	7694.92	0.27	-0.138	0.000	0.121
18.00	-47.13	-9.17	0.00	-1113.1	0.00	1113.14	5035.78	1461.72	7258.43	6211.14	0.27	-0.138	0.000	0.129
20.00	-46.59	-9.14	0.00	-1094.7	0.00	1094.79	5016.94	1450.12	7143.68	6138.49	0.33	-0.152	0.000	0.145
25.00	-45.23	-9.02	0.00	-1049.1	0.00	1049.11	4968.35	1421.12	6860.79	5956.70	0.51	-0.189	0.000	0.142
30.00	-43.90	-8.89	0.00	-1004.0	0.00	1004.03	4917.65	1392.11	6583.61	5774.82	0.73	-0.227	0.000	0.139
35.00	-42.60	-8.76	0.00	-959.59	0.00	959.59	4864.84	1363.11	6312.15	5593.00	0.98	-0.265	0.000	0.137
40.00	-41.32	-8.62	0.00	-915.79	0.00	915.79	4809.92	1334.11	6046.41	5411.42	1.28	-0.304	0.000	0.134
41.00	-41.07	-8.60	0.00	-907.17	0.00	907.17	4798.68	1328.31	5993.94	5375.14	1.35	-0.312	0.000	0.134
45.00	-39.18	-8.48	0.00	-872.77	0.00	872.77	4752.88	1305.11	5786.38	5230.21	1.62	-0.343	0.000	0.130
48.00	-37.78	-8.40	0.00	-847.32	0.00	847.32	4754.71	1306.02	5794.50	5235.93	1.84	-0.367	0.000	0.131
50.00	-37.29	-8.35	0.00	-830.53	0.00	830.53	4731.34	1294.42	5692.02	5163.58	2.00	-0.383	0.000	0.126
55.00	-36.06	-8.21	0.00	-788.78	0.00	788.78	4671.41	1265.42	5439.81	4983.15	2.42	-0.421	0.000	0.123
60.00	-34.87	-8.07	0.00	-747.74	0.00	747.74	4609.37	1236.42	5193.31	4803.47	2.88	-0.460	0.000	0.120
65.00	-33.69	-7.93	0.00	-707.39	0.00	707.39	4545.22	1207.41	4952.53	4624.69	3.39	-0.499	0.000	0.117
70.00	-32.54	-7.79	0.00	-667.75	0.00	667.75	4478.96	1178.41	4717.47	4446.98	3.93	-0.538	0.000	0.114
75.00	-31.42	-7.65	0.00	-628.81	0.00	628.81	4410.58	1149.41	4488.12	4270.48	4.52	-0.578	0.000	0.111
80.00	-30.32	-7.50	0.00	-590.57	0.00	590.57	4340.09	1120.41	4264.49	4095.36	5.14	-0.618	0.000	0.108
81.00	-30.10	-7.48	0.00	-583.07	0.00	583.07	4325.74	1114.61	4220.44	4060.52	5.27	-0.626	0.000	0.107
81.00	-30.10	-7.48	0.00	-583.07	0.00	583.07	3843.52	967.95	3665.12	3607.87	5.27	-0.626	0.000	0.121
85.00	-29.24	-7.37	0.00	-553.15	0.00	553.15	3789.25	947.80	3514.12	3482.28	5.81	-0.658	0.000	0.118
90.00	-27.28	-7.21	0.00	-516.30	0.00	516.30	3719.86	922.61	3329.84	3326.92	6.52	-0.698	0.000	0.113
91.00	-26.89	-7.19	0.00	-509.09	0.00	509.09	3750.02	933.48	3408.76	3393.74	6.67	-0.706	0.000	0.115
95.00	-26.06	-7.08	0.00	-480.34	0.00	480.34	3693.87	913.33	3263.20	3270.16	7.27	-0.738	0.000	0.108
100.00	-25.04	-6.94	0.00	-444.96	0.00	444.96	3622.15	888.15	3085.71	3117.47	8.07	-0.776	0.000	0.150
105.00	-24.04	-6.81	0.00	-410.25	0.00	410.25	3548.72	862.96	2913.18	2966.89	8.91	-0.832	0.000	0.145
110.00	-23.07	-6.68	0.00	-376.21	0.00	376.21	3473.57	837.77	2745.61	2818.54	9.81	-0.887	0.000	0.140
115.00	-22.12	-6.55	0.00	-342.81	0.00	342.81	3396.72	812.59	2583.01	2672.54	10.77	-0.942	0.000	0.135
120.00	-21.19	-6.42	0.00	-310.05	0.00	310.05	3318.16	787.40	2425.37	2529.02	11.79	-0.997	0.000	0.129
125.00	-20.29	-6.30	0.00	-277.94	0.00	277.94	3226.71	762.22	2272.69	2379.87	12.86	-1.051	0.000	0.123
130.00	-19.42	-6.17	0.00	-246.45	0.00	246.45	3120.09	737.03	2124.98	2224.41	13.99	-1.105	0.000	0.117
135.00	-17.86	-6.03	0.00	-215.58	0.00	215.58	3080.81	727.75	2071.81	2168.45	15.17	-1.157	0.000	0.105
140.00	-17.02	-5.91	0.00	-185.42	0.00	185.42	2974.19	702.56	1930.89	2020.17	16.41	-1.207	0.000	0.098
140.00	-17.02	-5.91	0.00	-185.42	0.00	185.42	1787.24	463.02	1277.34	1223.14	16.41	-1.207	0.000	0.161
145.00	-14.06	-4.95	0.00	-155.88	0.00	155.88	1745.97	446.48	1187.73	1151.90	17.70	-1.251	0.000	0.144
150.00	-13.49	-4.84	0.00	-131.11	0.00	131.11	1703.02	429.95	1101.38	1081.63	19.05	-1.313	0.000	0.129
155.00	-12.93	-4.73	0.00	-106.90	0.00	106.90	1658.40	413.41	1018.29	1012.45	20.45	-1.370	0.000	0.114
159.00	-10.21	-3.58	0.00	-87.99	0.00	87.99	1621.51	400.18	954.16	957.99	21.62	-1.413	0.000	0.098
160.00	-10.11	-3.56	0.00	-84.41	0.00	84.41	1612.12	396.87	938.45	944.50	21.92	-1.423	0.000	0.096
165.00	-9.65	-3.46	0.00	-66.59	0.00	66.59	1564.16	380.34	861.88	877.89	23.43	-1.469	0.000	0.082
170.00	-9.21	-3.35	0.00	-49.30	0.00	49.30	1514.53	363.80	788.56	812.74	24.99	-1.510	0.000	0.067
173.00	-5.84	-1.96	0.00	-39.26	0.00	39.26	1483.95	353.88	746.14	774.41	25.95	-1.531	0.000	0.055
175.00	-5.68	-1.92	0.00	-35.34	0.00	35.34	1463.23	347.27	718.50	749.18	26.59	-1.544	0.000	0.051
180.00	-5.28	-1.82	0.00	-25.74	0.00	25.74	1400.09	330.73	651.70	682.38	28.23	-1.572	0.000	0.042
180.00	-5.28	-1.82	0.00	-25.74	0.00	25.74	871.37	205.83	405.06	423.57	28.23	-1.572	0.000	0.067

Calculated Forces

Structure:	CT00167-S-SBA	**Code:**	TIA-222-H	7/13/2023	
Site Name:	Lisbon	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 61	

Tower Engineering Solutions

185.00	-4.85	-1.72	0.00	-16.65	0.00	16.65	871.37	205.83	405.06	423.57	29.88	-1.594	0.000	0.045
190.00	-4.43	-1.61	0.00	-8.07	0.00	8.07	871.37	205.83	405.06	423.57	31.56	-1.606	0.000	0.024
195.00	0.00	-1.49	0.00	0.00	0.00	0.00	871.37	205.83	405.06	423.57	33.25	-1.610	0.000	0.000

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 124 mph Wind	45.7	0.00	63.51	0.00	0.00	6163.35
0.9D + 1.0W 124 mph Wind	45.7	0.00	47.61	0.00	0.00	6086.74
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.5	0.00	84.89	0.00	0.00	1524.32
1.2D + 1.0Ev + 1.0Eh	1.4	0.00	64.82	0.00	0.00	253.22
0.9D + 1.0Ev + 1.0Eh	1.4	0.00	48.89	0.00	0.00	250.66
1.0D + 1.0W 60 mph Wind	9.6	0.00	52.99	0.00	0.00	1282.95

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 124 mph Wind	-17.73	-28.43	0.00	-892.44	0.00	-892.44	2974.19	702.56	1930.89	2020.17	140.00	0.743
0.9D + 1.0W 124 mph Wind	-12.67	-27.88	0.00	-872.92	0.00	-872.92	2974.19	702.56	1930.89	2020.17	140.00	0.724
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-31.52	-6.89	0.00	-213.56	0.00	-213.56	2974.19	702.56	1930.89	2020.17	140.00	0.192
1.2D + 1.0Ev + 1.0Eh	-20.96	-1.33	0.00	-51.23	0.00	-51.23	2974.19	702.56	1930.89	2020.17	140.00	0.054
0.9D + 1.0Ev + 1.0Eh	-15.81	-1.32	0.00	-50.86	0.00	-50.86	2974.19	702.56	1930.89	2020.17	140.00	0.050
1.0D + 1.0W 60 mph Wind	-17.02	-5.91	0.00	-185.42	0.00	-185.42	2974.19	702.56	1930.89	2020.17	140.00	0.161

Additional Steel Summary

			Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
15.0	95.0	(6) PLT-C6x10.5 (no hole)	146.8	0.00	25.3	135.7	27.8	5	3	118.0	27.8	5	3	152.05	180.8	180.17	0.844

Monopole Mat Foundation Design

Customer Name:	Verizon	TIA Standard:	TIA-222-H
Site Name:		Structure Height (Ft.):	195
Site Number:	CT00167-S-SBA	Engineer Name:	J. Tibbetts
Engr. Number:	141579	Engineer Login ID:	

Date: 7/13/2023

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

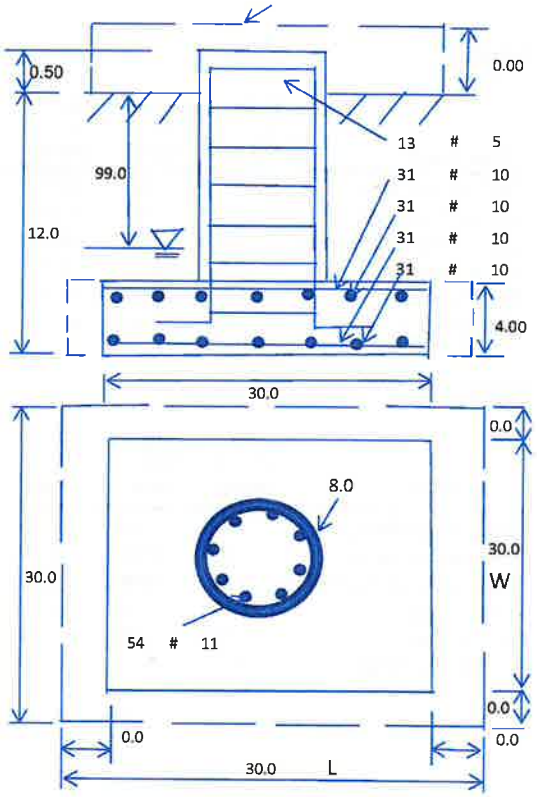
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	63.5	Shear Force (Kips):	45.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6163.4

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	12.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	30	Width of Pad (ft.):	30
Final Length of pad (ft)	30.0	Final width of pad (ft):	30.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	54	Tie Spacing (in):	12.0	
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):	31	Qty. of Rebar in Pad (W):	31	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	31	Qty. of Rebar in Pad (W):	31	

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	8000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

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

Total Dry Soil Volume (cu. Ft.):	6797.88	Total Dry Soil Weight (Kips):	849.73
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	849.73	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4027.26	Total Dry Concrete Weight (Kips):	604.09
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	604.09	Total Vertical Load on Base (Kips):	1517.33

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2824	<	Allowable Factored Soil Bearing (psf):	6000	0.47	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	20579.3	>	Design Factored Momont (kips-ft):	6735	0.33	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	3.06	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	15197.3	>	Design Factored Moment (Mu, Kips-F	6551.8	0.43	OK!
Calculated Shear Capacity (Kips):	832.8	>	Design Factored Shear (Kips):	45.7	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	4549.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9486.2	>	Design Factored Axial Load (Pu Kips):	63.5	0.01	OK!
Moment & Axial Strength Combination:	0.43	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.012		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	1312.5	>	One-Way Factored Shear (L-D. Kips):	375.3	0.29	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1312.5	>	One-Way Factored Shear (W-D., Kips)	375.3	0.29	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1182.6	>	One-Way Factored Shear (C-C, Kips):	348.2	0.29	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0025	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0025		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	7633.8	>	Moment at Bottom (L-Dir. K-Ft):	2652.7	0.35	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	7633.8	>	Moment at Bottom (W-Dir. K-Ft):	2652.7	0.35	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	10720.9	>	Moment at Bottom (C-C Dir. K-Ft):	3751.5	0.35	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0025	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0025		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	7633.8	>	Moment at the top (L-Dir K-Ft):	1140.4	0.15	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	7633.8	>	Moment at the top (W-Dir K-Ft):	1140.4	0.15	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	10720.9	>	Moment at the top (C-C Dir. K-Ft):	1068.2	0.10	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	2465.3	k-ft.	Max. factored shear stress v_{u_CD}:		4.3	Psi
Max. factored shear stress v_{u_AB}:	9.2	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	9.2	Psi	Check Usage of Punching Shear Capacity:		0.06	OK!
(4).Check Bending Capacity of the Pad Within the Effective Slab Width:						
Overturning moment to be transferred by flexure:	1849.0	k-ft.	Effective Width for resisting OT moment:		20.0	ft.
Calculated number of Rebar in Effective width:	21		Actual number of Rebar in Effective width:		21	
Steel Pad Moment Capacity (L-Direc. Kips-ft):	5168.8	k-ft.	Check Usage of the Flexure Capacity:		0.36	OK!

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Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis

SMART Tool Project #: 10206272
Colliers Engineering & Design Project CT, PC #: 23777096

July 10, 2023

Site Information	*Site ID:*	*5000246009-VZW / LISBON CT*
	Site Name:	*LISBON CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*26 Mell Rd.* *Lisbon, Connecticut 06351* *New London County*
	Latitude:	*41.591194°*
	Longitude:	*-72.017447°*
Structure Information	*Tower Type:*	*190-Ft Monopole*
	Mount Type:	*14.00-Ft Platform*

FUZE ID # 17123913

Analysis Results

Platform: **77.6% 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

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: 674951, dated February 11, 2021*
Mount Mapping Report	*Hudson Design Group, LLC, Site #: 468244, dated February 25, 2021*
Filter Add Scope Provided by Verizon Wireless	*KAelus BSF0020F3V1-1 Specification*
Post Modification Inspection Report	*Maser Consulting Connecticut Project #: 21777104A, dated September 16, 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}: Ice Wind Speed (3-sec. Gust): Design Ice Thickness: Risk Category: Exposure Category: Topographic Category: Topographic Feature Considered: Topographic Method: Ground Elevation Factor, K_e:	125 mph 50 mph 1.00 in II C 1 N/A N/A 0.991
Seismic Parameters:	S_S: S_1:	0.190 g 0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): Maintenance Live Load, Lv: Maintenance Live Load, Lm:	30 mph 250 lbs. 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
159.00	160.00	4	KAelus	BSF0020F3V1-1	Added
		3	Samsung	MT6407-77A	Retained
		3	Samsung	B2/B66A RRH-BR049 (RFV01U-D1A)	
		3	Samsung	B5/B13 RRH-BR04C (RFV01U-D2A)	
		3	Amphenol Antel	BXA-70080-4BF-EDIN-0	
		2	Raycap	*RRFDC-3315-PF-48	
		6	Andrew	SBNHH-1D65B	

*Equipment flush mounted directly to the Monopole. They are not mounted on the platform mount and are not included in this mount analysis.

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
RVZDC-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:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - 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
Standoff	32.7 %	Pass
Grating Angle	10.3 %	Pass
Cross Members	33.1 %	Pass
Face Horizontal	77.6 %	Pass
Mount Pipe	38.5 %	Pass
Support Rail	21.0 %	Pass
Connection Check	23.2 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**77.6%**

BASELINE mount weight per SBA agreement: 1069.00 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	27.1	27.0	42.0	42.0
0.5	33.6	33.6	54.9	54.9
1	39.8	39.8	67.5	67.5

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

Proposed Filter shall be installed on top support rail next to the LTE antennas.

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

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MDG #: 5000246009 SMART Project #: 10206272 Fuze Project ID: 17123913

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 Filter shall be installed on top support rail next to the LTE antennas.

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:	

Structure: 5000246009-VZW - LISBON CT

Sector: A

Structure Type: Monopole

Mount Elev: 159.00

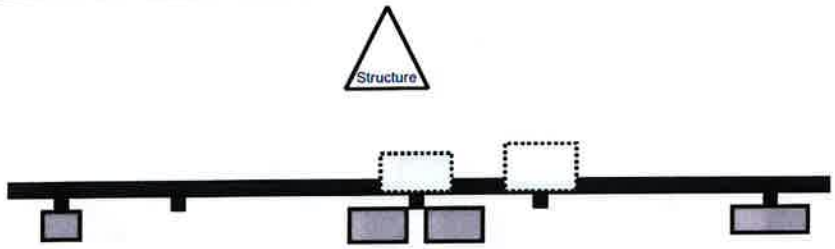
10206272

7/10/2023

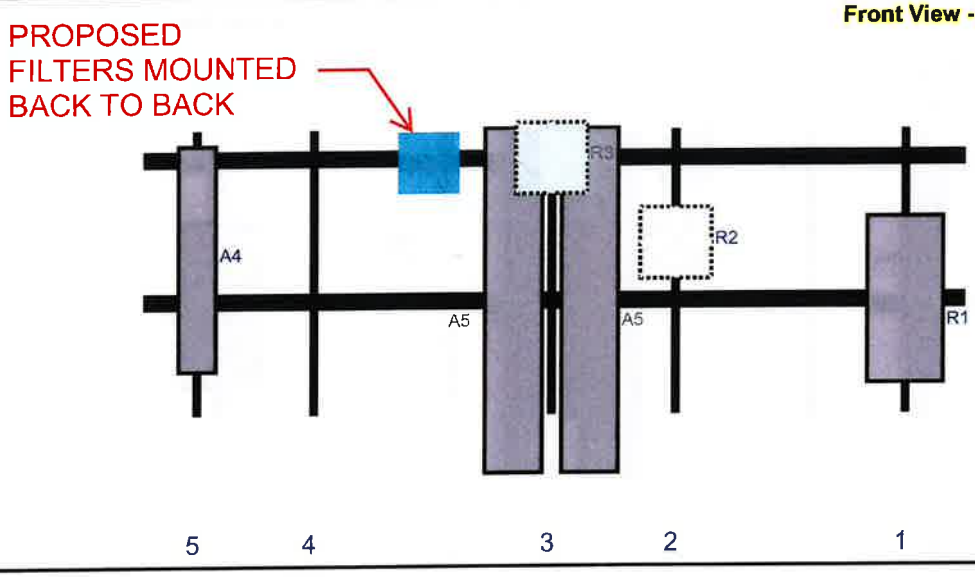
Page: 1

Colliers Engineering & Design

Plan View



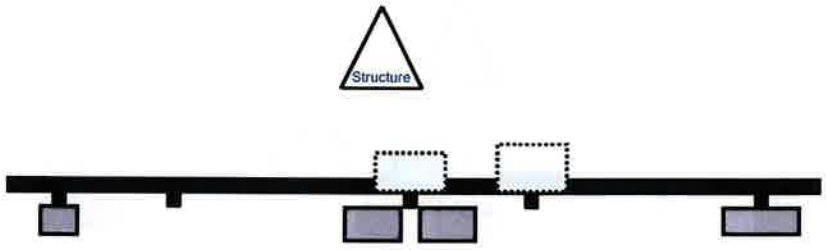
Front View - Looking at Structure



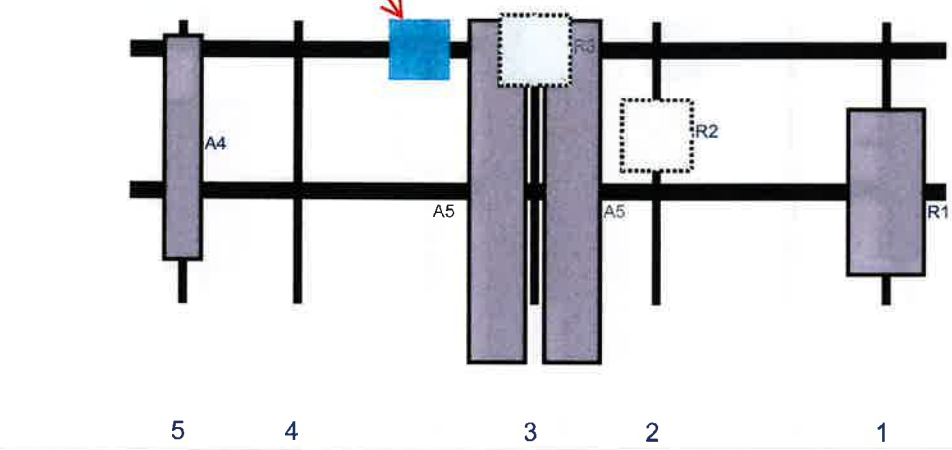
Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R1	MT6407-77A	35.1	16.1	160.339	1	a	Front	36.06	0	Retained	08/05/2022
R2	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	111.839	2	a	Behind	24	0	Retained	08/05/2022
A5	SBNHH-1D65B	72.6	11.9	85.8391	3	a	Front	36	8	Retained	08/05/2022
A5	SBNHH-1D65B	72.6	11.9	85.8391	3	b	Front	36	-8	Retained	08/05/2022
R3	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	85.8391	3	a	Behind	6	0	Retained	08/05/2022
A4	BXA-70080-4BF-EDIN-0	47.5	8	11.339	5	a	Front	27	0	Retained	08/05/2022
M52	BSF0020F3V1-1	10.6	10.9		Member					Added	
M63	BSF0020F3V1-1	10.6	10.9		Member					Added	

Colliers Engineering & Design

Plan View

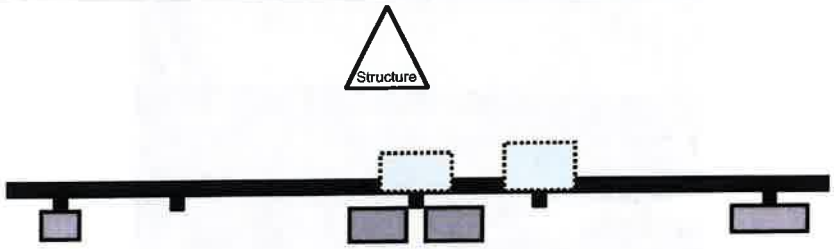


Front View - Looking at Structure

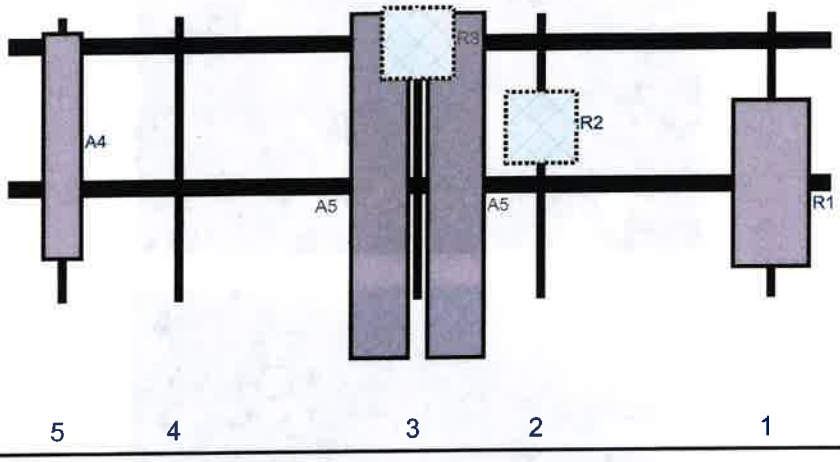


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R1	MT6407-77A	35.1	16.1	160.339	1	a	Front	36.06	0	Retained	08/05/2022
R2	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	111.839	2	a	Behind	24	0	Retained	08/05/2022
A5	SBNHH-1D65B	72.6	11.9	85.8391	3	a	Front	36	8	Retained	08/05/2022
A5	SBNHH-1D65B	72.6	11.9	85.8391	3	b	Front	36	-8	Retained	08/05/2022
R3	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	85.8391	3	a	Behind	6	0	Retained	08/05/2022
A4	BXA-70080-4BF-EDIN-0	47.5	8	11.339	5	a	Front	27	0	Retained	08/05/2022

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
R1	MT6407-77A	35.1	16.1	160.339	1	a	Front	36.06	0	Retained	08/05/2022
R2	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	111.839	2	a	Behind	24	0	Retained	08/05/2022
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A5	SBNHH-1D65B	72.6	11.9	85.8391	3	b	Front	36	-8	Retained	08/05/2022
R3	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	85.8391	3	a	Behind	6	0	Retained	08/05/2022
A4	BXA-70080-4BF-EDIN-0	47.5	8	11.339	5	a	Front	27	0	Retained	08/05/2022


Aug 5, 2022, 4:42:49 p.m.

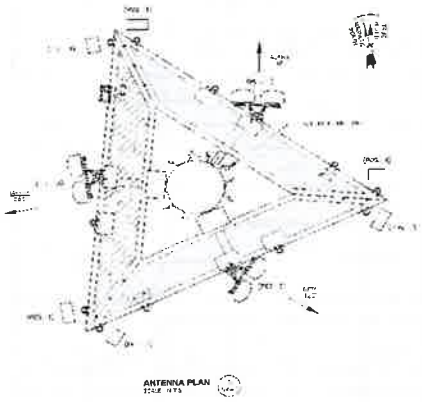

Friday, August 5, 2022 at 5:24 PM

V3.0 Updated on 8-31-2020

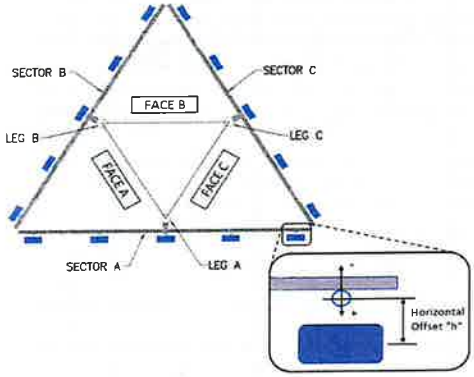
Antenna Mount Mapping Form (PATENT PENDING)

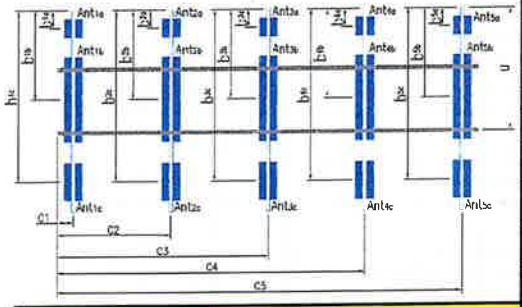
FCC # 1051827

Tower Owner:	SBA	Mapping Date:	2/25/2021
Site Name:	LISBON CT	Tower Type:	Monopole
Site Number or ID:	468244	Tower Height (Ft.):	190
Mapping Contractor:	HUDSON DESIGN GROUP, LLC.	Mount Elevation (Ft.):	158.3



ANTENNA PLAN





Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

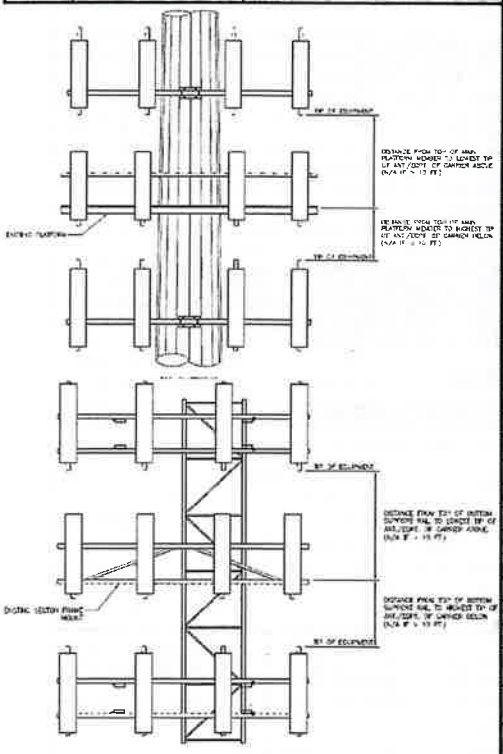
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	Pipe 2" STD. X 60"	36.00	12.00	C1	Pipe 2" STD. X 60	36.00	12.00
A2	Pipe 2" STD. X 54"	36.00	60.50	C2	Pipe 2" STD. X 54"	36.00	60.50
A3	Pipe 2" STD. X 84"	39.00	86.50	C3	Pipe 2" STD. X 84"	39.00	86.50
A4	Pipe 2" STD. X 60"	36.00		C4	Pipe 2" STD. X 60"	36.00	
A5	Pipe 2" STD. X 60"	36.00	161.00	C5	Pipe 2" STD. X 60"	36.00	161.00
A6				C6			
B1	Pipe 2" STD. X 60	36.00	12.00	D1			
B2	Pipe 2" STD. X 54"	36.00	60.50	D2			
B3	Pipe 2" STD. X 84"	39.00	86.50	D3			
B4	Pipe 2" STD. X 60"	36.00		D4			
B5	Pipe 2" STD. X 60"	36.00	161.00	D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	6
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	
EMPTY PIPE MAST @ POS. 4	
RADIO UNITS NOT MOUNTED WITH ANTENNAS ARE LISTED IN STANDIOFF ROWS	
Tower Face Width at Mount Elev. (ft.):	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.): 28

	Enter antenna model. If not labeled, enter "Unknown".						Mounting Locations [Units are inches and degrees]			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	BXA-70063-6CF-EDIN	11.00	5.50	72.00		158.217	37.00	8.50	0.00	12
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}	B66A RRH	12.00	7.00	25.50		160.967	7.00	-6.50		58
Ant_{3b}	(2) SBNHH-1D65B	12.00	7.50	72.00		158.633	35.00	9.50	0.00	13
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70080-4CF-EDIN	8.00	6.00	48.00		159.133	26.00	9.00	0.00	65
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	B13 RRH	12.00	7.50	20.50			8.00	-6.50		53
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	35.00	Deg	Leg A:		Deg
Sector B:	155.00	Deg	Leg B:		Deg
Sector C:	275.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information			
Location:	55.00	Deg	
Climbing Facility	Corrosion Type:		Good condition.
	Access:		Climbing path was unobstructed.
	Condition:		Good condition.



Sector B											
Ant_{1a}											
Ant_{1b}	BXA-70063-6CF-EDIN	11.00	5.50	72.00		158.217	37.00	8.50	120.00	12
Ant_{1c}										
Ant_{2a}	B13 RRH	12.00	7.50	20.50		160.633	8.00	-6.50		53
Ant_{2b}										
Ant_{2c}										
Ant_{3a}	B66A RRH	12.00	7.00	25.50		160.967	7.00	-6.50		58
Ant_{3b}	(2) SBNHH-1D65B	12.00	7.50	72.00		158.633	35.00	9.50	120.00	13
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70080-4CF-EDIN	8.00	6.00	48.00		159.133	26.00	9.00	120.00	65
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	B13 RRH	12.00	7.50	20.50			8.00	-6.50		53
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	15.00	10.00	28.00			60.00			95
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	BXA-70063-6CF-EDIN	11.00	5.50	72.00		158.217	37.00	8.50	260.00	12
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}	B66A RRH	12.00	7.00	25.50		160.967	7.00	-6.50		58
Ant_{3b}	(2) SBNHH-1D65B	12.00	7.50	72.00		158.633	35.00	9.50	260.00	13
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70080-4CF-EDIN	8.00	6.00	48.00		159.133	26.00	9.00	260.00	65
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	GPS ANTENNA	3.20		5.00						45
Ant on Standoff	B13 RRH	12.00	7.50	20.50			8.00	-6.50		53
Ant on Tower	RRFDC-3315-PF-48	15.00	10.00	28.00			72.00			95
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1		
2	CLIMBING PATH UNOBSTRUCTRED	25
3	(12) 1-5/8"Ø COAX, (2) 1-1/4"Ø HYBRID	146-148
4	TOWER TAG: MODEL: 195 MJ-180 MONOPOLE -SERIAL: 6531 LISBON, CT - PROJECT: SBA 4-99	153
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.

V3.0 Updated on 8-31-2020

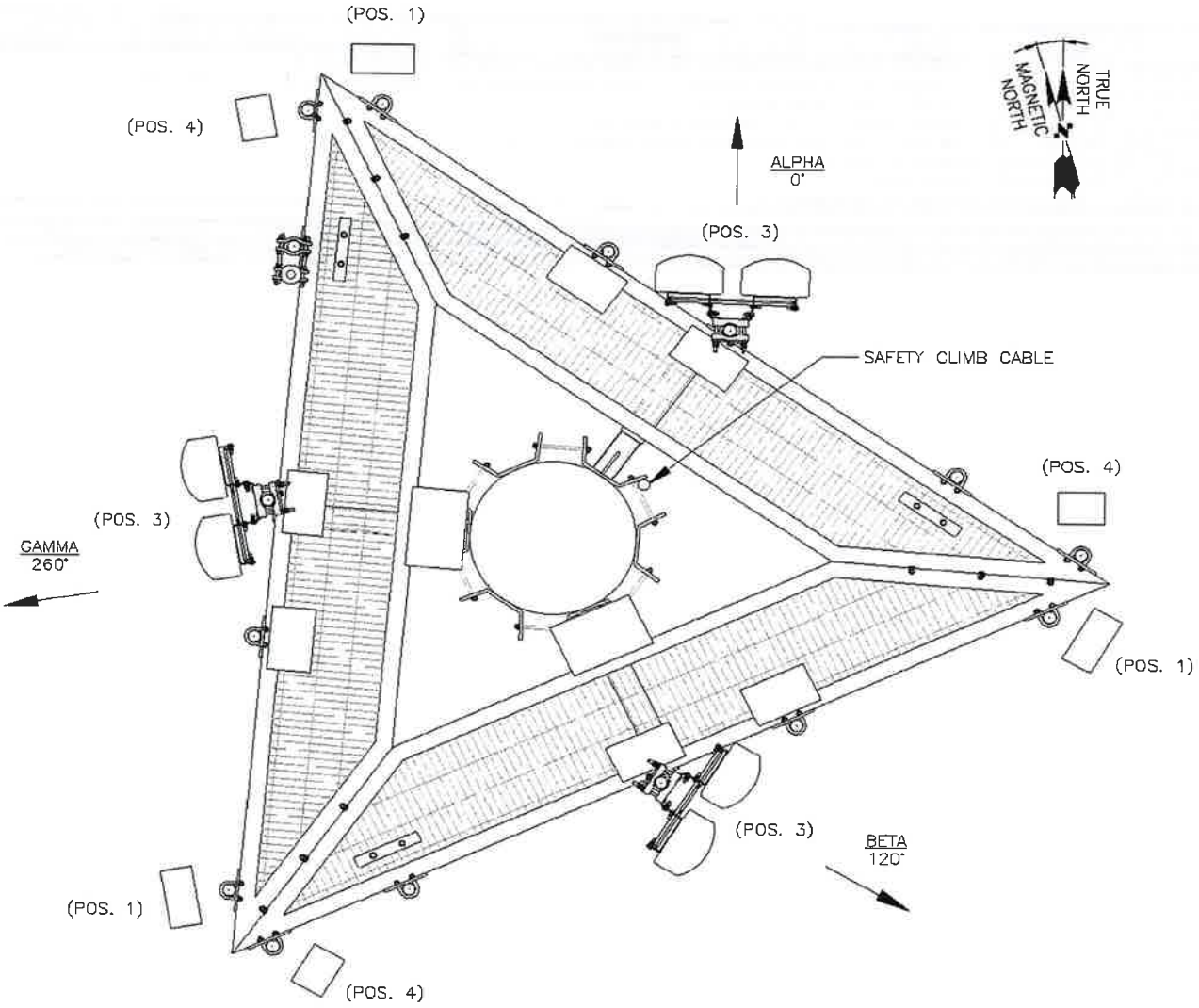
MASER CONSULTING P.A.

Antenna Mount Mapping Form (PATENT PENDING)

FCC # 1051827

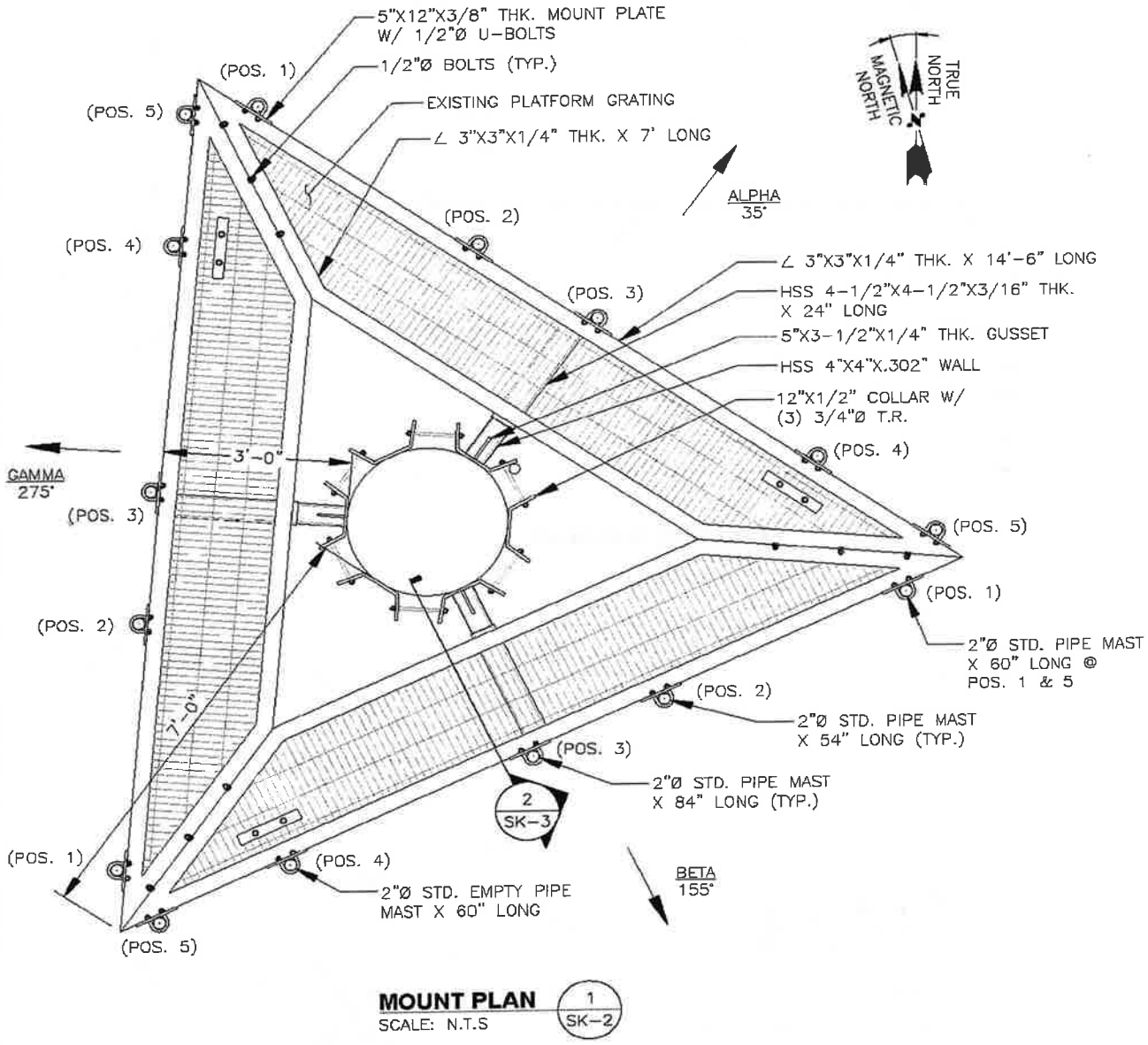
Tower Owner:	SBA	Mapping Date:	2/25/2021
Site Name:	LISBON CT	Tower Type:	Monopole
Site Number or ID:	468244	Tower Height (Ft.):	190
Mapping Contractor:	HUDSON DESIGN GROUP, LLC.	Mount Elevation (Ft.):	158.3

Please Insert Sketches of the Antenna Mount



ANTENNA PLAN 1
SCALE: N.T.S SK-1

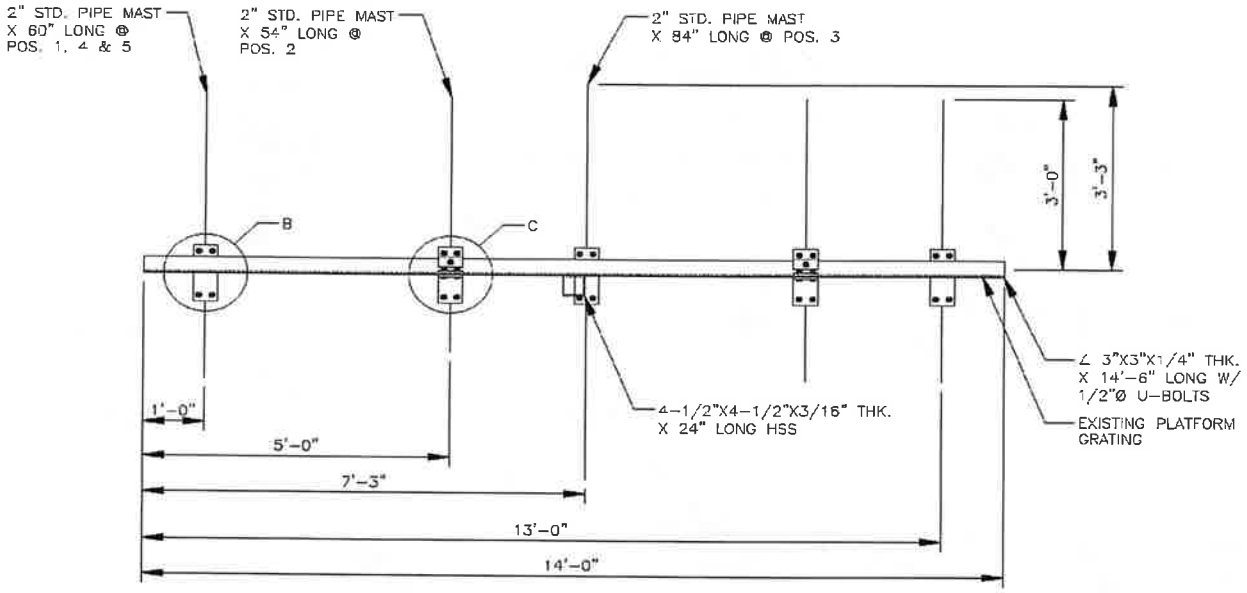
Please Insert Sketches of the Antenna Mount, cont'd



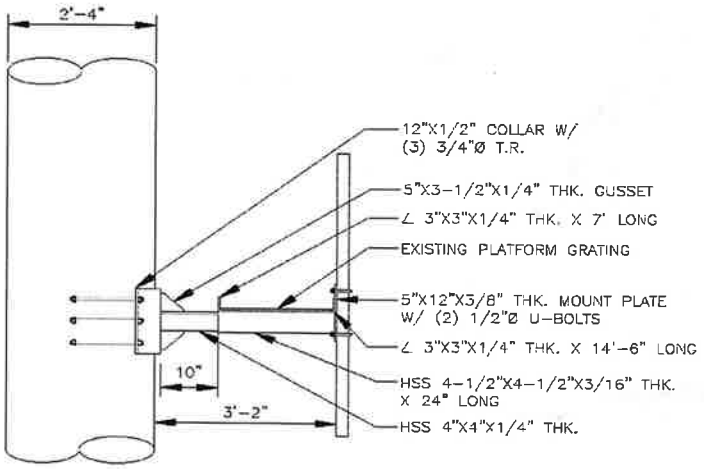
MOUNT PLAN 1 SK-2

SCALE: N.T.S

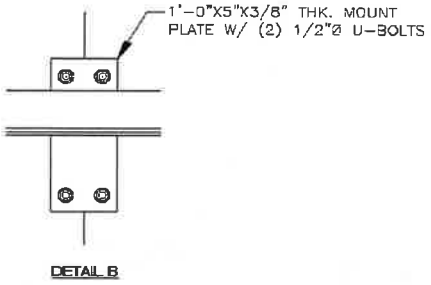
Please Insert Sketches of the Antenna Mount, cont'd



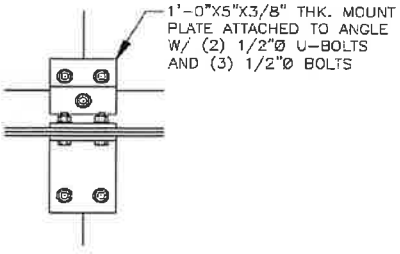
FACE MOUNT ELEVATION (1 / SK-3)
SCALE: N.T.S



MOUNT SIDE ELEVATION (2 / SK-3)
SCALE: N.T.S

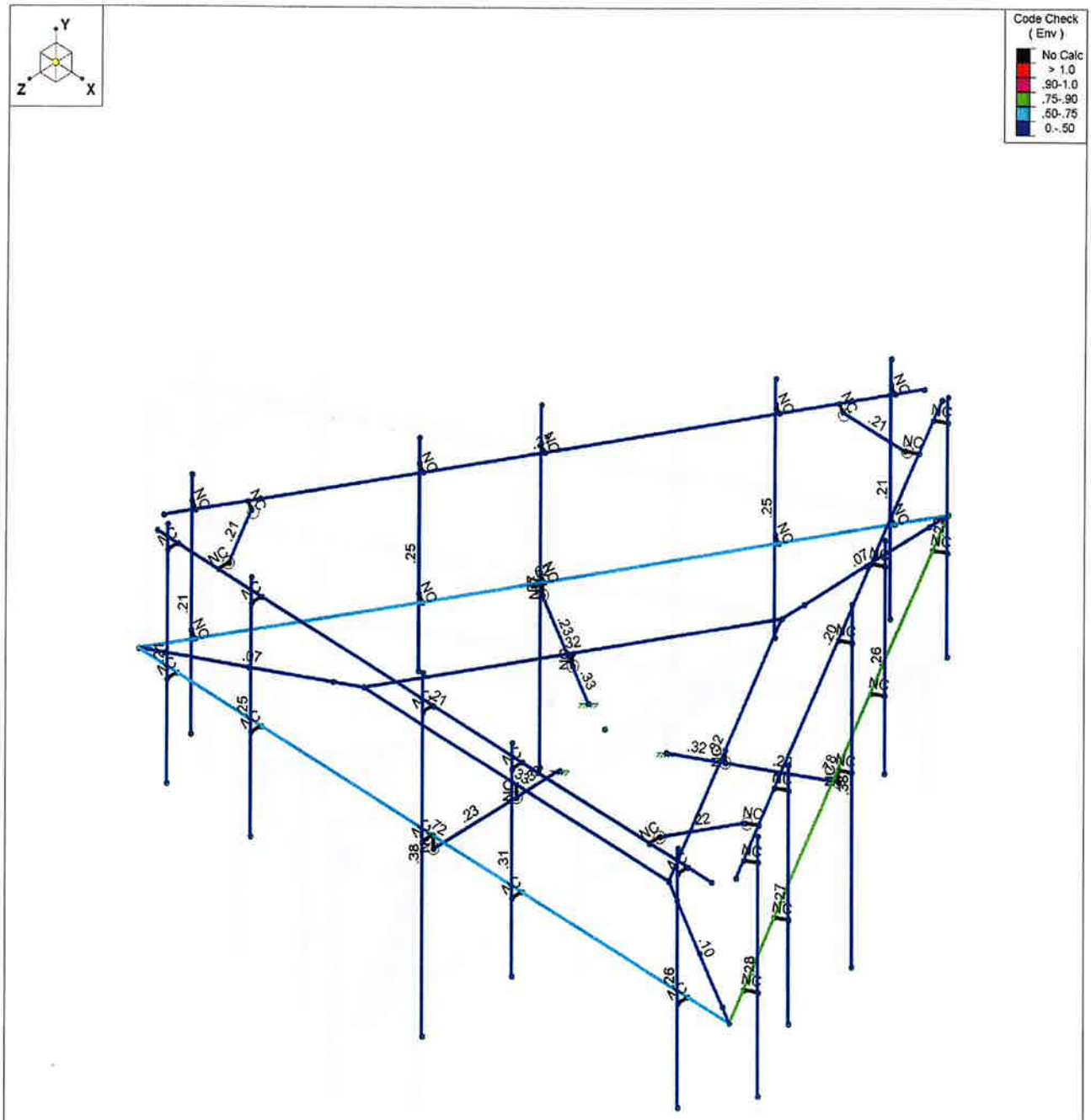


DETAIL B



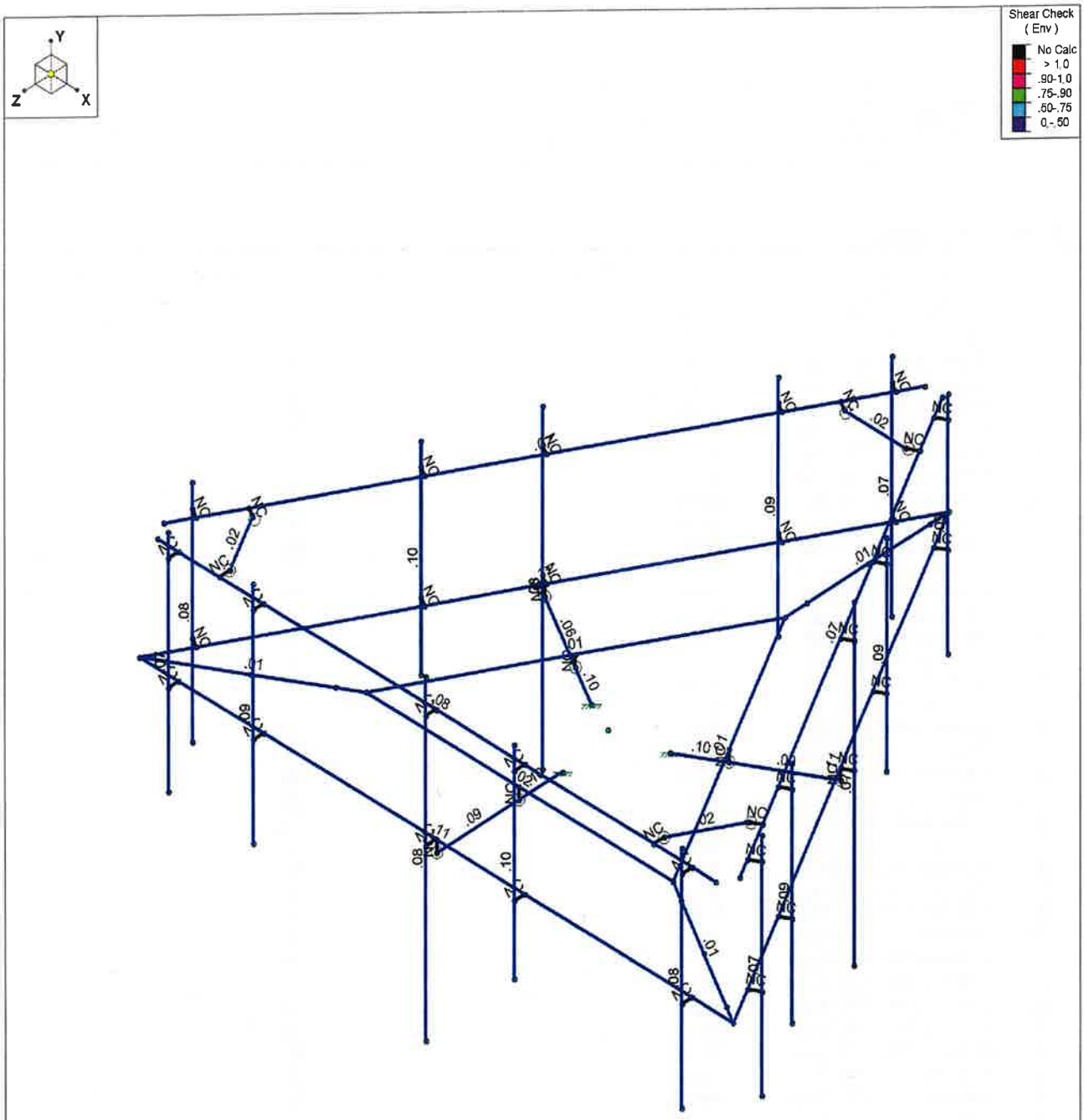
DETAIL C

Colliers Engineering & Des...	5000246009-VZW_MT_LO_H	SK - 1
CJG		July 6, 2023 at 1:51 PM
Project No. 10206272		5000246009-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des..	5000246009-VZW_MT_LO_H	SK - 4
CJG		July 6, 2023 at 1:53 PM
Project No. 10206272		5000246009-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des..	5000246009-VZW_MT_LO_H	SK - 5
CJG		July 6, 2023 at 1:55 PM
Project No. 10206272		5000246009-VZW_MT_LO_H.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Antenna D	None					96			
2	Antenna Di	None					96			
3	Antenna Wo (0 Deg)	None					96			
4	Antenna Wo (30 Deg)	None					96			
5	Antenna Wo (60 Deg)	None					96			
6	Antenna Wo (90 Deg)	None					96			
7	Antenna Wo (120 Deg)	None					96			
8	Antenna Wo (150 Deg)	None					96			
9	Antenna Wo (180 Deg)	None					96			
10	Antenna Wo (210 Deg)	None					96			
11	Antenna Wo (240 Deg)	None					96			
12	Antenna Wo (270 Deg)	None					96			
13	Antenna Wo (300 Deg)	None					96			
14	Antenna Wo (330 Deg)	None					96			
15	Antenna Wi (0 Deg)	None					96			
16	Antenna Wi (30 Deg)	None					96			
17	Antenna Wi (60 Deg)	None					96			
18	Antenna Wi (90 Deg)	None					96			
19	Antenna Wi (120 Deg)	None					96			
20	Antenna Wi (150 Deg)	None					96			
21	Antenna Wi (180 Deg)	None					96			
22	Antenna Wi (210 Deg)	None					96			
23	Antenna Wi (240 Deg)	None					96			
24	Antenna Wi (270 Deg)	None					96			
25	Antenna Wi (300 Deg)	None					96			
26	Antenna Wi (330 Deg)	None					96			
27	Antenna Wm (0 Deg)	None					96			
28	Antenna Wm (30 Deg)	None					96			
29	Antenna Wm (60 Deg)	None					96			
30	Antenna Wm (90 Deg)	None					96			
31	Antenna Wm (120 Deg)	None					96			
32	Antenna Wm (150 Deg)	None					96			
33	Antenna Wm (180 Deg)	None					96			
34	Antenna Wm (210 Deg)	None					96			
35	Antenna Wm (240 Deg)	None					96			
36	Antenna Wm (270 Deg)	None					96			
37	Antenna Wm (300 Deg)	None					96			
38	Antenna Wm (330 Deg)	None					96			
39	Structure D	None		-1					3	
40	Structure Di	None						36	3	
41	Structure Wo (0 Deg)	None						72		
42	Structure Wo (30 Deg)	None						72		
43	Structure Wo (60 Deg)	None						72		
44	Structure Wo (90 Deg)	None						72		
45	Structure Wo (120 Deg)	None						72		
46	Structure Wo (150 Deg)	None						72		
47	Structure Wo (180 Deg)	None						72		
48	Structure Wo (210 Deg)	None						72		
49	Structure Wo (240 Deg)	None						72		
50	Structure Wo (270 Deg)	None						72		
51	Structure Wo (300 Deg)	None						72		
52	Structure Wo (330 Deg)	None						72		
53	Structure Wi (0 Deg)	None						72		
54	Structure Wi (30 Deg)	None						72		
55	Structure Wi (60 Deg)	None						72		

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						72		
57	Structure Wi (120 Deg)	None						72		
58	Structure Wi (150 Deg)	None						72		
59	Structure Wi (180 Deg)	None						72		
60	Structure Wi (210 Deg)	None						72		
61	Structure Wi (240 Deg)	None						72		
62	Structure Wi (270 Deg)	None						72		
63	Structure Wi (300 Deg)	None						72		
64	Structure Wi (330 Deg)	None						72		
65	Structure Wm (0 Deg)	None						72		
66	Structure Wm (30 Deg)	None						72		
67	Structure Wm (60 Deg)	None						72		
68	Structure Wm (90 Deg)	None						72		
69	Structure Wm (120 Deg)	None						72		
70	Structure Wm (150 Deg)	None						72		
71	Structure Wm (180 Deg)	None						72		
72	Structure Wm (210 Deg)	None						72		
73	Structure Wm (240 Deg)	None						72		
74	Structure Wm (270 Deg)	None						72		
75	Structure Wm (300 Deg)	None						72		
76	Structure Wm (330 Deg)	None						72		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					96			
82	Antenna Eh (0 Deg)	None					64			
83	Antenna Eh (90 Deg)	None					64			
84	Structure Ev	ELY		-.041					3	
85	Structure Eh (0 Deg)	ELZ			-.101				3	
86	Structure Eh (90 Deg)	ELX	.101						3	
87	BLC 39 Transient Area Loads	None						36		
88	BLC 40 Transient Area Loads	None						36		
89	BLC 84 Transient Area Loads	None						36		
90	BLC 85 Transient Area Loads	None						36		
91	BLC 86 Transient Area Loads	None						36		

Load Combinations

	Description	S...	PDelta	S...	B...	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2D+1.0Wo (0 D...	Y...	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0Wo (30 ...	Y...	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0Wo (60 ...	Y...	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0Wo (90 ...	Y...	Y		1	1.2	39	1.2	6	1	44	1												
5	1.2D+1.0Wo (120...	Y...	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0Wo (150...	Y...	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0Wo (180...	Y...	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0Wo (210...	Y...	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0Wo (240...	Y...	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0Wo (270...	Y...	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0Wo (300...	Y...	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0Wo (330...	Y...	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								

Load Combinations (Continued)

	Description	S...	PDelta	S...	B...	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
19	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1						
20	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1						
21	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1						
22	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1						
23	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1						
24	1.2D + 1.0Di + 1.0...	Y...	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1						
25	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	27	1	65	1								
26	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	28	1	66	1								
27	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	29	1	67	1								
28	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	30	1	68	1								
29	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	31	1	69	1								
30	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	32	1	70	1								
31	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	33	1	71	1								
32	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	34	1	72	1								
33	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	35	1	73	1								
34	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	36	1	74	1								
35	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	37	1	75	1								
36	1.2D + 1.5Lm1 + ...	Y...	Y		1	1.2	39	1.2	77	1.5	38	1	76	1								
37	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	27	1	65	1								
38	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	28	1	66	1								
39	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	29	1	67	1								
40	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	30	1	68	1								
41	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	31	1	69	1								
42	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	32	1	70	1								
43	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	33	1	71	1								
44	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	34	1	72	1								
45	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	35	1	73	1								
46	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	36	1	74	1								
47	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	37	1	75	1								
48	1.2D + 1.5Lm2 + ...	Y...	Y		1	1.2	39	1.2	78	1.5	38	1	76	1								
49	1.2D + 1.5Lv1	Y...	Y		1	1.2	39	1.2	79	1.5												
50	1.2D + 1.5Lv2	Y...	Y		1	1.2	39	1.2	80	1.5												
51	1.4D	Y...	Y		1	1.4	39	1.4														
52	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		E...	1	E...			
53	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	E...	.866	E...	.5		
54	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	E...	.5	E...	.866		
55	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	E...		E...	1		
56	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	E...	-.5	E...	.866		
57	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.8...	83	.5	E...	-.8...	E...	.5		
58	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		E...	-1	E...			
59	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.8...	83	-.5	E...	-.8...	E...	-.5		
60	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.8...	E...	-.5	E...	-.8...		
61	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	E...		E...	-1		
62	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.8...	E...	.5	E...	-.8...		
63	1.2D + 1.0Ev + 1....	Y...	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	E...	.866	E...	-.5		
64	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		E...	1	E...			
65	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	E...	.866	E...	.5		
66	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	E...	.5	E...	.866		
67	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	E...		E...	1		
68	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	E...	-.5	E...	.866		
69	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.8...	83	.5	E...	-.8...	E...	.5		
70	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		E...	-1	E...			
71	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.8...	83	-.5	E...	-.8...	E...	-.5		
72	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.8...	E...	-.5	E...	-.8...		
73	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	E...		E...	-1		
74	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.8...	E...	.5	E...	-.8...		
75	0.9D - 1.0Ev + 1.0...	Y...	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	E...	.866	E...	-.5		

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	CP	0.	0	-0.	0	
2	N2	0.	-.25	1.095417	0	
3	N10	-0.	0	-4.291667	0	
4	N11	-0.	0	-4.833334	0	
5	N12	-0.	0	-6.333334	0	
6	N13	-0.	0	-7.833334	0	
7	N14	-0.	0	-8.291667	0	
8	N15	-3.716693	0	2.145833	0	
9	N16	-7.180794	0	4.145833	0	
10	N17	3.716693	0	2.145833	0	
11	N18	7.180794	0	4.145833	0	
12	N15A	0.	-.25	2.145833	0	
13	N16A	0.	-.25	4.145833	0	
14	N15B	-4.18579	0	2.416667	0	
15	N16B	-5.484828	0	3.166667	0	
16	N17A	-6.783866	0	3.916667	0	
17	N18A	4.18579	0	2.416667	0	
18	N19	5.484828	0	3.166667	0	
19	N20	6.783866	0	3.916667	0	
20	N21	-6.235877	0	4.145833	0	
21	N26	-6.235877	0	4.395833	0	
22	N31	-4.194202	0	4.145833	0	
23	N33	-4.194202	0	4.395833	0	
24	N35	-0.027536	0	4.145833	0	
25	N37	-0.027536	0	4.395833	0	
26	N39	2.139131	0	4.145833	0	
27	N41	2.139131	0	4.395833	0	
28	N43	6.180798	0	4.145833	0	
29	N45	6.180798	0	4.395833	0	
30	N77	0.948658	-.25	-0.547709	0	
31	N78	1.858346	-.25	-1.072917	0	
32	N109	-0.948659	-.25	-0.547708	0	
33	N110	-1.858346	-.25	-1.072917	0	
34	N108A	3.590397	-.25	-2.072917	0	
35	N110A	-3.590397	-.25	-2.072917	0	
36	N41A	6.180798	3	4.395833	0	
37	N42	6.180798	-2	4.395833	0	
38	N43A	2.139131	3	4.395833	0	
39	N44	2.139131	-1.5	4.395833	0	
40	N45A	-0.027536	3.25	4.395833	0	
41	N46	-0.027536	-3.75	4.395833	0	
42	N47	-4.194202	3	4.395833	0	
43	N48	-4.194202	-2	4.395833	0	
44	N49	-6.235877	3	4.395833	0	
45	N50	-6.235877	-2	4.395833	0	
46	N50A	6.708336	0	3.327512	0	
47	N51	6.924842	0	3.202512	0	
48	N52	5.687498	0	1.559369	0	
49	N53	5.904005	0	1.434369	0	
50	N54	3.604165	0	-2.04907	0	
51	N55	3.820671	0	-2.17407	0	
52	N56	2.520832	0	-3.925458	0	
53	N57	2.737338	0	-4.050458	0	
54	N58	0.499998	0	-7.425644	0	
55	N59	0.716505	0	-7.550644	0	
56	N60	0.716505	3	-7.550644	0	
57	N61	0.716505	-2	-7.550644	0	
58	N62	2.737338	3	-4.050458	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
59	N63	2.737338	-1.5	-4.050458	0	
60	N64	3.820671	3.25	-2.17407	0	
61	N65	3.820671	-3.75	-2.17407	0	
62	N66	5.904005	3	1.434369	0	
63	N67A	5.904005	-2	1.434369	0	
64	N68	6.924842	3	3.202512	0	
65	N69	6.924842	-2	3.202512	0	
66	N71	-0.472458	0	-7.473345	0	
67	N72	-0.688965	0	-7.598345	0	
68	N73	-1.493296	0	-5.705203	0	
69	N74	-1.709802	0	-5.830203	0	
70	N75	-3.576629	0	-2.096763	0	
71	N76	-3.793136	0	-2.221763	0	
72	N77A	-4.659962	0	-0.220375	0	
73	N78A	-4.876469	0	-0.345375	0	
74	N79	-6.680796	0	3.279811	0	
75	N80	-6.897302	0	3.154811	0	
76	N81	-6.897302	3	3.154811	0	
77	N82	-6.897302	-2	3.154811	0	
78	N83	-4.876469	3	-0.345375	0	
79	N84	-4.876469	-1.5	-0.345375	0	
80	N85	-3.793136	3.25	-2.221763	0	
81	N86	-3.793136	-3.75	-2.221763	0	
82	N87	-1.709802	3	-5.830203	0	
83	N88	-1.709802	-2	-5.830203	0	
84	N89	-0.688965	3	-7.598345	0	
85	N90	-0.688965	-2	-7.598345	0	
86	N87A	0.	0	4.145833	0	
87	N88A	3.590397	0	-2.072917	0	
88	N89A	-3.590397	0	-2.072917	0	
89	N90A	0.	0	2.145833	0	
90	N91	1.858346	0	-1.072917	0	
91	N92	-1.858346	0	-1.072917	0	
92	N92A	0.	2.5	4.145833	0	
93	N93	6.75	2.5	4.145833	0	
94	N94	-6.75	2.5	4.145833	0	
95	N95	-6.235877	2.5	4.145833	0	
96	N96	-6.235877	2.5	4.395833	0	
97	N97	-4.194202	2.5	4.145833	0	
98	N98	-4.194202	2.5	4.395833	0	
99	N99	-0.027536	2.5	4.145833	0	
100	N100	-0.027536	2.5	4.395833	0	
101	N101	2.139131	2.5	4.145833	0	
102	N102	2.139131	2.5	4.395833	0	
103	N103	6.180798	2.5	4.145833	0	
104	N104	6.180798	2.5	4.395833	0	
105	N105	-5.25	2.5	4.145833	0	
106	N106	5.25	2.5	4.145833	0	
107	N107	-5.25	2.5	3.895833	0	
108	N108	5.25	2.5	3.895833	0	
109	N109A	0.215397	2.5	-7.918588	0	
110	N110B	6.965397	2.5	3.772755	0	
111	N111	6.215397	2.5	2.473717	0	
112	N112	0.965397	2.5	-6.61955	0	
113	N113	5.998891	2.5	2.598717	0	
114	N114	0.748891	2.5	-6.49455	0	
115	N115	-6.965397	2.5	3.772755	0	
116	N116	-0.215397	2.5	-7.918588	0	
117	N117	-0.965397	2.5	-6.61955	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
118	N118	-6.215397	2.5	2.473717	0	
119	N119	-0.748891	2.5	-6.49455	0	
120	N120	-5.998891	2.5	2.598717	0	
121	N121	6.708336	2.5	3.327512	0	
122	N122	6.924842	2.5	3.202512	0	
123	N123	5.687498	2.5	1.559369	0	
124	N124	5.904005	2.5	1.434369	0	
125	N125	3.604165	2.5	-2.04907	0	
126	N126	3.820671	2.5	-2.17407	0	
127	N127	2.520832	2.5	-3.925458	0	
128	N128	2.737338	2.5	-4.050458	0	
129	N129	0.499998	2.5	-7.425644	0	
130	N130	0.716505	2.5	-7.550644	0	
131	N131	-0.472458	2.5	-7.473345	0	
132	N132	-0.688965	2.5	-7.598345	0	
133	N133	-1.493296	2.5	-5.705203	0	
134	N134	-1.709802	2.5	-5.830203	0	
135	N135	-3.576629	2.5	-2.096763	0	
136	N136	-3.793136	2.5	-2.221763	0	
137	N137	-4.659962	2.5	-0.220375	0	
138	N138	-4.876469	2.5	-0.345375	0	
139	N139	-6.680796	2.5	3.279811	0	
140	N140	-6.897302	2.5	3.154811	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design L...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Standoff 2	HSS4.5X4.5X3	Beam	Tube	A500 Gr.B Rect	Typical	2.93	9.02	9.02	14.4
3	Cross Members	L3X3X4	Beam	Single A...	A36 Gr.36	Typical	1.44	1.23	1.23	.031
4	Face Horizontal	L3X3X4	Beam	Single A...	A36 Gr.36	Typical	1.44	1.23	1.23	.031
5	Standoff 1	HSS4X4X5	Beam	Tube	A500 Gr.B Rect	Typical	4.1	9.14	9.14	15.3
6	Grating Angle	LL3x3x4x0	Beam	Double ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
7	MOD Support Rail	PIPE 2.5	Beam	Double ...	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
8	MOD Bracket	L3X3X4	Beam	Double ...	A36 Gr.36	Typical	1.44	1.23	1.23	.031
9	HR9	LL3x3x4x0	Beam	Double ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N15A			Standoff 1	Beam	Tube	A500 Gr.B Rect	Typical
2	M2	N15A	N16A			Standoff 2	Beam	Tube	A500 Gr.B Rect	Typical
3	M5	N14	N10		180	Grating Angle	Beam	Double Angle...	A36 Gr.36	Typical
4	M6	N16	N15		180	Grating Angle	Beam	Double Angle...	A36 Gr.36	Typical
5	M7	N18	N17		180	Grating Angle	Beam	Double Angle...	A36 Gr.36	Typical
6	M6A	N17	N15		270	Cross Membe...	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
7	M7A	N16	N18		270	Face Horizont...	Beam	Single Angle	A36 Gr.36	Typical
8	M10	N21	N26			RIGID	None	None	RIGID	Typical
9	M13	N31	N33			RIGID	None	None	RIGID	Typical
10	M15	N35	N37			RIGID	None	None	RIGID	Typical
11	M17	N39	N41			RIGID	None	None	RIGID	Typical
12	M19	N43	N45			RIGID	None	None	RIGID	Typical
13	M23A	N10	N17		270	Cross Membe...	Beam	Single Angle	A36 Gr.36	Typical
14	M24	N18	N14		270	Face Horizont...	Beam	Single Angle	A36 Gr.36	Typical
15	M38	N77	N78			Standoff 1	Beam	Tube	A500 Gr.B Rect	Typical
16	M39A	N15	N10		270	Cross Membe...	Beam	Single Angle	A36 Gr.36	Typical
17	M40	N14	N16		270	Face Horizont...	Beam	Single Angle	A36 Gr.36	Typical
18	M54	N109	N110			Standoff 1	Beam	Tube	A500 Gr.B Rect	Typical
19	M55	N78	N108A			Standoff 2	Beam	Tube	A500 Gr.B Rect	Typical
20	M56	N110	N110A			Standoff 2	Beam	Tube	A500 Gr.B Rect	Typical
21	MP1A	N41A	N42			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
22	MP2A	N43A	N44			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
23	MP3A	N45A	N46			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
24	MP4A	N47	N48			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
25	MP5A	N49	N50			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
26	M26	N50A	N51			RIGID	None	None	RIGID	Typical
27	M27	N52	N53			RIGID	None	None	RIGID	Typical
28	M28	N54	N55			RIGID	None	None	RIGID	Typical
29	M29	N56	N57			RIGID	None	None	RIGID	Typical
30	M30	N58	N59			RIGID	None	None	RIGID	Typical
31	MP1C	N60	N61			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
32	MP2C	N62	N63			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
33	MP3C	N64	N65			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
34	MP4C	N66	N67A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
35	MP5C	N68	N69			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
36	M36	N71	N72			RIGID	None	None	RIGID	Typical
37	M37	N73	N74			RIGID	None	None	RIGID	Typical
38	M38A	N75	N76			RIGID	None	None	RIGID	Typical
39	M39	N77A	N78A			RIGID	None	None	RIGID	Typical
40	M40A	N79	N80			RIGID	None	None	RIGID	Typical
41	MP1B	N81	N82			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
42	MP2B	N83	N84			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
43	MP3B	N85	N86			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
44	MP4B	N87	N88			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
45	MP5B	N89	N90			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
46	M46	N16A	N87A			RIGID	None	None	RIGID	Typical
47	M47	N110A	N89A		60	RIGID	None	None	RIGID	Typical
48	M48	N108A	N88A		120	RIGID	None	None	RIGID	Typical
49	M49	N15A	N90A			RIGID	None	None	RIGID	Typical
50	M50	N110	N92		60	RIGID	None	None	RIGID	Typical
51	M51	N78	N91		120	RIGID	None	None	RIGID	Typical
52	M52	N94	N93			MOD Support...	Beam	Double Angle...	A53 Gr.B	Typical
53	M53	N95	N96			RIGID	None	None	RIGID	Typical
54	M54A	N97	N98			RIGID	None	None	RIGID	Typical
55	M55A	N99	N100			RIGID	None	None	RIGID	Typical
56	M56A	N101	N102			RIGID	None	None	RIGID	Typical
57	M57	N103	N104			RIGID	None	None	RIGID	Typical
58	M58	N107	N105			RIGID	None	None	RIGID	Typical
59	M59	N108	N106			RIGID	None	None	RIGID	Typical
60	M60	N110B	N109A			MOD Support...	Beam	Double Angle...	A53 Gr.B	Typical
61	M61	N113	N111			RIGID	None	None	RIGID	Typical
62	M62	N114	N112			RIGID	None	None	RIGID	Typical
63	M63	N116	N115			MOD Support...	Beam	Double Angle...	A53 Gr.B	Typical
64	M64	N119	N117			RIGID	None	None	RIGID	Typical
65	M65	N120	N118			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rules
66	M66	N120	N107		180	MOD Bracket	Beam	Double Angle...	A36 Gr.36	Typical
67	M67	N108	N113		180	MOD Bracket	Beam	Double Angle...	A36 Gr.36	Typical
68	M68	N114	N119		180	MOD Bracket	Beam	Double Angle...	A36 Gr.36	Typical
69	M69	N121	N122			RIGID	None	None	RIGID	Typical
70	M70	N123	N124			RIGID	None	None	RIGID	Typical
71	M71	N125	N126			RIGID	None	None	RIGID	Typical
72	M72	N127	N128			RIGID	None	None	RIGID	Typical
73	M73	N129	N130			RIGID	None	None	RIGID	Typical
74	M74	N131	N132			RIGID	None	None	RIGID	Typical
75	M75	N133	N134			RIGID	None	None	RIGID	Typical
76	M76	N135	N136			RIGID	None	None	RIGID	Typical
77	M77	N137	N138			RIGID	None	None	RIGID	Typical
78	M78	N139	N140			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	M1						Yes				None
2	M2						Yes				None
3	M5						Yes				None
4	M6						Yes				None
5	M7						Yes				None
6	M6A						Yes				None
7	M7A						Yes				None
8	M10						Yes	** NA **			None
9	M13						Yes	** NA **			None
10	M15						Yes	** NA **			None
11	M17						Yes	** NA **			None
12	M19						Yes	** NA **			None
13	M23A						Yes				None
14	M24						Yes				None
15	M38						Yes				None
16	M39A						Yes				None
17	M40						Yes				None
18	M54						Yes				None
19	M55						Yes				None
20	M56						Yes				None
21	MP1A						Yes	** NA **			None
22	MP2A						Yes	** NA **			None
23	MP3A						Yes	** NA **			None
24	MP4A						Yes	** NA **			None
25	MP5A						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	M30						Yes	** NA **			None
31	MP1C						Yes	** NA **			None
32	MP2C						Yes	** NA **			None
33	MP3C						Yes	** NA **			None
34	MP4C						Yes	** NA **			None
35	MP5C						Yes	** NA **			None
36	M36						Yes	** NA **			None
37	M37						Yes	** NA **			None
38	M38A						Yes	** NA **			None
39	M39						Yes	** NA **			None
40	M40A						Yes	** NA **			None
41	MP1B						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...
42	MP2B						Yes	** NA **			None
43	MP3B						Yes	** NA **			None
44	MP4B						Yes	** NA **			None
45	MP5B						Yes	** NA **			None
46	M46		OOOOOO				Yes	** NA **			None
47	M47		OOOOOO				Yes	** NA **			None
48	M48		OOOOOO				Yes	** NA **			None
49	M49		OOOOOO				Yes	** NA **			None
50	M50		OOOOOO				Yes	** NA **			None
51	M51		OOOOOO				Yes	** NA **			None
52	M52						Yes				None
53	M53						Yes	** NA **			None
54	M54A						Yes	** NA **			None
55	M55A						Yes	** NA **			None
56	M56A						Yes	** NA **			None
57	M57						Yes	** NA **			None
58	M58		OOOOOO				Yes	** NA **			None
59	M59		OOOOOO				Yes	** NA **			None
60	M60						Yes				None
61	M61		OOOOOO				Yes	** NA **			None
62	M62		OOOOOO				Yes	** NA **			None
63	M63						Yes				None
64	M64		OOOOOO				Yes	** NA **			None
65	M65		OOOOOO				Yes	** NA **			None
66	M66						Yes				None
67	M67						Yes				None
68	M68						Yes				None
69	M69						Yes	** NA **			None
70	M70						Yes	** NA **			None
71	M71						Yes	** NA **			None
72	M72						Yes	** NA **			None
73	M73						Yes	** NA **			None
74	M74						Yes	** NA **			None
75	M75						Yes	** NA **			None
76	M76						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	Y	-17.6	5.5
2	M52	My	.007	5.5
3	M52	Mz	-.005	5.5
4	M63	Y	-17.6	5.5
5	M63	My	.000767	5.5
6	M63	Mz	.009	5.5
7	MP1A	Y	-43.55	2.38
8	MP1A	My	-.018	2.38
9	MP1A	Mz	.012	2.38
10	MP1A	Y	-43.55	3.63
11	MP1A	My	-.018	3.63
12	MP1A	Mz	.012	3.63
13	MP1B	Y	-43.55	2.38
14	MP1B	My	-.006	2.38
15	MP1B	Mz	-.021	2.38
16	MP1B	Y	-43.55	3.63
17	MP1B	My	-.006	3.63

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP1B	Mz	-.021	3.63
19	MP1C	Y	-43.55	2.38
20	MP1C	My	.019	2.38
21	MP1C	Mz	.011	2.38
22	MP1C	Y	-43.55	3.63
23	MP1C	My	.019	3.63
24	MP1C	Mz	.011	3.63
25	MP2A	Y	-84.4	2
26	MP2A	My	-.035	2
27	MP2A	Mz	.024	2
28	MP2B	Y	-84.4	2
29	MP2B	My	-.011	2
30	MP2B	Mz	-.041	2
31	MP2C	Y	-84.4	2
32	MP2C	My	.037	2
33	MP2C	Mz	.021	2
34	MP3A	Y	-70.3	.5
35	MP3A	My	-.029	.5
36	MP3A	Mz	.02	.5
37	MP3B	Y	-70.3	.5
38	MP3B	My	-.009	.5
39	MP3B	Mz	-.034	.5
40	MP3C	Y	-70.3	.5
41	MP3C	My	.03	.5
42	MP3C	Mz	.018	.5
43	MP5A	Y	-6	.25
44	MP5A	My	-.002	.25
45	MP5A	Mz	.002	.25
46	MP5A	Y	-6	4.25
47	MP5A	My	-.002	4.25
48	MP5A	Mz	.002	4.25
49	MP5B	Y	-6	.25
50	MP5B	My	-.000261	.25
51	MP5B	Mz	-.003	.25
52	MP5B	Y	-6	4.25
53	MP5B	My	-.000261	4.25
54	MP5B	Mz	-.003	4.25
55	MP5C	Y	-6	.25
56	MP5C	My	.003	.25
57	MP5C	Mz	.001	.25
58	MP5C	Y	-6	4.25
59	MP5C	My	.003	4.25
60	MP5C	Mz	.001	4.25
61	MP3A	Y	-20	.5
62	MP3A	My	-.000544	.5
63	MP3A	Mz	.017	.5
64	MP3A	Y	-20	5.5
65	MP3A	My	-.000544	5.5
66	MP3A	Mz	.017	5.5
67	MP3B	Y	-20	.5
68	MP3B	My	-.015	.5
69	MP3B	Mz	-.006	.5
70	MP3B	Y	-20	5.5
71	MP3B	My	-.015	5.5
72	MP3B	Mz	-.006	5.5
73	MP3C	Y	-20	.5
74	MP3C	My	.015	.5
75	MP3C	Mz	-.007	.5
76	MP3C	Y	-20	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
77	MP3C	My	.015	5.5
78	MP3C	Mz	-.007	5.5
79	MP3A	Y	-20	.5
80	MP3A	My	-.016	.5
81	MP3A	Mz	-.005	.5
82	MP3A	Y	-20	5.5
83	MP3A	My	-.016	5.5
84	MP3A	Mz	-.005	5.5
85	MP3B	Y	-20	.5
86	MP3B	My	.01	.5
87	MP3B	Mz	-.013	.5
88	MP3B	Y	-20	5.5
89	MP3B	My	.01	5.5
90	MP3B	Mz	-.013	5.5
91	MP3C	Y	-20	.5
92	MP3C	My	.002	.5
93	MP3C	Mz	.017	.5
94	MP3C	Y	-20	5.5
95	MP3C	My	.002	5.5
96	MP3C	Mz	.017	5.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	Y	-17.644	5.5
2	M52	My	.007	5.5
3	M52	Mz	-.005	5.5
4	M63	Y	-17.644	5.5
5	M63	My	.000769	5.5
6	M63	Mz	.009	5.5
7	MP1A	Y	-36.174	2.38
8	MP1A	My	-.015	2.38
9	MP1A	Mz	.01	2.38
10	MP1A	Y	-36.174	3.63
11	MP1A	My	-.015	3.63
12	MP1A	Mz	.01	3.63
13	MP1B	Y	-36.174	2.38
14	MP1B	My	-.005	2.38
15	MP1B	Mz	-.017	2.38
16	MP1B	Y	-36.174	3.63
17	MP1B	My	-.005	3.63
18	MP1B	Mz	-.017	3.63
19	MP1C	Y	-36.174	2.38
20	MP1C	My	.016	2.38
21	MP1C	Mz	.009	2.38
22	MP1C	Y	-36.174	3.63
23	MP1C	My	.016	3.63
24	MP1C	Mz	.009	3.63
25	MP2A	Y	-45.617	2
26	MP2A	My	-.019	2
27	MP2A	Mz	.013	2
28	MP2B	Y	-45.617	2
29	MP2B	My	-.006	2
30	MP2B	Mz	-.022	2
31	MP2C	Y	-45.617	2
32	MP2C	My	.02	2
33	MP2C	Mz	.011	2
34	MP3A	Y	-41.028	.5
35	MP3A	My	-.017	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP3A	Mz	.012	.5
37	MP3B	Y	-41.028	.5
38	MP3B	My	-.005	.5
39	MP3B	Mz	-.02	.5
40	MP3C	Y	-41.028	.5
41	MP3C	My	.018	.5
42	MP3C	Mz	.01	.5
43	MP5A	Y	-31.22	.25
44	MP5A	My	-.013	.25
45	MP5A	Mz	.009	.25
46	MP5A	Y	-31.22	4.25
47	MP5A	My	-.013	4.25
48	MP5A	Mz	.009	4.25
49	MP5B	Y	-31.22	.25
50	MP5B	My	-.001	.25
51	MP5B	Mz	-.016	.25
52	MP5B	Y	-31.22	4.25
53	MP5B	My	-.001	4.25
54	MP5B	Mz	-.016	4.25
55	MP5C	Y	-31.22	.25
56	MP5C	My	.014	.25
57	MP5C	Mz	.007	.25
58	MP5C	Y	-31.22	4.25
59	MP5C	My	.014	4.25
60	MP5C	Mz	.007	4.25
61	MP3A	Y	-62.014	.5
62	MP3A	My	-.002	.5
63	MP3A	Mz	.052	.5
64	MP3A	Y	-62.014	5.5
65	MP3A	My	-.002	5.5
66	MP3A	Mz	.052	5.5
67	MP3B	Y	-62.014	.5
68	MP3B	My	-.048	.5
69	MP3B	Mz	-.019	.5
70	MP3B	Y	-62.014	5.5
71	MP3B	My	-.048	5.5
72	MP3B	Mz	-.019	5.5
73	MP3C	Y	-62.014	.5
74	MP3C	My	.048	.5
75	MP3C	Mz	-.02	.5
76	MP3C	Y	-62.014	5.5
77	MP3C	My	.048	5.5
78	MP3C	Mz	-.02	5.5
79	MP3A	Y	-62.014	.5
80	MP3A	My	-.049	.5
81	MP3A	Mz	-.016	.5
82	MP3A	Y	-62.014	5.5
83	MP3A	My	-.049	5.5
84	MP3A	Mz	-.016	5.5
85	MP3B	Y	-62.014	.5
86	MP3B	My	.032	.5
87	MP3B	Mz	-.041	.5
88	MP3B	Y	-62.014	5.5
89	MP3B	My	.032	5.5
90	MP3B	Mz	-.041	5.5
91	MP3C	Y	-62.014	.5
92	MP3C	My	.006	.5
93	MP3C	Mz	.051	.5
94	MP3C	Y	-62.014	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
95	MP3C	My	.006	5.5
96	MP3C	Mz	.051	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	0	5.5
2	M52	Z	-34.981	5.5
3	M52	Mx	.01	5.5
4	M63	X	0	5.5
5	M63	Z	-14.005	5.5
6	M63	Mx	-.007	5.5
7	MP1A	X	0	2.38
8	MP1A	Z	-72.671	2.38
9	MP1A	Mx	-.021	2.38
10	MP1A	X	0	3.63
11	MP1A	Z	-72.671	3.63
12	MP1A	Mx	-.021	3.63
13	MP1B	X	0	2.38
14	MP1B	Z	-35.979	2.38
15	MP1B	Mx	.017	2.38
16	MP1B	X	0	3.63
17	MP1B	Z	-35.979	3.63
18	MP1B	Mx	.017	3.63
19	MP1C	X	0	2.38
20	MP1C	Z	-77.469	2.38
21	MP1C	Mx	-.019	2.38
22	MP1C	X	0	3.63
23	MP1C	Z	-77.469	3.63
24	MP1C	Mx	-.019	3.63
25	MP2A	X	0	2
26	MP2A	Z	-65.342	2
27	MP2A	Mx	-.019	2
28	MP2B	X	0	2
29	MP2B	Z	-50.78	2
30	MP2B	Mx	.025	2
31	MP2C	X	0	2
32	MP2C	Z	-67.247	2
33	MP2C	Mx	-.017	2
34	MP3A	X	0	.5
35	MP3A	Z	-62.387	.5
36	MP3A	Mx	-.018	.5
37	MP3B	X	0	.5
38	MP3B	Z	-42.399	.5
39	MP3B	Mx	.02	.5
40	MP3C	X	0	.5
41	MP3C	Z	-65.001	.5
42	MP3C	Mx	-.016	.5
43	MP5A	X	0	.25
44	MP5A	Z	-78.181	.25
45	MP5A	Mx	-.022	.25
46	MP5A	X	0	4.25
47	MP5A	Z	-78.181	4.25
48	MP5A	Mx	-.022	4.25
49	MP5B	X	0	.25
50	MP5B	Z	-66.151	.25
51	MP5B	Mx	.033	.25
52	MP5B	X	0	4.25
53	MP5B	Z	-66.151	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
54	MP5B	Mx	.033	4.25
55	MP5C	X	0	.25
56	MP5C	Z	-80.908	.25
57	MP5C	Mx	-.017	.25
58	MP5C	X	0	4.25
59	MP5C	Z	-80.908	4.25
60	MP5C	Mx	-.017	4.25
61	MP3A	X	0	.5
62	MP3A	Z	-105.821	.5
63	MP3A	Mx	-.088	.5
64	MP3A	X	0	5.5
65	MP3A	Z	-105.821	5.5
66	MP3A	Mx	-.088	5.5
67	MP3B	X	0	.5
68	MP3B	Z	-60.991	.5
69	MP3B	Mx	.019	.5
70	MP3B	X	0	5.5
71	MP3B	Z	-60.991	5.5
72	MP3B	Mx	.019	5.5
73	MP3C	X	0	.5
74	MP3C	Z	-111.684	.5
75	MP3C	Mx	.037	.5
76	MP3C	X	0	5.5
77	MP3C	Z	-111.684	5.5
78	MP3C	Mx	.037	5.5
79	MP3A	X	0	.5
80	MP3A	Z	-105.821	.5
81	MP3A	Mx	.027	.5
82	MP3A	X	0	5.5
83	MP3A	Z	-105.821	5.5
84	MP3A	Mx	.027	5.5
85	MP3B	X	0	.5
86	MP3B	Z	-60.991	.5
87	MP3B	Mx	.04	.5
88	MP3B	X	0	5.5
89	MP3B	Z	-60.991	5.5
90	MP3B	Mx	.04	5.5
91	MP3C	X	0	.5
92	MP3C	Z	-111.684	.5
93	MP3C	Mx	-.092	.5
94	MP3C	X	0	5.5
95	MP3C	Z	-111.684	5.5
96	MP3C	Mx	-.092	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	9.706	5.5
2	M52	Z	-16.811	5.5
3	M52	Mx	.009	5.5
4	M63	X	12.083	5.5
5	M63	Z	-20.929	5.5
6	M63	Mx	-.01	5.5
7	MP1A	X	21.38	2.38
8	MP1A	Z	-37.031	2.38
9	MP1A	Mx	-.019	2.38
10	MP1A	X	21.38	3.63
11	MP1A	Z	-37.031	3.63
12	MP1A	Mx	-.019	3.63

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP1B	X	31.141	2.38
14	MP1B	Z	-53.939	2.38
15	MP1B	Mx	.022	2.38
16	MP1B	X	31.141	3.63
17	MP1B	Z	-53.939	3.63
18	MP1B	Mx	.022	3.63
19	MP1C	X	46.328	2.38
20	MP1C	Z	-80.243	2.38
21	MP1C	Mx	0	2.38
22	MP1C	X	46.328	3.63
23	MP1C	Z	-80.243	3.63
24	MP1C	Mx	0	3.63
25	MP2A	X	26.735	2
26	MP2A	Z	-46.307	2
27	MP2A	Mx	-.024	2
28	MP2B	X	30.61	2
29	MP2B	Z	-53.017	2
30	MP2B	Mx	.022	2
31	MP2C	X	36.637	2
32	MP2C	Z	-63.457	2
33	MP2C	Mx	0	2
34	MP3A	X	23.046	.5
35	MP3A	Z	-39.918	.5
36	MP3A	Mx	-.021	.5
37	MP3B	X	28.364	.5
38	MP3B	Z	-49.128	.5
39	MP3B	Mx	.02	.5
40	MP3C	X	36.637	.5
41	MP3C	Z	-63.457	.5
42	MP3C	Mx	0	.5
43	MP5A	X	34.626	.25
44	MP5A	Z	-59.974	.25
45	MP5A	Mx	-.031	.25
46	MP5A	X	34.626	4.25
47	MP5A	Z	-59.974	4.25
48	MP5A	Mx	-.031	4.25
49	MP5B	X	35.99	.25
50	MP5B	Z	-62.336	.25
51	MP5B	Mx	.029	.25
52	MP5B	X	35.99	4.25
53	MP5B	Z	-62.336	4.25
54	MP5B	Mx	.029	4.25
55	MP5C	X	42.005	.25
56	MP5C	Z	-72.754	.25
57	MP5C	Mx	.004	.25
58	MP5C	X	42.005	4.25
59	MP5C	Z	-72.754	4.25
60	MP5C	Mx	.004	4.25
61	MP3A	X	34.638	.5
62	MP3A	Z	-59.994	.5
63	MP3A	Mx	-.051	.5
64	MP3A	X	34.638	5.5
65	MP3A	Z	-59.994	5.5
66	MP3A	Mx	-.051	5.5
67	MP3B	X	46.564	.5
68	MP3B	Z	-80.652	.5
69	MP3B	Mx	-.011	.5
70	MP3B	X	46.564	5.5
71	MP3B	Z	-80.652	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
72	MP3B	Mx	-.011	5.5
73	MP3C	X	65.119	.5
74	MP3C	Z	-112.79	.5
75	MP3C	Mx	.087	.5
76	MP3C	X	65.119	5.5
77	MP3C	Z	-112.79	5.5
78	MP3C	Mx	.087	5.5
79	MP3A	X	34.638	.5
80	MP3A	Z	-59.994	.5
81	MP3A	Mx	-.012	.5
82	MP3A	X	34.638	5.5
83	MP3A	Z	-59.994	5.5
84	MP3A	Mx	-.012	5.5
85	MP3B	X	46.564	.5
86	MP3B	Z	-80.652	.5
87	MP3B	Mx	.077	.5
88	MP3B	X	46.564	5.5
89	MP3B	Z	-80.652	5.5
90	MP3B	Mx	.077	5.5
91	MP3C	X	65.119	.5
92	MP3C	Z	-112.79	.5
93	MP3C	Mx	-.087	.5
94	MP3C	X	65.119	5.5
95	MP3C	Z	-112.79	5.5
96	MP3C	Mx	-.087	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	12.129	5.5
2	M52	Z	-7.002	5.5
3	M52	Mx	.007	5.5
4	M63	X	34.412	5.5
5	M63	Z	-19.868	5.5
6	M63	Mx	-.008	5.5
7	MP1A	X	28.034	2.38
8	MP1A	Z	-16.186	2.38
9	MP1A	Mx	-.016	2.38
10	MP1A	X	28.034	3.63
11	MP1A	Z	-16.186	3.63
12	MP1A	Mx	-.016	3.63
13	MP1B	X	76.718	2.38
14	MP1B	Z	-44.293	2.38
15	MP1B	Mx	.011	2.38
16	MP1B	X	76.718	3.63
17	MP1B	Z	-44.293	3.63
18	MP1B	Mx	.011	3.63
19	MP1C	X	67.091	2.38
20	MP1C	Z	-38.735	2.38
21	MP1C	Mx	.019	2.38
22	MP1C	X	67.091	3.63
23	MP1C	Z	-38.735	3.63
24	MP1C	Mx	.019	3.63
25	MP2A	X	42.736	2
26	MP2A	Z	-24.674	2
27	MP2A	Mx	-.025	2
28	MP2B	X	62.058	2
29	MP2B	Z	-35.829	2
30	MP2B	Mx	.009	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP2C	X	58.237	2
32	MP2C	Z	-33.623	2
33	MP2C	Mx	.017	2
34	MP3A	X	35.017	.5
35	MP3A	Z	-20.217	.5
36	MP3A	Mx	-.02	.5
37	MP3B	X	61.537	.5
38	MP3B	Z	-35.529	.5
39	MP3B	Mx	.009	.5
40	MP3C	X	56.293	.5
41	MP3C	Z	-32.501	.5
42	MP3C	Mx	.016	.5
43	MP5A	X	57.289	.25
44	MP5A	Z	-33.076	.25
45	MP5A	Mx	-.033	.25
46	MP5A	X	57.289	4.25
47	MP5A	Z	-33.076	4.25
48	MP5A	Mx	-.033	4.25
49	MP5B	X	70.068	.25
50	MP5B	Z	-40.454	.25
51	MP5B	Mx	.017	.25
52	MP5B	X	70.068	4.25
53	MP5B	Z	-40.454	4.25
54	MP5B	Mx	.017	4.25
55	MP5C	X	67.707	.25
56	MP5C	Z	-39.091	.25
57	MP5C	Mx	.022	.25
58	MP5C	X	67.707	4.25
59	MP5C	Z	-39.091	4.25
60	MP5C	Mx	.022	4.25
61	MP3A	X	49.002	.5
62	MP3A	Z	-28.291	.5
63	MP3A	Mx	-.025	.5
64	MP3A	X	49.002	5.5
65	MP3A	Z	-28.291	5.5
66	MP3A	Mx	-.025	5.5
67	MP3B	X	108.484	.5
68	MP3B	Z	-62.633	.5
69	MP3B	Mx	-.064	.5
70	MP3B	X	108.484	5.5
71	MP3B	Z	-62.633	5.5
72	MP3B	Mx	-.064	5.5
73	MP3C	X	96.721	.5
74	MP3C	Z	-55.842	.5
75	MP3C	Mx	.092	.5
76	MP3C	X	96.721	5.5
77	MP3C	Z	-55.842	5.5
78	MP3C	Mx	.092	5.5
79	MP3A	X	49.002	.5
80	MP3A	Z	-28.291	.5
81	MP3A	Mx	-.031	.5
82	MP3A	X	49.002	5.5
83	MP3A	Z	-28.291	5.5
84	MP3A	Mx	-.031	5.5
85	MP3B	X	108.484	.5
86	MP3B	Z	-62.633	.5
87	MP3B	Mx	.097	.5
88	MP3B	X	108.484	5.5
89	MP3B	Z	-62.633	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
90	MP3B	Mx	.097	5.5
91	MP3C	X	96.721	.5
92	MP3C	Z	-55.842	.5
93	MP3C	Mx	-.037	.5
94	MP3C	X	96.721	5.5
95	MP3C	Z	-55.842	5.5
96	MP3C	Mx	-.037	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	24.167	5.5
2	M52	Z	0	5.5
3	M52	Mx	.01	5.5
4	M63	X	45.142	5.5
5	M63	Z	0	5.5
6	M63	Mx	.002	5.5
7	MP1A	X	51.895	2.38
8	MP1A	Z	0	2.38
9	MP1A	Mx	-.021	2.38
10	MP1A	X	51.895	3.63
11	MP1A	Z	0	3.63
12	MP1A	Mx	-.021	3.63
13	MP1B	X	88.587	2.38
14	MP1B	Z	0	2.38
15	MP1B	Mx	-.011	2.38
16	MP1B	X	88.587	3.63
17	MP1B	Z	0	3.63
18	MP1B	Mx	-.011	3.63
19	MP1C	X	47.096	2.38
20	MP1C	Z	0	2.38
21	MP1C	Mx	.02	2.38
22	MP1C	X	47.096	3.63
23	MP1C	Z	0	3.63
24	MP1C	Mx	.02	3.63
25	MP2A	X	57.096	2
26	MP2A	Z	0	2
27	MP2A	Mx	-.023	2
28	MP2B	X	71.659	2
29	MP2B	Z	0	2
30	MP2B	Mx	-.009	2
31	MP2C	X	55.192	2
32	MP2C	Z	0	2
33	MP2C	Mx	.024	2
34	MP3A	X	51.069	.5
35	MP3A	Z	0	.5
36	MP3A	Mx	-.021	.5
37	MP3B	X	71.057	.5
38	MP3B	Z	0	.5
39	MP3B	Mx	-.009	.5
40	MP3C	X	48.455	.5
41	MP3C	Z	0	.5
42	MP3C	Mx	.021	.5
43	MP5A	X	71.979	.25
44	MP5A	Z	0	.25
45	MP5A	Mx	-.029	.25
46	MP5A	X	71.979	4.25
47	MP5A	Z	0	4.25
48	MP5A	Mx	-.029	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
49	MP5B	X	84.009	.25
50	MP5B	Z	0	.25
51	MP5B	Mx	-.004	.25
52	MP5B	X	84.009	4.25
53	MP5B	Z	0	4.25
54	MP5B	Mx	-.004	4.25
55	MP5C	X	69.252	.25
56	MP5C	Z	0	.25
57	MP5C	Mx	.031	.25
58	MP5C	X	69.252	4.25
59	MP5C	Z	0	4.25
60	MP5C	Mx	.031	4.25
61	MP3A	X	80.437	.5
62	MP3A	Z	0	.5
63	MP3A	Mx	-.002	.5
64	MP3A	X	80.437	5.5
65	MP3A	Z	0	5.5
66	MP3A	Mx	-.002	5.5
67	MP3B	X	125.267	.5
68	MP3B	Z	0	.5
69	MP3B	Mx	-.097	.5
70	MP3B	X	125.267	5.5
71	MP3B	Z	0	5.5
72	MP3B	Mx	-.097	5.5
73	MP3C	X	74.574	.5
74	MP3C	Z	0	.5
75	MP3C	Mx	.057	.5
76	MP3C	X	74.574	5.5
77	MP3C	Z	0	5.5
78	MP3C	Mx	.057	5.5
79	MP3A	X	80.437	.5
80	MP3A	Z	0	.5
81	MP3A	Mx	-.064	.5
82	MP3A	X	80.437	5.5
83	MP3A	Z	0	5.5
84	MP3A	Mx	-.064	5.5
85	MP3B	X	125.267	.5
86	MP3B	Z	0	.5
87	MP3B	Mx	.064	.5
88	MP3B	X	125.267	5.5
89	MP3B	Z	0	5.5
90	MP3B	Mx	.064	5.5
91	MP3C	X	74.574	.5
92	MP3C	Z	0	.5
93	MP3C	Mx	.007	.5
94	MP3C	X	74.574	5.5
95	MP3C	Z	0	5.5
96	MP3C	Mx	.007	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	34.412	5.5
2	M52	Z	19.868	5.5
3	M52	Mx	.008	5.5
4	M63	X	30.294	5.5
5	M63	Z	17.49	5.5
6	M63	Mx	.01	5.5
7	MP1A	X	70.846	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP1A	Z	40.903	2.38
9	MP1A	Mx	-.017	2.38
10	MP1A	X	70.846	3.63
11	MP1A	Z	40.903	3.63
12	MP1A	Mx	-.017	3.63
13	MP1B	X	53.939	2.38
14	MP1B	Z	31.141	2.38
15	MP1B	Mx	-.022	2.38
16	MP1B	X	53.939	3.63
17	MP1B	Z	31.141	3.63
18	MP1B	Mx	-.022	3.63
19	MP1C	X	27.635	2.38
20	MP1C	Z	15.955	2.38
21	MP1C	Mx	.016	2.38
22	MP1C	X	27.635	3.63
23	MP1C	Z	15.955	3.63
24	MP1C	Mx	.016	3.63
25	MP2A	X	59.728	2
26	MP2A	Z	34.484	2
27	MP2A	Mx	-.015	2
28	MP2B	X	53.017	2
29	MP2B	Z	30.61	2
30	MP2B	Mx	-.022	2
31	MP2C	X	42.578	2
32	MP2C	Z	24.582	2
33	MP2C	Mx	.025	2
34	MP3A	X	58.339	.5
35	MP3A	Z	33.682	.5
36	MP3A	Mx	-.014	.5
37	MP3B	X	49.128	.5
38	MP3B	Z	28.364	.5
39	MP3B	Mx	-.02	.5
40	MP3C	X	34.799	.5
41	MP3C	Z	20.091	.5
42	MP3C	Mx	.02	.5
43	MP5A	X	70.068	.25
44	MP5A	Z	40.454	.25
45	MP5A	Mx	-.017	.25
46	MP5A	X	70.068	4.25
47	MP5A	Z	40.454	4.25
48	MP5A	Mx	-.017	4.25
49	MP5B	X	67.707	.25
50	MP5B	Z	39.091	.25
51	MP5B	Mx	-.022	.25
52	MP5B	X	67.707	4.25
53	MP5B	Z	39.091	4.25
54	MP5B	Mx	-.022	4.25
55	MP5C	X	57.289	.25
56	MP5C	Z	33.076	.25
57	MP5C	Mx	.033	.25
58	MP5C	X	57.289	4.25
59	MP5C	Z	33.076	4.25
60	MP5C	Mx	.033	4.25
61	MP3A	X	101.31	.5
62	MP3A	Z	58.491	.5
63	MP3A	Mx	.046	.5
64	MP3A	X	101.31	5.5
65	MP3A	Z	58.491	5.5
66	MP3A	Mx	.046	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
67	MP3B	X	80.652	.5
68	MP3B	Z	46.564	.5
69	MP3B	Mx	-.077	.5
70	MP3B	X	80.652	5.5
71	MP3B	Z	46.564	5.5
72	MP3B	Mx	-.077	5.5
73	MP3C	X	48.514	.5
74	MP3C	Z	28.01	.5
75	MP3C	Mx	.028	.5
76	MP3C	X	48.514	5.5
77	MP3C	Z	28.01	5.5
78	MP3C	Mx	.028	5.5
79	MP3A	X	101.31	.5
80	MP3A	Z	58.491	.5
81	MP3A	Mx	-.095	.5
82	MP3A	X	101.31	5.5
83	MP3A	Z	58.491	5.5
84	MP3A	Mx	-.095	5.5
85	MP3B	X	80.652	.5
86	MP3B	Z	46.564	.5
87	MP3B	Mx	.011	.5
88	MP3B	X	80.652	5.5
89	MP3B	Z	46.564	5.5
90	MP3B	Mx	.011	5.5
91	MP3C	X	48.514	.5
92	MP3C	Z	28.01	.5
93	MP3C	Mx	.028	.5
94	MP3C	X	48.514	5.5
95	MP3C	Z	28.01	5.5
96	MP3C	Mx	.028	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	22.571	5.5
2	M52	Z	39.094	5.5
3	M52	Mx	-.002	5.5
4	M63	X	9.706	5.5
5	M63	Z	16.811	5.5
6	M63	Mx	.009	5.5
7	MP1A	X	46.097	2.38
8	MP1A	Z	79.843	2.38
9	MP1A	Mx	.004	2.38
10	MP1A	X	46.097	3.63
11	MP1A	Z	79.843	3.63
12	MP1A	Mx	.004	3.63
13	MP1B	X	17.989	2.38
14	MP1B	Z	31.159	2.38
15	MP1B	Mx	-.017	2.38
16	MP1B	X	17.989	3.63
17	MP1B	Z	31.159	3.63
18	MP1B	Mx	-.017	3.63
19	MP1C	X	23.548	2.38
20	MP1C	Z	40.787	2.38
21	MP1C	Mx	.02	2.38
22	MP1C	X	23.548	3.63
23	MP1C	Z	40.787	3.63
24	MP1C	Mx	.02	3.63
25	MP2A	X	36.545	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP2A	Z	63.299	2
27	MP2A	Mx	.003	2
28	MP2B	X	25.39	2
29	MP2B	Z	43.976	2
30	MP2B	Mx	-.025	2
31	MP2C	X	27.596	2
32	MP2C	Z	47.798	2
33	MP2C	Mx	.024	2
34	MP3A	X	36.511	.5
35	MP3A	Z	63.239	.5
36	MP3A	Mx	.003	.5
37	MP3B	X	21.2	.5
38	MP3B	Z	36.719	.5
39	MP3B	Mx	-.02	.5
40	MP3C	X	24.228	.5
41	MP3C	Z	41.964	.5
42	MP3C	Mx	.021	.5
43	MP5A	X	42.005	.25
44	MP5A	Z	72.754	.25
45	MP5A	Mx	.004	.25
46	MP5A	X	42.005	4.25
47	MP5A	Z	72.754	4.25
48	MP5A	Mx	.004	4.25
49	MP5B	X	34.626	.25
50	MP5B	Z	59.974	.25
51	MP5B	Mx	-.031	.25
52	MP5B	X	34.626	4.25
53	MP5B	Z	59.974	4.25
54	MP5B	Mx	-.031	4.25
55	MP5C	X	35.99	.25
56	MP5C	Z	62.336	.25
57	MP5C	Mx	.029	.25
58	MP5C	X	35.99	4.25
59	MP5C	Z	62.336	4.25
60	MP5C	Mx	.029	4.25
61	MP3A	X	64.837	.5
62	MP3A	Z	112.302	.5
63	MP3A	Mx	.092	.5
64	MP3A	X	64.837	5.5
65	MP3A	Z	112.302	5.5
66	MP3A	Mx	.092	5.5
67	MP3B	X	30.495	.5
68	MP3B	Z	52.82	.5
69	MP3B	Mx	-.04	.5
70	MP3B	X	30.495	5.5
71	MP3B	Z	52.82	5.5
72	MP3B	Mx	-.04	5.5
73	MP3C	X	37.287	.5
74	MP3C	Z	64.583	.5
75	MP3C	Mx	.007	.5
76	MP3C	X	37.287	5.5
77	MP3C	Z	64.583	5.5
78	MP3C	Mx	.007	5.5
79	MP3A	X	64.837	.5
80	MP3A	Z	112.302	.5
81	MP3A	Mx	-.08	.5
82	MP3A	X	64.837	5.5
83	MP3A	Z	112.302	5.5
84	MP3A	Mx	-.08	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
85	MP3B	X	30.495	.5
86	MP3B	Z	52.82	.5
87	MP3B	Mx	-.019	.5
88	MP3B	X	30.495	5.5
89	MP3B	Z	52.82	5.5
90	MP3B	Mx	-.019	5.5
91	MP3C	X	37.287	.5
92	MP3C	Z	64.583	.5
93	MP3C	Mx	.057	.5
94	MP3C	X	37.287	5.5
95	MP3C	Z	64.583	5.5
96	MP3C	Mx	.057	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	0	5.5
2	M52	Z	34.981	5.5
3	M52	Mx	-.01	5.5
4	M63	X	0	5.5
5	M63	Z	14.005	5.5
6	M63	Mx	.007	5.5
7	MP1A	X	0	2.38
8	MP1A	Z	72.671	2.38
9	MP1A	Mx	.021	2.38
10	MP1A	X	0	3.63
11	MP1A	Z	72.671	3.63
12	MP1A	Mx	.021	3.63
13	MP1B	X	0	2.38
14	MP1B	Z	35.979	2.38
15	MP1B	Mx	-.017	2.38
16	MP1B	X	0	3.63
17	MP1B	Z	35.979	3.63
18	MP1B	Mx	-.017	3.63
19	MP1C	X	0	2.38
20	MP1C	Z	77.469	2.38
21	MP1C	Mx	.019	2.38
22	MP1C	X	0	3.63
23	MP1C	Z	77.469	3.63
24	MP1C	Mx	.019	3.63
25	MP2A	X	0	2
26	MP2A	Z	65.342	2
27	MP2A	Mx	.019	2
28	MP2B	X	0	2
29	MP2B	Z	50.78	2
30	MP2B	Mx	-.025	2
31	MP2C	X	0	2
32	MP2C	Z	67.247	2
33	MP2C	Mx	.017	2
34	MP3A	X	0	.5
35	MP3A	Z	62.387	.5
36	MP3A	Mx	.018	.5
37	MP3B	X	0	.5
38	MP3B	Z	42.399	.5
39	MP3B	Mx	-.02	.5
40	MP3C	X	0	.5
41	MP3C	Z	65.001	.5
42	MP3C	Mx	.016	.5
43	MP5A	X	0	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
44	MP5A	Z	78.181	.25
45	MP5A	Mx	.022	.25
46	MP5A	X	0	4.25
47	MP5A	Z	78.181	4.25
48	MP5A	Mx	.022	4.25
49	MP5B	X	0	.25
50	MP5B	Z	66.151	.25
51	MP5B	Mx	-.033	.25
52	MP5B	X	0	4.25
53	MP5B	Z	66.151	4.25
54	MP5B	Mx	-.033	4.25
55	MP5C	X	0	.25
56	MP5C	Z	80.908	.25
57	MP5C	Mx	.017	.25
58	MP5C	X	0	4.25
59	MP5C	Z	80.908	4.25
60	MP5C	Mx	.017	4.25
61	MP3A	X	0	.5
62	MP3A	Z	105.821	.5
63	MP3A	Mx	.088	.5
64	MP3A	X	0	5.5
65	MP3A	Z	105.821	5.5
66	MP3A	Mx	.088	5.5
67	MP3B	X	0	.5
68	MP3B	Z	60.991	.5
69	MP3B	Mx	-.019	.5
70	MP3B	X	0	5.5
71	MP3B	Z	60.991	5.5
72	MP3B	Mx	-.019	5.5
73	MP3C	X	0	.5
74	MP3C	Z	111.684	.5
75	MP3C	Mx	-.037	.5
76	MP3C	X	0	5.5
77	MP3C	Z	111.684	5.5
78	MP3C	Mx	-.037	5.5
79	MP3A	X	0	.5
80	MP3A	Z	105.821	.5
81	MP3A	Mx	-.027	.5
82	MP3A	X	0	5.5
83	MP3A	Z	105.821	5.5
84	MP3A	Mx	-.027	5.5
85	MP3B	X	0	.5
86	MP3B	Z	60.991	.5
87	MP3B	Mx	-.04	.5
88	MP3B	X	0	5.5
89	MP3B	Z	60.991	5.5
90	MP3B	Mx	-.04	5.5
91	MP3C	X	0	.5
92	MP3C	Z	111.684	.5
93	MP3C	Mx	.092	.5
94	MP3C	X	0	5.5
95	MP3C	Z	111.684	5.5
96	MP3C	Mx	.092	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-9.706	5.5
2	M52	Z	16.811	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	M52	Mx	-.009	5.5
4	M63	X	-12.083	5.5
5	M63	Z	20.929	5.5
6	M63	Mx	.01	5.5
7	MP1A	X	-21.38	2.38
8	MP1A	Z	37.031	2.38
9	MP1A	Mx	.019	2.38
10	MP1A	X	-21.38	3.63
11	MP1A	Z	37.031	3.63
12	MP1A	Mx	.019	3.63
13	MP1B	X	-31.141	2.38
14	MP1B	Z	53.939	2.38
15	MP1B	Mx	-.022	2.38
16	MP1B	X	-31.141	3.63
17	MP1B	Z	53.939	3.63
18	MP1B	Mx	-.022	3.63
19	MP1C	X	-46.328	2.38
20	MP1C	Z	80.243	2.38
21	MP1C	Mx	0	2.38
22	MP1C	X	-46.328	3.63
23	MP1C	Z	80.243	3.63
24	MP1C	Mx	0	3.63
25	MP2A	X	-26.735	2
26	MP2A	Z	46.307	2
27	MP2A	Mx	.024	2
28	MP2B	X	-30.61	2
29	MP2B	Z	53.017	2
30	MP2B	Mx	-.022	2
31	MP2C	X	-36.637	2
32	MP2C	Z	63.457	2
33	MP2C	Mx	0	2
34	MP3A	X	-23.046	.5
35	MP3A	Z	39.918	.5
36	MP3A	Mx	.021	.5
37	MP3B	X	-28.364	.5
38	MP3B	Z	49.128	.5
39	MP3B	Mx	-.02	.5
40	MP3C	X	-36.637	.5
41	MP3C	Z	63.457	.5
42	MP3C	Mx	0	.5
43	MP5A	X	-34.626	.25
44	MP5A	Z	59.974	.25
45	MP5A	Mx	.031	.25
46	MP5A	X	-34.626	4.25
47	MP5A	Z	59.974	4.25
48	MP5A	Mx	.031	4.25
49	MP5B	X	-35.99	.25
50	MP5B	Z	62.336	.25
51	MP5B	Mx	-.029	.25
52	MP5B	X	-35.99	4.25
53	MP5B	Z	62.336	4.25
54	MP5B	Mx	-.029	4.25
55	MP5C	X	-42.005	.25
56	MP5C	Z	72.754	.25
57	MP5C	Mx	-.004	.25
58	MP5C	X	-42.005	4.25
59	MP5C	Z	72.754	4.25
60	MP5C	Mx	-.004	4.25
61	MP3A	X	-34.638	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
62	MP3A	Z	59.994	.5
63	MP3A	Mx	.051	.5
64	MP3A	X	-34.638	5.5
65	MP3A	Z	59.994	5.5
66	MP3A	Mx	.051	5.5
67	MP3B	X	-46.564	.5
68	MP3B	Z	80.652	.5
69	MP3B	Mx	.011	.5
70	MP3B	X	-46.564	5.5
71	MP3B	Z	80.652	5.5
72	MP3B	Mx	.011	5.5
73	MP3C	X	-65.119	.5
74	MP3C	Z	112.79	.5
75	MP3C	Mx	-.087	.5
76	MP3C	X	-65.119	5.5
77	MP3C	Z	112.79	5.5
78	MP3C	Mx	-.087	5.5
79	MP3A	X	-34.638	.5
80	MP3A	Z	59.994	.5
81	MP3A	Mx	.012	.5
82	MP3A	X	-34.638	5.5
83	MP3A	Z	59.994	5.5
84	MP3A	Mx	.012	5.5
85	MP3B	X	-46.564	.5
86	MP3B	Z	80.652	.5
87	MP3B	Mx	-.077	.5
88	MP3B	X	-46.564	5.5
89	MP3B	Z	80.652	5.5
90	MP3B	Mx	-.077	5.5
91	MP3C	X	-65.119	.5
92	MP3C	Z	112.79	.5
93	MP3C	Mx	.087	.5
94	MP3C	X	-65.119	5.5
95	MP3C	Z	112.79	5.5
96	MP3C	Mx	.087	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-12.129	5.5
2	M52	Z	7.002	5.5
3	M52	Mx	-.007	5.5
4	M63	X	-34.412	5.5
5	M63	Z	19.868	5.5
6	M63	Mx	.008	5.5
7	MP1A	X	-28.034	2.38
8	MP1A	Z	16.186	2.38
9	MP1A	Mx	.016	2.38
10	MP1A	X	-28.034	3.63
11	MP1A	Z	16.186	3.63
12	MP1A	Mx	.016	3.63
13	MP1B	X	-76.718	2.38
14	MP1B	Z	44.293	2.38
15	MP1B	Mx	-.011	2.38
16	MP1B	X	-76.718	3.63
17	MP1B	Z	44.293	3.63
18	MP1B	Mx	-.011	3.63
19	MP1C	X	-67.091	2.38
20	MP1C	Z	38.735	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1C	Mx	-.019	2.38
22	MP1C	X	-67.091	3.63
23	MP1C	Z	38.735	3.63
24	MP1C	Mx	-.019	3.63
25	MP2A	X	-42.736	2
26	MP2A	Z	24.674	2
27	MP2A	Mx	.025	2
28	MP2B	X	-62.058	2
29	MP2B	Z	35.829	2
30	MP2B	Mx	-.009	2
31	MP2C	X	-58.237	2
32	MP2C	Z	33.623	2
33	MP2C	Mx	-.017	2
34	MP3A	X	-35.017	.5
35	MP3A	Z	20.217	.5
36	MP3A	Mx	.02	.5
37	MP3B	X	-61.537	.5
38	MP3B	Z	35.529	.5
39	MP3B	Mx	-.009	.5
40	MP3C	X	-56.293	.5
41	MP3C	Z	32.501	.5
42	MP3C	Mx	-.016	.5
43	MP5A	X	-57.289	.25
44	MP5A	Z	33.076	.25
45	MP5A	Mx	.033	.25
46	MP5A	X	-57.289	4.25
47	MP5A	Z	33.076	4.25
48	MP5A	Mx	.033	4.25
49	MP5B	X	-70.068	.25
50	MP5B	Z	40.454	.25
51	MP5B	Mx	-.017	.25
52	MP5B	X	-70.068	4.25
53	MP5B	Z	40.454	4.25
54	MP5B	Mx	-.017	4.25
55	MP5C	X	-67.707	.25
56	MP5C	Z	39.091	.25
57	MP5C	Mx	-.022	.25
58	MP5C	X	-67.707	4.25
59	MP5C	Z	39.091	4.25
60	MP5C	Mx	-.022	4.25
61	MP3A	X	-49.002	.5
62	MP3A	Z	28.291	.5
63	MP3A	Mx	.025	.5
64	MP3A	X	-49.002	5.5
65	MP3A	Z	28.291	5.5
66	MP3A	Mx	.025	5.5
67	MP3B	X	-108.484	.5
68	MP3B	Z	62.633	.5
69	MP3B	Mx	.064	.5
70	MP3B	X	-108.484	5.5
71	MP3B	Z	62.633	5.5
72	MP3B	Mx	.064	5.5
73	MP3C	X	-96.721	.5
74	MP3C	Z	55.842	.5
75	MP3C	Mx	-.092	.5
76	MP3C	X	-96.721	5.5
77	MP3C	Z	55.842	5.5
78	MP3C	Mx	-.092	5.5
79	MP3A	X	-49.002	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP3A	Z	28.291	.5
81	MP3A	Mx	.031	.5
82	MP3A	X	-49.002	5.5
83	MP3A	Z	28.291	5.5
84	MP3A	Mx	.031	5.5
85	MP3B	X	-108.484	.5
86	MP3B	Z	62.633	.5
87	MP3B	Mx	-.097	.5
88	MP3B	X	-108.484	5.5
89	MP3B	Z	62.633	5.5
90	MP3B	Mx	-.097	5.5
91	MP3C	X	-96.721	.5
92	MP3C	Z	55.842	.5
93	MP3C	Mx	.037	.5
94	MP3C	X	-96.721	5.5
95	MP3C	Z	55.842	5.5
96	MP3C	Mx	.037	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-24.167	5.5
2	M52	Z	0	5.5
3	M52	Mx	-.01	5.5
4	M63	X	-45.142	5.5
5	M63	Z	0	5.5
6	M63	Mx	-.002	5.5
7	MP1A	X	-51.895	2.38
8	MP1A	Z	0	2.38
9	MP1A	Mx	.021	2.38
10	MP1A	X	-51.895	3.63
11	MP1A	Z	0	3.63
12	MP1A	Mx	.021	3.63
13	MP1B	X	-88.587	2.38
14	MP1B	Z	0	2.38
15	MP1B	Mx	.011	2.38
16	MP1B	X	-88.587	3.63
17	MP1B	Z	0	3.63
18	MP1B	Mx	.011	3.63
19	MP1C	X	-47.096	2.38
20	MP1C	Z	0	2.38
21	MP1C	Mx	-.02	2.38
22	MP1C	X	-47.096	3.63
23	MP1C	Z	0	3.63
24	MP1C	Mx	-.02	3.63
25	MP2A	X	-57.096	2
26	MP2A	Z	0	2
27	MP2A	Mx	.023	2
28	MP2B	X	-71.659	2
29	MP2B	Z	0	2
30	MP2B	Mx	.009	2
31	MP2C	X	-55.192	2
32	MP2C	Z	0	2
33	MP2C	Mx	-.024	2
34	MP3A	X	-51.069	.5
35	MP3A	Z	0	.5
36	MP3A	Mx	.021	.5
37	MP3B	X	-71.057	.5
38	MP3B	Z	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
39	MP3B	Mx	.009	.5
40	MP3C	X	-48.455	.5
41	MP3C	Z	0	.5
42	MP3C	Mx	-.021	.5
43	MP5A	X	-71.979	.25
44	MP5A	Z	0	.25
45	MP5A	Mx	.029	.25
46	MP5A	X	-71.979	4.25
47	MP5A	Z	0	4.25
48	MP5A	Mx	.029	4.25
49	MP5B	X	-84.009	.25
50	MP5B	Z	0	.25
51	MP5B	Mx	.004	.25
52	MP5B	X	-84.009	4.25
53	MP5B	Z	0	4.25
54	MP5B	Mx	.004	4.25
55	MP5C	X	-69.252	.25
56	MP5C	Z	0	.25
57	MP5C	Mx	-.031	.25
58	MP5C	X	-69.252	4.25
59	MP5C	Z	0	4.25
60	MP5C	Mx	-.031	4.25
61	MP3A	X	-80.437	.5
62	MP3A	Z	0	.5
63	MP3A	Mx	.002	.5
64	MP3A	X	-80.437	5.5
65	MP3A	Z	0	5.5
66	MP3A	Mx	.002	5.5
67	MP3B	X	-125.267	.5
68	MP3B	Z	0	.5
69	MP3B	Mx	.097	.5
70	MP3B	X	-125.267	5.5
71	MP3B	Z	0	5.5
72	MP3B	Mx	.097	5.5
73	MP3C	X	-74.574	.5
74	MP3C	Z	0	.5
75	MP3C	Mx	-.057	.5
76	MP3C	X	-74.574	5.5
77	MP3C	Z	0	5.5
78	MP3C	Mx	-.057	5.5
79	MP3A	X	-80.437	.5
80	MP3A	Z	0	.5
81	MP3A	Mx	.064	.5
82	MP3A	X	-80.437	5.5
83	MP3A	Z	0	5.5
84	MP3A	Mx	.064	5.5
85	MP3B	X	-125.267	.5
86	MP3B	Z	0	.5
87	MP3B	Mx	-.064	.5
88	MP3B	X	-125.267	5.5
89	MP3B	Z	0	5.5
90	MP3B	Mx	-.064	5.5
91	MP3C	X	-74.574	.5
92	MP3C	Z	0	.5
93	MP3C	Mx	-.007	.5
94	MP3C	X	-74.574	5.5
95	MP3C	Z	0	5.5
96	MP3C	Mx	-.007	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-34.412	5.5
2	M52	Z	-19.868	5.5
3	M52	Mx	-.008	5.5
4	M63	X	-30.294	5.5
5	M63	Z	-17.49	5.5
6	M63	Mx	-.01	5.5
7	MP1A	X	-70.846	2.38
8	MP1A	Z	-40.903	2.38
9	MP1A	Mx	.017	2.38
10	MP1A	X	-70.846	3.63
11	MP1A	Z	-40.903	3.63
12	MP1A	Mx	.017	3.63
13	MP1B	X	-53.939	2.38
14	MP1B	Z	-31.141	2.38
15	MP1B	Mx	.022	2.38
16	MP1B	X	-53.939	3.63
17	MP1B	Z	-31.141	3.63
18	MP1B	Mx	.022	3.63
19	MP1C	X	-27.635	2.38
20	MP1C	Z	-15.955	2.38
21	MP1C	Mx	-.016	2.38
22	MP1C	X	-27.635	3.63
23	MP1C	Z	-15.955	3.63
24	MP1C	Mx	-.016	3.63
25	MP2A	X	-59.728	2
26	MP2A	Z	-34.484	2
27	MP2A	Mx	.015	2
28	MP2B	X	-53.017	2
29	MP2B	Z	-30.61	2
30	MP2B	Mx	.022	2
31	MP2C	X	-42.578	2
32	MP2C	Z	-24.582	2
33	MP2C	Mx	-.025	2
34	MP3A	X	-58.339	.5
35	MP3A	Z	-33.682	.5
36	MP3A	Mx	.014	.5
37	MP3B	X	-49.128	.5
38	MP3B	Z	-28.364	.5
39	MP3B	Mx	.02	.5
40	MP3C	X	-34.799	.5
41	MP3C	Z	-20.091	.5
42	MP3C	Mx	-.02	.5
43	MP5A	X	-70.068	.25
44	MP5A	Z	-40.454	.25
45	MP5A	Mx	.017	.25
46	MP5A	X	-70.068	4.25
47	MP5A	Z	-40.454	4.25
48	MP5A	Mx	.017	4.25
49	MP5B	X	-67.707	.25
50	MP5B	Z	-39.091	.25
51	MP5B	Mx	.022	.25
52	MP5B	X	-67.707	4.25
53	MP5B	Z	-39.091	4.25
54	MP5B	Mx	.022	4.25
55	MP5C	X	-57.289	.25
56	MP5C	Z	-33.076	.25
57	MP5C	Mx	-.033	.25
58	MP5C	X	-57.289	4.25
59	MP5C	Z	-33.076	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP5C	Mx	-.033	4.25
61	MP3A	X	-101.31	.5
62	MP3A	Z	-58.491	.5
63	MP3A	Mx	-.046	.5
64	MP3A	X	-101.31	5.5
65	MP3A	Z	-58.491	5.5
66	MP3A	Mx	-.046	5.5
67	MP3B	X	-80.652	.5
68	MP3B	Z	-46.564	.5
69	MP3B	Mx	.077	.5
70	MP3B	X	-80.652	5.5
71	MP3B	Z	-46.564	5.5
72	MP3B	Mx	.077	5.5
73	MP3C	X	-48.514	.5
74	MP3C	Z	-28.01	.5
75	MP3C	Mx	-.028	.5
76	MP3C	X	-48.514	5.5
77	MP3C	Z	-28.01	5.5
78	MP3C	Mx	-.028	5.5
79	MP3A	X	-101.31	.5
80	MP3A	Z	-58.491	.5
81	MP3A	Mx	.095	.5
82	MP3A	X	-101.31	5.5
83	MP3A	Z	-58.491	5.5
84	MP3A	Mx	.095	5.5
85	MP3B	X	-80.652	.5
86	MP3B	Z	-46.564	.5
87	MP3B	Mx	-.011	.5
88	MP3B	X	-80.652	5.5
89	MP3B	Z	-46.564	5.5
90	MP3B	Mx	-.011	5.5
91	MP3C	X	-48.514	.5
92	MP3C	Z	-28.01	.5
93	MP3C	Mx	-.028	.5
94	MP3C	X	-48.514	5.5
95	MP3C	Z	-28.01	5.5
96	MP3C	Mx	-.028	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-22.571	5.5
2	M52	Z	-39.094	5.5
3	M52	Mx	.002	5.5
4	M63	X	-9.706	5.5
5	M63	Z	-16.811	5.5
6	M63	Mx	-.009	5.5
7	MP1A	X	-46.097	2.38
8	MP1A	Z	-79.843	2.38
9	MP1A	Mx	-.004	2.38
10	MP1A	X	-46.097	3.63
11	MP1A	Z	-79.843	3.63
12	MP1A	Mx	-.004	3.63
13	MP1B	X	-17.989	2.38
14	MP1B	Z	-31.159	2.38
15	MP1B	Mx	.017	2.38
16	MP1B	X	-17.989	3.63
17	MP1B	Z	-31.159	3.63
18	MP1B	Mx	.017	3.63

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP1C	X	-23.548	2.38
20	MP1C	Z	-40.787	2.38
21	MP1C	Mx	-.02	2.38
22	MP1C	X	-23.548	3.63
23	MP1C	Z	-40.787	3.63
24	MP1C	Mx	-.02	3.63
25	MP2A	X	-36.545	2
26	MP2A	Z	-63.299	2
27	MP2A	Mx	-.003	2
28	MP2B	X	-25.39	2
29	MP2B	Z	-43.976	2
30	MP2B	Mx	.025	2
31	MP2C	X	-27.596	2
32	MP2C	Z	-47.798	2
33	MP2C	Mx	-.024	2
34	MP3A	X	-36.511	.5
35	MP3A	Z	-63.239	.5
36	MP3A	Mx	-.003	.5
37	MP3B	X	-21.2	.5
38	MP3B	Z	-36.719	.5
39	MP3B	Mx	.02	.5
40	MP3C	X	-24.228	.5
41	MP3C	Z	-41.964	.5
42	MP3C	Mx	-.021	.5
43	MP5A	X	-42.005	.25
44	MP5A	Z	-72.754	.25
45	MP5A	Mx	-.004	.25
46	MP5A	X	-42.005	4.25
47	MP5A	Z	-72.754	4.25
48	MP5A	Mx	-.004	4.25
49	MP5B	X	-34.626	.25
50	MP5B	Z	-59.974	.25
51	MP5B	Mx	.031	.25
52	MP5B	X	-34.626	4.25
53	MP5B	Z	-59.974	4.25
54	MP5B	Mx	.031	4.25
55	MP5C	X	-35.99	.25
56	MP5C	Z	-62.336	.25
57	MP5C	Mx	-.029	.25
58	MP5C	X	-35.99	4.25
59	MP5C	Z	-62.336	4.25
60	MP5C	Mx	-.029	4.25
61	MP3A	X	-64.837	.5
62	MP3A	Z	-112.302	.5
63	MP3A	Mx	-.092	.5
64	MP3A	X	-64.837	5.5
65	MP3A	Z	-112.302	5.5
66	MP3A	Mx	-.092	5.5
67	MP3B	X	-30.495	.5
68	MP3B	Z	-52.82	.5
69	MP3B	Mx	.04	.5
70	MP3B	X	-30.495	5.5
71	MP3B	Z	-52.82	5.5
72	MP3B	Mx	.04	5.5
73	MP3C	X	-37.287	.5
74	MP3C	Z	-64.583	.5
75	MP3C	Mx	-.007	.5
76	MP3C	X	-37.287	5.5
77	MP3C	Z	-64.583	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
78	MP3C	Mx	-.007	5.5
79	MP3A	X	-64.837	.5
80	MP3A	Z	-112.302	.5
81	MP3A	Mx	.08	.5
82	MP3A	X	-64.837	5.5
83	MP3A	Z	-112.302	5.5
84	MP3A	Mx	.08	5.5
85	MP3B	X	-30.495	.5
86	MP3B	Z	-52.82	.5
87	MP3B	Mx	.019	.5
88	MP3B	X	-30.495	5.5
89	MP3B	Z	-52.82	5.5
90	MP3B	Mx	.019	5.5
91	MP3C	X	-37.287	.5
92	MP3C	Z	-64.583	.5
93	MP3C	Mx	-.057	.5
94	MP3C	X	-37.287	5.5
95	MP3C	Z	-64.583	5.5
96	MP3C	Mx	-.057	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	0	5.5
2	M52	Z	-7.424	5.5
3	M52	Mx	.002	5.5
4	M63	X	0	5.5
5	M63	Z	-3.571	5.5
6	M63	Mx	-.002	5.5
7	MP1A	X	0	2.38
8	MP1A	Z	-16.319	2.38
9	MP1A	Mx	-.005	2.38
10	MP1A	X	0	3.63
11	MP1A	Z	-16.319	3.63
12	MP1A	Mx	-.005	3.63
13	MP1B	X	0	2.38
14	MP1B	Z	-9.351	2.38
15	MP1B	Mx	.005	2.38
16	MP1B	X	0	3.63
17	MP1B	Z	-9.351	3.63
18	MP1B	Mx	.005	3.63
19	MP1C	X	0	2.38
20	MP1C	Z	-17.23	2.38
21	MP1C	Mx	-.004	2.38
22	MP1C	X	0	3.63
23	MP1C	Z	-17.23	3.63
24	MP1C	Mx	-.004	3.63
25	MP2A	X	0	2
26	MP2A	Z	-15.268	2
27	MP2A	Mx	-.004	2
28	MP2B	X	0	2
29	MP2B	Z	-12.153	2
30	MP2B	Mx	.006	2
31	MP2C	X	0	2
32	MP2C	Z	-15.676	2
33	MP2C	Mx	-.004	2
34	MP3A	X	0	.5
35	MP3A	Z	-14.624	.5
36	MP3A	Mx	-.004	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
37	MP3B	X	0	.5
38	MP3B	Z	-10.324	.5
39	MP3B	Mx	.005	.5
40	MP3C	X	0	.5
41	MP3C	Z	-15.186	.5
42	MP3C	Mx	-.004	.5
43	MP5A	X	0	.25
44	MP5A	Z	-14.685	.25
45	MP5A	Mx	-.004	.25
46	MP5A	X	0	4.25
47	MP5A	Z	-14.685	4.25
48	MP5A	Mx	-.004	4.25
49	MP5B	X	0	.25
50	MP5B	Z	-12.685	.25
51	MP5B	Mx	.006	.25
52	MP5B	X	0	4.25
53	MP5B	Z	-12.685	4.25
54	MP5B	Mx	.006	4.25
55	MP5C	X	0	.25
56	MP5C	Z	-15.139	.25
57	MP5C	Mx	-.003	.25
58	MP5C	X	0	4.25
59	MP5C	Z	-15.139	4.25
60	MP5C	Mx	-.003	4.25
61	MP3A	X	0	.5
62	MP3A	Z	-30.603	.5
63	MP3A	Mx	-.025	.5
64	MP3A	X	0	5.5
65	MP3A	Z	-30.603	5.5
66	MP3A	Mx	-.025	5.5
67	MP3B	X	0	.5
68	MP3B	Z	-24.223	.5
69	MP3B	Mx	.008	.5
70	MP3B	X	0	5.5
71	MP3B	Z	-24.223	5.5
72	MP3B	Mx	.008	5.5
73	MP3C	X	0	.5
74	MP3C	Z	-31.437	.5
75	MP3C	Mx	.01	.5
76	MP3C	X	0	5.5
77	MP3C	Z	-31.437	5.5
78	MP3C	Mx	.01	5.5
79	MP3A	X	0	.5
80	MP3A	Z	-30.603	.5
81	MP3A	Mx	.008	.5
82	MP3A	X	0	5.5
83	MP3A	Z	-30.603	5.5
84	MP3A	Mx	.008	5.5
85	MP3B	X	0	.5
86	MP3B	Z	-24.223	.5
87	MP3B	Mx	.016	.5
88	MP3B	X	0	5.5
89	MP3B	Z	-24.223	5.5
90	MP3B	Mx	.016	5.5
91	MP3C	X	0	.5
92	MP3C	Z	-31.437	.5
93	MP3C	Mx	-.026	.5
94	MP3C	X	0	5.5
95	MP3C	Z	-31.437	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
96	MP3C	Mx	-.026	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	2.282	5.5
2	M52	Z	-3.953	5.5
3	M52	Mx	.002	5.5
4	M63	X	2.719	5.5
5	M63	Z	-4.709	5.5
6	M63	Mx	-.002	5.5
7	MP1A	X	5.319	2.38
8	MP1A	Z	-9.213	2.38
9	MP1A	Mx	-.005	2.38
10	MP1A	X	5.319	3.63
11	MP1A	Z	-9.213	3.63
12	MP1A	Mx	-.005	3.63
13	MP1B	X	7.173	2.38
14	MP1B	Z	-12.424	2.38
15	MP1B	Mx	.005	2.38
16	MP1B	X	7.173	3.63
17	MP1B	Z	-12.424	3.63
18	MP1B	Mx	.005	3.63
19	MP1C	X	10.057	2.38
20	MP1C	Z	-17.419	2.38
21	MP1C	Mx	0	2.38
22	MP1C	X	10.057	3.63
23	MP1C	Z	-17.419	3.63
24	MP1C	Mx	0	3.63
25	MP2A	X	6.364	2
26	MP2A	Z	-11.023	2
27	MP2A	Mx	-.006	2
28	MP2B	X	7.193	2
29	MP2B	Z	-12.459	2
30	MP2B	Mx	.005	2
31	MP2C	X	8.483	2
32	MP2C	Z	-14.692	2
33	MP2C	Mx	0	2
34	MP3A	X	5.559	.5
35	MP3A	Z	-9.629	.5
36	MP3A	Mx	-.005	.5
37	MP3B	X	6.703	.5
38	MP3B	Z	-11.61	.5
39	MP3B	Mx	.005	.5
40	MP3C	X	8.483	.5
41	MP3C	Z	-14.692	.5
42	MP3C	Mx	0	.5
43	MP5A	X	6.6	.25
44	MP5A	Z	-11.432	.25
45	MP5A	Mx	-.006	.25
46	MP5A	X	6.6	4.25
47	MP5A	Z	-11.432	4.25
48	MP5A	Mx	-.006	4.25
49	MP5B	X	6.827	.25
50	MP5B	Z	-11.824	.25
51	MP5B	Mx	.006	.25
52	MP5B	X	6.827	4.25
53	MP5B	Z	-11.824	4.25
54	MP5B	Mx	.006	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
55	MP5C	X	7.827	.25
56	MP5C	Z	-13.557	.25
57	MP5C	Mx	.000682	.25
58	MP5C	X	7.827	4.25
59	MP5C	Z	-13.557	4.25
60	MP5C	Mx	.000682	4.25
61	MP3A	X	12.701	.5
62	MP3A	Z	-21.999	.5
63	MP3A	Mx	-.019	.5
64	MP3A	X	12.701	5.5
65	MP3A	Z	-21.999	5.5
66	MP3A	Mx	-.019	5.5
67	MP3B	X	14.398	.5
68	MP3B	Z	-24.939	.5
69	MP3B	Mx	-.003	.5
70	MP3B	X	14.398	5.5
71	MP3B	Z	-24.939	5.5
72	MP3B	Mx	-.003	5.5
73	MP3C	X	17.039	.5
74	MP3C	Z	-29.512	.5
75	MP3C	Mx	.023	.5
76	MP3C	X	17.039	5.5
77	MP3C	Z	-29.512	5.5
78	MP3C	Mx	.023	5.5
79	MP3A	X	12.701	.5
80	MP3A	Z	-21.999	.5
81	MP3A	Mx	-.004	.5
82	MP3A	X	12.701	5.5
83	MP3A	Z	-21.999	5.5
84	MP3A	Mx	-.004	5.5
85	MP3B	X	14.398	.5
86	MP3B	Z	-24.939	.5
87	MP3B	Mx	.024	.5
88	MP3B	X	14.398	5.5
89	MP3B	Z	-24.939	5.5
90	MP3B	Mx	.024	5.5
91	MP3C	X	17.039	.5
92	MP3C	Z	-29.512	.5
93	MP3C	Mx	-.023	.5
94	MP3C	X	17.039	5.5
95	MP3C	Z	-29.512	5.5
96	MP3C	Mx	-.023	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	3.093	5.5
2	M52	Z	-1.786	5.5
3	M52	Mx	.002	5.5
4	M63	X	7.186	5.5
5	M63	Z	-4.149	5.5
6	M63	Mx	-.002	5.5
7	MP1A	X	7.505	2.38
8	MP1A	Z	-4.333	2.38
9	MP1A	Mx	-.004	2.38
10	MP1A	X	7.505	3.63
11	MP1A	Z	-4.333	3.63
12	MP1A	Mx	-.004	3.63
13	MP1B	X	16.75	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP1B	Z	-9.67	2.38
15	MP1B	Mx	.003	2.38
16	MP1B	X	16.75	3.63
17	MP1B	Z	-9.67	3.63
18	MP1B	Mx	.003	3.63
19	MP1C	X	14.921	2.38
20	MP1C	Z	-8.615	2.38
21	MP1C	Mx	.004	2.38
22	MP1C	X	14.921	3.63
23	MP1C	Z	-8.615	3.63
24	MP1C	Mx	.004	3.63
25	MP2A	X	10.26	2
26	MP2A	Z	-5.923	2
27	MP2A	Mx	-.006	2
28	MP2B	X	14.393	2
29	MP2B	Z	-8.31	2
30	MP2B	Mx	.002	2
31	MP2C	X	13.576	2
32	MP2C	Z	-7.838	2
33	MP2C	Mx	.004	2
34	MP3A	X	8.575	.5
35	MP3A	Z	-4.951	.5
36	MP3A	Mx	-.005	.5
37	MP3B	X	14.279	.5
38	MP3B	Z	-8.244	.5
39	MP3B	Mx	.002	.5
40	MP3C	X	13.151	.5
41	MP3C	Z	-7.593	.5
42	MP3C	Mx	.004	.5
43	MP5A	X	10.985	.25
44	MP5A	Z	-6.342	.25
45	MP5A	Mx	-.006	.25
46	MP5A	X	10.985	4.25
47	MP5A	Z	-6.342	4.25
48	MP5A	Mx	-.006	4.25
49	MP5B	X	13.11	.25
50	MP5B	Z	-7.569	.25
51	MP5B	Mx	.003	.25
52	MP5B	X	13.11	4.25
53	MP5B	Z	-7.569	4.25
54	MP5B	Mx	.003	4.25
55	MP5C	X	12.718	.25
56	MP5C	Z	-7.343	.25
57	MP5C	Mx	.004	.25
58	MP5C	X	12.718	4.25
59	MP5C	Z	-7.343	4.25
60	MP5C	Mx	.004	4.25
61	MP3A	X	20.435	.5
62	MP3A	Z	-11.798	.5
63	MP3A	Mx	-.01	.5
64	MP3A	X	20.435	5.5
65	MP3A	Z	-11.798	5.5
66	MP3A	Mx	-.01	5.5
67	MP3B	X	28.899	.5
68	MP3B	Z	-16.685	.5
69	MP3B	Mx	-.017	.5
70	MP3B	X	28.899	5.5
71	MP3B	Z	-16.685	5.5
72	MP3B	Mx	-.017	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP3C	X	27.225	.5
74	MP3C	Z	-15.719	.5
75	MP3C	Mx	.026	.5
76	MP3C	X	27.225	5.5
77	MP3C	Z	-15.719	5.5
78	MP3C	Mx	.026	5.5
79	MP3A	X	20.435	.5
80	MP3A	Z	-11.798	.5
81	MP3A	Mx	-.013	.5
82	MP3A	X	20.435	5.5
83	MP3A	Z	-11.798	5.5
84	MP3A	Mx	-.013	5.5
85	MP3B	X	28.899	.5
86	MP3B	Z	-16.685	.5
87	MP3B	Mx	.026	.5
88	MP3B	X	28.899	5.5
89	MP3B	Z	-16.685	5.5
90	MP3B	Mx	.026	5.5
91	MP3C	X	27.225	.5
92	MP3C	Z	-15.719	.5
93	MP3C	Mx	-.01	.5
94	MP3C	X	27.225	5.5
95	MP3C	Z	-15.719	5.5
96	MP3C	Mx	-.01	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	5.438	5.5
2	M52	Z	0	5.5
3	M52	Mx	.002	5.5
4	M63	X	9.29	5.5
5	M63	Z	0	5.5
6	M63	Mx	.000405	5.5
7	MP1A	X	12.373	2.38
8	MP1A	Z	0	2.38
9	MP1A	Mx	-.005	2.38
10	MP1A	X	12.373	3.63
11	MP1A	Z	0	3.63
12	MP1A	Mx	-.005	3.63
13	MP1B	X	19.341	2.38
14	MP1B	Z	0	2.38
15	MP1B	Mx	-.003	2.38
16	MP1B	X	19.341	3.63
17	MP1B	Z	0	3.63
18	MP1B	Mx	-.003	3.63
19	MP1C	X	11.462	2.38
20	MP1C	Z	0	2.38
21	MP1C	Mx	.005	2.38
22	MP1C	X	11.462	3.63
23	MP1C	Z	0	3.63
24	MP1C	Mx	.005	3.63
25	MP2A	X	13.504	2
26	MP2A	Z	0	2
27	MP2A	Mx	-.006	2
28	MP2B	X	16.62	2
29	MP2B	Z	0	2
30	MP2B	Mx	-.002	2
31	MP2C	X	13.097	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
32	MP2C	Z	0	2
33	MP2C	Mx	.006	2
34	MP3A	X	12.189	.5
35	MP3A	Z	0	.5
36	MP3A	Mx	-.005	.5
37	MP3B	X	16.488	.5
38	MP3B	Z	0	.5
39	MP3B	Mx	-.002	.5
40	MP3C	X	11.627	.5
41	MP3C	Z	0	.5
42	MP3C	Mx	.005	.5
43	MP5A	X	13.654	.25
44	MP5A	Z	0	.25
45	MP5A	Mx	-.006	.25
46	MP5A	X	13.654	4.25
47	MP5A	Z	0	4.25
48	MP5A	Mx	-.006	4.25
49	MP5B	X	15.654	.25
50	MP5B	Z	0	.25
51	MP5B	Mx	-.000682	.25
52	MP5B	X	15.654	4.25
53	MP5B	Z	0	4.25
54	MP5B	Mx	-.000682	4.25
55	MP5C	X	13.2	.25
56	MP5C	Z	0	.25
57	MP5C	Mx	.006	.25
58	MP5C	X	13.2	4.25
59	MP5C	Z	0	4.25
60	MP5C	Mx	.006	4.25
61	MP3A	X	26.99	.5
62	MP3A	Z	0	.5
63	MP3A	Mx	-.000734	.5
64	MP3A	X	26.99	5.5
65	MP3A	Z	0	5.5
66	MP3A	Mx	-.000734	5.5
67	MP3B	X	33.37	.5
68	MP3B	Z	0	.5
69	MP3B	Mx	-.026	.5
70	MP3B	X	33.37	5.5
71	MP3B	Z	0	5.5
72	MP3B	Mx	-.026	5.5
73	MP3C	X	26.156	.5
74	MP3C	Z	0	.5
75	MP3C	Mx	.02	.5
76	MP3C	X	26.156	5.5
77	MP3C	Z	0	5.5
78	MP3C	Mx	.02	5.5
79	MP3A	X	26.99	.5
80	MP3A	Z	0	.5
81	MP3A	Mx	-.021	.5
82	MP3A	X	26.99	5.5
83	MP3A	Z	0	5.5
84	MP3A	Mx	-.021	5.5
85	MP3B	X	33.37	.5
86	MP3B	Z	0	.5
87	MP3B	Mx	.017	.5
88	MP3B	X	33.37	5.5
89	MP3B	Z	0	5.5
90	MP3B	Mx	.017	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
91	MP3C	X	26.156	.5
92	MP3C	Z	0	.5
93	MP3C	Mx	.003	.5
94	MP3C	X	26.156	5.5
95	MP3C	Z	0	5.5
96	MP3C	Mx	.003	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	7.186	5.5
2	M52	Z	4.149	5.5
3	M52	Mx	.002	5.5
4	M63	X	6.429	5.5
5	M63	Z	3.712	5.5
6	M63	Mx	.002	5.5
7	MP1A	X	15.635	2.38
8	MP1A	Z	9.027	2.38
9	MP1A	Mx	-.004	2.38
10	MP1A	X	15.635	3.63
11	MP1A	Z	9.027	3.63
12	MP1A	Mx	-.004	3.63
13	MP1B	X	12.424	2.38
14	MP1B	Z	7.173	2.38
15	MP1B	Mx	-.005	2.38
16	MP1B	X	12.424	3.63
17	MP1B	Z	7.173	3.63
18	MP1B	Mx	-.005	3.63
19	MP1C	X	7.429	2.38
20	MP1C	Z	4.289	2.38
21	MP1C	Mx	.004	2.38
22	MP1C	X	7.429	3.63
23	MP1C	Z	4.289	3.63
24	MP1C	Mx	.004	3.63
25	MP2A	X	13.895	2
26	MP2A	Z	8.022	2
27	MP2A	Mx	-.003	2
28	MP2B	X	12.459	2
29	MP2B	Z	7.193	2
30	MP2B	Mx	-.005	2
31	MP2C	X	10.226	2
32	MP2C	Z	5.904	2
33	MP2C	Mx	.006	2
34	MP3A	X	13.591	.5
35	MP3A	Z	7.847	.5
36	MP3A	Mx	-.003	.5
37	MP3B	X	11.61	.5
38	MP3B	Z	6.703	.5
39	MP3B	Mx	-.005	.5
40	MP3C	X	8.528	.5
41	MP3C	Z	4.924	.5
42	MP3C	Mx	.005	.5
43	MP5A	X	13.11	.25
44	MP5A	Z	7.569	.25
45	MP5A	Mx	-.003	.25
46	MP5A	X	13.11	4.25
47	MP5A	Z	7.569	4.25
48	MP5A	Mx	-.003	4.25
49	MP5B	X	12.718	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
50	MP5B	Z	7.343	.25
51	MP5B	Mx	-.004	.25
52	MP5B	X	12.718	4.25
53	MP5B	Z	7.343	4.25
54	MP5B	Mx	-.004	4.25
55	MP5C	X	10.985	.25
56	MP5C	Z	6.342	.25
57	MP5C	Mx	.006	.25
58	MP5C	X	10.985	4.25
59	MP5C	Z	6.342	4.25
60	MP5C	Mx	.006	4.25
61	MP3A	X	27.878	.5
62	MP3A	Z	16.096	.5
63	MP3A	Mx	.013	.5
64	MP3A	X	27.878	5.5
65	MP3A	Z	16.096	5.5
66	MP3A	Mx	.013	5.5
67	MP3B	X	24.939	.5
68	MP3B	Z	14.398	.5
69	MP3B	Mx	-.024	.5
70	MP3B	X	24.939	5.5
71	MP3B	Z	14.398	5.5
72	MP3B	Mx	-.024	5.5
73	MP3C	X	20.365	.5
74	MP3C	Z	11.758	.5
75	MP3C	Mx	.012	.5
76	MP3C	X	20.365	5.5
77	MP3C	Z	11.758	5.5
78	MP3C	Mx	.012	5.5
79	MP3A	X	27.878	.5
80	MP3A	Z	16.096	.5
81	MP3A	Mx	-.026	.5
82	MP3A	X	27.878	5.5
83	MP3A	Z	16.096	5.5
84	MP3A	Mx	-.026	5.5
85	MP3B	X	24.939	.5
86	MP3B	Z	14.398	.5
87	MP3B	Mx	.003	.5
88	MP3B	X	24.939	5.5
89	MP3B	Z	14.398	5.5
90	MP3B	Mx	.003	5.5
91	MP3C	X	20.365	.5
92	MP3C	Z	11.758	.5
93	MP3C	Mx	.012	.5
94	MP3C	X	20.365	5.5
95	MP3C	Z	11.758	5.5
96	MP3C	Mx	.012	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	4.645	5.5
2	M52	Z	8.046	5.5
3	M52	Mx	-.000405	5.5
4	M63	X	2.282	5.5
5	M63	Z	3.953	5.5
6	M63	Mx	.002	5.5
7	MP1A	X	10.013	2.38
8	MP1A	Z	17.343	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP1A	Mx	.000873	2.38
10	MP1A	X	10.013	3.63
11	MP1A	Z	17.343	3.63
12	MP1A	Mx	.000873	3.63
13	MP1B	X	4.675	2.38
14	MP1B	Z	8.098	2.38
15	MP1B	Mx	-.005	2.38
16	MP1B	X	4.675	3.63
17	MP1B	Z	8.098	3.63
18	MP1B	Mx	-.005	3.63
19	MP1C	X	5.731	2.38
20	MP1C	Z	9.926	2.38
21	MP1C	Mx	.005	2.38
22	MP1C	X	5.731	3.63
23	MP1C	Z	9.926	3.63
24	MP1C	Mx	.005	3.63
25	MP2A	X	8.463	2
26	MP2A	Z	14.658	2
27	MP2A	Mx	.000738	2
28	MP2B	X	6.077	2
29	MP2B	Z	10.525	2
30	MP2B	Mx	-.006	2
31	MP2C	X	6.548	2
32	MP2C	Z	11.342	2
33	MP2C	Mx	.006	2
34	MP3A	X	8.456	.5
35	MP3A	Z	14.645	.5
36	MP3A	Mx	.000737	.5
37	MP3B	X	5.162	.5
38	MP3B	Z	8.941	.5
39	MP3B	Mx	-.005	.5
40	MP3C	X	5.814	.5
41	MP3C	Z	10.069	.5
42	MP3C	Mx	.005	.5
43	MP5A	X	7.827	.25
44	MP5A	Z	13.557	.25
45	MP5A	Mx	.000682	.25
46	MP5A	X	7.827	4.25
47	MP5A	Z	13.557	4.25
48	MP5A	Mx	.000682	4.25
49	MP5B	X	6.6	.25
50	MP5B	Z	11.432	.25
51	MP5B	Mx	-.006	.25
52	MP5B	X	6.6	4.25
53	MP5B	Z	11.432	4.25
54	MP5B	Mx	-.006	4.25
55	MP5C	X	6.827	.25
56	MP5C	Z	11.824	.25
57	MP5C	Mx	.006	.25
58	MP5C	X	6.827	4.25
59	MP5C	Z	11.824	4.25
60	MP5C	Mx	.006	4.25
61	MP3A	X	16.999	.5
62	MP3A	Z	29.443	.5
63	MP3A	Mx	.024	.5
64	MP3A	X	16.999	5.5
65	MP3A	Z	29.443	5.5
66	MP3A	Mx	.024	5.5
67	MP3B	X	12.112	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
68	MP3B	Z	20.978	.5
69	MP3B	Mx	-.016	.5
70	MP3B	X	12.112	5.5
71	MP3B	Z	20.978	5.5
72	MP3B	Mx	-.016	5.5
73	MP3C	X	13.078	.5
74	MP3C	Z	22.652	.5
75	MP3C	Mx	.003	.5
76	MP3C	X	13.078	5.5
77	MP3C	Z	22.652	5.5
78	MP3C	Mx	.003	5.5
79	MP3A	X	16.999	.5
80	MP3A	Z	29.443	.5
81	MP3A	Mx	-.021	.5
82	MP3A	X	16.999	5.5
83	MP3A	Z	29.443	5.5
84	MP3A	Mx	-.021	5.5
85	MP3B	X	12.112	.5
86	MP3B	Z	20.978	.5
87	MP3B	Mx	-.008	.5
88	MP3B	X	12.112	5.5
89	MP3B	Z	20.978	5.5
90	MP3B	Mx	-.008	5.5
91	MP3C	X	13.078	.5
92	MP3C	Z	22.652	.5
93	MP3C	Mx	.02	.5
94	MP3C	X	13.078	5.5
95	MP3C	Z	22.652	5.5
96	MP3C	Mx	.02	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	0	5.5
2	M52	Z	7.424	5.5
3	M52	Mx	-.002	5.5
4	M63	X	0	5.5
5	M63	Z	3.571	5.5
6	M63	Mx	.002	5.5
7	MP1A	X	0	2.38
8	MP1A	Z	16.319	2.38
9	MP1A	Mx	.005	2.38
10	MP1A	X	0	3.63
11	MP1A	Z	16.319	3.63
12	MP1A	Mx	.005	3.63
13	MP1B	X	0	2.38
14	MP1B	Z	9.351	2.38
15	MP1B	Mx	-.005	2.38
16	MP1B	X	0	3.63
17	MP1B	Z	9.351	3.63
18	MP1B	Mx	-.005	3.63
19	MP1C	X	0	2.38
20	MP1C	Z	17.23	2.38
21	MP1C	Mx	.004	2.38
22	MP1C	X	0	3.63
23	MP1C	Z	17.23	3.63
24	MP1C	Mx	.004	3.63
25	MP2A	X	0	2
26	MP2A	Z	15.268	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
27	MP2A	Mx	.004	2
28	MP2B	X	0	2
29	MP2B	Z	12.153	2
30	MP2B	Mx	-.006	2
31	MP2C	X	0	2
32	MP2C	Z	15.676	2
33	MP2C	Mx	.004	2
34	MP3A	X	0	.5
35	MP3A	Z	14.624	.5
36	MP3A	Mx	.004	.5
37	MP3B	X	0	.5
38	MP3B	Z	10.324	.5
39	MP3B	Mx	-.005	.5
40	MP3C	X	0	.5
41	MP3C	Z	15.186	.5
42	MP3C	Mx	.004	.5
43	MP5A	X	0	.25
44	MP5A	Z	14.685	.25
45	MP5A	Mx	.004	.25
46	MP5A	X	0	4.25
47	MP5A	Z	14.685	4.25
48	MP5A	Mx	.004	4.25
49	MP5B	X	0	.25
50	MP5B	Z	12.685	.25
51	MP5B	Mx	-.006	.25
52	MP5B	X	0	4.25
53	MP5B	Z	12.685	4.25
54	MP5B	Mx	-.006	4.25
55	MP5C	X	0	.25
56	MP5C	Z	15.139	.25
57	MP5C	Mx	.003	.25
58	MP5C	X	0	4.25
59	MP5C	Z	15.139	4.25
60	MP5C	Mx	.003	4.25
61	MP3A	X	0	.5
62	MP3A	Z	30.603	.5
63	MP3A	Mx	.025	.5
64	MP3A	X	0	5.5
65	MP3A	Z	30.603	5.5
66	MP3A	Mx	.025	5.5
67	MP3B	X	0	.5
68	MP3B	Z	24.223	.5
69	MP3B	Mx	-.008	.5
70	MP3B	X	0	5.5
71	MP3B	Z	24.223	5.5
72	MP3B	Mx	-.008	5.5
73	MP3C	X	0	.5
74	MP3C	Z	31.437	.5
75	MP3C	Mx	-.01	.5
76	MP3C	X	0	5.5
77	MP3C	Z	31.437	5.5
78	MP3C	Mx	-.01	5.5
79	MP3A	X	0	.5
80	MP3A	Z	30.603	.5
81	MP3A	Mx	-.008	.5
82	MP3A	X	0	5.5
83	MP3A	Z	30.603	5.5
84	MP3A	Mx	-.008	5.5
85	MP3B	X	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP3B	Z	24.223	.5
87	MP3B	Mx	-.016	.5
88	MP3B	X	0	5.5
89	MP3B	Z	24.223	5.5
90	MP3B	Mx	-.016	5.5
91	MP3C	X	0	.5
92	MP3C	Z	31.437	.5
93	MP3C	Mx	.026	.5
94	MP3C	X	0	5.5
95	MP3C	Z	31.437	5.5
96	MP3C	Mx	.026	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-2.282	5.5
2	M52	Z	3.953	5.5
3	M52	Mx	-.002	5.5
4	M63	X	-2.719	5.5
5	M63	Z	4.709	5.5
6	M63	Mx	.002	5.5
7	MP1A	X	-5.319	2.38
8	MP1A	Z	9.213	2.38
9	MP1A	Mx	.005	2.38
10	MP1A	X	-5.319	3.63
11	MP1A	Z	9.213	3.63
12	MP1A	Mx	.005	3.63
13	MP1B	X	-7.173	2.38
14	MP1B	Z	12.424	2.38
15	MP1B	Mx	-.005	2.38
16	MP1B	X	-7.173	3.63
17	MP1B	Z	12.424	3.63
18	MP1B	Mx	-.005	3.63
19	MP1C	X	-10.057	2.38
20	MP1C	Z	17.419	2.38
21	MP1C	Mx	0	2.38
22	MP1C	X	-10.057	3.63
23	MP1C	Z	17.419	3.63
24	MP1C	Mx	0	3.63
25	MP2A	X	-6.364	2
26	MP2A	Z	11.023	2
27	MP2A	Mx	.006	2
28	MP2B	X	-7.193	2
29	MP2B	Z	12.459	2
30	MP2B	Mx	-.005	2
31	MP2C	X	-8.483	2
32	MP2C	Z	14.692	2
33	MP2C	Mx	0	2
34	MP3A	X	-5.559	.5
35	MP3A	Z	9.629	.5
36	MP3A	Mx	.005	.5
37	MP3B	X	-6.703	.5
38	MP3B	Z	11.61	.5
39	MP3B	Mx	-.005	.5
40	MP3C	X	-8.483	.5
41	MP3C	Z	14.692	.5
42	MP3C	Mx	0	.5
43	MP5A	X	-6.6	.25
44	MP5A	Z	11.432	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
45	MP5A	Mx	.006	.25
46	MP5A	X	-6.6	4.25
47	MP5A	Z	11.432	4.25
48	MP5A	Mx	.006	4.25
49	MP5B	X	-6.827	.25
50	MP5B	Z	11.824	.25
51	MP5B	Mx	-.006	.25
52	MP5B	X	-6.827	4.25
53	MP5B	Z	11.824	4.25
54	MP5B	Mx	-.006	4.25
55	MP5C	X	-7.827	.25
56	MP5C	Z	13.557	.25
57	MP5C	Mx	-.000682	.25
58	MP5C	X	-7.827	4.25
59	MP5C	Z	13.557	4.25
60	MP5C	Mx	-.000682	4.25
61	MP3A	X	-12.701	.5
62	MP3A	Z	21.999	.5
63	MP3A	Mx	.019	.5
64	MP3A	X	-12.701	5.5
65	MP3A	Z	21.999	5.5
66	MP3A	Mx	.019	5.5
67	MP3B	X	-14.398	.5
68	MP3B	Z	24.939	.5
69	MP3B	Mx	.003	.5
70	MP3B	X	-14.398	5.5
71	MP3B	Z	24.939	5.5
72	MP3B	Mx	.003	5.5
73	MP3C	X	-17.039	.5
74	MP3C	Z	29.512	.5
75	MP3C	Mx	-.023	.5
76	MP3C	X	-17.039	5.5
77	MP3C	Z	29.512	5.5
78	MP3C	Mx	-.023	5.5
79	MP3A	X	-12.701	.5
80	MP3A	Z	21.999	.5
81	MP3A	Mx	.004	.5
82	MP3A	X	-12.701	5.5
83	MP3A	Z	21.999	5.5
84	MP3A	Mx	.004	5.5
85	MP3B	X	-14.398	.5
86	MP3B	Z	24.939	.5
87	MP3B	Mx	-.024	.5
88	MP3B	X	-14.398	5.5
89	MP3B	Z	24.939	5.5
90	MP3B	Mx	-.024	5.5
91	MP3C	X	-17.039	.5
92	MP3C	Z	29.512	.5
93	MP3C	Mx	.023	.5
94	MP3C	X	-17.039	5.5
95	MP3C	Z	29.512	5.5
96	MP3C	Mx	.023	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-3.093	5.5
2	M52	Z	1.786	5.5
3	M52	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	M63	X	-7.186	5.5
5	M63	Z	4.149	5.5
6	M63	Mx	.002	5.5
7	MP1A	X	-7.505	2.38
8	MP1A	Z	4.333	2.38
9	MP1A	Mx	.004	2.38
10	MP1A	X	-7.505	3.63
11	MP1A	Z	4.333	3.63
12	MP1A	Mx	.004	3.63
13	MP1B	X	-16.75	2.38
14	MP1B	Z	9.67	2.38
15	MP1B	Mx	-.003	2.38
16	MP1B	X	-16.75	3.63
17	MP1B	Z	9.67	3.63
18	MP1B	Mx	-.003	3.63
19	MP1C	X	-14.921	2.38
20	MP1C	Z	8.615	2.38
21	MP1C	Mx	-.004	2.38
22	MP1C	X	-14.921	3.63
23	MP1C	Z	8.615	3.63
24	MP1C	Mx	-.004	3.63
25	MP2A	X	-10.26	2
26	MP2A	Z	5.923	2
27	MP2A	Mx	.006	2
28	MP2B	X	-14.393	2
29	MP2B	Z	8.31	2
30	MP2B	Mx	-.002	2
31	MP2C	X	-13.576	2
32	MP2C	Z	7.838	2
33	MP2C	Mx	-.004	2
34	MP3A	X	-8.575	.5
35	MP3A	Z	4.951	.5
36	MP3A	Mx	.005	.5
37	MP3B	X	-14.279	.5
38	MP3B	Z	8.244	.5
39	MP3B	Mx	-.002	.5
40	MP3C	X	-13.151	.5
41	MP3C	Z	7.593	.5
42	MP3C	Mx	-.004	.5
43	MP5A	X	-10.985	.25
44	MP5A	Z	6.342	.25
45	MP5A	Mx	.006	.25
46	MP5A	X	-10.985	4.25
47	MP5A	Z	6.342	4.25
48	MP5A	Mx	.006	4.25
49	MP5B	X	-13.11	.25
50	MP5B	Z	7.569	.25
51	MP5B	Mx	-.003	.25
52	MP5B	X	-13.11	4.25
53	MP5B	Z	7.569	4.25
54	MP5B	Mx	-.003	4.25
55	MP5C	X	-12.718	.25
56	MP5C	Z	7.343	.25
57	MP5C	Mx	-.004	.25
58	MP5C	X	-12.718	4.25
59	MP5C	Z	7.343	4.25
60	MP5C	Mx	-.004	4.25
61	MP3A	X	-20.435	.5
62	MP3A	Z	11.798	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3A	Mx	.01	.5
64	MP3A	X	-20.435	5.5
65	MP3A	Z	11.798	5.5
66	MP3A	Mx	.01	5.5
67	MP3B	X	-28.899	.5
68	MP3B	Z	16.685	.5
69	MP3B	Mx	.017	.5
70	MP3B	X	-28.899	5.5
71	MP3B	Z	16.685	5.5
72	MP3B	Mx	.017	5.5
73	MP3C	X	-27.225	.5
74	MP3C	Z	15.719	.5
75	MP3C	Mx	-.026	.5
76	MP3C	X	-27.225	5.5
77	MP3C	Z	15.719	5.5
78	MP3C	Mx	-.026	5.5
79	MP3A	X	-20.435	.5
80	MP3A	Z	11.798	.5
81	MP3A	Mx	.013	.5
82	MP3A	X	-20.435	5.5
83	MP3A	Z	11.798	5.5
84	MP3A	Mx	.013	5.5
85	MP3B	X	-28.899	.5
86	MP3B	Z	16.685	.5
87	MP3B	Mx	-.026	.5
88	MP3B	X	-28.899	5.5
89	MP3B	Z	16.685	5.5
90	MP3B	Mx	-.026	5.5
91	MP3C	X	-27.225	.5
92	MP3C	Z	15.719	.5
93	MP3C	Mx	.01	.5
94	MP3C	X	-27.225	5.5
95	MP3C	Z	15.719	5.5
96	MP3C	Mx	.01	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-5.438	5.5
2	M52	Z	0	5.5
3	M52	Mx	-.002	5.5
4	M63	X	-9.29	5.5
5	M63	Z	0	5.5
6	M63	Mx	-.000405	5.5
7	MP1A	X	-12.373	2.38
8	MP1A	Z	0	2.38
9	MP1A	Mx	.005	2.38
10	MP1A	X	-12.373	3.63
11	MP1A	Z	0	3.63
12	MP1A	Mx	.005	3.63
13	MP1B	X	-19.341	2.38
14	MP1B	Z	0	2.38
15	MP1B	Mx	.003	2.38
16	MP1B	X	-19.341	3.63
17	MP1B	Z	0	3.63
18	MP1B	Mx	.003	3.63
19	MP1C	X	-11.462	2.38
20	MP1C	Z	0	2.38
21	MP1C	Mx	-.005	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP1C	X	-11.462	3.63
23	MP1C	Z	0	3.63
24	MP1C	Mx	-.005	3.63
25	MP2A	X	-13.504	2
26	MP2A	Z	0	2
27	MP2A	Mx	.006	2
28	MP2B	X	-16.62	2
29	MP2B	Z	0	2
30	MP2B	Mx	.002	2
31	MP2C	X	-13.097	2
32	MP2C	Z	0	2
33	MP2C	Mx	-.006	2
34	MP3A	X	-12.189	.5
35	MP3A	Z	0	.5
36	MP3A	Mx	.005	.5
37	MP3B	X	-16.488	.5
38	MP3B	Z	0	.5
39	MP3B	Mx	.002	.5
40	MP3C	X	-11.627	.5
41	MP3C	Z	0	.5
42	MP3C	Mx	-.005	.5
43	MP5A	X	-13.654	.25
44	MP5A	Z	0	.25
45	MP5A	Mx	.006	.25
46	MP5A	X	-13.654	4.25
47	MP5A	Z	0	4.25
48	MP5A	Mx	.006	4.25
49	MP5B	X	-15.654	.25
50	MP5B	Z	0	.25
51	MP5B	Mx	.000682	.25
52	MP5B	X	-15.654	4.25
53	MP5B	Z	0	4.25
54	MP5B	Mx	.000682	4.25
55	MP5C	X	-13.2	.25
56	MP5C	Z	0	.25
57	MP5C	Mx	-.006	.25
58	MP5C	X	-13.2	4.25
59	MP5C	Z	0	4.25
60	MP5C	Mx	-.006	4.25
61	MP3A	X	-26.99	.5
62	MP3A	Z	0	.5
63	MP3A	Mx	.000734	.5
64	MP3A	X	-26.99	5.5
65	MP3A	Z	0	5.5
66	MP3A	Mx	.000734	5.5
67	MP3B	X	-33.37	.5
68	MP3B	Z	0	.5
69	MP3B	Mx	.026	.5
70	MP3B	X	-33.37	5.5
71	MP3B	Z	0	5.5
72	MP3B	Mx	.026	5.5
73	MP3C	X	-26.156	.5
74	MP3C	Z	0	.5
75	MP3C	Mx	-.02	.5
76	MP3C	X	-26.156	5.5
77	MP3C	Z	0	5.5
78	MP3C	Mx	-.02	5.5
79	MP3A	X	-26.99	.5
80	MP3A	Z	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP3A	Mx	.021	.5
82	MP3A	X	-26.99	5.5
83	MP3A	Z	0	5.5
84	MP3A	Mx	.021	5.5
85	MP3B	X	-33.37	.5
86	MP3B	Z	0	.5
87	MP3B	Mx	-.017	.5
88	MP3B	X	-33.37	5.5
89	MP3B	Z	0	5.5
90	MP3B	Mx	-.017	5.5
91	MP3C	X	-26.156	.5
92	MP3C	Z	0	.5
93	MP3C	Mx	-.003	.5
94	MP3C	X	-26.156	5.5
95	MP3C	Z	0	5.5
96	MP3C	Mx	-.003	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-7.186	5.5
2	M52	Z	-4.149	5.5
3	M52	Mx	-.002	5.5
4	M63	X	-6.429	5.5
5	M63	Z	-3.712	5.5
6	M63	Mx	-.002	5.5
7	MP1A	X	-15.635	2.38
8	MP1A	Z	-9.027	2.38
9	MP1A	Mx	.004	2.38
10	MP1A	X	-15.635	3.63
11	MP1A	Z	-9.027	3.63
12	MP1A	Mx	.004	3.63
13	MP1B	X	-12.424	2.38
14	MP1B	Z	-7.173	2.38
15	MP1B	Mx	.005	2.38
16	MP1B	X	-12.424	3.63
17	MP1B	Z	-7.173	3.63
18	MP1B	Mx	.005	3.63
19	MP1C	X	-7.429	2.38
20	MP1C	Z	-4.289	2.38
21	MP1C	Mx	-.004	2.38
22	MP1C	X	-7.429	3.63
23	MP1C	Z	-4.289	3.63
24	MP1C	Mx	-.004	3.63
25	MP2A	X	-13.895	2
26	MP2A	Z	-8.022	2
27	MP2A	Mx	.003	2
28	MP2B	X	-12.459	2
29	MP2B	Z	-7.193	2
30	MP2B	Mx	.005	2
31	MP2C	X	-10.226	2
32	MP2C	Z	-5.904	2
33	MP2C	Mx	-.006	2
34	MP3A	X	-13.591	.5
35	MP3A	Z	-7.847	.5
36	MP3A	Mx	.003	.5
37	MP3B	X	-11.61	.5
38	MP3B	Z	-6.703	.5
39	MP3B	Mx	.005	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
40	MP3C	X	-8.528	.5
41	MP3C	Z	-4.924	.5
42	MP3C	Mx	-.005	.5
43	MP5A	X	-13.11	.25
44	MP5A	Z	-7.569	.25
45	MP5A	Mx	.003	.25
46	MP5A	X	-13.11	4.25
47	MP5A	Z	-7.569	4.25
48	MP5A	Mx	.003	4.25
49	MP5B	X	-12.718	.25
50	MP5B	Z	-7.343	.25
51	MP5B	Mx	.004	.25
52	MP5B	X	-12.718	4.25
53	MP5B	Z	-7.343	4.25
54	MP5B	Mx	.004	4.25
55	MP5C	X	-10.985	.25
56	MP5C	Z	-6.342	.25
57	MP5C	Mx	-.006	.25
58	MP5C	X	-10.985	4.25
59	MP5C	Z	-6.342	4.25
60	MP5C	Mx	-.006	4.25
61	MP3A	X	-27.878	.5
62	MP3A	Z	-16.096	.5
63	MP3A	Mx	-.013	.5
64	MP3A	X	-27.878	5.5
65	MP3A	Z	-16.096	5.5
66	MP3A	Mx	-.013	5.5
67	MP3B	X	-24.939	.5
68	MP3B	Z	-14.398	.5
69	MP3B	Mx	.024	.5
70	MP3B	X	-24.939	5.5
71	MP3B	Z	-14.398	5.5
72	MP3B	Mx	.024	5.5
73	MP3C	X	-20.365	.5
74	MP3C	Z	-11.758	.5
75	MP3C	Mx	-.012	.5
76	MP3C	X	-20.365	5.5
77	MP3C	Z	-11.758	5.5
78	MP3C	Mx	-.012	5.5
79	MP3A	X	-27.878	.5
80	MP3A	Z	-16.096	.5
81	MP3A	Mx	.026	.5
82	MP3A	X	-27.878	5.5
83	MP3A	Z	-16.096	5.5
84	MP3A	Mx	.026	5.5
85	MP3B	X	-24.939	.5
86	MP3B	Z	-14.398	.5
87	MP3B	Mx	-.003	.5
88	MP3B	X	-24.939	5.5
89	MP3B	Z	-14.398	5.5
90	MP3B	Mx	-.003	5.5
91	MP3C	X	-20.365	.5
92	MP3C	Z	-11.758	.5
93	MP3C	Mx	-.012	.5
94	MP3C	X	-20.365	5.5
95	MP3C	Z	-11.758	5.5
96	MP3C	Mx	-.012	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-4.645	5.5
2	M52	Z	-8.046	5.5
3	M52	Mx	.000405	5.5
4	M63	X	-2.282	5.5
5	M63	Z	-3.953	5.5
6	M63	Mx	-.002	5.5
7	MP1A	X	-10.013	2.38
8	MP1A	Z	-17.343	2.38
9	MP1A	Mx	-.000873	2.38
10	MP1A	X	-10.013	3.63
11	MP1A	Z	-17.343	3.63
12	MP1A	Mx	-.000873	3.63
13	MP1B	X	-4.675	2.38
14	MP1B	Z	-8.098	2.38
15	MP1B	Mx	.005	2.38
16	MP1B	X	-4.675	3.63
17	MP1B	Z	-8.098	3.63
18	MP1B	Mx	.005	3.63
19	MP1C	X	-5.731	2.38
20	MP1C	Z	-9.926	2.38
21	MP1C	Mx	-.005	2.38
22	MP1C	X	-5.731	3.63
23	MP1C	Z	-9.926	3.63
24	MP1C	Mx	-.005	3.63
25	MP2A	X	-8.463	2
26	MP2A	Z	-14.658	2
27	MP2A	Mx	-.000738	2
28	MP2B	X	-6.077	2
29	MP2B	Z	-10.525	2
30	MP2B	Mx	.006	2
31	MP2C	X	-6.548	2
32	MP2C	Z	-11.342	2
33	MP2C	Mx	-.006	2
34	MP3A	X	-8.456	.5
35	MP3A	Z	-14.645	.5
36	MP3A	Mx	-.000737	.5
37	MP3B	X	-5.162	.5
38	MP3B	Z	-8.941	.5
39	MP3B	Mx	.005	.5
40	MP3C	X	-5.814	.5
41	MP3C	Z	-10.069	.5
42	MP3C	Mx	-.005	.5
43	MP5A	X	-7.827	.25
44	MP5A	Z	-13.557	.25
45	MP5A	Mx	-.000682	.25
46	MP5A	X	-7.827	4.25
47	MP5A	Z	-13.557	4.25
48	MP5A	Mx	-.000682	4.25
49	MP5B	X	-6.6	.25
50	MP5B	Z	-11.432	.25
51	MP5B	Mx	.006	.25
52	MP5B	X	-6.6	4.25
53	MP5B	Z	-11.432	4.25
54	MP5B	Mx	.006	4.25
55	MP5C	X	-6.827	.25
56	MP5C	Z	-11.824	.25
57	MP5C	Mx	-.006	.25
58	MP5C	X	-6.827	4.25
59	MP5C	Z	-11.824	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP5C	Mx	-.006	4.25
61	MP3A	X	-16.999	.5
62	MP3A	Z	-29.443	.5
63	MP3A	Mx	-.024	.5
64	MP3A	X	-16.999	5.5
65	MP3A	Z	-29.443	5.5
66	MP3A	Mx	-.024	5.5
67	MP3B	X	-12.112	.5
68	MP3B	Z	-20.978	.5
69	MP3B	Mx	.016	.5
70	MP3B	X	-12.112	5.5
71	MP3B	Z	-20.978	5.5
72	MP3B	Mx	.016	5.5
73	MP3C	X	-13.078	.5
74	MP3C	Z	-22.652	.5
75	MP3C	Mx	-.003	.5
76	MP3C	X	-13.078	5.5
77	MP3C	Z	-22.652	5.5
78	MP3C	Mx	-.003	5.5
79	MP3A	X	-16.999	.5
80	MP3A	Z	-29.443	.5
81	MP3A	Mx	.021	.5
82	MP3A	X	-16.999	5.5
83	MP3A	Z	-29.443	5.5
84	MP3A	Mx	.021	5.5
85	MP3B	X	-12.112	.5
86	MP3B	Z	-20.978	.5
87	MP3B	Mx	.008	.5
88	MP3B	X	-12.112	5.5
89	MP3B	Z	-20.978	5.5
90	MP3B	Mx	.008	5.5
91	MP3C	X	-13.078	.5
92	MP3C	Z	-22.652	.5
93	MP3C	Mx	-.02	.5
94	MP3C	X	-13.078	5.5
95	MP3C	Z	-22.652	5.5
96	MP3C	Mx	-.02	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	0	5.5
2	M52	Z	-2.015	5.5
3	M52	Mx	.000578	5.5
4	M63	X	0	5.5
5	M63	Z	-.807	5.5
6	M63	Mx	-.000402	5.5
7	MP1A	X	0	2.38
8	MP1A	Z	-4.186	2.38
9	MP1A	Mx	-.001	2.38
10	MP1A	X	0	3.63
11	MP1A	Z	-4.186	3.63
12	MP1A	Mx	-.001	3.63
13	MP1B	X	0	2.38
14	MP1B	Z	-2.072	2.38
15	MP1B	Mx	.001	2.38
16	MP1B	X	0	3.63
17	MP1B	Z	-2.072	3.63
18	MP1B	Mx	.001	3.63

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP1C	X	0	2.38
20	MP1C	Z	-4.462	2.38
21	MP1C	Mx	-.001	2.38
22	MP1C	X	0	3.63
23	MP1C	Z	-4.462	3.63
24	MP1C	Mx	-.001	3.63
25	MP2A	X	0	2
26	MP2A	Z	-3.764	2
27	MP2A	Mx	-.001	2
28	MP2B	X	0	2
29	MP2B	Z	-2.925	2
30	MP2B	Mx	.001	2
31	MP2C	X	0	2
32	MP2C	Z	-3.873	2
33	MP2C	Mx	-.000968	2
34	MP3A	X	0	.5
35	MP3A	Z	-3.594	.5
36	MP3A	Mx	-.001	.5
37	MP3B	X	0	.5
38	MP3B	Z	-2.442	.5
39	MP3B	Mx	.001	.5
40	MP3C	X	0	.5
41	MP3C	Z	-3.744	.5
42	MP3C	Mx	-.000936	.5
43	MP5A	X	0	.25
44	MP5A	Z	-4.503	.25
45	MP5A	Mx	-.001	.25
46	MP5A	X	0	4.25
47	MP5A	Z	-4.503	4.25
48	MP5A	Mx	-.001	4.25
49	MP5B	X	0	.25
50	MP5B	Z	-3.81	.25
51	MP5B	Mx	.002	.25
52	MP5B	X	0	4.25
53	MP5B	Z	-3.81	4.25
54	MP5B	Mx	.002	4.25
55	MP5C	X	0	.25
56	MP5C	Z	-4.66	.25
57	MP5C	Mx	-.000985	.25
58	MP5C	X	0	4.25
59	MP5C	Z	-4.66	4.25
60	MP5C	Mx	-.000985	4.25
61	MP3A	X	0	.5
62	MP3A	Z	-6.095	.5
63	MP3A	Mx	-.005	.5
64	MP3A	X	0	5.5
65	MP3A	Z	-6.095	5.5
66	MP3A	Mx	-.005	5.5
67	MP3B	X	0	.5
68	MP3B	Z	-3.513	.5
69	MP3B	Mx	.001	.5
70	MP3B	X	0	5.5
71	MP3B	Z	-3.513	5.5
72	MP3B	Mx	.001	5.5
73	MP3C	X	0	.5
74	MP3C	Z	-6.433	.5
75	MP3C	Mx	.002	.5
76	MP3C	X	0	5.5
77	MP3C	Z	-6.433	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
78	MP3C	Mx	.002	5.5
79	MP3A	X	0	.5
80	MP3A	Z	-6.095	.5
81	MP3A	Mx	.002	.5
82	MP3A	X	0	5.5
83	MP3A	Z	-6.095	5.5
84	MP3A	Mx	.002	5.5
85	MP3B	X	0	.5
86	MP3B	Z	-3.513	.5
87	MP3B	Mx	.002	.5
88	MP3B	X	0	5.5
89	MP3B	Z	-3.513	5.5
90	MP3B	Mx	.002	5.5
91	MP3C	X	0	.5
92	MP3C	Z	-6.433	.5
93	MP3C	Mx	-.005	.5
94	MP3C	X	0	5.5
95	MP3C	Z	-6.433	5.5
96	MP3C	Mx	-.005	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	.559	5.5
2	M52	Z	-.968	5.5
3	M52	Mx	.000507	5.5
4	M63	X	.696	5.5
5	M63	Z	-1.206	5.5
6	M63	Mx	-.00057	5.5
7	MP1A	X	1.231	2.38
8	MP1A	Z	-2.133	2.38
9	MP1A	Mx	-.001	2.38
10	MP1A	X	1.231	3.63
11	MP1A	Z	-2.133	3.63
12	MP1A	Mx	-.001	3.63
13	MP1B	X	1.794	2.38
14	MP1B	Z	-3.107	2.38
15	MP1B	Mx	.001	2.38
16	MP1B	X	1.794	3.63
17	MP1B	Z	-3.107	3.63
18	MP1B	Mx	.001	3.63
19	MP1C	X	2.668	2.38
20	MP1C	Z	-4.622	2.38
21	MP1C	Mx	0	2.38
22	MP1C	X	2.668	3.63
23	MP1C	Z	-4.622	3.63
24	MP1C	Mx	0	3.63
25	MP2A	X	1.54	2
26	MP2A	Z	-2.667	2
27	MP2A	Mx	-.001	2
28	MP2B	X	1.763	2
29	MP2B	Z	-3.054	2
30	MP2B	Mx	.001	2
31	MP2C	X	2.11	2
32	MP2C	Z	-3.655	2
33	MP2C	Mx	0	2
34	MP3A	X	1.327	.5
35	MP3A	Z	-2.299	.5
36	MP3A	Mx	-.001	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
37	MP3B	X	1.634	.5
38	MP3B	Z	-2.83	.5
39	MP3B	Mx	.001	.5
40	MP3C	X	2.11	.5
41	MP3C	Z	-3.655	.5
42	MP3C	Mx	0	.5
43	MP5A	X	1.994	.25
44	MP5A	Z	-3.455	.25
45	MP5A	Mx	-.002	.25
46	MP5A	X	1.994	4.25
47	MP5A	Z	-3.455	4.25
48	MP5A	Mx	-.002	4.25
49	MP5B	X	2.073	.25
50	MP5B	Z	-3.591	.25
51	MP5B	Mx	.002	.25
52	MP5B	X	2.073	4.25
53	MP5B	Z	-3.591	4.25
54	MP5B	Mx	.002	4.25
55	MP5C	X	2.419	.25
56	MP5C	Z	-4.191	.25
57	MP5C	Mx	.000211	.25
58	MP5C	X	2.419	4.25
59	MP5C	Z	-4.191	4.25
60	MP5C	Mx	.000211	4.25
61	MP3A	X	1.995	.5
62	MP3A	Z	-3.456	.5
63	MP3A	Mx	-.003	.5
64	MP3A	X	1.995	5.5
65	MP3A	Z	-3.456	5.5
66	MP3A	Mx	-.003	5.5
67	MP3B	X	2.682	.5
68	MP3B	Z	-4.646	.5
69	MP3B	Mx	-.000632	.5
70	MP3B	X	2.682	5.5
71	MP3B	Z	-4.646	5.5
72	MP3B	Mx	-.000632	5.5
73	MP3C	X	3.751	.5
74	MP3C	Z	-6.497	.5
75	MP3C	Mx	.005	.5
76	MP3C	X	3.751	5.5
77	MP3C	Z	-6.497	5.5
78	MP3C	Mx	.005	5.5
79	MP3A	X	1.995	.5
80	MP3A	Z	-3.456	.5
81	MP3A	Mx	-.000684	.5
82	MP3A	X	1.995	5.5
83	MP3A	Z	-3.456	5.5
84	MP3A	Mx	-.000684	5.5
85	MP3B	X	2.682	.5
86	MP3B	Z	-4.646	.5
87	MP3B	Mx	.004	.5
88	MP3B	X	2.682	5.5
89	MP3B	Z	-4.646	5.5
90	MP3B	Mx	.004	5.5
91	MP3C	X	3.751	.5
92	MP3C	Z	-6.497	.5
93	MP3C	Mx	-.005	.5
94	MP3C	X	3.751	5.5
95	MP3C	Z	-6.497	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
96	MP3C	Mx	-.005	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	.699	5.5
2	M52	Z	-.403	5.5
3	M52	Mx	.000402	5.5
4	M63	X	1.982	5.5
5	M63	Z	-1.144	5.5
6	M63	Mx	-.000483	5.5
7	MP1A	X	1.615	2.38
8	MP1A	Z	-.932	2.38
9	MP1A	Mx	-.000929	2.38
10	MP1A	X	1.615	3.63
11	MP1A	Z	-.932	3.63
12	MP1A	Mx	-.000929	3.63
13	MP1B	X	4.419	2.38
14	MP1B	Z	-2.551	2.38
15	MP1B	Mx	.00066	2.38
16	MP1B	X	4.419	3.63
17	MP1B	Z	-2.551	3.63
18	MP1B	Mx	.00066	3.63
19	MP1C	X	3.864	2.38
20	MP1C	Z	-2.231	2.38
21	MP1C	Mx	.001	2.38
22	MP1C	X	3.864	3.63
23	MP1C	Z	-2.231	3.63
24	MP1C	Mx	.001	3.63
25	MP2A	X	2.462	2
26	MP2A	Z	-1.421	2
27	MP2A	Mx	-.001	2
28	MP2B	X	3.575	2
29	MP2B	Z	-2.064	2
30	MP2B	Mx	.000534	2
31	MP2C	X	3.354	2
32	MP2C	Z	-1.937	2
33	MP2C	Mx	.000968	2
34	MP3A	X	2.017	.5
35	MP3A	Z	-1.164	.5
36	MP3A	Mx	-.001	.5
37	MP3B	X	3.545	.5
38	MP3B	Z	-2.046	.5
39	MP3B	Mx	.000529	.5
40	MP3C	X	3.242	.5
41	MP3C	Z	-1.872	.5
42	MP3C	Mx	.000936	.5
43	MP5A	X	3.3	.25
44	MP5A	Z	-1.905	.25
45	MP5A	Mx	-.002	.25
46	MP5A	X	3.3	4.25
47	MP5A	Z	-1.905	4.25
48	MP5A	Mx	-.002	4.25
49	MP5B	X	4.036	.25
50	MP5B	Z	-2.33	.25
51	MP5B	Mx	.000985	.25
52	MP5B	X	4.036	4.25
53	MP5B	Z	-2.33	4.25
54	MP5B	Mx	.000985	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
55	MP5C	X	3.9	.25
56	MP5C	Z	-2.252	.25
57	MP5C	Mx	.001	.25
58	MP5C	X	3.9	4.25
59	MP5C	Z	-2.252	4.25
60	MP5C	Mx	.001	4.25
61	MP3A	X	2.823	.5
62	MP3A	Z	-1.63	.5
63	MP3A	Mx	-.001	.5
64	MP3A	X	2.823	5.5
65	MP3A	Z	-1.63	5.5
66	MP3A	Mx	-.001	5.5
67	MP3B	X	6.249	.5
68	MP3B	Z	-3.608	.5
69	MP3B	Mx	-.004	.5
70	MP3B	X	6.249	5.5
71	MP3B	Z	-3.608	5.5
72	MP3B	Mx	-.004	5.5
73	MP3C	X	5.571	.5
74	MP3C	Z	-3.216	.5
75	MP3C	Mx	.005	.5
76	MP3C	X	5.571	5.5
77	MP3C	Z	-3.216	5.5
78	MP3C	Mx	.005	5.5
79	MP3A	X	2.823	.5
80	MP3A	Z	-1.63	.5
81	MP3A	Mx	-.002	.5
82	MP3A	X	2.823	5.5
83	MP3A	Z	-1.63	5.5
84	MP3A	Mx	-.002	5.5
85	MP3B	X	6.249	.5
86	MP3B	Z	-3.608	.5
87	MP3B	Mx	.006	.5
88	MP3B	X	6.249	5.5
89	MP3B	Z	-3.608	5.5
90	MP3B	Mx	.006	5.5
91	MP3C	X	5.571	.5
92	MP3C	Z	-3.216	.5
93	MP3C	Mx	-.002	.5
94	MP3C	X	5.571	5.5
95	MP3C	Z	-3.216	5.5
96	MP3C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	1.392	5.5
2	M52	Z	0	5.5
3	M52	Mx	.00057	5.5
4	M63	X	2.6	5.5
5	M63	Z	0	5.5
6	M63	Mx	.000113	5.5
7	MP1A	X	2.989	2.38
8	MP1A	Z	0	2.38
9	MP1A	Mx	-.001	2.38
10	MP1A	X	2.989	3.63
11	MP1A	Z	0	3.63
12	MP1A	Mx	-.001	3.63
13	MP1B	X	5.103	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP1B	Z	0	2.38
15	MP1B	Mx	-.00066	2.38
16	MP1B	X	5.103	3.63
17	MP1B	Z	0	3.63
18	MP1B	Mx	-.00066	3.63
19	MP1C	X	2.713	2.38
20	MP1C	Z	0	2.38
21	MP1C	Mx	.001	2.38
22	MP1C	X	2.713	3.63
23	MP1C	Z	0	3.63
24	MP1C	Mx	.001	3.63
25	MP2A	X	3.289	2
26	MP2A	Z	0	2
27	MP2A	Mx	-.001	2
28	MP2B	X	4.128	2
29	MP2B	Z	0	2
30	MP2B	Mx	-.000534	2
31	MP2C	X	3.179	2
32	MP2C	Z	0	2
33	MP2C	Mx	.001	2
34	MP3A	X	2.942	.5
35	MP3A	Z	0	.5
36	MP3A	Mx	-.001	.5
37	MP3B	X	4.093	.5
38	MP3B	Z	0	.5
39	MP3B	Mx	-.00053	.5
40	MP3C	X	2.791	.5
41	MP3C	Z	0	.5
42	MP3C	Mx	.001	.5
43	MP5A	X	4.146	.25
44	MP5A	Z	0	.25
45	MP5A	Mx	-.002	.25
46	MP5A	X	4.146	4.25
47	MP5A	Z	0	4.25
48	MP5A	Mx	-.002	4.25
49	MP5B	X	4.839	.25
50	MP5B	Z	0	.25
51	MP5B	Mx	-.000211	.25
52	MP5B	X	4.839	4.25
53	MP5B	Z	0	4.25
54	MP5B	Mx	-.000211	4.25
55	MP5C	X	3.989	.25
56	MP5C	Z	0	.25
57	MP5C	Mx	.002	.25
58	MP5C	X	3.989	4.25
59	MP5C	Z	0	4.25
60	MP5C	Mx	.002	4.25
61	MP3A	X	4.633	.5
62	MP3A	Z	0	.5
63	MP3A	Mx	-.000126	.5
64	MP3A	X	4.633	5.5
65	MP3A	Z	0	5.5
66	MP3A	Mx	-.000126	5.5
67	MP3B	X	7.215	.5
68	MP3B	Z	0	.5
69	MP3B	Mx	-.006	.5
70	MP3B	X	7.215	5.5
71	MP3B	Z	0	5.5
72	MP3B	Mx	-.006	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP3C	X	4.295	.5
74	MP3C	Z	0	.5
75	MP3C	Mx	.003	.5
76	MP3C	X	4.295	5.5
77	MP3C	Z	0	5.5
78	MP3C	Mx	.003	5.5
79	MP3A	X	4.633	.5
80	MP3A	Z	0	.5
81	MP3A	Mx	-.004	.5
82	MP3A	X	4.633	5.5
83	MP3A	Z	0	5.5
84	MP3A	Mx	-.004	5.5
85	MP3B	X	7.215	.5
86	MP3B	Z	0	.5
87	MP3B	Mx	.004	.5
88	MP3B	X	7.215	5.5
89	MP3B	Z	0	5.5
90	MP3B	Mx	.004	5.5
91	MP3C	X	4.295	.5
92	MP3C	Z	0	.5
93	MP3C	Mx	.000428	.5
94	MP3C	X	4.295	5.5
95	MP3C	Z	0	5.5
96	MP3C	Mx	.000428	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	1.982	5.5
2	M52	Z	1.144	5.5
3	M52	Mx	.000484	5.5
4	M63	X	1.745	5.5
5	M63	Z	1.007	5.5
6	M63	Mx	.000578	5.5
7	MP1A	X	4.081	2.38
8	MP1A	Z	2.356	2.38
9	MP1A	Mx	-.000996	2.38
10	MP1A	X	4.081	3.63
11	MP1A	Z	2.356	3.63
12	MP1A	Mx	-.000996	3.63
13	MP1B	X	3.107	2.38
14	MP1B	Z	1.794	2.38
15	MP1B	Mx	-.001	2.38
16	MP1B	X	3.107	3.63
17	MP1B	Z	1.794	3.63
18	MP1B	Mx	-.001	3.63
19	MP1C	X	1.592	2.38
20	MP1C	Z	.919	2.38
21	MP1C	Mx	.000919	2.38
22	MP1C	X	1.592	3.63
23	MP1C	Z	.919	3.63
24	MP1C	Mx	.000919	3.63
25	MP2A	X	3.44	2
26	MP2A	Z	1.986	2
27	MP2A	Mx	-.000839	2
28	MP2B	X	3.054	2
29	MP2B	Z	1.763	2
30	MP2B	Mx	-.001	2
31	MP2C	X	2.452	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
32	MP2C	Z	1.416	2
33	MP2C	Mx	.001	2
34	MP3A	X	3.36	.5
35	MP3A	Z	1.94	.5
36	MP3A	Mx	-.00082	.5
37	MP3B	X	2.83	.5
38	MP3B	Z	1.634	.5
39	MP3B	Mx	-.001	.5
40	MP3C	X	2.004	.5
41	MP3C	Z	1.157	.5
42	MP3C	Mx	.001	.5
43	MP5A	X	4.036	.25
44	MP5A	Z	2.33	.25
45	MP5A	Mx	-.000985	.25
46	MP5A	X	4.036	4.25
47	MP5A	Z	2.33	4.25
48	MP5A	Mx	-.000985	4.25
49	MP5B	X	3.9	.25
50	MP5B	Z	2.252	.25
51	MP5B	Mx	-.001	.25
52	MP5B	X	3.9	4.25
53	MP5B	Z	2.252	4.25
54	MP5B	Mx	-.001	4.25
55	MP5C	X	3.3	.25
56	MP5C	Z	1.905	.25
57	MP5C	Mx	.002	.25
58	MP5C	X	3.3	4.25
59	MP5C	Z	1.905	4.25
60	MP5C	Mx	.002	4.25
61	MP3A	X	5.835	.5
62	MP3A	Z	3.369	.5
63	MP3A	Mx	.003	.5
64	MP3A	X	5.835	5.5
65	MP3A	Z	3.369	5.5
66	MP3A	Mx	.003	5.5
67	MP3B	X	4.646	.5
68	MP3B	Z	2.682	.5
69	MP3B	Mx	-.004	.5
70	MP3B	X	4.646	5.5
71	MP3B	Z	2.682	5.5
72	MP3B	Mx	-.004	5.5
73	MP3C	X	2.794	.5
74	MP3C	Z	1.613	.5
75	MP3C	Mx	.002	.5
76	MP3C	X	2.794	5.5
77	MP3C	Z	1.613	5.5
78	MP3C	Mx	.002	5.5
79	MP3A	X	5.835	.5
80	MP3A	Z	3.369	.5
81	MP3A	Mx	-.005	.5
82	MP3A	X	5.835	5.5
83	MP3A	Z	3.369	5.5
84	MP3A	Mx	-.005	5.5
85	MP3B	X	4.646	.5
86	MP3B	Z	2.682	.5
87	MP3B	Mx	.000632	.5
88	MP3B	X	4.646	5.5
89	MP3B	Z	2.682	5.5
90	MP3B	Mx	.000632	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
91	MP3C	X	2.794	.5
92	MP3C	Z	1.613	.5
93	MP3C	Mx	.002	.5
94	MP3C	X	2.794	5.5
95	MP3C	Z	1.613	5.5
96	MP3C	Mx	.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	1.3	5.5
2	M52	Z	2.252	5.5
3	M52	Mx	-.000113	5.5
4	M63	X	.559	5.5
5	M63	Z	.968	5.5
6	M63	Mx	.000507	5.5
7	MP1A	X	2.655	2.38
8	MP1A	Z	4.599	2.38
9	MP1A	Mx	.000232	2.38
10	MP1A	X	2.655	3.63
11	MP1A	Z	4.599	3.63
12	MP1A	Mx	.000232	3.63
13	MP1B	X	1.036	2.38
14	MP1B	Z	1.795	2.38
15	MP1B	Mx	-.001	2.38
16	MP1B	X	1.036	3.63
17	MP1B	Z	1.795	3.63
18	MP1B	Mx	-.001	3.63
19	MP1C	X	1.356	2.38
20	MP1C	Z	2.349	2.38
21	MP1C	Mx	.001	2.38
22	MP1C	X	1.356	3.63
23	MP1C	Z	2.349	3.63
24	MP1C	Mx	.001	3.63
25	MP2A	X	2.105	2
26	MP2A	Z	3.646	2
27	MP2A	Mx	.000183	2
28	MP2B	X	1.462	2
29	MP2B	Z	2.533	2
30	MP2B	Mx	-.001	2
31	MP2C	X	1.59	2
32	MP2C	Z	2.753	2
33	MP2C	Mx	.001	2
34	MP3A	X	2.103	.5
35	MP3A	Z	3.643	.5
36	MP3A	Mx	.000183	.5
37	MP3B	X	1.221	.5
38	MP3B	Z	2.115	.5
39	MP3B	Mx	-.001	.5
40	MP3C	X	1.396	.5
41	MP3C	Z	2.417	.5
42	MP3C	Mx	.001	.5
43	MP5A	X	2.419	.25
44	MP5A	Z	4.191	.25
45	MP5A	Mx	.000211	.25
46	MP5A	X	2.419	4.25
47	MP5A	Z	4.191	4.25
48	MP5A	Mx	.000211	4.25
49	MP5B	X	1.994	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
50	MP5B	Z	3.455	.25
51	MP5B	Mx	-.002	.25
52	MP5B	X	1.994	4.25
53	MP5B	Z	3.455	4.25
54	MP5B	Mx	-.002	4.25
55	MP5C	X	2.073	.25
56	MP5C	Z	3.591	.25
57	MP5C	Mx	.002	.25
58	MP5C	X	2.073	4.25
59	MP5C	Z	3.591	4.25
60	MP5C	Mx	.002	4.25
61	MP3A	X	3.735	.5
62	MP3A	Z	6.469	.5
63	MP3A	Mx	.005	.5
64	MP3A	X	3.735	5.5
65	MP3A	Z	6.469	5.5
66	MP3A	Mx	.005	5.5
67	MP3B	X	1.757	.5
68	MP3B	Z	3.042	.5
69	MP3B	Mx	-.002	.5
70	MP3B	X	1.757	5.5
71	MP3B	Z	3.042	5.5
72	MP3B	Mx	-.002	5.5
73	MP3C	X	2.148	.5
74	MP3C	Z	3.72	.5
75	MP3C	Mx	.000428	.5
76	MP3C	X	2.148	5.5
77	MP3C	Z	3.72	5.5
78	MP3C	Mx	.000428	5.5
79	MP3A	X	3.735	.5
80	MP3A	Z	6.469	.5
81	MP3A	Mx	-.005	.5
82	MP3A	X	3.735	5.5
83	MP3A	Z	6.469	5.5
84	MP3A	Mx	-.005	5.5
85	MP3B	X	1.757	.5
86	MP3B	Z	3.042	.5
87	MP3B	Mx	-.001	.5
88	MP3B	X	1.757	5.5
89	MP3B	Z	3.042	5.5
90	MP3B	Mx	-.001	5.5
91	MP3C	X	2.148	.5
92	MP3C	Z	3.72	.5
93	MP3C	Mx	.003	.5
94	MP3C	X	2.148	5.5
95	MP3C	Z	3.72	5.5
96	MP3C	Mx	.003	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	0	5.5
2	M52	Z	2.015	5.5
3	M52	Mx	-.000578	5.5
4	M63	X	0	5.5
5	M63	Z	.807	5.5
6	M63	Mx	.000402	5.5
7	MP1A	X	0	2.38
8	MP1A	Z	4.186	2.38

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP1A	Mx	.001	2.38
10	MP1A	X	0	3.63
11	MP1A	Z	4.186	3.63
12	MP1A	Mx	.001	3.63
13	MP1B	X	0	2.38
14	MP1B	Z	2.072	2.38
15	MP1B	Mx	-.001	2.38
16	MP1B	X	0	3.63
17	MP1B	Z	2.072	3.63
18	MP1B	Mx	-.001	3.63
19	MP1C	X	0	2.38
20	MP1C	Z	4.462	2.38
21	MP1C	Mx	.001	2.38
22	MP1C	X	0	3.63
23	MP1C	Z	4.462	3.63
24	MP1C	Mx	.001	3.63
25	MP2A	X	0	2
26	MP2A	Z	3.764	2
27	MP2A	Mx	.001	2
28	MP2B	X	0	2
29	MP2B	Z	2.925	2
30	MP2B	Mx	-.001	2
31	MP2C	X	0	2
32	MP2C	Z	3.873	2
33	MP2C	Mx	.000968	2
34	MP3A	X	0	.5
35	MP3A	Z	3.594	.5
36	MP3A	Mx	.001	.5
37	MP3B	X	0	.5
38	MP3B	Z	2.442	.5
39	MP3B	Mx	-.001	.5
40	MP3C	X	0	.5
41	MP3C	Z	3.744	.5
42	MP3C	Mx	.000936	.5
43	MP5A	X	0	.25
44	MP5A	Z	4.503	.25
45	MP5A	Mx	.001	.25
46	MP5A	X	0	4.25
47	MP5A	Z	4.503	4.25
48	MP5A	Mx	.001	4.25
49	MP5B	X	0	.25
50	MP5B	Z	3.81	.25
51	MP5B	Mx	-.002	.25
52	MP5B	X	0	4.25
53	MP5B	Z	3.81	4.25
54	MP5B	Mx	-.002	4.25
55	MP5C	X	0	.25
56	MP5C	Z	4.66	.25
57	MP5C	Mx	.000985	.25
58	MP5C	X	0	4.25
59	MP5C	Z	4.66	4.25
60	MP5C	Mx	.000985	4.25
61	MP3A	X	0	.5
62	MP3A	Z	6.095	.5
63	MP3A	Mx	.005	.5
64	MP3A	X	0	5.5
65	MP3A	Z	6.095	5.5
66	MP3A	Mx	.005	5.5
67	MP3B	X	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
68	MP3B	Z	3.513	.5
69	MP3B	Mx	-.001	.5
70	MP3B	X	0	5.5
71	MP3B	Z	3.513	5.5
72	MP3B	Mx	-.001	5.5
73	MP3C	X	0	.5
74	MP3C	Z	6.433	.5
75	MP3C	Mx	-.002	.5
76	MP3C	X	0	5.5
77	MP3C	Z	6.433	5.5
78	MP3C	Mx	-.002	5.5
79	MP3A	X	0	.5
80	MP3A	Z	6.095	.5
81	MP3A	Mx	-.002	.5
82	MP3A	X	0	5.5
83	MP3A	Z	6.095	5.5
84	MP3A	Mx	-.002	5.5
85	MP3B	X	0	.5
86	MP3B	Z	3.513	.5
87	MP3B	Mx	-.002	.5
88	MP3B	X	0	5.5
89	MP3B	Z	3.513	5.5
90	MP3B	Mx	-.002	5.5
91	MP3C	X	0	.5
92	MP3C	Z	6.433	.5
93	MP3C	Mx	.005	.5
94	MP3C	X	0	5.5
95	MP3C	Z	6.433	5.5
96	MP3C	Mx	.005	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-.559	5.5
2	M52	Z	.968	5.5
3	M52	Mx	-.000507	5.5
4	M63	X	-.696	5.5
5	M63	Z	1.206	5.5
6	M63	Mx	.00057	5.5
7	MP1A	X	-1.231	2.38
8	MP1A	Z	2.133	2.38
9	MP1A	Mx	.001	2.38
10	MP1A	X	-1.231	3.63
11	MP1A	Z	2.133	3.63
12	MP1A	Mx	.001	3.63
13	MP1B	X	-1.794	2.38
14	MP1B	Z	3.107	2.38
15	MP1B	Mx	-.001	2.38
16	MP1B	X	-1.794	3.63
17	MP1B	Z	3.107	3.63
18	MP1B	Mx	-.001	3.63
19	MP1C	X	-2.668	2.38
20	MP1C	Z	4.622	2.38
21	MP1C	Mx	0	2.38
22	MP1C	X	-2.668	3.63
23	MP1C	Z	4.622	3.63
24	MP1C	Mx	0	3.63
25	MP2A	X	-1.54	2
26	MP2A	Z	2.667	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
27	MP2A	Mx	.001	2
28	MP2B	X	-1.763	2
29	MP2B	Z	3.054	2
30	MP2B	Mx	-.001	2
31	MP2C	X	-2.11	2
32	MP2C	Z	3.655	2
33	MP2C	Mx	0	2
34	MP3A	X	-1.327	.5
35	MP3A	Z	2.299	.5
36	MP3A	Mx	.001	.5
37	MP3B	X	-1.634	.5
38	MP3B	Z	2.83	.5
39	MP3B	Mx	-.001	.5
40	MP3C	X	-2.11	.5
41	MP3C	Z	3.655	.5
42	MP3C	Mx	0	.5
43	MP5A	X	-1.994	.25
44	MP5A	Z	3.455	.25
45	MP5A	Mx	.002	.25
46	MP5A	X	-1.994	4.25
47	MP5A	Z	3.455	4.25
48	MP5A	Mx	.002	4.25
49	MP5B	X	-2.073	.25
50	MP5B	Z	3.591	.25
51	MP5B	Mx	-.002	.25
52	MP5B	X	-2.073	4.25
53	MP5B	Z	3.591	4.25
54	MP5B	Mx	-.002	4.25
55	MP5C	X	-2.419	.25
56	MP5C	Z	4.191	.25
57	MP5C	Mx	-.000211	.25
58	MP5C	X	-2.419	4.25
59	MP5C	Z	4.191	4.25
60	MP5C	Mx	-.000211	4.25
61	MP3A	X	-1.995	.5
62	MP3A	Z	3.456	.5
63	MP3A	Mx	.003	.5
64	MP3A	X	-1.995	5.5
65	MP3A	Z	3.456	5.5
66	MP3A	Mx	.003	5.5
67	MP3B	X	-2.682	.5
68	MP3B	Z	4.646	.5
69	MP3B	Mx	.000632	.5
70	MP3B	X	-2.682	5.5
71	MP3B	Z	4.646	5.5
72	MP3B	Mx	.000632	5.5
73	MP3C	X	-3.751	.5
74	MP3C	Z	6.497	.5
75	MP3C	Mx	-.005	.5
76	MP3C	X	-3.751	5.5
77	MP3C	Z	6.497	5.5
78	MP3C	Mx	-.005	5.5
79	MP3A	X	-1.995	.5
80	MP3A	Z	3.456	.5
81	MP3A	Mx	.000684	.5
82	MP3A	X	-1.995	5.5
83	MP3A	Z	3.456	5.5
84	MP3A	Mx	.000684	5.5
85	MP3B	X	-2.682	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP3B	Z	4.646	.5
87	MP3B	Mx	-.004	.5
88	MP3B	X	-2.682	5.5
89	MP3B	Z	4.646	5.5
90	MP3B	Mx	-.004	5.5
91	MP3C	X	-3.751	.5
92	MP3C	Z	6.497	.5
93	MP3C	Mx	.005	.5
94	MP3C	X	-3.751	5.5
95	MP3C	Z	6.497	5.5
96	MP3C	Mx	.005	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-.699	5.5
2	M52	Z	.403	5.5
3	M52	Mx	-.000402	5.5
4	M63	X	-1.982	5.5
5	M63	Z	1.144	5.5
6	M63	Mx	.000483	5.5
7	MP1A	X	-1.615	2.38
8	MP1A	Z	.932	2.38
9	MP1A	Mx	.000929	2.38
10	MP1A	X	-1.615	3.63
11	MP1A	Z	.932	3.63
12	MP1A	Mx	.000929	3.63
13	MP1B	X	-4.419	2.38
14	MP1B	Z	2.551	2.38
15	MP1B	Mx	-.00066	2.38
16	MP1B	X	-4.419	3.63
17	MP1B	Z	2.551	3.63
18	MP1B	Mx	-.00066	3.63
19	MP1C	X	-3.864	2.38
20	MP1C	Z	2.231	2.38
21	MP1C	Mx	-.001	2.38
22	MP1C	X	-3.864	3.63
23	MP1C	Z	2.231	3.63
24	MP1C	Mx	-.001	3.63
25	MP2A	X	-2.462	2
26	MP2A	Z	1.421	2
27	MP2A	Mx	.001	2
28	MP2B	X	-3.575	2
29	MP2B	Z	2.064	2
30	MP2B	Mx	-.000534	2
31	MP2C	X	-3.354	2
32	MP2C	Z	1.937	2
33	MP2C	Mx	-.000968	2
34	MP3A	X	-2.017	.5
35	MP3A	Z	1.164	.5
36	MP3A	Mx	.001	.5
37	MP3B	X	-3.545	.5
38	MP3B	Z	2.046	.5
39	MP3B	Mx	-.000529	.5
40	MP3C	X	-3.242	.5
41	MP3C	Z	1.872	.5
42	MP3C	Mx	-.000936	.5
43	MP5A	X	-3.3	.25
44	MP5A	Z	1.905	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
45	MP5A	Mx	.002	.25
46	MP5A	X	-3.3	4.25
47	MP5A	Z	1.905	4.25
48	MP5A	Mx	.002	4.25
49	MP5B	X	-4.036	.25
50	MP5B	Z	2.33	.25
51	MP5B	Mx	-.000985	.25
52	MP5B	X	-4.036	4.25
53	MP5B	Z	2.33	4.25
54	MP5B	Mx	-.000985	4.25
55	MP5C	X	-3.9	.25
56	MP5C	Z	2.252	.25
57	MP5C	Mx	-.001	.25
58	MP5C	X	-3.9	4.25
59	MP5C	Z	2.252	4.25
60	MP5C	Mx	-.001	4.25
61	MP3A	X	-2.823	.5
62	MP3A	Z	1.63	.5
63	MP3A	Mx	.001	.5
64	MP3A	X	-2.823	5.5
65	MP3A	Z	1.63	5.5
66	MP3A	Mx	.001	5.5
67	MP3B	X	-6.249	.5
68	MP3B	Z	3.608	.5
69	MP3B	Mx	.004	.5
70	MP3B	X	-6.249	5.5
71	MP3B	Z	3.608	5.5
72	MP3B	Mx	.004	5.5
73	MP3C	X	-5.571	.5
74	MP3C	Z	3.216	.5
75	MP3C	Mx	-.005	.5
76	MP3C	X	-5.571	5.5
77	MP3C	Z	3.216	5.5
78	MP3C	Mx	-.005	5.5
79	MP3A	X	-2.823	.5
80	MP3A	Z	1.63	.5
81	MP3A	Mx	.002	.5
82	MP3A	X	-2.823	5.5
83	MP3A	Z	1.63	5.5
84	MP3A	Mx	.002	5.5
85	MP3B	X	-6.249	.5
86	MP3B	Z	3.608	.5
87	MP3B	Mx	-.006	.5
88	MP3B	X	-6.249	5.5
89	MP3B	Z	3.608	5.5
90	MP3B	Mx	-.006	5.5
91	MP3C	X	-5.571	.5
92	MP3C	Z	3.216	.5
93	MP3C	Mx	.002	.5
94	MP3C	X	-5.571	5.5
95	MP3C	Z	3.216	5.5
96	MP3C	Mx	.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-1.392	5.5
2	M52	Z	0	5.5
3	M52	Mx	-.00057	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	M63	X	-2.6	5.5
5	M63	Z	0	5.5
6	M63	Mx	-.000113	5.5
7	MP1A	X	-2.989	2.38
8	MP1A	Z	0	2.38
9	MP1A	Mx	.001	2.38
10	MP1A	X	-2.989	3.63
11	MP1A	Z	0	3.63
12	MP1A	Mx	.001	3.63
13	MP1B	X	-5.103	2.38
14	MP1B	Z	0	2.38
15	MP1B	Mx	.00066	2.38
16	MP1B	X	-5.103	3.63
17	MP1B	Z	0	3.63
18	MP1B	Mx	.00066	3.63
19	MP1C	X	-2.713	2.38
20	MP1C	Z	0	2.38
21	MP1C	Mx	-.001	2.38
22	MP1C	X	-2.713	3.63
23	MP1C	Z	0	3.63
24	MP1C	Mx	-.001	3.63
25	MP2A	X	-3.289	2
26	MP2A	Z	0	2
27	MP2A	Mx	.001	2
28	MP2B	X	-4.128	2
29	MP2B	Z	0	2
30	MP2B	Mx	.000534	2
31	MP2C	X	-3.179	2
32	MP2C	Z	0	2
33	MP2C	Mx	-.001	2
34	MP3A	X	-2.942	.5
35	MP3A	Z	0	.5
36	MP3A	Mx	.001	.5
37	MP3B	X	-4.093	.5
38	MP3B	Z	0	.5
39	MP3B	Mx	.00053	.5
40	MP3C	X	-2.791	.5
41	MP3C	Z	0	.5
42	MP3C	Mx	-.001	.5
43	MP5A	X	-4.146	.25
44	MP5A	Z	0	.25
45	MP5A	Mx	.002	.25
46	MP5A	X	-4.146	4.25
47	MP5A	Z	0	4.25
48	MP5A	Mx	.002	4.25
49	MP5B	X	-4.839	.25
50	MP5B	Z	0	.25
51	MP5B	Mx	.000211	.25
52	MP5B	X	-4.839	4.25
53	MP5B	Z	0	4.25
54	MP5B	Mx	.000211	4.25
55	MP5C	X	-3.989	.25
56	MP5C	Z	0	.25
57	MP5C	Mx	-.002	.25
58	MP5C	X	-3.989	4.25
59	MP5C	Z	0	4.25
60	MP5C	Mx	-.002	4.25
61	MP3A	X	-4.633	.5
62	MP3A	Z	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3A	Mx	.000126	.5
64	MP3A	X	-4.633	5.5
65	MP3A	Z	0	5.5
66	MP3A	Mx	.000126	5.5
67	MP3B	X	-7.215	.5
68	MP3B	Z	0	.5
69	MP3B	Mx	.006	.5
70	MP3B	X	-7.215	5.5
71	MP3B	Z	0	5.5
72	MP3B	Mx	.006	5.5
73	MP3C	X	-4.295	.5
74	MP3C	Z	0	.5
75	MP3C	Mx	-.003	.5
76	MP3C	X	-4.295	5.5
77	MP3C	Z	0	5.5
78	MP3C	Mx	-.003	5.5
79	MP3A	X	-4.633	.5
80	MP3A	Z	0	.5
81	MP3A	Mx	.004	.5
82	MP3A	X	-4.633	5.5
83	MP3A	Z	0	5.5
84	MP3A	Mx	.004	5.5
85	MP3B	X	-7.215	.5
86	MP3B	Z	0	.5
87	MP3B	Mx	-.004	.5
88	MP3B	X	-7.215	5.5
89	MP3B	Z	0	5.5
90	MP3B	Mx	-.004	5.5
91	MP3C	X	-4.295	.5
92	MP3C	Z	0	.5
93	MP3C	Mx	-.000428	.5
94	MP3C	X	-4.295	5.5
95	MP3C	Z	0	5.5
96	MP3C	Mx	-.000428	5.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-1.982	5.5
2	M52	Z	-1.144	5.5
3	M52	Mx	-.000484	5.5
4	M63	X	-1.745	5.5
5	M63	Z	-1.007	5.5
6	M63	Mx	-.000578	5.5
7	MP1A	X	-4.081	2.38
8	MP1A	Z	-2.356	2.38
9	MP1A	Mx	.000996	2.38
10	MP1A	X	-4.081	3.63
11	MP1A	Z	-2.356	3.63
12	MP1A	Mx	.000996	3.63
13	MP1B	X	-3.107	2.38
14	MP1B	Z	-1.794	2.38
15	MP1B	Mx	.001	2.38
16	MP1B	X	-3.107	3.63
17	MP1B	Z	-1.794	3.63
18	MP1B	Mx	.001	3.63
19	MP1C	X	-1.592	2.38
20	MP1C	Z	-.919	2.38
21	MP1C	Mx	-.000919	2.38

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP1C	X	-1.592	3.63
23	MP1C	Z	-.919	3.63
24	MP1C	Mx	-.000919	3.63
25	MP2A	X	-3.44	2
26	MP2A	Z	-1.986	2
27	MP2A	Mx	.000839	2
28	MP2B	X	-3.054	2
29	MP2B	Z	-1.763	2
30	MP2B	Mx	.001	2
31	MP2C	X	-2.452	2
32	MP2C	Z	-1.416	2
33	MP2C	Mx	-.001	2
34	MP3A	X	-3.36	.5
35	MP3A	Z	-1.94	.5
36	MP3A	Mx	.00082	.5
37	MP3B	X	-2.83	.5
38	MP3B	Z	-1.634	.5
39	MP3B	Mx	.001	.5
40	MP3C	X	-2.004	.5
41	MP3C	Z	-1.157	.5
42	MP3C	Mx	-.001	.5
43	MP5A	X	-4.036	.25
44	MP5A	Z	-2.33	.25
45	MP5A	Mx	.000985	.25
46	MP5A	X	-4.036	4.25
47	MP5A	Z	-2.33	4.25
48	MP5A	Mx	.000985	4.25
49	MP5B	X	-3.9	.25
50	MP5B	Z	-2.252	.25
51	MP5B	Mx	.001	.25
52	MP5B	X	-3.9	4.25
53	MP5B	Z	-2.252	4.25
54	MP5B	Mx	.001	4.25
55	MP5C	X	-3.3	.25
56	MP5C	Z	-1.905	.25
57	MP5C	Mx	-.002	.25
58	MP5C	X	-3.3	4.25
59	MP5C	Z	-1.905	4.25
60	MP5C	Mx	-.002	4.25
61	MP3A	X	-5.835	.5
62	MP3A	Z	-3.369	.5
63	MP3A	Mx	-.003	.5
64	MP3A	X	-5.835	5.5
65	MP3A	Z	-3.369	5.5
66	MP3A	Mx	-.003	5.5
67	MP3B	X	-4.646	.5
68	MP3B	Z	-2.682	.5
69	MP3B	Mx	.004	.5
70	MP3B	X	-4.646	5.5
71	MP3B	Z	-2.682	5.5
72	MP3B	Mx	.004	5.5
73	MP3C	X	-2.794	.5
74	MP3C	Z	-1.613	.5
75	MP3C	Mx	-.002	.5
76	MP3C	X	-2.794	5.5
77	MP3C	Z	-1.613	5.5
78	MP3C	Mx	-.002	5.5
79	MP3A	X	-5.835	.5
80	MP3A	Z	-3.369	.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP3A	Mx	.005	.5
82	MP3A	X	-5.835	5.5
83	MP3A	Z	-3.369	5.5
84	MP3A	Mx	.005	5.5
85	MP3B	X	-4.646	.5
86	MP3B	Z	-2.682	.5
87	MP3B	Mx	-.000632	.5
88	MP3B	X	-4.646	5.5
89	MP3B	Z	-2.682	5.5
90	MP3B	Mx	-.000632	5.5
91	MP3C	X	-2.794	.5
92	MP3C	Z	-1.613	.5
93	MP3C	Mx	-.002	.5
94	MP3C	X	-2.794	5.5
95	MP3C	Z	-1.613	5.5
96	MP3C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	-1.3	5.5
2	M52	Z	-2.252	5.5
3	M52	Mx	.000113	5.5
4	M63	X	-.559	5.5
5	M63	Z	-.968	5.5
6	M63	Mx	-.000507	5.5
7	MP1A	X	-2.655	2.38
8	MP1A	Z	-4.599	2.38
9	MP1A	Mx	-.000232	2.38
10	MP1A	X	-2.655	3.63
11	MP1A	Z	-4.599	3.63
12	MP1A	Mx	-.000232	3.63
13	MP1B	X	-1.036	2.38
14	MP1B	Z	-1.795	2.38
15	MP1B	Mx	.001	2.38
16	MP1B	X	-1.036	3.63
17	MP1B	Z	-1.795	3.63
18	MP1B	Mx	.001	3.63
19	MP1C	X	-1.356	2.38
20	MP1C	Z	-2.349	2.38
21	MP1C	Mx	-.001	2.38
22	MP1C	X	-1.356	3.63
23	MP1C	Z	-2.349	3.63
24	MP1C	Mx	-.001	3.63
25	MP2A	X	-2.105	2
26	MP2A	Z	-3.646	2
27	MP2A	Mx	-.000183	2
28	MP2B	X	-1.462	2
29	MP2B	Z	-2.533	2
30	MP2B	Mx	.001	2
31	MP2C	X	-1.59	2
32	MP2C	Z	-2.753	2
33	MP2C	Mx	-.001	2
34	MP3A	X	-2.103	.5
35	MP3A	Z	-3.643	.5
36	MP3A	Mx	-.000183	.5
37	MP3B	X	-1.221	.5
38	MP3B	Z	-2.115	.5
39	MP3B	Mx	.001	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
40	MP3C	X	-1.396	.5
41	MP3C	Z	-2.417	.5
42	MP3C	Mx	-.001	.5
43	MP5A	X	-2.419	.25
44	MP5A	Z	-4.191	.25
45	MP5A	Mx	-.000211	.25
46	MP5A	X	-2.419	4.25
47	MP5A	Z	-4.191	4.25
48	MP5A	Mx	-.000211	4.25
49	MP5B	X	-1.994	.25
50	MP5B	Z	-3.455	.25
51	MP5B	Mx	.002	.25
52	MP5B	X	-1.994	4.25
53	MP5B	Z	-3.455	4.25
54	MP5B	Mx	.002	4.25
55	MP5C	X	-2.073	.25
56	MP5C	Z	-3.591	.25
57	MP5C	Mx	-.002	.25
58	MP5C	X	-2.073	4.25
59	MP5C	Z	-3.591	4.25
60	MP5C	Mx	-.002	4.25
61	MP3A	X	-3.735	.5
62	MP3A	Z	-6.469	.5
63	MP3A	Mx	-.005	.5
64	MP3A	X	-3.735	5.5
65	MP3A	Z	-6.469	5.5
66	MP3A	Mx	-.005	5.5
67	MP3B	X	-1.757	.5
68	MP3B	Z	-3.042	.5
69	MP3B	Mx	.002	.5
70	MP3B	X	-1.757	5.5
71	MP3B	Z	-3.042	5.5
72	MP3B	Mx	.002	5.5
73	MP3C	X	-2.148	.5
74	MP3C	Z	-3.72	.5
75	MP3C	Mx	-.000428	.5
76	MP3C	X	-2.148	5.5
77	MP3C	Z	-3.72	5.5
78	MP3C	Mx	-.000428	5.5
79	MP3A	X	-3.735	.5
80	MP3A	Z	-6.469	.5
81	MP3A	Mx	.005	.5
82	MP3A	X	-3.735	5.5
83	MP3A	Z	-6.469	5.5
84	MP3A	Mx	.005	5.5
85	MP3B	X	-1.757	.5
86	MP3B	Z	-3.042	.5
87	MP3B	Mx	.001	.5
88	MP3B	X	-1.757	5.5
89	MP3B	Z	-3.042	5.5
90	MP3B	Mx	.001	5.5
91	MP3C	X	-2.148	.5
92	MP3C	Z	-3.72	.5
93	MP3C	Mx	-.003	.5
94	MP3C	X	-2.148	5.5
95	MP3C	Z	-3.72	5.5
96	MP3C	Mx	-.003	5.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-500	%50

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-500	%93

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	Y	-.713	5.5
2	M52	My	.000292	5.5
3	M52	Mz	-.000205	5.5
4	M63	Y	-.713	5.5
5	M63	My	3.1e-5	5.5
6	M63	Mz	.000355	5.5
7	MP1A	Y	-1.765	2.38
8	MP1A	My	-.000723	2.38
9	MP1A	Mz	.000506	2.38
10	MP1A	Y	-1.765	3.63
11	MP1A	My	-.000723	3.63
12	MP1A	Mz	.000506	3.63
13	MP1B	Y	-1.765	2.38
14	MP1B	My	-.000228	2.38
15	MP1B	Mz	-.000853	2.38
16	MP1B	Y	-1.765	3.63
17	MP1B	My	-.000228	3.63
18	MP1B	Mz	-.000853	3.63
19	MP1C	Y	-1.765	2.38
20	MP1C	My	.000764	2.38
21	MP1C	Mz	.000441	2.38
22	MP1C	Y	-1.765	3.63
23	MP1C	My	.000764	3.63
24	MP1C	Mz	.000441	3.63
25	MP2A	Y	-3.421	2
26	MP2A	My	-.001	2
27	MP2A	Mz	.000981	2
28	MP2B	Y	-3.421	2
29	MP2B	My	-.000443	2
30	MP2B	Mz	-.002	2
31	MP2C	Y	-3.421	2
32	MP2C	My	.001	2
33	MP2C	Mz	.000855	2
34	MP3A	Y	-2.849	.5
35	MP3A	My	-.001	.5
36	MP3A	Mz	.000817	.5
37	MP3B	Y	-2.849	.5
38	MP3B	My	-.000369	.5
39	MP3B	Mz	-.001	.5
40	MP3C	Y	-2.849	.5
41	MP3C	My	.001	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
42	MP3C	Mz	.000712	.5
43	MP5A	Y	-.243	.25
44	MP5A	My	-.0001	.25
45	MP5A	Mz	7e-5	.25
46	MP5A	Y	-.243	4.25
47	MP5A	My	-.0001	4.25
48	MP5A	Mz	7e-5	4.25
49	MP5B	Y	-.243	.25
50	MP5B	My	-1.1e-5	.25
51	MP5B	Mz	-.000121	.25
52	MP5B	Y	-.243	4.25
53	MP5B	My	-1.1e-5	4.25
54	MP5B	Mz	-.000121	4.25
55	MP5C	Y	-.243	.25
56	MP5C	My	.00011	.25
57	MP5C	Mz	5.1e-5	.25
58	MP5C	Y	-.243	4.25
59	MP5C	My	.00011	4.25
60	MP5C	Mz	5.1e-5	4.25
61	MP3A	Y	-.811	.5
62	MP3A	My	-2.2e-5	.5
63	MP3A	Mz	.000675	.5
64	MP3A	Y	-.811	5.5
65	MP3A	My	-2.2e-5	5.5
66	MP3A	Mz	.000675	5.5
67	MP3B	Y	-.811	.5
68	MP3B	My	-.000627	.5
69	MP3B	Mz	-.000252	.5
70	MP3B	Y	-.811	5.5
71	MP3B	My	-.000627	5.5
72	MP3B	Mz	-.000252	5.5
73	MP3C	Y	-.811	.5
74	MP3C	My	.000621	.5
75	MP3C	Mz	-.000265	.5
76	MP3C	Y	-.811	5.5
77	MP3C	My	.000621	5.5
78	MP3C	Mz	-.000265	5.5
79	MP3A	Y	-.811	.5
80	MP3A	My	-.000642	.5
81	MP3A	Mz	-.00021	.5
82	MP3A	Y	-.811	5.5
83	MP3A	My	-.000642	5.5
84	MP3A	Mz	-.00021	5.5
85	MP3B	Y	-.811	.5
86	MP3B	My	.000417	.5
87	MP3B	Mz	-.000531	.5
88	MP3B	Y	-.811	5.5
89	MP3B	My	.000417	5.5
90	MP3B	Mz	-.000531	5.5
91	MP3C	Y	-.811	.5
92	MP3C	My	8.1e-5	.5
93	MP3C	Mz	.000671	.5
94	MP3C	Y	-.811	5.5
95	MP3C	My	8.1e-5	5.5
96	MP3C	Mz	.000671	5.5

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	Z	-1.783	5.5
2	M52	Mx	.000511	5.5
3	M63	Z	-1.783	5.5
4	M63	Mx	-.000888	5.5
5	MP1A	Z	-4.413	2.38
6	MP1A	Mx	-.001	2.38
7	MP1A	Z	-4.413	3.63
8	MP1A	Mx	-.001	3.63
9	MP1B	Z	-4.413	2.38
10	MP1B	Mx	.002	2.38
11	MP1B	Z	-4.413	3.63
12	MP1B	Mx	.002	3.63
13	MP1C	Z	-4.413	2.38
14	MP1C	Mx	-.001	2.38
15	MP1C	Z	-4.413	3.63
16	MP1C	Mx	-.001	3.63
17	MP2A	Z	-8.553	2
18	MP2A	Mx	-.002	2
19	MP2B	Z	-8.553	2
20	MP2B	Mx	.004	2
21	MP2C	Z	-8.553	2
22	MP2C	Mx	-.002	2
23	MP3A	Z	-7.124	.5
24	MP3A	Mx	-.002	.5
25	MP3B	Z	-7.124	.5
26	MP3B	Mx	.003	.5
27	MP3C	Z	-7.124	.5
28	MP3C	Mx	-.002	.5
29	MP5A	Z	-.608	.25
30	MP5A	Mx	-.000174	.25
31	MP5A	Z	-.608	4.25
32	MP5A	Mx	-.000174	4.25
33	MP5B	Z	-.608	.25
34	MP5B	Mx	.000303	.25
35	MP5B	Z	-.608	4.25
36	MP5B	Mx	.000303	4.25
37	MP5C	Z	-.608	.25
38	MP5C	Mx	-.000128	.25
39	MP5C	Z	-.608	4.25
40	MP5C	Mx	-.000128	4.25
41	MP3A	Z	-2.027	.5
42	MP3A	Mx	-.002	.5
43	MP3A	Z	-2.027	5.5
44	MP3A	Mx	-.002	5.5
45	MP3B	Z	-2.027	.5
46	MP3B	Mx	.000629	.5
47	MP3B	Z	-2.027	5.5
48	MP3B	Mx	.000629	5.5
49	MP3C	Z	-2.027	.5
50	MP3C	Mx	.000663	.5
51	MP3C	Z	-2.027	5.5
52	MP3C	Mx	.000663	5.5
53	MP3A	Z	-2.027	.5
54	MP3A	Mx	.000526	.5
55	MP3A	Z	-2.027	5.5
56	MP3A	Mx	.000526	5.5
57	MP3B	Z	-2.027	.5
58	MP3B	Mx	.001	.5
59	MP3B	Z	-2.027	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP3B	Mx	.001	5.5
61	MP3C	Z	-2.027	.5
62	MP3C	Mx	-.002	.5
63	MP3C	Z	-2.027	5.5
64	MP3C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M52	X	1.783	5.5
2	M52	Mx	.00073	5.5
3	M63	X	1.783	5.5
4	M63	Mx	7.8e-5	5.5
5	MP1A	X	4.413	2.38
6	MP1A	Mx	-.002	2.38
7	MP1A	X	4.413	3.63
8	MP1A	Mx	-.002	3.63
9	MP1B	X	4.413	2.38
10	MP1B	Mx	-.000571	2.38
11	MP1B	X	4.413	3.63
12	MP1B	Mx	-.000571	3.63
13	MP1C	X	4.413	2.38
14	MP1C	Mx	.002	2.38
15	MP1C	X	4.413	3.63
16	MP1C	Mx	.002	3.63
17	MP2A	X	8.553	2
18	MP2A	Mx	-.004	2
19	MP2B	X	8.553	2
20	MP2B	Mx	-.001	2
21	MP2C	X	8.553	2
22	MP2C	Mx	.004	2
23	MP3A	X	7.124	.5
24	MP3A	Mx	-.003	.5
25	MP3B	X	7.124	.5
26	MP3B	Mx	-.000922	.5
27	MP3C	X	7.124	.5
28	MP3C	Mx	.003	.5
29	MP5A	X	.608	.25
30	MP5A	Mx	-.000249	.25
31	MP5A	X	.608	4.25
32	MP5A	Mx	-.000249	4.25
33	MP5B	X	.608	.25
34	MP5B	Mx	-2.6e-5	.25
35	MP5B	X	.608	4.25
36	MP5B	Mx	-2.6e-5	4.25
37	MP5C	X	.608	.25
38	MP5C	Mx	.000276	.25
39	MP5C	X	.608	4.25
40	MP5C	Mx	.000276	4.25
41	MP3A	X	2.027	.5
42	MP3A	Mx	-5.5e-5	.5
43	MP3A	X	2.027	5.5
44	MP3A	Mx	-5.5e-5	5.5
45	MP3B	X	2.027	.5
46	MP3B	Mx	-.002	.5
47	MP3B	X	2.027	5.5
48	MP3B	Mx	-.002	5.5
49	MP3C	X	2.027	.5
50	MP3C	Mx	.002	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
51	MP3C	X	2.027	5.5
52	MP3C	Mx	.002	5.5
53	MP3A	X	2.027	.5
54	MP3A	Mx	-.002	.5
55	MP3A	X	2.027	5.5
56	MP3A	Mx	-.002	5.5
57	MP3B	X	2.027	.5
58	MP3B	Mx	.001	.5
59	MP3B	X	2.027	5.5
60	MP3B	Mx	.001	5.5
61	MP3C	X	2.027	.5
62	MP3C	Mx	.000202	.5
63	MP3C	X	2.027	5.5
64	MP3C	Mx	.000202	5.5

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.005
2	N18	N17	N10	N14	Y	Two Way	-.005
3	N14	N10	N15	N16	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.01
2	N18	N17	N10	N14	Y	Two Way	-.01
3	N14	N10	N15	N16	Y	Two Way	-.01

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.000211
2	N18	N17	N10	N14	Y	Two Way	-.000211
3	N14	N10	N15	N16	Y	Two Way	-.000211

Member Area Loads (BLC 85 : Structure Eh (0 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Z	Two Way	-.000527
2	N18	N17	N10	N14	Z	Two Way	-.000527
3	N14	N10	N15	N16	Z	Two Way	-.000527

Member Area Loads (BLC 86 : Structure Eh (90 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	X	Two Way	.000527
2	N18	N17	N10	N14	X	Two Way	.000527
3	N14	N10	N15	N16	X	Two Way	.000527

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	N2	max	2082.777	11	2237.617	19	1061.992	1	-1.57	1	1.806	11	1.135	40
2		min	-2085.445	5	686.882	64	-920.229	7	-6.007	19	-1.814	5	-1.005	10
3	N77	max	1293.305	10	2204.374	15	1939.138	1	3.076	13	1.732	7	5.154	16
4		min	-1171.527	4	666.086	9	-2011.425	7	.282	7	-1.736	1	1.125	10
5	N109	max	1420.053	9	2231.072	23	1636.163	2	3.103	13	1.898	3	-1.217	4
6		min	-1536.202	3	580.232	41	-1703.78	8	.246	7	-1.902	9	-5.231	22
7	Totals:	max	4535.314	10	6437.628	19	4503.573	1						

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
8		min	-4535.315	4	2102.263	64	-4503.569	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	M1	HSS4X4...	.327	0	18	.104	0	y	40	1689...	169740	19.285	19.285	H1-1b
2	M2	HSS4.5X...	.226	0	21	.092	0	y	40	1197...	121302	16.25	16.25	H1-1b
3	M5	LL3x3x4x0	.071	0	9	.008	4	z	10	7628...	93312	6.48	4.357	H1-1b
4	M6	LL3x3x4x0	.067	0	11	.008	4	z	6	7628...	93312	6.48	4.357	H1-1b
5	M7	LL3x3x4x0	.103	0	43	.015	4	y	41	7628...	93312	6.48	4.357	H1-1b
6	M6A	L3X3X4	.331	3.7...	41	.015	3.7...	z	40	1399...	46656	1.688	3.189	H2-1
7	M7A	L3X3X4	.724	7.1...	42	.113	7.1...	z	20	3748...	46656	1.688	2.761	H2-1
8	M23A	L3X3X4	.324	3.7...	42	.015	3.7...	z	41	1399...	46656	1.688	3.19	H2-1
9	M24	L3X3X4	.776	7.1...	38	.110	7.1...	z	16	3748...	46656	1.688	2.782	H2-1
10	M38	HSS4X4...	.321	0	14	.102	0	y	42	1689...	169740	19.285	19.285	H1-1b
11	M39A	L3X3X4	.318	3.7...	21	.014	3.7...	z	20	1399...	46656	1.688	3.164	H2-1
12	M40	L3X3X4	.621	7.1...	9	.112	7.1...	z	23	3748...	46656	1.688	2.746	H2-1
13	M54	HSS4X4...	.326	0	21	.105	0	z	8	1689...	169740	19.285	19.285	H1-1b
14	M55	HSS4.5X...	.222	0	15	.088	0	y	41	1197...	121302	16.25	16.25	H1-1b
15	M56	HSS4.5X...	.226	0	23	.057	0	y	20	1197...	121302	16.25	16.25	H1-1b
16	MP1A	PIPE_2.0	.257	.521	44	.085	2.3...		8	2380...	32130	1.872	1.872	H1-1b
17	MP2A	PIPE_2.0	.306	3	45	.099	.516		7	2520...	32130	1.872	1.872	H1-1b
18	MP3A	PIPE_2.0	.385	3.2...	12	.077	.729		7	1785...	32130	1.872	1.872	H1-1b
19	MP4A	PIPE_2.0	.248	.521	17	.091	.521		7	2380...	32130	1.872	1.872	H1-1b
20	MP5A	PIPE_2.0	.209	2.9...	6	.074	2.9...		6	2380...	32130	1.872	1.872	H1-1b
21	MP1C	PIPE_2.0	.233	2.9...	40	.087	2.3...		4	2380...	32130	1.872	1.872	H1-1b
22	MP2C	PIPE_2.0	.255	.516	17	.094	.516		3	2520...	32130	1.872	1.872	H1-1b
23	MP3C	PIPE_2.0	.384	3.2...	8	.074	.729		3	1785...	32130	1.872	1.872	H1-1b
24	MP4C	PIPE_2.0	.272	.521	38	.088	.521		3	2380...	32130	1.872	1.872	H1-1b
25	MP5C	PIPE_2.0	.276	2.9...	37	.070	2.9...		2	2380...	32130	1.872	1.872	H1-1b
26	MP1B	PIPE_2.0	.209	2.9...	12	.085	2.3...		12	2380...	32130	1.872	1.872	H1-1b
27	MP2B	PIPE_2.0	.252	.516	13	.097	.516		11	2520...	32130	1.872	1.872	H1-1b
28	MP3B	PIPE_2.0	.374	3.2...	4	.078	.729		11	1785...	32130	1.872	1.872	H1-1b
29	MP4B	PIPE_2.0	.247	.521	21	.089	.521		11	2380...	32130	1.872	1.872	H1-1b
30	MP5B	PIPE_2.0	.209	2.9...	10	.072	2.9...		10	2380...	32130	1.872	1.872	H1-1b
31	M52	PIPE_2.5	.208	6.6...	18	.075	6.6...		7	1248...	50715	3.596	3.596	H1-1b
32	M60	PIPE_2.5	.203	6.6...	14	.074	6.6...		3	1248...	50715	3.596	3.596	H1-1b
33	M63	PIPE_2.5	.210	6.6...	22	.073	6.6...		11	1248...	50715	3.596	3.596	H1-1b
34	M66	L3X3X4	.211	1.4...	11	.024	0	z	6	4439...	46656	1.688	3.756	H2-1
35	M67	L3X3X4	.220	1.4...	7	.023	0	z	2	4439...	46656	1.688	3.756	H2-1
36	M68	L3X3X4	.212	1.4...	3	.023	0	z	10	4439...	46656	1.688	3.756	H2-1

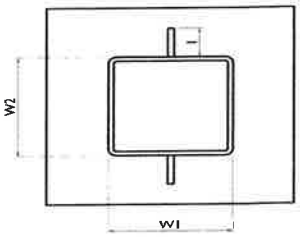
VzW SMART Tool© Vendor

Client:	Verizon Wireless	Date:	7/7/2023
Site Name:	LISBON CT		
PSLC #:	5000246009		
Fuze ID #:	17123913	Page:	2

Version 1.01

Tower Connection Weld Checks

	Yes
Weld Shape:	**Rectangle**
Weld Stiffener Configuration:	**(1) Stiffener on top/bottom**
Stiffener Notch Present?	**No**
Stiffener Length, l (in):	**3**
Stiffener Spacing/Width, s (in):	
Weld Size (1/16 in):	**4**
W1 (in):	**4**
W2 (in):	**4**
Weld Total Length (in):	28.00
Z_x (in^3/in):	52.53
Z_y (in^3/in):	21.33
J_p (in^4/in):	241.33
c_x (in)	5
c_y (in)	5
Required combined strength (kip/in):	1.29
Weld Capacity (kip/in):	5.57
Weld Utilization:	**23.2%**



ATTACHMENT 4

Town of Lisbon, Connecticut - Assessment Parcel Map

Parcel: 09/073/0000 **Address:** **6 MELL RD**

Approximate Scale:

1 inch = 638 feet

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Lisbon and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced February 2023

Town of Lisbon, CT

Property Listing Report

Map Block Lot	09/073/0000	Building #	1	PID	1925	Account	W0183000

Property Information

Property Location	6 MELL RD
Owner	WILDOWSKY STANLEY JR EST OF &
Co-Owner	WILDOWSKY RANDY
Mailing Address	20 NYGREN RD LISBON CT 06351
Land Use	7140 TillableD
Land Class	S
Zoning Code	R-60
Census Tract	

Neighborhood	200
Acreage	149.28
Utilities	
Lot Setting/Desc	
Fire District	
Book / Page	176/649
Additional Info	

Photo

Sketch

Primary Construction Details

Year Built	0
Building Desc.	
Building Style	UNKNOWN
Building Grade	NA
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	NA
Rec Rm Area	NA
Bsmt Gar	NA
Fireplaces	NA

(*Industrial / Commercial Details)

Building Use	Vacant
Building Condition	
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Town of Lisbon, CT

Property Listing Report | Map Block Lot 09/073/0000 | Building # 1 | PID 1925 | Account W0183000

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	0	0
Land	450360	37190
Total	450360	37190

Outbuilding and Extra Features

Type	Description

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	0	0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
WILDOWSKY STANLEY JR EST OF &	176/649	2021-11-11	0
WILDOWSKY STANLEY JR	176/649	2020-10-28	0
WILDOWSKY STANLEY JR	77/11	1995-09-27	0

Report Created On 8/8/2023

ATTACHMENT 5

Verizon/Lisbon

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 09/13/2023 US POSTAGE $003.19⁰ ZIP 06103 041L12203937
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Thomas Sparkman, First Selectman Town of Lisbon 1 Newent Road Lisbon, CT 06351		SEP 13 2023 USPS		
2.	Michael Murphy, Town Planner Town of Lisbon 1 Newent Road Lisbon, CT 06351				
3.	Estate of Stanley Wildowsky, Jr. Randy Wildowsky 20 Nygren Road Lisbon, CT 06351				
4.					
5.					
6.					