Filed by:
John Morrison Site Development Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3808 - JoMorrison@sbasite.com

August 1 2023

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

RE: Notice of Exempt Modification
29 Mahoney Road, Colchester, CT 06415
Latitude: 41.564533
Longitude: -72.251697
T-Mobile Site #: CT11472A_L600

Dear Ms. Bachman:

T-Mobile currently maintains twelve (12) antennas at the 177-foot level of the existing 180-foot Monopole Tower at 29 Mahoney Rd., Colchester, CT. The 180-foot tower is owned by SBA Properties, LLC. The property is owned by the Colchester Fish & Game Club, Inc. T-Mobile now intends to relocate (4) antennas on the existing Rad Center to facilitate the installation of (1) 11 GHz Microwave Dish at 178'.

The new antennas support 5G services and would be installed at the 177-foot level of the tower.

Planned Modifications:

TOWER

Remove:
- N/A

Install New:
- (1) 1/2" Fiber
- (1) Ericsson ANT3 A 0.6 11 HPX MW Dish
- (3) Ericsson Mini-Link 6365 ODU

Existing Equipment to Remain:
(3) RFS APXVAALL24_43-U-NA20 Antennas
(3) Commscope W-65ª-R1 Antennas
(3) Ericsson AIR6419 Antennas
(3) Ericsson Radio 4449 B71+B85 RRU
(3) Ericsson Radio 4460 B25+B66 RRU
(1) Low Profile Platform
(5) Fiber Lines

Entitlements:
(3) EMS RR90-17-02VDPL2/-R Antennas*
(3) Twin Style 1A PCS TMA*
(3) Twin Style 1BX TMA*
(3) Kathrein 782 10662 Bias T*

GROUND

Install New:
- Equipment inside existing 6160 cabinet

This facility was approved by the Town of Colchester's Planning and Zoning Commission on March 15, 2000. Approval was given under SDP #2000-238. A bond was to be posted prior to commencement of work. No post construction stipulations were set. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Colchester's First Selectman, Art Shilosky and Town Planner, Randall Benson, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

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

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

John Morrison
SDS Specialist I

SBA Communications Corporation
134 Flanders Road
Suite 125
Westborough, MA 01581

x3808 + **T**
508.768.7960 + **C**
JoMorrison@sbasite.com

Your Signal Starts Here.

Attachments

cc: Art Shilosky, First Selectman / with attachments
127 Norwich Avenue, Colchester, CT 06415
Randall Benson, Town Planner / with attachments
127 Norwich Avenue, Colchester, CT 06415
Colchester Fish and Game Club / with attachments
PO Box 257 Colchester, CT 06415

Exhibit List

Exhibit 1	Check Copy	X
Exhibit 2	Notification Receipts	X
Exhibit 3	Property Card	X
Exhibit 4	Property Map	X
Exhibit 5	Original Zoning Approval	Town of Colchester Z&P Commission 3/15/2000
Exhibit 6	Construction Drawings	Chappell Engineering 7/17/2023
Exhibit 7	Structural Analysis	TES 6/15/2023
Exhibit 8	Mount Analysis	TES 6/30/2023
Exhibit 9	EME	Centerline Communications LLC 6/6/2022

EXHIBIT 1

SBA Network Services, LLC

To: CONNECTICUT SITING COUNCIL 129986

Check Number: 2178140
Date: 08/09/2023

Invoice Number	Invoice Date	Description	Gross Amount	Taxes Withheld	Net Amount
PRSF08082303	08/10/2023	535051_CT11472_CSC FEES	$ 625.00	$ 0.00	$ 625.00
			$ 625.00	$ 0.00	$ 625.00

SBA Network Services, LLC
8051 Congress Avenue
Boca Raton, FL 33487-1307
(800) 487-7483

Wells Fargo Bank
061209756

2178140
129986

DATE: 08/09/2023
AMOUNT: $ 625.00

Void After 120 Days

Six Hundred Twenty Five Dollars And 00 Cents

Pay to the Order of:
CONNECTICUT SITING COUNCIL
ACCOUNTS RECEIVABLE
TEN FRANKLIN SQUARE

NEW BRITAIN, CT 06051

⑈2178140⑈ ⑆061209756⑆ 2079900424566⑈

EXHIBIT 2

FedEx Ship Manager - Print Your Label(s)

ORIGIN ID:BBFA (860) 605-7808
ELIZABETH JAMIESON

134 FLANDERS RD SUITE 125

WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 15AUG22
ACTWGT: 1.00 LB
CAD: 255382542/INET4490

BILL SENDER

TO **MELANIE BACHMAN**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE

NEW BRITAIN CT 06051
(860) 827-2935 REF: 10-56-92009-6089
INV:
PO: DEPT:

581J2/F39D/FE4A

FedEx Express

J22202041201uv

WED - 17 AUG 4:30P
**** 2DAY ****

TRK# 0201 **7775 8708 5781**

SE BDLA

06051
CT-US **BDL**

8/5/22, 12:29 PM

After printing this label:
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Warning: Use only the prin
additional billing charges, a
Use of this system constitut
be responsible for any clain
unless you declare a highe
Service Guide apply. Your
attorney's fees, costs, and
authorized declared value.
precious metals, negotiable
FedEx Service Guide.

FedEx **Transaction Record**

08/14/2023 1:19 PM

Thank you for using FedEx.

KEEP THIS FOR YOUR RECORDS
DO NOT ATTACH TO SHIPMENT

The following shipment(s) were scanned:

777586931106
777587018486
777587047379

At FedEx Office:
1 Oak St
Westborough, MA 01581
Location: AYEK Device ID: AYEK-ROSA898

Let us know how we did:

fedex.com/welisten

Part # 156297-435 RRDB EXP 07/24

This receipt was created at a self-service kiosk at FedEx. See invoice for shipping charges. Visit us at fedex.com or call 1.800.GoFedEx. See FedEx Service Guide at fedex.com for terms and conditions governing your shipment.

Page 1 of 1

1/1

https://www.fedex.com/shipping/shipAction.handle?method=doContinue

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

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

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EXHIBIT 3

Town of Colchester, CT

Property Listing Report | Map Block Lot 03-03/002-000 | Account C0061900 | PID 924

Property Information

Property Location	29 MAHONEY RD
Owner	COLCHESTER FISH + GAME CLUB IN
Co-Owner	
Mailing Address	PO BOX 257 COLCHESTER CT 06415
Land Use	1060 Vacant w Improvmts
Land Class	R
Zoning Code	R60
Census Tract	36
Sub Lot	

Neighborhood	0050
Acreage	90
Utilities	Well,Septic
Lot Setting/Desc	Rural Below
Survey Map	
Additional Info	

Photo

Sketch

Primary Construction Details

Year Built		Bedrooms		Exterior Walls	
Stories		Full Bathrooms		Interior Walls	
Building Style		Half Bathrooms		Heating Type	
Building Use		Bath Style		Heating Fuel	
Building Condition		Kitchen Style		AC Type	
Floors		Roof Style		Gross Bldg Area	
Total Rooms		Roof Cover		Total Living Area	

Report Created On 5/16/2019

Town of Colchester, CT

Property Listing Report | Map Block Lot 03-03/002-000 | Account C0061900

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Outbuildings	6600	4600
Land	394000	203790
Total	400600	208390

Outbuilding and Extra Items

Type	Description
Canopy Ave	377.00 S.F.
Canopy Ave	720.00 S.F.

Sub Areas

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

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
COLCHESTER FISH + GAME CLUB IN	0086/0409	6/15/1965	0

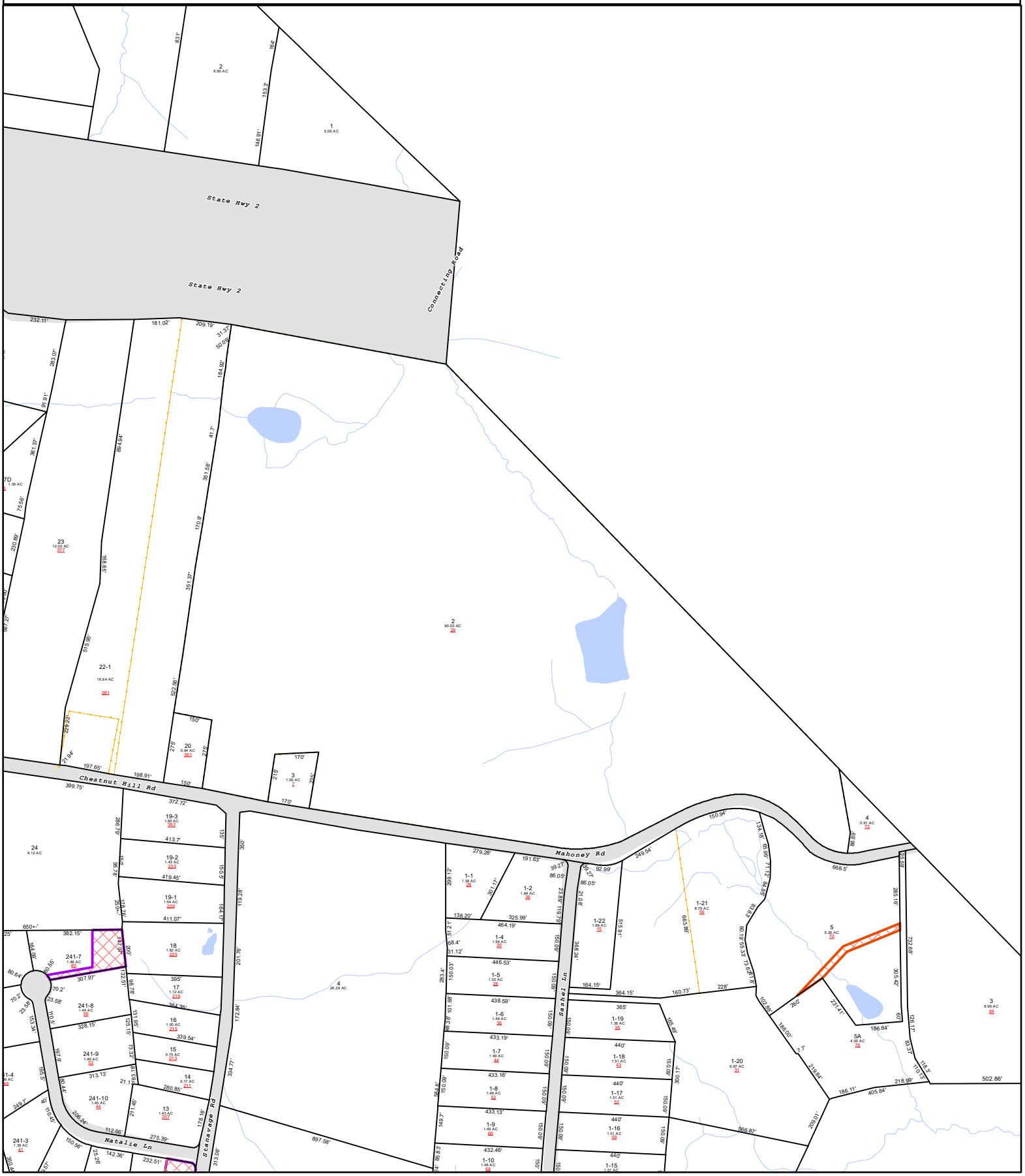
Report Created On 5/16/2019

EXHIBIT 4

Town of Colchester, Connecticut - Assessment Parcel Map

Parcel: 03-03-002-000

Address: 29 MAHONEY RD



Approximate Scale: **1 inch = 500 feet**

0 260 520 780 1,040

Feet

Map Produced: September 2018 / Grand List: 2017

EXHIBIT 5

TOWN OF COLCHESTER
INCORPORATED
1698
CONNECTICUT

Planning and Zoning
Planning Director
Town Engineer
Code Administration
Health Director
Building Official
Fire Marshal
Registered Sanitarian
Zoning Enforcement
Wetlands Enforcement

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

March 16, 2000

Esther McNanny and Jim Smith
SBA, Inc.
80 Eastern Boulevard
Glastonbury, CT 06033

RE: SDP#2000-238, Application of SBA, Inc. for Site Development Plan Review for Communications Tower at 29 Mahoney Road, Colchester, CT

Dear Esther and Jim:

The Colchester Zoning & Planning Commission at its March 15, 2000 regular meeting *approved* your above-referenced application. Notice of this decision will be published in the Zone 4 Section of the Hartford Courant and in the Rivereast News Bulletin on Friday, March 17, 2000.

Per Section 12.10.1 of the Zoning Regulations, a bond in the amount of 25% of the total cost of site improvements must be posted prior to the endorsement of this plan and/or commencement of work. A bond estimate must be submitted to the Town Engineer for his review and approval.

Please feel free to contact me at (860) 537-7294 with any questions.

Very truly yours,

Liz Rasmussen
Zoning Enforcement Officer

/lbr
cc: File
(p:/liz/zpc/decisionletters/sdp#2000-23829mahoneyroadsba)

EXHIBIT 6

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

RT2/COLCHESTER-BOZRAH

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

29 MAHONEY ROAD
COLCHESTER, CT 06415
NEW LONDON COUNTY

SITE NO.: CT11472A

SITE TYPE: 180'± MONOPOLE

PROJECT: MICROWAVE

SCOPE OF WORK

RELOCATE:
- 1 PIPE MOUNT
- 3 PANEL ANTENNAS
- 2 RADIOS

INSTALL:
- 1 MICROWAVE ANTENNA
- 1 MICROWAVE RADIO
- 1 FIBER CABLE FOR MICROWAVE
- 1 DC CABLE FOR MICROWAVE

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

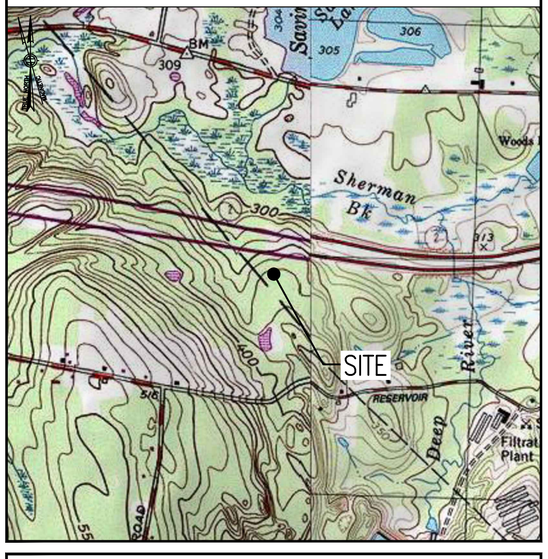
GENERAL NOTES

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

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

VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

MERGE ONTO I-495 N TOWARD MANSFIELD/MARLBORO. TAKE EXIT 33B FOR I-95 S TOWARD PROVIDENCE RI. USE RIGHT 2 LANES TO TAKE EXIT 6 FOR I-295. CONTINUE ONTO I-295 S. ENTER RI. USE RIGHT 2 LANES FOR EXIT 9C FOR US-6 W TOWARD HARTFORD CT. KEEP RIGHT AT FORK. FOLLOW SIGNS FOR JOHNSTON/SCITUATE/FOSTER. TURN RIGHT ONTO US-6 W. CONTINUE STRAIGHT TO STAY ON US-6 W. TAKE SLIGHT LEFT TO STAY ON US-6 W. FOLLOW SIGNS FOR I-395. ENTER CT. TAKE SLIGHT LEFT ONTO CONNECTICUT TPK/GOVERNOR JOHN DAVIS LODGE TPK. KEEP LEFT TO MERGE ONTO I-395 S. TAKE EXIT 14 TOWARD CT-2 W/ CT-32 N/HARTFORD/COLCHESTER. TURN RIGHT ONTO W TOWN STREET. CONTINUE ONTO FITCHVILLE ROAD/FRANKLIN TPK/NORWICH-COLCHESTER TPK. TURN LEFT ONTO CT-2 W TOWARD HARTFORD. TAKE EXIT 22 TOWARD LEBANON/GILMAN. TURN RIGHT ONTO SCOTT HILL ROAD. TURN LEFT ONTO CT-616. TURN LEFT ONTO CAMP MOOWEEN ROAD. CONTINUE STRAIGHT ONTO RESERVOIR ROAD. CONTINUE ONTO MAHONEY ROAD. SITE IS LOCATED ON THE RIGHT HAND SIDE.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	TOWER ELEVATION & ANTENNA PLANS	1
A-3	SITE DETAILS	1
RF-1	RF DATA	1
E-1	ELECTRIC & GROUNDING DETAILS	1

DO NOT SCALE DRAWINGS

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

PROJECT SUMMARY

SITE NUMBER:	CT11472A
SITE NAME:	RT2/COLCHESTER-BOZRAH
SBA SITE NUMBER:	CT02652-S
SBA SITE NAME:	COLCHESTER 3 CT
SITE ADDRESS:	29 MAHONEY ROAD COLCHESTER, CT 06415
PROPERTY OWNER:	COLCHESTER FISH & GAME CLUB, INC. COLCHESTER, CT 06415-0257
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON
ZONING DISTRICT:	RURAL
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	180'±
GROUND ELEVATION	375'± AMSL
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.564533° N41°33'52.32" LONGITUDE: -72.251697° W72°15'06.11"

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

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

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

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
7/17/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/17/23	ISSUED FOR CONSTRUCTION	CMC
0	05/05/23	ISSUED FOR REVIEW	CMC

SITE NUMBER:
CT11472A

SITE ADDRESS:
29 MAHONEY ROAD
COLCHESTER, CT 06415

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.541

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SITE WORK GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

CONCRETE AND REINFORCING STEEL NOTES:

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

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

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

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

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

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

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

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

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

STRUCTURAL STEEL NOTES:

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

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

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

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

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

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

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

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

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

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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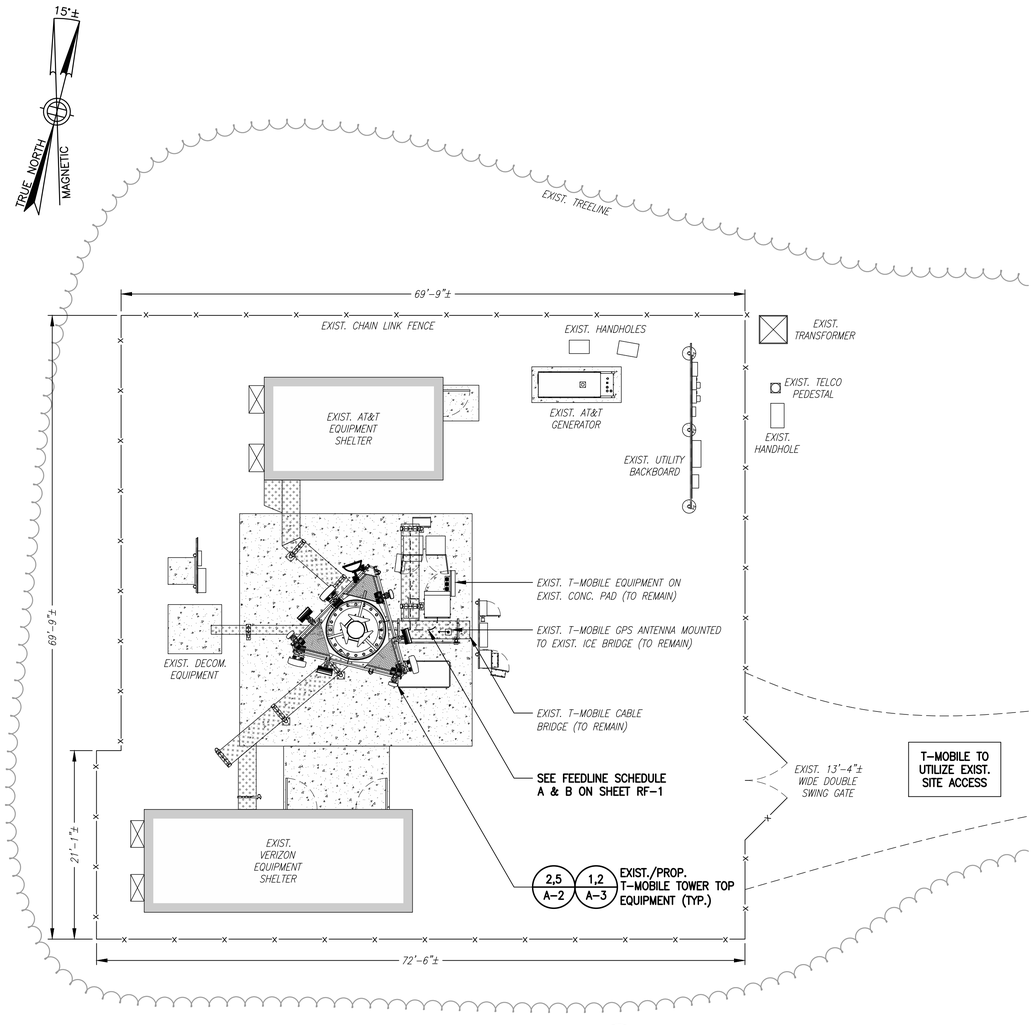
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY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

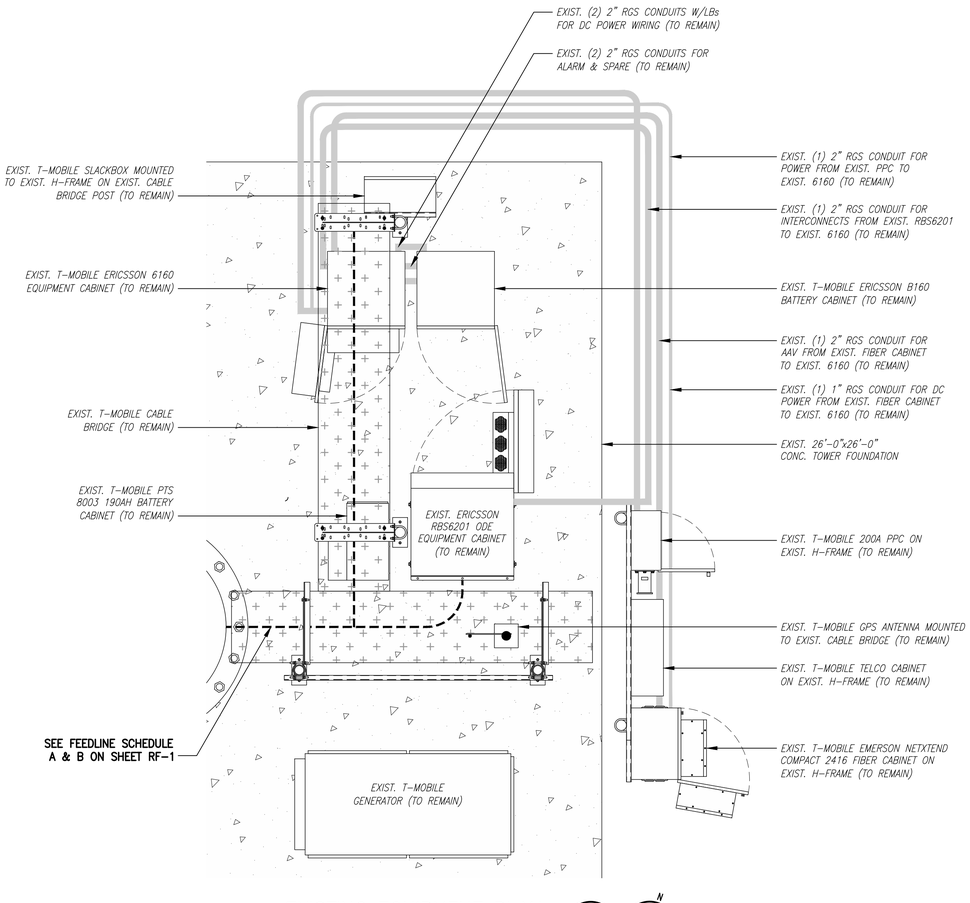
**SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).**



COMPOUND PLAN
SCALE: 1/8" = 1'-0" — 1 / A-1

0 8'-0" 16'-0 24'-0"

EXISTING EQUIPMENT PHOTO
SCALE: N.T.S. — 2 / A-1



EXISTING EQUIPMENT PLAN
SCALE: 1/2" = 1'-0" — 3 / A-1

0 2'-0" 4'-0" 6'-0"

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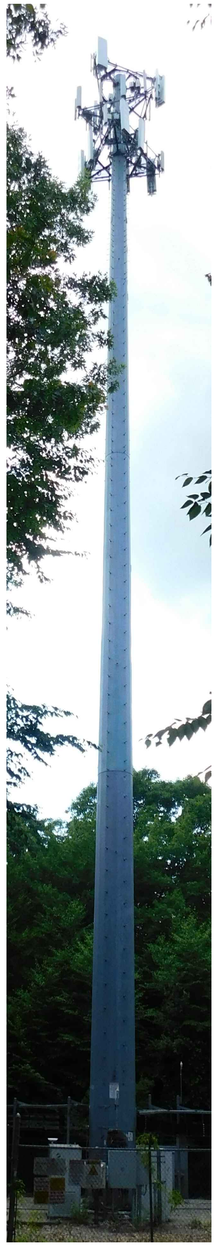
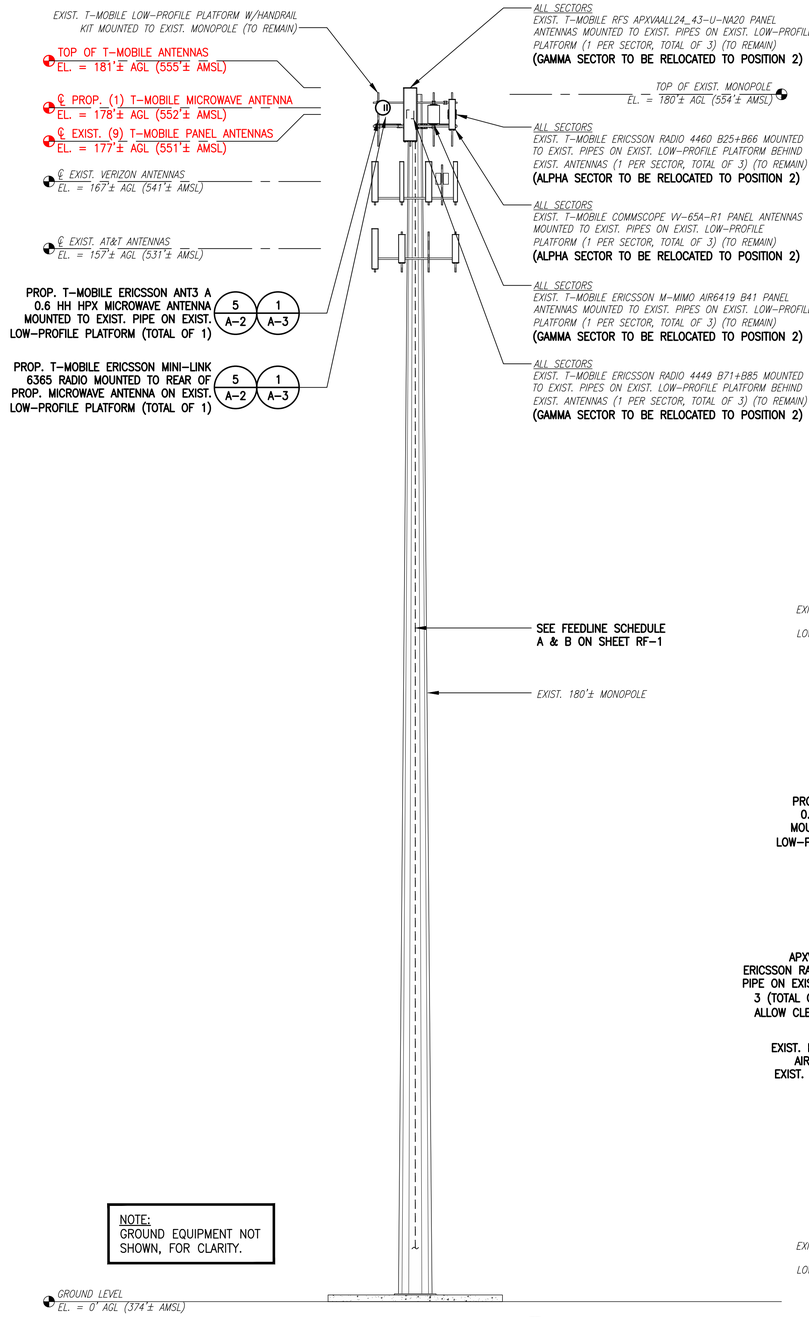
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

RAD CENTER NOTE:
T-MOBILE ANTENNA AND MOUNT RAD CENTER SHOWN IN ELEVATION ARE ACCORDING TO STRUCTURAL ANALYSIS DONE BY OTHERS AND MAY DIFFER FROM RAD CENTER ON RFDS PROVIDED BY T-MOBILE.



EXISTING TOWER PHOTO (1 / A-2)
SCALE: N.T.S.

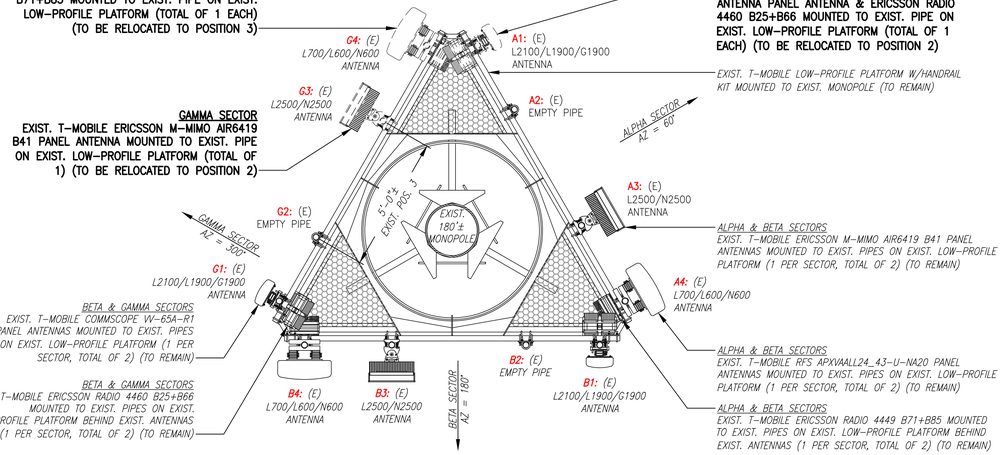


NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

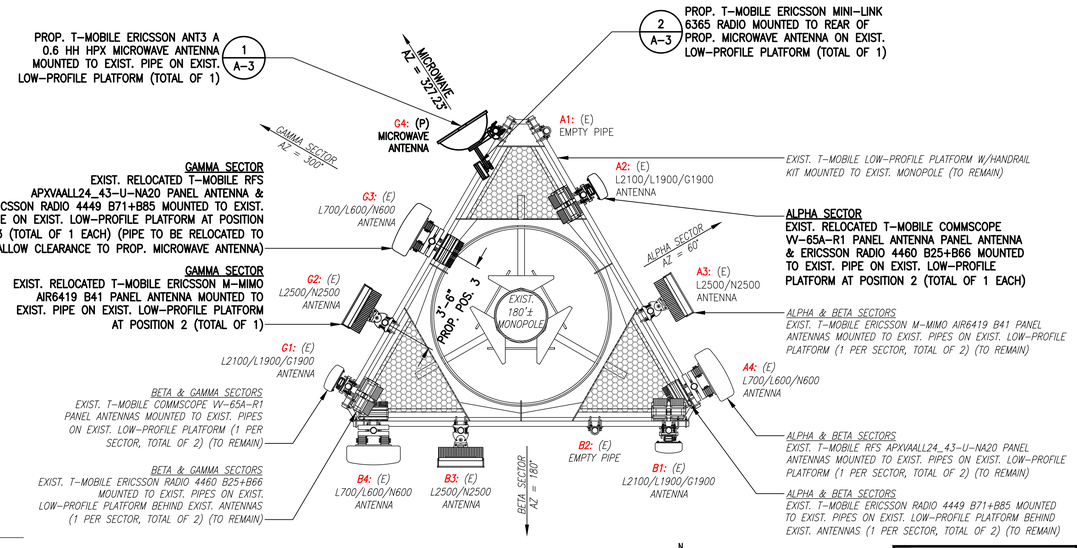
TOWER ELEVATION (2 / A-2)
SCALE: 3/32" = 1'-0"
0 10'-8" 21'-4" 32'-0"

EXISTING ANTENNA PHOTO (3 / A-2)
SCALE: N.T.S.

ANTENNA STATUS LEGEND:
EMPTY - EMPTY PIPE
(E) - EXISTING
(P) - INSTALL
(F) - FUTURE



EXISTING ANTENNA PLAN (4 / A-2)
SCALE: N.T.S.



PROPOSED ANTENNA PLAN (5 / A-2)
SCALE: N.T.S.

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

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

SBA COMMUNICATIONS CORP.
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WESTBOROUGH, MA 01581
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CHAPPELL ENGINEERING ASSOCIATES, LLC
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(508) 481-7400
www.choppellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25937
LICENSED PROFESSIONAL CIVIL ENGINEER
7/17/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/17/23	ISSUED FOR CONSTRUCTION	CMC
0	05/05/23	ISSUED FOR REVIEW	CMC

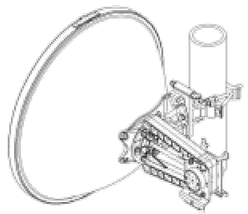
SITE NUMBER:
CT11472A

SITE ADDRESS:
29 MAHONEY ROAD
COLCHESTER, CT 06415

SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

SHEET NUMBER
A-2

1815.541



ERICSSON ANT3 A 0.6 11 HPX

DIMENSIONS: 26.0"ø x 23.5"D
WEIGHT: 22.0 lbs
QUANTITY: TOTAL OF 1

ANTENNA DETAIL (1 / A-3)
SCALE: N.T.S.

ERICSSON MINI-LINK 6365

DIMENSIONS: 7.0"H x 7.8"W x 3.1"D
WEIGHT: 5.5 lbs
QUANTITY: TOTAL OF 1

RADIO DETAIL (2 / A-3)
SCALE: N.T.S.

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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

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1	07/17/23	ISSUED FOR CONSTRUCTION	CMC
0	05/05/23	ISSUED FOR REVIEW	CMC

SITE NUMBER:
CT11472A

SITE ADDRESS:
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COLCHESTER, CT 06415

SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.541

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 EMPTY PIPE	–	–	–	–	–	–	EXIST. (1) 1-5/8" (6x12) HCS FIBER CABLE EXIST. (2) 2" (6x24) HCS FIBER CABLES
	A2 COMMSCOPE VV-65A-R1	177'± AGL	60°	0°	2°	L1900/L2100/G1900	ERICSSON RADIO 4460 B25+B66	
	A3 ERICSSON M-MIMO AIR6419 B41	177'± AGL	60°	0°	2°	L2500/N2500	–	
	A4 RFS APXVAALL24_43-U-NA20	177'± AGL	60°	0°	2°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85	
BETA	B1 COMMSCOPE VV-65A-R1	177'± AGL	180°	0°	2°	L1900/L2100/G1900	ERICSSON RADIO 4460 B25+B66	
	B2 EMPTY PIPE	–	–	–	–	–	–	
	B3 ERICSSON M-MIMO AIR6419 B41	177'± AGL	180°	0°	2°	L2500/N2500	–	
	B4 RFS APXVAALL24_43-U-NA20	177'± AGL	180°	0°	2°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85	
GAMMA	G1 COMMSCOPE VV-65A-R1	177'± AGL	300°	0°	2°	L1900/L2100/G1900	ERICSSON RADIO 4460 B25+B66	
	G2 ERICSSON M-MIMO AIR6419 B41	177'± AGL	300°	0°	2°	L2500/N2500	–	
	G3 RFS APXVAALL24_43-U-NA20	177'± AGL	300°	0°	2°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85	
MICROWAVE	G4 ERICSSON ANT3 A 0.6 11 HPX	178'± AGL	327.23°	–	–	–	ERICSSON MINI-LINK 6365	PROP. (1) ½" FIBER CABLE PROP. (1) 2Cx14AWG DC CABLE

CABLE NOTE: SEE FEEDLINE SCHEDULE A & B.

NOTE: ANCHOR RFDS REV4 – 04/20/22

RAD CENTER NOTE:
T-MOBILE ANTENNA RAD CENTER SHOWN IN ABOVE SCHEDULE IS ACCORDING TO RFDS PROVIDED BY T-MOBILE AND MIGHT DIFFER FROM ACTUAL ANTENNA RAD CENTER ON STRUCTURAL ANALYSIS.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) ½" COAX CABLE FOR GPS ANTENNA (1) 1-5/8" (6x12) HCS FIBER CABLE (2) 2" (6x24) HCS FIBER CABLES EXISTING TO BE REMOVED: N/A	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) ½" FIBER CABLE FOR MICROWAVE ANTENNA (1) 2Cx14AWG DC CABLE FOR MICROWAVE ANTENNA	

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

RAN EQUIPMENT

CABINET	EXISTING	PROPOSED
ERICSSON RBS6201 ODE	(1) DUG20 (1) BB 6630 (1) BB 6648	(1) DUG20 (1) BB 6630 (1) BB 6648
ERICSSON 6160 AC V1	(1) RP 6651 (1) CSR IXRe V2 (GEN2)	(1) RP 6651 (1) CSR IXRe V2 (GEN2)

NOTE:
RAN EQUIPMENT IS BASED ON ANCHOR RFDS REV4 DATED 04/20/22.

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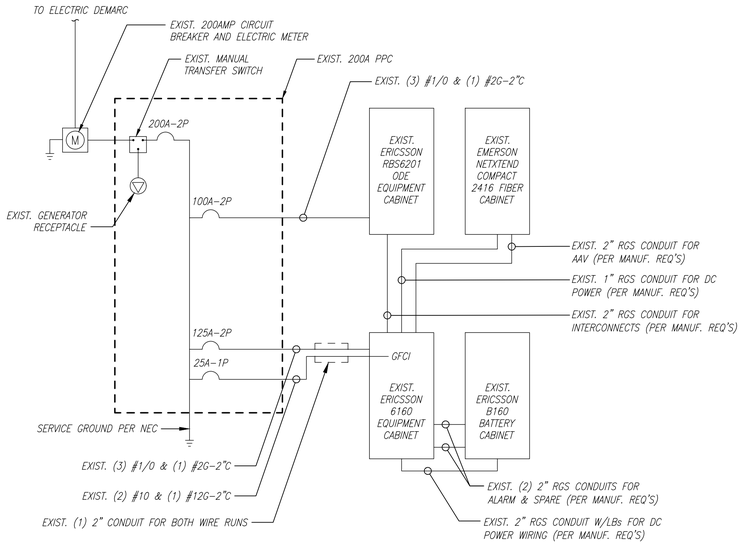
SITE ADDRESS:
29 MAHONEY ROAD
COLCHESTER, CT 06415

SHEET TITLE
RF DATA

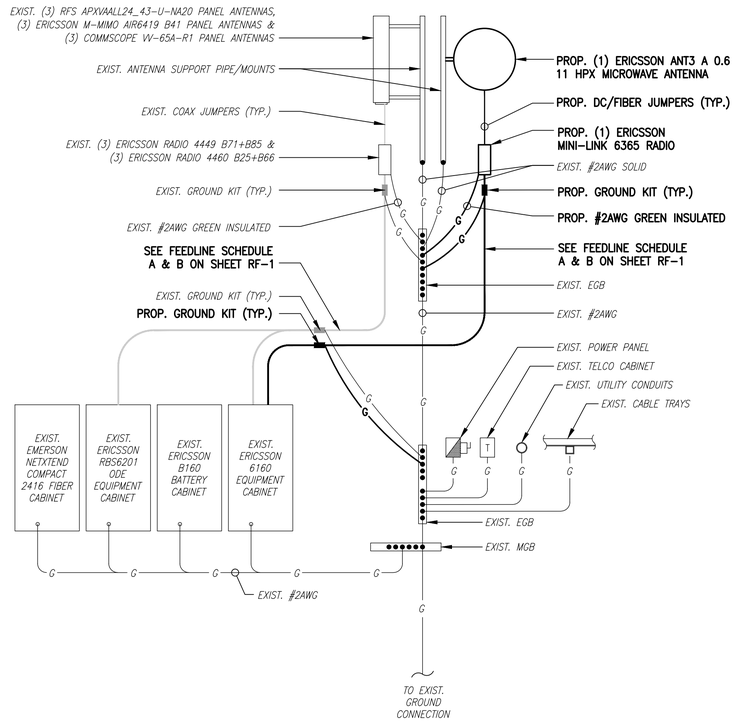
SHEET NUMBER
RF-1

1815.541

EXISTING POWER PANEL PHOTOS (1 / E-1)
SCALE: NOT TO SCALE

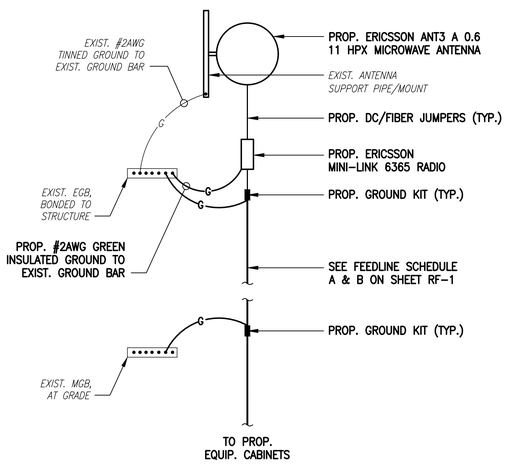


ONE LINE DIAGRAM (2 / E-1)
SCALE: NOT TO SCALE



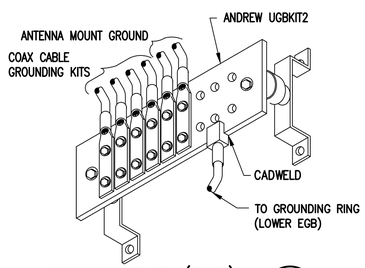
GROUNDING RISER DIAGRAM (3 / E-1)
SCALE: NOT TO SCALE

NOTE:
EXIST. PANEL ANTENNAS & RADIOS NOT SHOWN, FOR CLARITY.

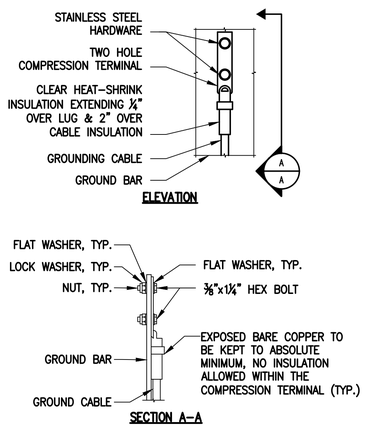


DISH ANTENNA

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



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



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

TYPICAL GROUND BAR CONNECTIONS DETAIL (6 / E-1)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

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

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CHECKED BY: JMT

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SUBMITTALS

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CT11472A

SITE ADDRESS:
29 MAHONEY ROAD
COLCHESTER, CT 06415

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.541

EXHIBIT 7

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

Structural Analysis Report

Existing 180 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT02652-S

Customer Site Name: Colchester 3 CT

Carrier Name: T-Mobile (App#: 197460, V2)

Carrier Site ID / Name: CT11472A / Rt2/Colchester-Bozrah

Site Location: 29 Mahoney Road

Colchester, Connecticut

New London County

Latitude: 41.564533

Longitude: -72.251697

Analysis Result:

Max Structural Usage: 98.9% [Pass]

Max Foundation Usage: 78% [Pass]

Additional Usage Caused by Mount Modification: +2.3%

Report Prepared By: Praveen Shrestha

Tower Engineering Solutions
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Max Foundation Usage: 78% [Pass]

Additional Usage Caused by Mount Modification: +2.3%

Report Prepared By: Praveen Shrestha

Introduction

The purpose of this report is to summarize the analysis results on the 180 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Valmont Microflect (Order # 11277-00) original design drawings, dated 011/03/1999
Foundation Drawing	Valmont Microflect (Order # 11277-00) drawing # 3097-F, dated 04/03/2000
Geotechnical Report	FDH Engineering, Inc. (Project # 1465721600) Geotechnical Report, dated 05/22/2014
Modification Drawings	N/A
Mount Analysis	Tower Engineering Solutions, TES Project Number: 130371, dated 06/31/22

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 130.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.172, S_1 = 0.061

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	177.0	9	EMS RR90-17-02DP Panel	(1) Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	RFS APXVAARR18_43-U-NA20 Panel			
-		3	Ericsson KRY 112 489/2 TMA			
-		3	Ericsson KRY 112 144/2 TMA			
-		3	Ericsson Radio 4449 RRU			
-		3	Kathrein 782 10662 Bias-T			
10	167.0	6	JMA Wireless MX06FRO660-03 - Panel	Platform Mount w/ Mod	(10) 1 5/8" (2) 1 5/8" Hybrid	Verizon
11		3	Samsung VZS01 – Panel			
12		3	Antel BXA-70063-6CF – Panel			
13		3	Samsung B2/B66A RRH-BR049 RRU			
14		3	Samsung B5/B13 RRH-BR04C RRU			
15		1	Commscope FE-16148-OVP-B12 OVP			
16	160.0	3	CCI HPA-65R-BUU-H8 – Panel	Low Profile Platform w/ (1) Handrail Kit [HRK-12] [3] New 2.5" Pipe	(12) 1 5/8" (4) 3/4" DC (1) 3/8" Fiber	AT&T
17		3	Powerwave - 7770 – Panel			
18		3	CCI - DMP65R-BU8DA – Panel			
19		6	Powerwave LGP21401 TMA			
20		6	Powerwave LGP21901 Diplexers			
21		12	Powerwave 7020.00 RET			
22		3	Ericsson RRUS 4449 B5/B12 RRU			
23		3	Ericsson RRUS-12 B2 RRU			
24		3	Ericsson RRUS A2 Module			
25		1	Raycap DC6-48-60-18-8F COVP			
26		1	Raycap DC6-48-60-0-8C-EV COVP			
27	150.0	3	JMA Wireless MX08FRO665-21	Platform w/HRK (1) Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
28		3	Fujitsu TA08025-B605 RRU			
29		3	Fujitsu TA08025-B604 RRU			
30		1	Raycap RDIDC-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
1	177.0	3	RFS APXVAALL24-43-U-NA20 Panel	(1) Low Profile Platform; Support rail w/end connection kit; Mount pipes	(3) 1 1/4" Fiber (1) 1 5/8" Fiber (1) 1.99" Fiber	T-Mobile
2		3	Ericsson AIR6419 B41 Panel			
3		3	Commscope VV-65A-R1 Panel			
4		3	EMS RR90-17-02VDPL2/-R Panel			
5		3	Ericsson KRY 112 144/2 TMA			
6		3	Ericsson KRY 112 489/2 TMA			
7		3	Ericsson 4449 B71 + B85 RRU			
8		3	Ericsson 4460 B25 + B66 RRU			
9		3	Kathrein 782 11056 Bias Ts			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**98.9%**	**89.4%**	**72.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	6371.42	48.3	61.8

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 2.0289 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 98.96% at 53.0ft

Structure:	CT02652-S-SBA	**Code:**	EIA/TIA-222-G	6/15/2022
Site Name:	Colchester 3 CT	**Exposure:**	C	
Height:	180.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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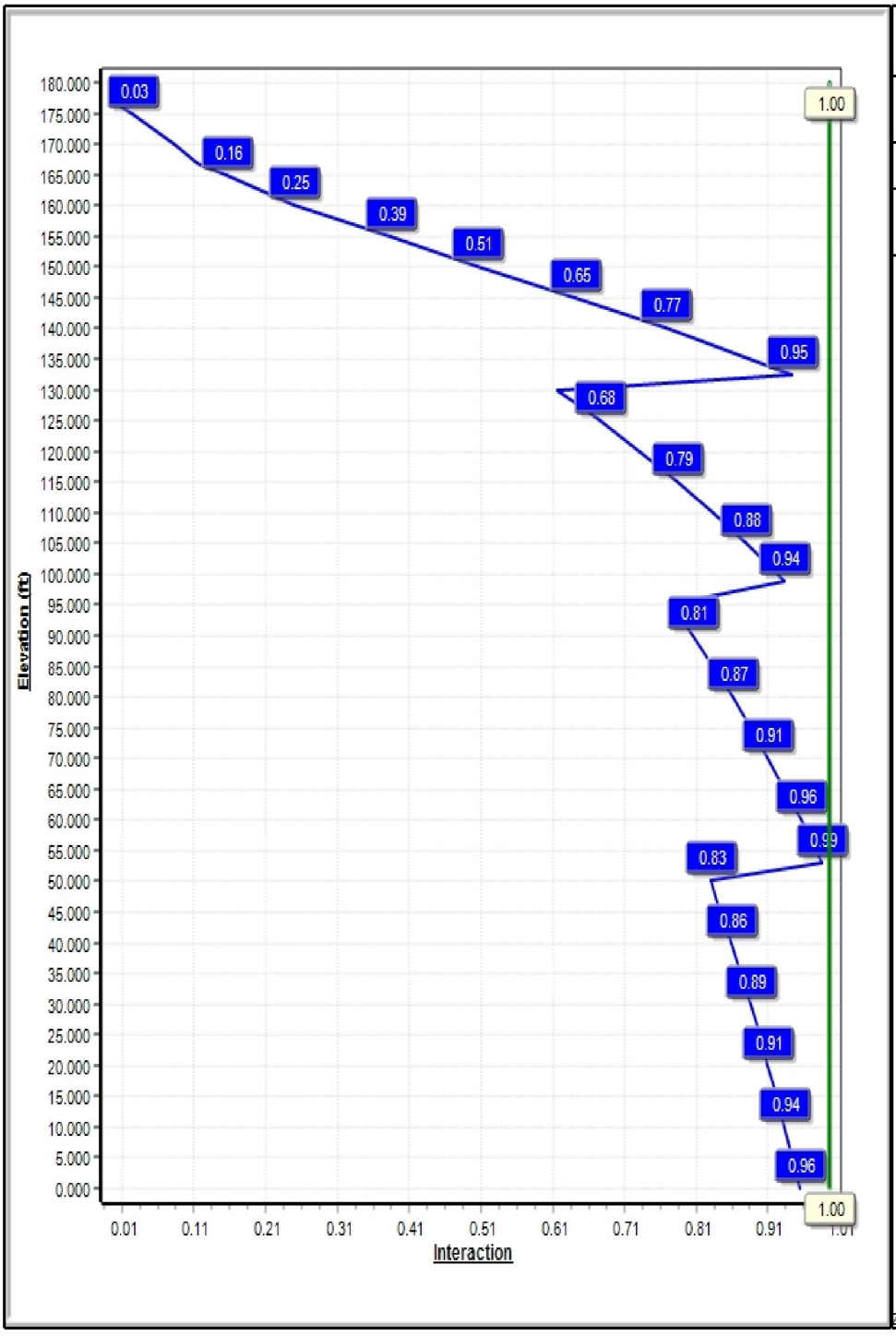
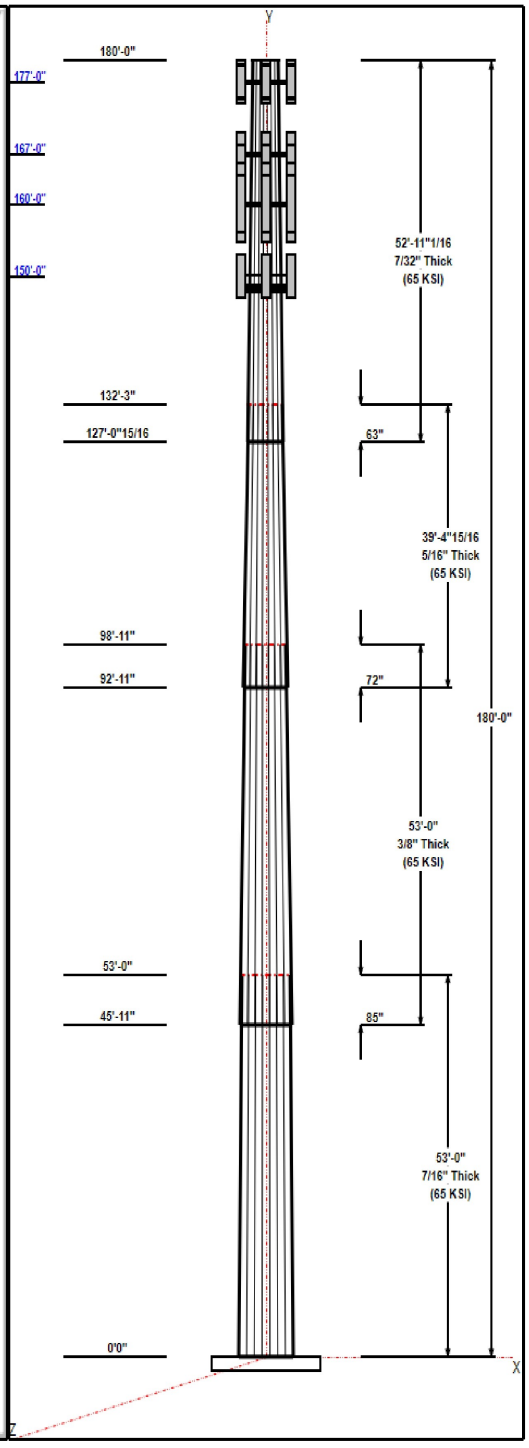
Dead Load Factor:	1.20	**Iterations:**	26
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 101 mph Wind





Structure: CT02652-S-SBA

Type: Tapered
Site Name: Colchester 3 CT
Height: 180.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.20502

6/15/2022

Tower Engineering Solutions

Shaft Properties

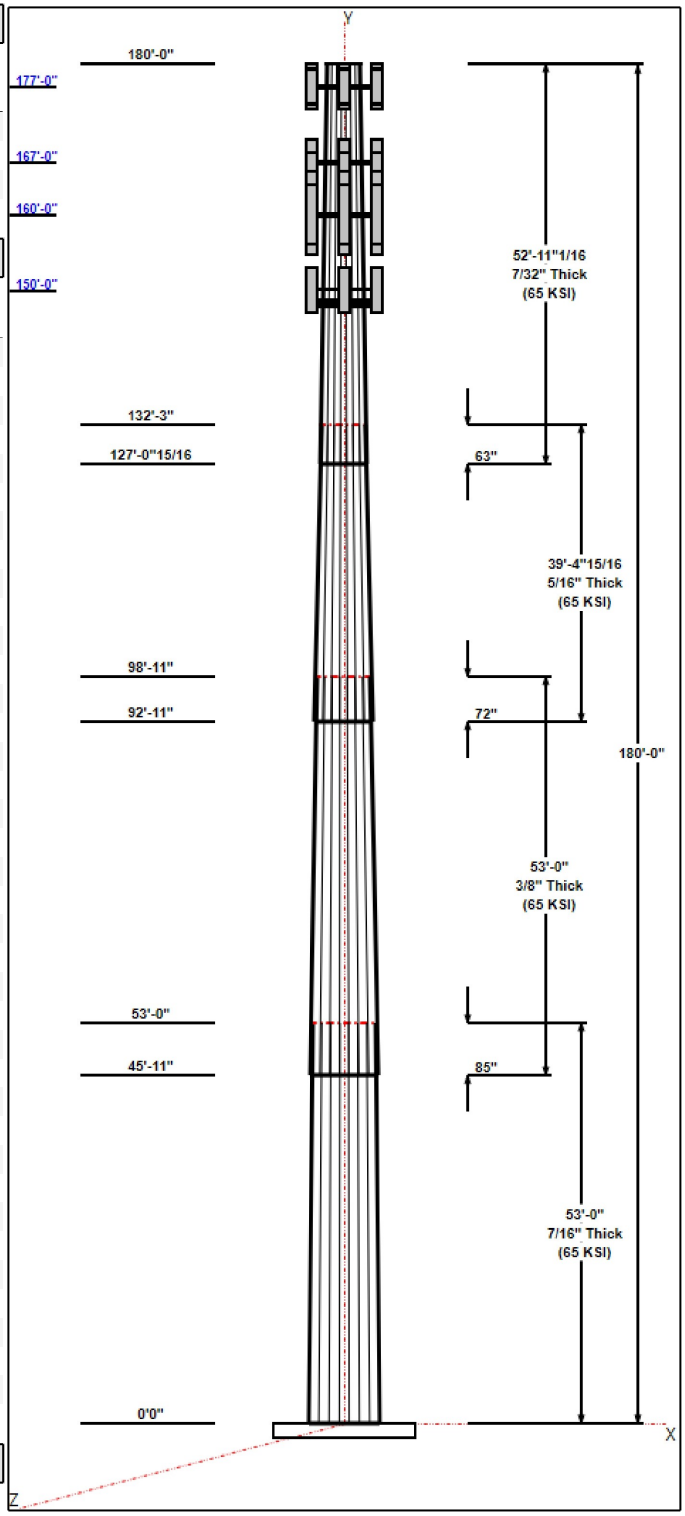
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.00	49.13	60.00	0.438		0.20502	65
2	53.00	40.47	51.34	0.375	Slip	0.20502	65
3	39.41	34.25	42.33	0.313	Slip	0.20502	65
4	52.92	24.91	35.76	0.219	Slip	0.20502	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
180.00	183.50	1	Lightning Rod	
177.00	177.00	3	AIR6419 B41	T-Mobile
177.00	177.00	3	VV-65A-R1	T-Mobile
177.00	177.00	3	782 11056	T-Mobile
177.00	177.00	1	HRK12 (Handrail Kit)	T-Mobile
177.00	177.00	1	mount pipe & end	T-Mobile
177.00	177.00	3	EMS RR90-17-02DP	T-Mobile
177.00	177.00	1	Low Profile Platform	T-Mobile
177.00	177.46	3	KRY 112 489/2	T-Mobile
177.00	177.29	3	KRY 112 144/2	T-Mobile
177.00	177.63	3	Ericsson 4449 B71 + B85	T-Mobile
177.00	177.00	3	4460 B25 + B66	T-Mobile
177.00	177.00	3	APXVAARR18_43-U-NA20	T-Mobile
167.00	167.00	6	JMA Wireless	Verizon
167.00	167.00	3	Samsung VZS01	Verizon
167.00	167.00	3	Antel BXA-70063-6CF	Verizon
167.00	167.00	3	Samsung B2/B66A	Verizon
167.00	167.00	3	Samsung B5/B13	Verizon
167.00	167.00	1	Commscope	Verizon
167.00	167.00	1	Platform Mount w/ Mods	Verizon
160.00	160.00	3	CCI HPA-65R-BUU-H8	AT&T
160.00	160.00	3	Ericsson RRUS-12 B2	AT&T
160.00	160.00	3	Ericsson RRUS A2 Module	AT&T
160.00	160.00	6	LGP21401 TMA	AT&T
160.00	160.00	12	Powerwave 7020.00 RET	AT&T
160.00	160.00	6	LGP21901 Diplexers	AT&T
160.00	160.00	1	Raycap DC6-48-60-18-8F	AT&T
160.00	157.00	3	7770	AT&T
160.00	160.00	1	Low Profile Platform	AT&T
160.00	160.00	1	Raycap	AT&T
160.00	160.00	3	DMP65R-BU8DA	AT&T
160.00	160.00	3	Ericsson RRUS4449	AT&T
160.00	160.00	1	Handrail Kit [SitePro1	AT&T
150.00	150.00	3	MX08FRO665-21	Dish Wireless
150.00	150.00	3	TA08025-B605	Dish Wireless
150.00	150.00	3	TA08025-B604	Dish Wireless
150.00	150.00	1	RDIDC-9181-OF-48	Dish Wireless
150.00	150.00	1	MC-PK8-DSH	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	180.00	Outside	Climbing Ladder	
0.00	177.00	Inside	1 1/4" Fiber	T-Mobile
0.00	177.00	Inside	1 5/8" Fiber	T-Mobile
0.00	177.00	Inside	1.99" Fiber	T-Mobile



0.00	167.00	Inside	1 5/8" Coax	Verizon
0.00	167.00	Inside	1 5/8" Hybrid	Verizon
0.00	160.00	Inside	1 5/8" Coax	AT&T
0.00	160.00	Inside	3/4" DC	AT&T
0.00	160.00	Inside	3/8" Fiber	AT&T
0.00	150.00	Inside	1.6" Hybrid	Dish Wireless

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	74.6	60.0	Polygon

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	6371.4	48.3	61.8
0.9D + 1.6W 101 mph Wind	6276.1	48.2	46.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1648.9	12.0	95.5
1.2D + 1.0E	366.7	2.5	62.0
0.9D + 1.0E	360.7	2.5	46.5
1.0D + 1.0W 60 mph Wind	1396.0	10.6	51.6

Structure: CT02652-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Colchester 3 CT
Height: 180.00 (ft)

6/15/2022

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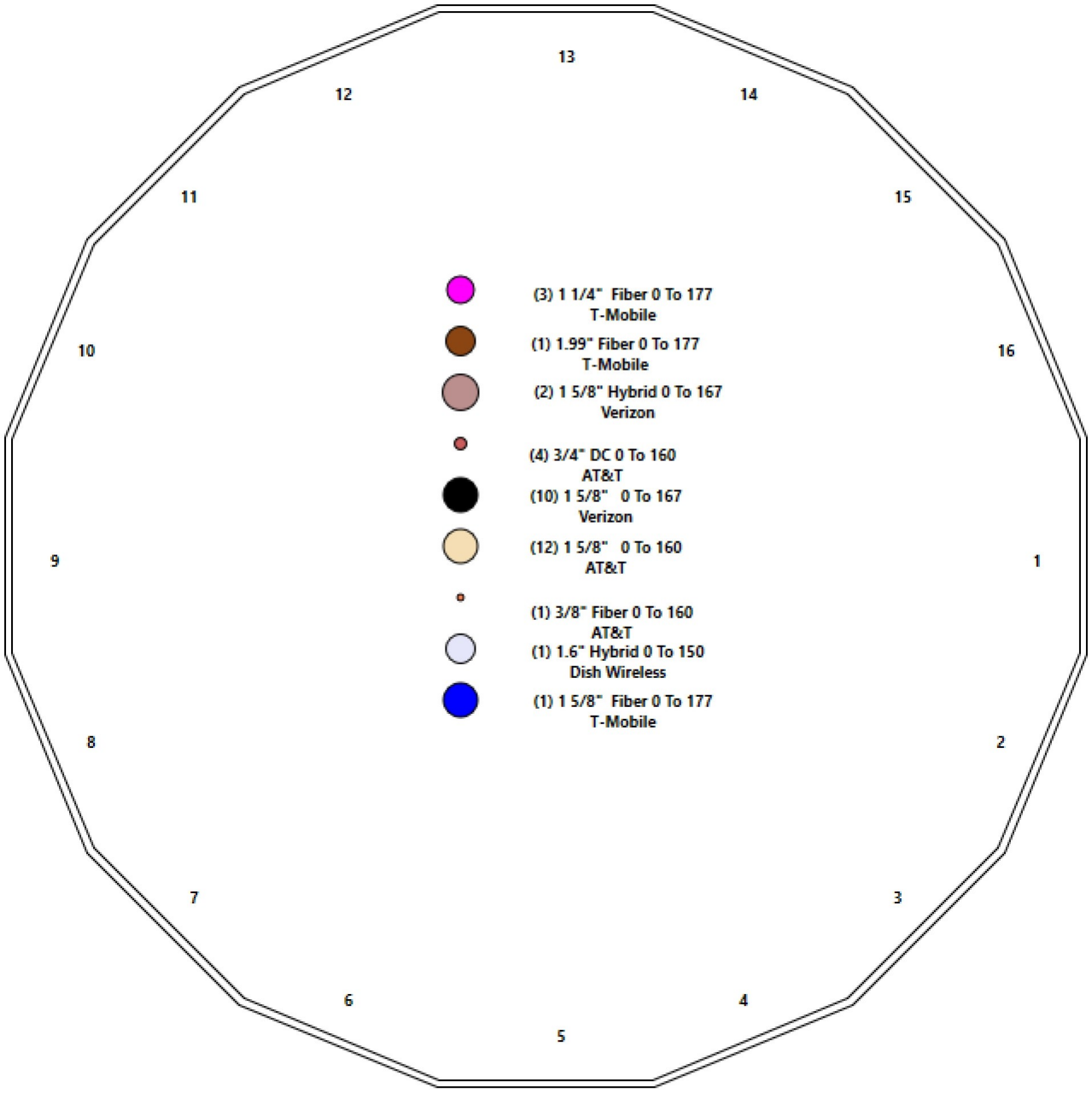

Shaft Properties

Structure:	CT02652-S-SBA		**Code:**	TIA-222-G	6/15/2022
Site Name:	Colchester 3 CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	53.000	0.4380	65		0.00	13,640
2	16	53.000	0.3750	65	Slip	85.00	9,822
3	16	39.410	0.3130	65	Slip	72.00	5,085
4	16	52.923	0.2190	65	Slip	63.00	3,789
					Total Shaft Weight:		**32,335**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	60.00	0.00	83.22	37298.12	25.66	136.99	49.13	53.00	68.04	20382.3	20.72	112.1	0.205022
2	51.34	45.92	60.96	20001.00	25.64	136.90	40.47	98.92	47.96	9740.99	19.88	107.9	0.205022
3	42.33	92.92	41.95	9354.08	25.31	135.23	34.25	132.33	33.88	4928.56	20.17	109.4	0.205022
4	35.76	127.0	24.83	3962.37	30.89	163.29	24.91	180.00	17.25	1328.51	21.03	113.7	0.205022

Load Summary

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	180.00	Lightning Rod	1	35.00	1.05	1.00	66.99	3.467	1.00	0.00	3.50
2	177.00	AIR6419 B41	3	103.00	5.65	0.71	242.41	6.616	0.71	0.00	0.00
3	177.00	VV-65A-R1	3	44.10	6.62	0.82	227.84	7.749	0.82	0.00	0.00
4	177.00	782 11056	3	2.90	0.12	0.50	7.09	0.395	0.50	0.00	0.00
5	177.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	577.50	13.457	1.00	0.00	0.00
6	177.00	mount pipe & end connectn	1	250.00	19.30	0.75	780.53	44.778	0.75	0.00	0.00
7	177.00	EMS RR90-17-02DP	3	18.00	4.36	0.72	118.45	5.364	0.72	0.00	0.00
8	177.00	Low Profile Platform	1	2000.00	24.00	1.00	3774.34	43.589	1.00	0.00	0.00
9	177.00	KRY 112 489/2	3	15.40	0.65	0.50	33.31	1.272	0.50	0.00	0.46
10	177.00	KRY 112 144/2	3	9.70	0.41	0.50	19.37	0.893	0.50	0.00	0.29
11	177.00	Ericsson 4449 B71 + B85	3	74.00	1.65	0.50	142.70	2.171	0.50	0.00	0.63
12	177.00	4460 B25 + B66	3	84.50	1.88	0.50	136.62	2.440	0.50	0.00	0.00
13	177.00	APXVAARR18_43-U-NA20	3	106.00	15.76	0.70	442.67	16.260	0.70	0.00	0.00
14	167.00	JMA Wireless MX06FRO660-03	6	46.00	9.87	0.87	318.33	11.261	0.87	0.00	0.00
15	167.00	Samsung VZS01	3	87.10	4.30	0.69	199.59	5.194	0.69	0.00	0.00
16	167.00	Antel BXA-70063-6CF	3	17.00	7.57	0.73	193.47	8.845	0.73	0.00	0.00
17	167.00	Samsung B2/B66A RRH-BR049	3	70.30	1.87	0.50	140.60	2.450	0.50	0.00	0.00
18	167.00	Samsung B5/B13 RRH-BR04C	3	84.40	1.88	0.50	136.21	2.437	0.50	0.00	0.00
19	167.00	Commscope FE-16148-OVP-B12	1	20.00	2.51	1.00	115.22	3.171	1.00	0.00	0.00
20	167.00	Platform Mount w/ Mods	1	2000.00	36.00	1.00	3764.05	65.213	1.00	0.00	0.00
21	160.00	CCI HPA-65R-BUU-H8	3	68.00	12.98	0.79	361.24	14.606	0.79	0.00	0.00
22	160.00	Ericsson RRUS-12 B2	3	58.00	3.15	0.50	130.29	4.414	0.50	0.00	0.00
23	160.00	Ericsson RRUS A2 Module	3	21.20	1.86	0.50	57.54	2.840	0.50	0.00	0.00
24	160.00	LGP21401 TMA	6	17.50	1.29	0.50	48.73	2.131	0.50	0.00	0.00
25	160.00	Powerwave 7020.00 RET	12	2.20	0.40	0.50	12.50	0.887	0.50	0.00	0.00
26	160.00	LGP21901 Diplexers	6	31.00	0.63	0.50	74.63	1.645	0.50	0.00	0.00
27	160.00	Raycap DC6-48-60-18-8F COVP	1	32.80	1.47	1.00	96.98	2.174	1.00	0.00	0.00
28	160.00	7770	3	35.00	5.50	0.73	218.73	6.572	0.73	0.00	-3.00
29	160.00	Low Profile Platform	1	1800.00	22.00	1.00	3380.86	39.776	1.00	0.00	0.00
30	160.00	Raycap DC6-48-60-0-8C-EV COVP	1	26.20	3.78	1.00	230.13	4.484	1.00	0.00	0.00
31	160.00	DMP65R-BU8DA	3	95.70	13.75	0.79	475.40	19.705	0.79	0.00	0.00
32	160.00	Ericsson RRUS4449 B5/B12	3	73.00	1.97	0.50	128.24	2.521	0.50	0.00	0.00
33	160.00	Handrail Kit [SitePro1 HRK-12]+Pipe	1	330.00	8.75	1.00	724.16	17.357	1.00	0.00	0.00
34	150.00	MX08FRO665-21	3	64.50	12.49	0.74	355.37	13.955	0.74	0.00	0.00
35	150.00	TA08025-B605	3	75.00	1.96	0.50	127.30	2.521	0.50	0.00	0.00
36	150.00	TA08025-B604	3	63.90	1.96	0.50	114.53	2.521	0.50	0.00	0.00
37	150.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	75.15	2.578	1.00	0.00	0.00
38	150.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3414.83	84.824	1.00	0.00	0.00
		Totals:	**108**	**12,910.12**			**31,827.85**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	180.00	(1) Climbing Ladder	0.00	Outside
0.00	177.00	(3) 1 1/4" Fiber	0.00	Inside
0.00	177.00	(1) 1 5/8" Fiber	0.00	Inside

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)
0.00	177.00	(1) 1.99" Fiber			0.00	Inside					
0.00	167.00	(10) 1 5/8" Coax			0.00	Inside					
0.00	167.00	(2) 1 5/8" Hybrid			0.00	Inside					
0.00	160.00	(12) 1 5/8" Coax			0.00	Inside					
0.00	160.00	(4) 3/4" DC			0.00	Inside					
0.00	160.00	(1) 3/8" Fiber			0.00	Inside					
0.00	150.00	(1) 1.6" Hybrid			0.00	Inside					

Shaft Section Properties

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

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Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4380	60.000	83.221	37298.1	25.66	136.99	73.5	1219.	0.0
5.00		0.4380	58.975	81.789	35405.3	25.19	134.65	74.1	1177.	1403.7
10.00		0.4380	57.950	80.357	33577.6	24.73	132.31	74.6	1136.	1379.4
15.00		0.4380	56.925	78.924	31813.9	24.26	129.96	75.1	1096.	1355.0
20.00		0.4380	55.900	77.492	30113.1	23.79	127.62	75.6	1056.	1330.6
25.00		0.4380	54.874	76.060	28474.0	23.33	125.28	76.2	1017.	1306.3
30.00		0.4380	53.849	74.627	26895.5	22.86	122.94	76.7	979.7	1281.9
35.00		0.4380	52.824	73.195	25376.4	22.40	120.60	77.2	942.3	1257.5
40.00		0.4380	51.799	71.763	23915.7	21.93	118.26	77.8	905.7	1233.1
45.00		0.4380	50.774	70.330	22512.1	21.47	115.92	78.3	869.7	1208.8
45.92	Bot - Section 2	0.4380	50.586	70.068	22260.8	21.38	115.49	78.4	863.2	219.0
50.00		0.4380	49.749	68.898	21164.5	21.00	113.58	78.8	834.5	1805.5
53.00	Top - Section 1	0.3750	49.884	59.225	18339.4	24.87	133.02	0.0	0.0	1307.3
55.00		0.3750	49.474	58.734	17887.4	24.65	131.93	74.7	709.2	401.4
60.00		0.3750	48.449	57.508	16790.3	24.11	129.20	75.3	679.8	988.9
65.00		0.3750	47.424	56.282	15738.9	23.56	126.46	75.9	651.0	968.0
70.00		0.3750	46.398	55.056	14732.4	23.02	123.73	76.5	622.8	947.1
75.00		0.3750	45.373	53.829	13769.7	22.48	121.00	77.1	595.3	926.3
80.00		0.3750	44.348	52.603	12849.9	21.93	118.26	77.8	568.4	905.4
85.00		0.3750	43.323	51.377	11972.0	21.39	115.53	78.4	542.1	884.5
90.00		0.3750	42.298	50.150	11135.1	20.84	112.79	79.0	516.4	863.7
92.92	Bot - Section 3	0.3750	41.700	49.435	10665.4	20.53	111.20	79.3	501.7	494.2
95.00		0.3750	41.273	48.924	10338.1	20.30	110.06	79.6	491.3	644.5
98.92	Top - Section 2	0.3130	41.096	40.720	8556.2	24.53	131.30	0.0	0.0	1193.7
100.00		0.3130	40.874	40.499	8417.2	24.38	130.59	75.0	403.9	149.7
105.00		0.3130	39.849	39.475	7795.0	23.73	127.31	75.7	383.7	680.3
110.00		0.3130	38.824	38.452	7204.2	23.08	124.04	76.5	364.0	662.9
115.00		0.3130	37.798	37.428	6644.1	22.43	120.76	77.2	344.8	645.5
120.00		0.3130	36.773	36.405	6113.8	21.78	117.49	77.9	326.1	628.1
125.00		0.3130	35.748	35.381	5612.5	21.13	114.21	78.7	308.0	610.7
127.08	Bot - Section 4	0.3130	35.322	34.956	5412.6	20.86	112.85	79.0	300.6	248.5
130.00		0.3130	34.723	34.357	5139.3	20.48	110.94	79.4	290.3	589.7
132.33	Top - Section 3	0.2190	34.684	24.078	3613.2	29.91	158.37	0.0	0.0	462.1
135.00		0.2190	34.136	23.695	3443.5	29.41	155.87	69.3	197.9	217.3
140.00		0.2190	33.111	22.979	3140.6	28.48	151.19	70.3	186.1	397.0
145.00		0.2190	32.086	22.262	2856.0	27.55	146.51	71.4	174.6	384.9
150.00		0.2190	31.061	21.546	2589.2	26.62	141.83	72.5	163.5	372.7
155.00		0.2190	30.036	20.830	2339.5	25.69	137.15	73.5	152.8	360.5
160.00		0.2190	29.010	20.114	2106.4	24.76	132.47	74.6	142.4	348.3
165.00		0.2190	27.985	19.398	1889.3	23.83	127.79	75.6	132.4	336.1
167.00		0.2190	27.575	19.111	1806.8	23.45	125.91	76.0	128.5	131.0
170.00		0.2190	26.960	18.682	1687.7	22.90	123.11	76.7	122.8	192.9
175.00		0.2190	25.935	17.966	1500.9	21.96	118.43	77.7	113.5	311.8
177.00		0.2190	25.525	17.679	1430.3	21.59	116.55	78.1	109.9	121.3
180.00		0.2190	24.910	17.249	1328.5	21.03	113.74	78.8	104.6	178.3
										32335.3

Wind Loading - Shaft

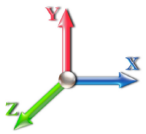
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	21.088	23.20	474.71	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	466.60	0.750	0.000	5.00	25.272	18.95	703.5	0.0	1684.5
10.00		1.00	0.85	21.088	23.20	458.49	0.750	0.000	5.00	24.837	18.63	691.3	0.0	1655.2
15.00		1.00	0.85	21.088	23.20	450.38	0.750	0.000	5.00	24.401	18.30	679.2	0.0	1626.0
20.00		1.00	0.90	22.375	24.61	455.56	0.750	0.000	5.00	23.966	17.97	707.8	0.0	1596.7
25.00		1.00	0.95	23.451	25.80	457.84	0.750	0.000	5.00	23.530	17.65	728.4	0.0	1567.5
30.00		1.00	0.98	24.369	26.81	457.99	0.750	0.000	5.00	23.095	17.32	742.9	0.0	1538.3
35.00		1.00	1.01	25.172	27.69	456.62	0.750	0.000	5.00	22.659	16.99	752.9	0.0	1509.0
40.00		1.00	1.04	25.890	28.48	454.10	0.750	0.000	5.00	22.224	16.67	759.5	0.0	1479.8
45.00		1.00	1.07	26.540	29.19	450.67	0.750	0.000	5.00	21.788	16.34	763.3	0.0	1450.5
45.92	Bot - Section 2	1.00	1.07	26.653	29.32	449.95	0.750	0.000	0.92	3.947	2.96	138.9	0.0	262.8
50.00		1.00	1.09	27.135	29.85	446.49	0.750	0.000	4.08	17.666	13.25	632.8	0.0	2166.6
53.00	Top - Section 1	1.00	1.11	27.470	30.22	443.68	0.750	0.000	3.00	12.794	9.60	463.9	0.0	1568.8
55.00		1.00	1.12	27.685	30.45	448.50	0.750	0.000	2.00	8.442	6.33	308.5	0.0	481.7
60.00		1.00	1.14	28.197	31.02	443.25	0.750	0.000	5.00	20.800	15.60	774.2	0.0	1186.6
65.00		1.00	1.16	28.676	31.54	437.54	0.750	0.000	5.00	20.365	15.27	770.9	0.0	1161.6
70.00		1.00	1.17	29.127	32.04	431.44	0.750	0.000	5.00	19.929	14.95	766.2	0.0	1136.6
75.00		1.00	1.19	29.553	32.51	424.98	0.750	0.000	5.00	19.494	14.62	760.5	0.0	1111.5
80.00		1.00	1.21	29.958	32.95	418.21	0.750	0.000	5.00	19.058	14.29	753.6	0.0	1086.5
85.00		1.00	1.22	30.342	33.38	411.16	0.750	0.000	5.00	18.623	13.97	745.9	0.0	1061.5
90.00		1.00	1.24	30.710	33.78	403.85	0.750	0.000	5.00	18.187	13.64	737.3	0.0	1036.4
92.92	Bot - Section 3	1.00	1.25	30.917	34.01	399.48	0.750	0.000	2.92	10.408	7.81	424.8	0.0	593.0
95.00		1.00	1.25	31.061	34.17	396.31	0.750	0.000	2.08	7.454	5.59	305.6	0.0	773.4
98.92	Top - Section 2	1.00	1.26	31.327	34.46	390.26	0.750	0.000	3.92	13.810	10.36	571.0	0.0	1432.4
100.00		1.00	1.27	31.399	34.54	394.60	0.750	0.000	1.08	3.773	2.83	156.4	0.0	179.6
105.00		1.00	1.28	31.723	34.89	386.69	0.750	0.000	5.00	17.147	12.86	718.0	0.0	816.4
110.00		1.00	1.29	32.035	35.24	378.59	0.750	0.000	5.00	16.711	12.53	706.6	0.0	795.5
115.00		1.00	1.30	32.336	35.57	370.32	0.750	0.000	5.00	16.276	12.21	694.7	0.0	774.6
120.00		1.00	1.32	32.627	35.89	361.90	0.750	0.000	5.00	15.840	11.88	682.2	0.0	753.7
125.00		1.00	1.33	32.909	36.20	353.32	0.750	0.000	5.00	15.405	11.55	669.2	0.0	732.8
127.08	Bot - Section 4	1.00	1.33	33.023	36.33	349.72	0.750	0.000	2.08	6.270	4.70	273.3	0.0	298.2
130.00		1.00	1.34	33.182	36.50	344.61	0.750	0.000	2.92	8.808	6.61	385.8	0.0	707.6
132.33	Top - Section 3	1.00	1.34	33.306	36.64	340.51	0.750	0.000	2.33	6.904	5.18	303.5	0.0	554.5
135.00		1.00	1.35	33.446	36.79	340.13	0.750	0.000	2.67	7.816	5.86	345.1	0.0	260.7
140.00		1.00	1.36	33.703	37.07	331.18	0.750	0.000	5.00	14.284	10.71	635.5	0.0	476.5
145.00		1.00	1.37	33.953	37.35	322.12	0.750	0.000	5.00	13.849	10.39	620.7	0.0	461.8
150.00	Appurtenance(s)	1.00	1.38	34.196	37.62	312.94	0.750	0.000	5.00	13.413	10.06	605.5	0.0	447.2
155.00		1.00	1.39	34.433	37.88	303.66	0.750	0.000	5.00	12.978	9.73	589.9	0.0	432.6
160.00	Appurtenance(s)	1.00	1.40	34.664	38.13	294.28	0.750	0.000	5.00	12.542	9.41	573.9	0.0	418.0
165.00		1.00	1.41	34.890	38.38	284.80	0.750	0.000	5.00	12.107	9.08	557.6	0.0	403.3
167.00	Appurtenance(s)	1.00	1.41	34.978	38.48	280.98	0.750	0.000	2.00	4.721	3.54	218.0	0.0	157.2
170.00		1.00	1.42	35.110	38.62	275.23	0.750	0.000	3.00	6.950	5.21	322.1	0.0	231.5
175.00		1.00	1.42	35.324	38.86	265.58	0.750	0.000	5.00	11.236	8.43	523.9	0.0	374.1
177.00	Appurtenance(s)	1.00	1.43	35.409	38.95	261.69	0.750	0.000	2.00	4.372	3.28	204.4	0.0	145.5
180.00	Appurtenance(s)	1.00	1.43	35.535	39.09	255.84	0.750	0.000	3.00	6.428	4.82	301.5	0.0	213.9
								Totals:	**180.00**			**24,770.3**		**38,802.4**

Discrete Appurtenance Forces

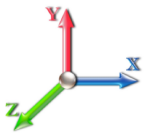
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	180.00	Lightning Rod	1	35.679	39.247	1.00	1.00	1.05	42.00	0.000	3.500	65.93	0.00	230.77
2	177.00	EMS RR90-17-02DP	3	35.409	38.950	0.58	0.80	7.53	64.80	0.000	0.000	469.52	0.00	0.00
3	177.00	AIR6419 B41	3	35.409	38.950	0.57	0.80	9.63	370.80	0.000	0.000	599.99	0.00	0.00
4	177.00	VV-65A-R1	3	35.409	38.950	0.66	0.80	13.03	158.76	0.000	0.000	811.91	0.00	0.00
5	177.00	782 11056	3	35.409	38.950	0.40	0.80	0.14	10.44	0.000	0.000	8.97	0.00	0.00
6	177.00	mount pipe & end	1	35.409	38.950	0.56	0.75	10.86	300.00	0.000	0.000	676.56	0.00	0.00
7	177.00	HRK12 (Handrail Kit)	1	35.409	38.950	1.00	1.00	6.75	314.06	0.000	0.000	420.66	0.00	0.00
8	177.00	Ericsson 4449 B71 + B85	3	35.435	38.979	0.40	0.80	1.98	266.40	0.000	0.625	123.49	0.00	77.18
9	177.00	APXVAARR18_43-U-NA2	3	35.409	38.950	0.56	0.80	26.48	381.60	0.000	0.000	1650.03	0.00	0.00
10	177.00	4460 B25 + B66	3	35.409	38.950	0.40	0.80	2.26	304.20	0.000	0.000	140.59	0.00	0.00
11	177.00	Low Profile Platform	1	35.409	38.950	1.00	1.00	24.00	2400.00	0.000	0.000	1495.68	0.00	0.00
12	177.00	KRY 112 144/2	3	35.421	38.963	0.40	0.80	0.49	34.92	0.000	0.287	30.67	0.00	8.82
13	177.00	KRY 112 489/2	3	35.428	38.971	0.40	0.80	0.78	55.44	0.000	0.458	48.64	0.00	22.29
14	167.00	Platform Mount w/ Mods	1	34.978	38.476	1.00	1.00	36.00	2400.00	0.000	0.000	2216.22	0.00	0.00
15	167.00	Commscope	1	34.978	38.476	1.00	1.00	2.51	24.00	0.000	0.000	154.52	0.00	0.00
16	167.00	Samsung B5/B13	3	34.978	38.476	0.38	0.75	2.11	303.84	0.000	0.000	130.20	0.00	0.00
17	167.00	Samsung B2/B66A	3	34.978	38.476	0.38	0.75	2.10	253.08	0.000	0.000	129.51	0.00	0.00
18	167.00	Antel BXA-70063-6CF	3	34.978	38.476	0.55	0.75	12.43	61.20	0.000	0.000	765.44	0.00	0.00
19	167.00	Samsung VZS01	3	34.978	38.476	0.52	0.75	6.68	313.56	0.000	0.000	410.97	0.00	0.00
20	167.00	JMA Wireless	6	34.978	38.476	0.65	0.75	38.64	331.20	0.000	0.000	2378.80	0.00	0.00
21	160.00	LGP21901 Diplexers	6	34.664	38.131	0.40	0.80	1.51	223.20	0.000	0.000	92.25	0.00	0.00
22	160.00	CCI HPA-65R-BUU-H8	3	34.664	38.131	0.63	0.80	24.61	244.80	0.000	0.000	1501.44	0.00	0.00
23	160.00	Ericsson RRUS-12 B2	3	34.664	38.131	0.40	0.80	3.78	208.80	0.000	0.000	230.61	0.00	0.00
24	160.00	Ericsson RRUS A2	3	34.664	38.131	0.40	0.80	2.23	76.32	0.000	0.000	136.17	0.00	0.00
25	160.00	LGP21401 TMA	6	34.664	38.131	0.40	0.80	3.10	126.00	0.000	0.000	188.88	0.00	0.00
26	160.00	Powerwave 7020.00 RET	12	34.664	38.131	0.40	0.80	1.92	31.68	0.000	0.000	117.14	0.00	0.00
27	160.00	Handrail Kit [SitePro1	1	34.664	38.131	1.00	1.00	8.75	396.00	0.000	0.000	533.83	0.00	0.00
28	160.00	Raycap	1	34.664	38.131	1.00	1.00	3.78	31.44	0.000	0.000	230.61	0.00	0.00
29	160.00	Ericsson RRUS4449	3	34.664	38.131	0.40	0.80	2.36	262.80	0.000	0.000	144.23	0.00	0.00
30	160.00	DMP65R-BU8DA	3	34.664	38.131	0.63	0.80	26.07	344.52	0.000	0.000	1590.51	0.00	0.00
31	160.00	Raycap DC6-48-60-18-8F	1	34.664	38.131	1.00	1.00	1.47	39.36	0.000	0.000	89.68	0.00	0.00
32	160.00	Low Profile Platform	1	34.664	38.131	1.00	1.00	22.00	2160.00	0.000	0.000	1342.20	0.00	0.00
33	160.00	7770	3	34.526	37.979	0.58	0.80	9.64	126.00	0.000	-3.000	585.55	0.00	-1756.64
34	150.00	MC-PK8-DSH	1	34.196	37.616	1.00	1.00	37.59	2072.40	0.000	0.000	2262.38	0.00	0.00
35	150.00	RDIDC-9181-OF-48	1	34.196	37.616	0.75	0.75	1.51	26.28	0.000	0.000	90.73	0.00	0.00
36	150.00	TA08025-B604	3	34.196	37.616	0.38	0.75	2.21	230.04	0.000	0.000	132.71	0.00	0.00
37	150.00	TA08025-B605	3	34.196	37.616	0.38	0.75	2.21	270.00	0.000	0.000	132.71	0.00	0.00
38	150.00	MX08FRO665-21	3	34.196	37.616	0.55	0.75	20.80	232.20	0.000	0.000	1251.61	0.00	0.00
							Totals:		**15,492.14**			**23,381.56**		

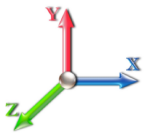
Total Applied Force Summary

Structure:	CT02652-S-SBA		**Code:**	TIA-222-G	6/15/2022
Site Name:	Colchester 3 CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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		703.46	1913.44	0.00	0.00
10.00		691.34	1884.20	0.00	0.00
15.00		679.22	1854.95	0.00	0.00
20.00		707.81	1825.71	0.00	0.00
25.00		728.38	1796.47	0.00	0.00
30.00		742.87	1767.22	0.00	0.00
35.00		752.90	1737.98	0.00	0.00
40.00		759.49	1708.74	0.00	0.00
45.00		763.30	1679.50	0.00	0.00
45.92		138.87	304.74	0.00	0.00
50.00		632.75	2353.63	0.00	0.00
53.00		463.91	1706.13	0.00	0.00
55.00		308.51	573.25	0.00	0.00
60.00		774.19	1415.60	0.00	0.00
65.00		770.86	1390.57	0.00	0.00
70.00		766.23	1365.53	0.00	0.00
75.00		760.46	1340.49	0.00	0.00
80.00		753.64	1315.46	0.00	0.00
85.00		745.88	1290.42	0.00	0.00
90.00		737.25	1265.38	0.00	0.00
92.92		424.75	726.58	0.00	0.00
95.00		305.64	868.81	0.00	0.00
98.92		571.04	1611.77	0.00	0.00
100.00		156.36	229.25	0.00	0.00
105.00		718.00	1045.36	0.00	0.00
110.00		706.65	1024.46	0.00	0.00
115.00		694.70	1003.57	0.00	0.00
120.00		682.20	982.67	0.00	0.00
125.00		669.17	961.77	0.00	0.00
127.08		273.32	393.31	0.00	0.00
130.00		385.78	841.45	0.00	0.00
132.33		303.51	661.03	0.00	0.00
135.00		345.07	383.16	0.00	0.00
140.00		635.48	705.42	0.00	0.00
145.00		620.68	690.80	0.00	0.00
150.00	(11) attachments	4475.61	3507.09	0.00	0.00
155.00		589.86	655.55	0.00	0.00
160.00	(46) attachments	7356.99	4911.85	0.00	-1756.64
165.00		557.57	541.47	0.00	0.00
167.00	(20) attachments	6403.62	3899.37	0.00	0.00
170.00		322.12	268.99	0.00	0.00
175.00		523.90	436.63	0.00	0.00
177.00	(30) attachments	6681.08	4831.98	0.00	108.29
180.00	(1) attachments	367.44	280.78	0.00	230.77
	Totals:	**48,151.85**	**61,952.51**	**0.00**	**-1,417.58**

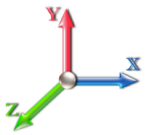
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	41.40
10.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	41.40
15.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	41.40
20.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	41.40
25.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	41.40
30.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	41.40
35.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	41.40
40.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	41.40
45.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	41.40
45.92	Climbing Ladder	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	26.653	0.00	7.59
50.00	Climbing Ladder	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	33.81
53.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.470	0.00	24.84
55.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	16.56
60.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	41.40
65.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	41.40
70.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	41.40
75.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	41.40
80.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	41.40
85.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	41.40
90.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	41.40
92.92	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	30.917	0.00	24.15
95.00	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	17.25
98.92	Climbing Ladder	Yes	3.92	0.000	0.00	0.00	0.00	0.000	0.000	31.327	0.00	32.43
100.00	Climbing Ladder	Yes	1.08	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	8.97
105.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	41.40
110.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	41.40
115.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	41.40
120.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	41.40
125.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	41.40
127.08	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	33.023	0.00	17.19
130.00	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	24.21
132.33	Climbing Ladder	Yes	2.33	0.000	0.00	0.00	0.00	0.000	0.000	33.306	0.00	19.26
135.00	Climbing Ladder	Yes	2.67	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	22.14
140.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	41.40
145.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	41.40
150.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	41.40
155.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	41.40
160.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	41.40
165.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	41.40
167.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.978	0.00	16.56
170.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	24.84
175.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	41.40
177.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.409	0.00	16.56
180.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	35.535	0.00	24.84
										Totals:	**0.0**	**1,490.4**

Calculated Forces

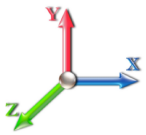
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	-61.85	-48.28	0.00	-6371.4	0.00	6371.42	5508.12	2754.06	13547.4	6725.55	0.00	0.000	0.000	0.959
5.00	-59.74	-47.83	0.00	-6130.0	0.00	6130.01	5452.09	2726.05	13177.2	6541.73	0.13	-0.238	0.000	0.948
10.00	-57.66	-47.37	0.00	-5890.8	0.00	5890.89	5394.71	2697.35	12808.5	6358.68	0.51	-0.480	0.000	0.937
15.00	-55.61	-46.91	0.00	-5654.0	0.00	5654.05	5335.97	2667.98	12441.5	6176.49	1.14	-0.724	0.000	0.926
20.00	-53.59	-46.41	0.00	-5419.5	0.00	5419.51	5275.87	2637.93	12076.4	5995.24	2.03	-0.972	0.000	0.914
25.00	-51.61	-45.87	0.00	-5187.4	0.00	5187.48	5214.41	2607.20	11713.3	5815.02	3.19	-1.223	0.000	0.902
30.00	-49.66	-45.31	0.00	-4958.1	0.00	4958.13	5151.59	2575.80	11352.6	5635.92	4.60	-1.476	0.000	0.890
35.00	-47.74	-44.72	0.00	-4731.5	0.00	4731.59	5087.42	2543.71	10994.2	5458.02	6.28	-1.732	0.000	0.877
40.00	-45.86	-44.12	0.00	-4507.9	0.00	4507.98	5021.88	2510.94	10638.5	5281.41	8.24	-1.991	0.000	0.863
45.00	-44.09	-43.41	0.00	-4287.4	0.00	4287.40	4954.99	2477.50	10285.5	5106.18	10.46	-2.253	0.000	0.849
45.92	-43.69	-43.36	0.00	-4247.6	0.00	4247.61	4942.58	2471.29	10221.1	5074.21	10.90	-2.302	0.000	0.846
50.00	-41.23	-42.77	0.00	-4070.5	0.00	4070.55	4886.75	2443.37	9935.52	4932.41	12.96	-2.519	0.000	0.834
53.00	-39.44	-42.32	0.00	-3942.2	0.00	3942.25	3967.43	1983.71	8109.29	4025.79	14.60	-2.681	0.000	0.990
55.00	-38.73	-42.12	0.00	-3857.6	0.00	3857.61	3947.58	1973.79	8001.39	3972.23	15.75	-2.790	0.000	0.981
60.00	-37.14	-41.47	0.00	-3647.0	0.00	3647.00	3897.00	1948.50	7732.70	3838.84	18.83	-3.088	0.000	0.960
65.00	-35.59	-40.81	0.00	-3439.6	0.00	3439.65	3845.06	1922.53	7465.70	3706.29	22.22	-3.388	0.000	0.938
70.00	-34.06	-40.14	0.00	-3235.6	0.00	3235.60	3791.77	1895.89	7200.54	3574.65	25.93	-3.690	0.000	0.915
75.00	-32.56	-39.47	0.00	-3034.8	0.00	3034.89	3737.12	1868.56	6937.41	3444.02	29.95	-3.993	0.000	0.890
80.00	-31.10	-38.78	0.00	-2837.5	0.00	2837.57	3681.11	1840.56	6676.48	3314.49	34.29	-4.296	0.000	0.865
85.00	-29.67	-38.10	0.00	-2643.6	0.00	2643.65	3623.74	1811.87	6417.92	3186.13	38.95	-4.599	0.000	0.838
90.00	-28.32	-37.38	0.00	-2453.1	0.00	2453.16	3565.02	1782.51	6161.91	3059.03	43.92	-4.902	0.000	0.810
92.92	-27.53	-36.96	0.00	-2344.1	0.00	2344.14	3530.13	1765.07	6013.81	2985.51	46.97	-5.081	0.000	0.793
95.00	-26.58	-36.67	0.00	-2267.1	0.00	2267.13	3504.93	1752.47	5908.61	2933.28	49.22	-5.209	0.000	0.781
98.92	-24.93	-36.01	0.00	-2123.5	0.00	2123.52	2742.07	1371.04	4616.42	2291.78	53.58	-5.446	0.000	0.936
100.00	-24.59	-35.93	0.00	-2084.5	0.00	2084.51	2732.96	1366.48	4575.83	2271.63	54.82	-5.512	0.000	0.927
105.00	-23.41	-35.24	0.00	-1904.8	0.00	1904.88	2690.08	1345.04	4389.32	2179.04	60.77	-5.849	0.000	0.884
110.00	-22.27	-34.56	0.00	-1728.6	0.00	1728.66	2645.83	1322.92	4204.31	2087.20	67.06	-6.181	0.000	0.837
115.00	-21.16	-33.88	0.00	-1555.8	0.00	1555.85	2600.23	1300.12	4020.98	1996.19	73.70	-6.505	0.000	0.788
120.00	-20.09	-33.20	0.00	-1386.4	0.00	1386.46	2553.28	1276.64	3839.50	1906.09	80.67	-6.820	0.000	0.736
125.00	-19.09	-32.49	0.00	-1220.4	0.00	1220.47	2504.96	1252.48	3660.03	1816.99	87.96	-7.123	0.000	0.680
127.08	-18.65	-32.21	0.00	-1153.0	0.00	1153.01	2484.49	1242.25	3586.13	1780.31	91.08	-7.248	0.000	0.656
130.00	-17.79	-31.77	0.00	-1058.8	0.00	1058.84	2455.29	1227.64	3482.76	1728.99	95.56	-7.418	0.000	0.620
132.33	-17.09	-31.43	0.00	-984.92	0.00	984.92	1489.30	744.65	2121.68	1053.29	99.20	-7.550	0.000	0.948
135.00	-16.62	-31.11	0.00	-900.91	0.00	900.91	1477.63	738.82	2071.36	1028.31	103.45	-7.695	0.000	0.889
140.00	-15.84	-30.47	0.00	-745.38	0.00	745.38	1454.76	727.38	1977.27	981.60	111.68	-8.036	0.000	0.772
145.00	-15.10	-29.83	0.00	-593.04	0.00	593.04	1430.53	715.26	1883.34	934.97	120.23	-8.339	0.000	0.647
150.00	-12.19	-24.94	0.00	-443.90	0.00	443.90	1404.94	702.47	1789.74	888.50	129.08	-8.597	0.000	0.510
155.00	-11.55	-24.29	0.00	-319.22	0.00	319.22	1377.99	688.99	1696.65	842.29	138.17	-8.806	0.000	0.389
160.00	-7.80	-16.28	0.00	-197.76	0.00	197.76	1349.68	674.84	1604.25	796.42	147.44	-8.964	0.000	0.255
165.00	-7.34	-15.65	0.00	-116.36	0.00	116.36	1320.02	660.01	1512.71	750.97	156.85	-9.070	0.000	0.161
167.00	-4.49	-8.72	0.00	-85.05	0.00	85.05	1307.77	653.89	1476.37	732.93	160.65	-9.100	0.000	0.120
170.00	-4.27	-8.36	0.00	-58.90	0.00	58.90	1289.00	644.50	1422.20	706.04	166.35	-9.134	0.000	0.087
175.00	-3.92	-7.77	0.00	-17.11	0.00	17.11	1256.62	628.31	1332.89	661.70	175.90	-9.166	0.000	0.029
177.00	-0.22	-0.41	0.00	-1.45	0.00	1.45	1243.29	621.64	1297.54	644.16	179.72	-9.170	0.000	0.002
180.00	0.00	-0.37	0.00	-0.23	0.00	0.23	1222.88	611.44	1244.96	618.05	185.46	-9.170	0.000	0.000

Wind Loading - Shaft

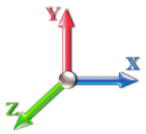
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	21.088	23.20	474.71	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	466.60	0.750	0.000	5.00	25.272	18.95	703.5	0.0	1263.4
10.00		1.00	0.85	21.088	23.20	458.49	0.750	0.000	5.00	24.837	18.63	691.3	0.0	1241.4
15.00		1.00	0.85	21.088	23.20	450.38	0.750	0.000	5.00	24.401	18.30	679.2	0.0	1219.5
20.00		1.00	0.90	22.375	24.61	455.56	0.750	0.000	5.00	23.966	17.97	707.8	0.0	1197.6
25.00		1.00	0.95	23.451	25.80	457.84	0.750	0.000	5.00	23.530	17.65	728.4	0.0	1175.6
30.00		1.00	0.98	24.369	26.81	457.99	0.750	0.000	5.00	23.095	17.32	742.9	0.0	1153.7
35.00		1.00	1.01	25.172	27.69	456.62	0.750	0.000	5.00	22.659	16.99	752.9	0.0	1131.8
40.00		1.00	1.04	25.890	28.48	454.10	0.750	0.000	5.00	22.224	16.67	759.5	0.0	1109.8
45.00		1.00	1.07	26.540	29.19	450.67	0.750	0.000	5.00	21.788	16.34	763.3	0.0	1087.9
45.92	Bot - Section 2	1.00	1.07	26.653	29.32	449.95	0.750	0.000	0.92	3.947	2.96	138.9	0.0	197.1
50.00		1.00	1.09	27.135	29.85	446.49	0.750	0.000	4.08	17.666	13.25	632.8	0.0	1625.0
53.00	Top - Section 1	1.00	1.11	27.470	30.22	443.68	0.750	0.000	3.00	12.794	9.60	463.9	0.0	1176.6
55.00		1.00	1.12	27.685	30.45	448.50	0.750	0.000	2.00	8.442	6.33	308.5	0.0	361.3
60.00		1.00	1.14	28.197	31.02	443.25	0.750	0.000	5.00	20.800	15.60	774.2	0.0	890.0
65.00		1.00	1.16	28.676	31.54	437.54	0.750	0.000	5.00	20.365	15.27	770.9	0.0	871.2
70.00		1.00	1.17	29.127	32.04	431.44	0.750	0.000	5.00	19.929	14.95	766.2	0.0	852.4
75.00		1.00	1.19	29.553	32.51	424.98	0.750	0.000	5.00	19.494	14.62	760.5	0.0	833.6
80.00		1.00	1.21	29.958	32.95	418.21	0.750	0.000	5.00	19.058	14.29	753.6	0.0	814.9
85.00		1.00	1.22	30.342	33.38	411.16	0.750	0.000	5.00	18.623	13.97	745.9	0.0	796.1
90.00		1.00	1.24	30.710	33.78	403.85	0.750	0.000	5.00	18.187	13.64	737.3	0.0	777.3
92.92	Bot - Section 3	1.00	1.25	30.917	34.01	399.48	0.750	0.000	2.92	10.408	7.81	424.8	0.0	444.8
95.00		1.00	1.25	31.061	34.17	396.31	0.750	0.000	2.08	7.454	5.59	305.6	0.0	580.1
98.92	Top - Section 2	1.00	1.26	31.327	34.46	390.26	0.750	0.000	3.92	13.810	10.36	571.0	0.0	1074.3
100.00		1.00	1.27	31.399	34.54	394.60	0.750	0.000	1.08	3.773	2.83	156.4	0.0	134.7
105.00		1.00	1.28	31.723	34.89	386.69	0.750	0.000	5.00	17.147	12.86	718.0	0.0	612.3
110.00		1.00	1.29	32.035	35.24	378.59	0.750	0.000	5.00	16.711	12.53	706.6	0.0	596.6
115.00		1.00	1.30	32.336	35.57	370.32	0.750	0.000	5.00	16.276	12.21	694.7	0.0	581.0
120.00		1.00	1.32	32.627	35.89	361.90	0.750	0.000	5.00	15.840	11.88	682.2	0.0	565.3
125.00		1.00	1.33	32.909	36.20	353.32	0.750	0.000	5.00	15.405	11.55	669.2	0.0	549.6
127.08	Bot - Section 4	1.00	1.33	33.023	36.33	349.72	0.750	0.000	2.08	6.270	4.70	273.3	0.0	223.7
130.00		1.00	1.34	33.182	36.50	344.61	0.750	0.000	2.92	8.808	6.61	385.8	0.0	530.7
132.33	Top - Section 3	1.00	1.34	33.306	36.64	340.51	0.750	0.000	2.33	6.904	5.18	303.5	0.0	415.9
135.00		1.00	1.35	33.446	36.79	340.13	0.750	0.000	2.67	7.816	5.86	345.1	0.0	195.6
140.00		1.00	1.36	33.703	37.07	331.18	0.750	0.000	5.00	14.284	10.71	635.5	0.0	357.3
145.00		1.00	1.37	33.953	37.35	322.12	0.750	0.000	5.00	13.849	10.39	620.7	0.0	346.4
150.00	Appurtenance(s)	1.00	1.38	34.196	37.62	312.94	0.750	0.000	5.00	13.413	10.06	605.5	0.0	335.4
155.00		1.00	1.39	34.433	37.88	303.66	0.750	0.000	5.00	12.978	9.73	589.9	0.0	324.4
160.00	Appurtenance(s)	1.00	1.40	34.664	38.13	294.28	0.750	0.000	5.00	12.542	9.41	573.9	0.0	313.5
165.00		1.00	1.41	34.890	38.38	284.80	0.750	0.000	5.00	12.107	9.08	557.6	0.0	302.5
167.00	Appurtenance(s)	1.00	1.41	34.978	38.48	280.98	0.750	0.000	2.00	4.721	3.54	218.0	0.0	117.9
170.00		1.00	1.42	35.110	38.62	275.23	0.750	0.000	3.00	6.950	5.21	322.1	0.0	173.6
175.00		1.00	1.42	35.324	38.86	265.58	0.750	0.000	5.00	11.236	8.43	523.9	0.0	280.6
177.00	Appurtenance(s)	1.00	1.43	35.409	38.95	261.69	0.750	0.000	2.00	4.372	3.28	204.4	0.0	109.2
180.00	Appurtenance(s)	1.00	1.43	35.535	39.09	255.84	0.750	0.000	3.00	6.428	4.82	301.5	0.0	160.5
								Totals:	**180.00**			**24,770.3**		**29,101.8**

Discrete Appurtenance Forces

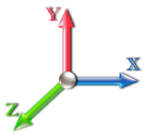
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	180.00	Lightning Rod	1	35.679	39.247	1.00	1.00	1.05	31.50	0.000	3.500	65.93	0.00	230.77
2	177.00	EMS RR90-17-02DP	3	35.409	38.950	0.58	0.80	7.53	48.60	0.000	0.000	469.52	0.00	0.00
3	177.00	AIR6419 B41	3	35.409	38.950	0.57	0.80	9.63	278.10	0.000	0.000	599.99	0.00	0.00
4	177.00	VV-65A-R1	3	35.409	38.950	0.66	0.80	13.03	119.07	0.000	0.000	811.91	0.00	0.00
5	177.00	782 11056	3	35.409	38.950	0.40	0.80	0.14	7.83	0.000	0.000	8.97	0.00	0.00
6	177.00	mount pipe & end	1	35.409	38.950	0.56	0.75	10.86	225.00	0.000	0.000	676.56	0.00	0.00
7	177.00	HRK12 (Handrail Kit)	1	35.409	38.950	1.00	1.00	6.75	235.55	0.000	0.000	420.66	0.00	0.00
8	177.00	Ericsson 4449 B71 + B85	3	35.435	38.979	0.40	0.80	1.98	199.80	0.000	0.625	123.49	0.00	77.18
9	177.00	APXVAARR18_43-U-NA2	3	35.409	38.950	0.56	0.80	26.48	286.20	0.000	0.000	1650.03	0.00	0.00
10	177.00	4460 B25 + B66	3	35.409	38.950	0.40	0.80	2.26	228.15	0.000	0.000	140.59	0.00	0.00
11	177.00	Low Profile Platform	1	35.409	38.950	1.00	1.00	24.00	1800.00	0.000	0.000	1495.68	0.00	0.00
12	177.00	KRY 112 144/2	3	35.421	38.963	0.40	0.80	0.49	26.19	0.000	0.287	30.67	0.00	8.82
13	177.00	KRY 112 489/2	3	35.428	38.971	0.40	0.80	0.78	41.58	0.000	0.458	48.64	0.00	22.29
14	167.00	Platform Mount w/ Mods	1	34.978	38.476	1.00	1.00	36.00	1800.00	0.000	0.000	2216.22	0.00	0.00
15	167.00	Commscope	1	34.978	38.476	1.00	1.00	2.51	18.00	0.000	0.000	154.52	0.00	0.00
16	167.00	Samsung B5/B13	3	34.978	38.476	0.38	0.75	2.11	227.88	0.000	0.000	130.20	0.00	0.00
17	167.00	Samsung B2/B66A	3	34.978	38.476	0.38	0.75	2.10	189.81	0.000	0.000	129.51	0.00	0.00
18	167.00	Antel BXA-70063-6CF	3	34.978	38.476	0.55	0.75	12.43	45.90	0.000	0.000	765.44	0.00	0.00
19	167.00	Samsung VZS01	3	34.978	38.476	0.52	0.75	6.68	235.17	0.000	0.000	410.97	0.00	0.00
20	167.00	JMA Wireless	6	34.978	38.476	0.65	0.75	38.64	248.40	0.000	0.000	2378.80	0.00	0.00
21	160.00	LGP21901 Diplexers	6	34.664	38.131	0.40	0.80	1.51	167.40	0.000	0.000	92.25	0.00	0.00
22	160.00	CCI HPA-65R-BUU-H8	3	34.664	38.131	0.63	0.80	24.61	183.60	0.000	0.000	1501.44	0.00	0.00
23	160.00	Ericsson RRUS-12 B2	3	34.664	38.131	0.40	0.80	3.78	156.60	0.000	0.000	230.61	0.00	0.00
24	160.00	Ericsson RRUS A2	3	34.664	38.131	0.40	0.80	2.23	57.24	0.000	0.000	136.17	0.00	0.00
25	160.00	LGP21401 TMA	6	34.664	38.131	0.40	0.80	3.10	94.50	0.000	0.000	188.88	0.00	0.00
26	160.00	Powerwave 7020.00 RET	12	34.664	38.131	0.40	0.80	1.92	23.76	0.000	0.000	117.14	0.00	0.00
27	160.00	Handrail Kit [SitePro1	1	34.664	38.131	1.00	1.00	8.75	297.00	0.000	0.000	533.83	0.00	0.00
28	160.00	Raycap	1	34.664	38.131	1.00	1.00	3.78	23.58	0.000	0.000	230.61	0.00	0.00
29	160.00	Ericsson RRUS4449	3	34.664	38.131	0.40	0.80	2.36	197.10	0.000	0.000	144.23	0.00	0.00
30	160.00	DMP65R-BU8DA	3	34.664	38.131	0.63	0.80	26.07	258.39	0.000	0.000	1590.51	0.00	0.00
31	160.00	Raycap DC6-48-60-18-8F	1	34.664	38.131	1.00	1.00	1.47	29.52	0.000	0.000	89.68	0.00	0.00
32	160.00	Low Profile Platform	1	34.664	38.131	1.00	1.00	22.00	1620.00	0.000	0.000	1342.20	0.00	0.00
33	160.00	7770	3	34.526	37.979	0.58	0.80	9.64	94.50	0.000	-3.000	585.55	0.00	-1756.64
34	150.00	MC-PK8-DSH	1	34.196	37.616	1.00	1.00	37.59	1554.30	0.000	0.000	2262.38	0.00	0.00
35	150.00	RDIDC-9181-OF-48	1	34.196	37.616	0.75	0.75	1.51	19.71	0.000	0.000	90.73	0.00	0.00
36	150.00	TA08025-B604	3	34.196	37.616	0.38	0.75	2.21	172.53	0.000	0.000	132.71	0.00	0.00
37	150.00	TA08025-B605	3	34.196	37.616	0.38	0.75	2.21	202.50	0.000	0.000	132.71	0.00	0.00
38	150.00	MX08FRO665-21	3	34.196	37.616	0.55	0.75	20.80	174.15	0.000	0.000	1251.61	0.00	0.00
							Totals:		**11,619.11**			**23,381.56**		

Total Applied Force Summary

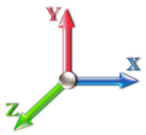
Structure:	CT02652-S-SBA		**Code:**	TIA-222-G	6/15/2022
Site Name:	Colchester 3 CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 16

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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		703.46	1435.08	0.00	0.00
10.00		691.34	1413.15	0.00	0.00
15.00		679.22	1391.21	0.00	0.00
20.00		707.81	1369.28	0.00	0.00
25.00		728.38	1347.35	0.00	0.00
30.00		742.87	1325.42	0.00	0.00
35.00		752.90	1303.49	0.00	0.00
40.00		759.49	1281.55	0.00	0.00
45.00		763.30	1259.62	0.00	0.00
45.92		138.87	228.55	0.00	0.00
50.00		632.75	1765.22	0.00	0.00
53.00		463.91	1279.60	0.00	0.00
55.00		308.51	429.94	0.00	0.00
60.00		774.19	1061.70	0.00	0.00
65.00		770.86	1042.92	0.00	0.00
70.00		766.23	1024.15	0.00	0.00
75.00		760.46	1005.37	0.00	0.00
80.00		753.64	986.59	0.00	0.00
85.00		745.88	967.81	0.00	0.00
90.00		737.25	949.04	0.00	0.00
92.92		424.75	544.93	0.00	0.00
95.00		305.64	651.61	0.00	0.00
98.92		571.04	1208.83	0.00	0.00
100.00		156.36	171.94	0.00	0.00
105.00		718.00	784.02	0.00	0.00
110.00		706.65	768.35	0.00	0.00
115.00		694.70	752.67	0.00	0.00
120.00		682.20	737.00	0.00	0.00
125.00		669.17	721.33	0.00	0.00
127.08		273.32	294.99	0.00	0.00
130.00		385.78	631.09	0.00	0.00
132.33		303.51	495.77	0.00	0.00
135.00		345.07	287.37	0.00	0.00
140.00		635.48	529.06	0.00	0.00
145.00		620.68	518.10	0.00	0.00
150.00	(11) attachments	4475.61	2630.32	0.00	0.00
155.00		589.86	491.66	0.00	0.00
160.00	(46) attachments	7356.99	3683.89	0.00	-1756.64
165.00		557.57	406.10	0.00	0.00
167.00	(20) attachments	6403.62	2924.53	0.00	0.00
170.00		322.12	201.75	0.00	0.00
175.00		523.90	327.47	0.00	0.00
177.00	(30) attachments	6681.08	3623.99	0.00	108.29
180.00	(1) attachments	367.44	210.58	0.00	230.77
	Totals:	**48,151.85**	**46,464.39**	**0.00**	**-1,417.58**

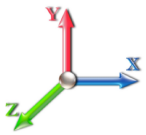
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	31.05
10.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	31.05
15.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	31.05
20.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	31.05
25.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	31.05
30.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	31.05
35.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	31.05
40.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	31.05
45.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	31.05
45.92	Climbing Ladder	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	26.653	0.00	5.69
50.00	Climbing Ladder	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	25.36
53.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.470	0.00	18.63
55.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	12.42
60.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	31.05
65.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	31.05
70.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	31.05
75.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	31.05
80.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	31.05
85.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	31.05
90.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	31.05
92.92	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	30.917	0.00	18.11
95.00	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	12.94
98.92	Climbing Ladder	Yes	3.92	0.000	0.00	0.00	0.00	0.000	0.000	31.327	0.00	24.32
100.00	Climbing Ladder	Yes	1.08	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	6.73
105.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	31.05
110.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	31.05
115.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	31.05
120.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	31.05
125.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	31.05
127.08	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	33.023	0.00	12.90
130.00	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	18.15
132.33	Climbing Ladder	Yes	2.33	0.000	0.00	0.00	0.00	0.000	0.000	33.306	0.00	14.45
135.00	Climbing Ladder	Yes	2.67	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	16.60
140.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	31.05
145.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	31.05
150.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	31.05
155.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	31.05
160.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.664	0.00	31.05
165.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.890	0.00	31.05
167.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.978	0.00	12.42
170.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	35.110	0.00	18.63
175.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.324	0.00	31.05
177.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.409	0.00	12.42
180.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	35.535	0.00	18.63
										Totals:	**0.0**	**1,117.8**

Calculated Forces

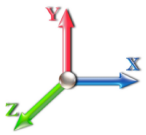
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	-46.36	-48.25	0.00	-6276.0	0.00	6276.07	5508.12	2754.06	13547.4	6725.55	0.00	0.000	0.000	0.942
5.00	-44.73	-47.73	0.00	-6034.8	0.00	6034.84	5452.09	2726.05	13177.2	6541.73	0.13	-0.235	0.000	0.931
10.00	-43.13	-47.21	0.00	-5796.2	0.00	5796.20	5394.71	2697.35	12808.5	6358.68	0.50	-0.472	0.000	0.920
15.00	-41.55	-46.69	0.00	-5560.1	0.00	5560.17	5335.97	2667.98	12441.5	6176.49	1.12	-0.713	0.000	0.908
20.00	-39.99	-46.13	0.00	-5326.7	0.00	5326.72	5275.87	2637.93	12076.4	5995.24	2.00	-0.956	0.000	0.896
25.00	-38.46	-45.55	0.00	-5096.0	0.00	5096.06	5214.41	2607.20	11713.3	5815.02	3.13	-1.203	0.000	0.884
30.00	-36.96	-44.93	0.00	-4868.3	0.00	4868.33	5151.59	2575.80	11352.6	5635.92	4.53	-1.451	0.000	0.871
35.00	-35.48	-44.30	0.00	-4643.6	0.00	4643.66	5087.42	2543.71	10994.2	5458.02	6.18	-1.703	0.000	0.858
40.00	-34.03	-43.66	0.00	-4422.1	0.00	4422.15	5021.88	2510.94	10638.5	5281.41	8.10	-1.957	0.000	0.844
45.00	-32.68	-42.93	0.00	-4203.8	0.00	4203.88	4954.99	2477.50	10285.5	5106.18	10.29	-2.214	0.000	0.830
45.92	-32.36	-42.86	0.00	-4164.5	0.00	4164.52	4942.58	2471.29	10221.1	5074.21	10.72	-2.262	0.000	0.828
50.00	-30.49	-42.25	0.00	-3989.5	0.00	3989.52	4886.75	2443.37	9935.52	4932.41	12.75	-2.475	0.000	0.815
53.00	-29.14	-41.80	0.00	-3862.7	0.00	3862.76	3967.43	1983.71	8109.29	4025.79	14.35	-2.633	0.000	0.967
55.00	-28.58	-41.57	0.00	-3779.1	0.00	3779.16	3947.58	1973.79	8001.39	3972.23	15.48	-2.740	0.000	0.959
60.00	-27.34	-40.89	0.00	-3571.3	0.00	3571.30	3897.00	1948.50	7732.70	3838.84	18.50	-3.032	0.000	0.938
65.00	-26.14	-40.19	0.00	-3366.8	0.00	3366.88	3845.06	1922.53	7465.70	3706.29	21.84	-3.326	0.000	0.916
70.00	-24.96	-39.50	0.00	-3165.9	0.00	3165.91	3791.77	1895.89	7200.54	3574.65	25.48	-3.621	0.000	0.893
75.00	-23.81	-38.79	0.00	-2968.4	0.00	2968.44	3737.12	1868.56	6937.41	3444.02	29.43	-3.917	0.000	0.869
80.00	-22.68	-38.09	0.00	-2774.4	0.00	2774.47	3681.11	1840.56	6676.48	3314.49	33.68	-4.214	0.000	0.844
85.00	-21.58	-37.39	0.00	-2584.0	0.00	2584.02	3623.74	1811.87	6417.92	3186.13	38.25	-4.511	0.000	0.817
90.00	-20.54	-36.66	0.00	-2397.0	0.00	2397.09	3565.02	1782.51	6161.91	3059.03	43.13	-4.807	0.000	0.790
92.92	-19.94	-36.24	0.00	-2290.1	0.00	2290.17	3530.13	1765.07	6013.81	2985.51	46.12	-4.981	0.000	0.773
95.00	-19.21	-35.94	0.00	-2214.6	0.00	2214.68	3504.93	1752.47	5908.61	2933.28	48.32	-5.106	0.000	0.761
98.92	-17.96	-35.31	0.00	-2073.9	0.00	2073.92	2742.07	1371.04	4616.42	2291.78	52.60	-5.338	0.000	0.912
100.00	-17.69	-35.20	0.00	-2035.6	0.00	2035.67	2732.96	1366.48	4575.83	2271.63	53.82	-5.403	0.000	0.903
105.00	-16.78	-34.50	0.00	-1859.6	0.00	1859.69	2690.08	1345.04	4389.32	2179.04	59.64	-5.732	0.000	0.860
110.00	-15.90	-33.81	0.00	-1687.1	0.00	1687.19	2645.83	1322.92	4204.31	2087.20	65.81	-6.055	0.000	0.815
115.00	-15.05	-33.12	0.00	-1518.1	0.00	1518.14	2600.23	1300.12	4020.98	1996.19	72.31	-6.372	0.000	0.767
120.00	-14.22	-32.43	0.00	-1352.5	0.00	1352.55	2553.28	1276.64	3839.50	1906.09	79.14	-6.679	0.000	0.716
125.00	-13.47	-31.73	0.00	-1190.3	0.00	1190.38	2504.96	1252.48	3660.03	1816.99	86.28	-6.975	0.000	0.661
127.08	-13.13	-31.46	0.00	-1124.4	0.00	1124.49	2484.49	1242.25	3586.13	1780.31	89.33	-7.097	0.000	0.638
130.00	-12.47	-31.03	0.00	-1032.5	0.00	1032.53	2455.29	1227.64	3482.76	1728.99	93.72	-7.263	0.000	0.603
132.33	-11.95	-30.69	0.00	-960.34	0.00	960.34	1489.30	744.65	2121.68	1053.29	97.28	-7.391	0.000	0.921
135.00	-11.58	-30.36	0.00	-878.29	0.00	878.29	1477.63	738.82	2071.36	1028.31	101.45	-7.533	0.000	0.864
140.00	-10.98	-29.72	0.00	-726.48	0.00	726.48	1454.76	727.38	1977.27	981.60	109.50	-7.864	0.000	0.749
145.00	-10.41	-29.08	0.00	-577.88	0.00	577.88	1430.53	715.26	1883.34	934.97	117.87	-8.160	0.000	0.627
150.00	-8.36	-24.31	0.00	-432.46	0.00	432.46	1404.94	702.47	1789.74	888.50	126.53	-8.411	0.000	0.494
155.00	-7.89	-23.68	0.00	-310.91	0.00	310.91	1377.99	688.99	1696.65	842.29	135.42	-8.615	0.000	0.376
160.00	-5.32	-15.86	0.00	-192.52	0.00	192.52	1349.68	674.84	1604.25	796.42	144.50	-8.769	0.000	0.246
165.00	-4.99	-15.25	0.00	-113.22	0.00	113.22	1320.02	660.01	1512.71	750.97	153.71	-8.872	0.000	0.155
167.00	-3.09	-8.48	0.00	-82.71	0.00	82.71	1307.77	653.89	1476.37	732.93	157.42	-8.901	0.000	0.115
170.00	-2.93	-8.13	0.00	-57.29	0.00	57.29	1289.00	644.50	1422.20	706.04	163.00	-8.934	0.000	0.084
175.00	-2.69	-7.56	0.00	-16.65	0.00	16.65	1256.62	628.31	1332.89	661.70	172.34	-8.965	0.000	0.027
177.00	-0.15	-0.40	0.00	-1.42	0.00	1.42	1243.29	621.64	1297.54	644.16	176.08	-8.969	0.000	0.002
180.00	0.00	-0.37	0.00	-0.23	0.00	0.23	1222.88	611.44	1244.96	618.05	181.69	-8.969	0.000	0.000

Wind Loading - Shaft

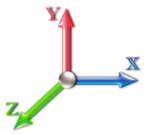
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 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	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	26.307	31.57	179.5	472.8	2157.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	25.946	31.14	177.0	498.9	2154.1
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	25.556	30.67	174.3	511.0	2137.0
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	25.154	30.19	182.1	517.0	2113.8
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	24.746	29.69	187.7	519.5	2087.0
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	24.333	29.20	191.8	519.7	2057.9
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	23.916	28.70	194.8	518.2	2027.2
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	23.498	28.20	196.8	515.4	1995.2
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	23.077	27.69	198.1	511.7	1962.2
45.92	Bot - Section 2	1.00	1.07	6.532	7.19	0.00	1.200	1.550	0.92	4.184	5.02	36.1	93.7	356.4
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	4.08	18.730	22.48	164.4	420.2	2586.9
53.00	Top - Section 1	1.00	1.11	6.732	7.41	0.00	1.200	1.573	3.00	13.580	16.30	120.7	306.9	1875.7
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	2.00	8.968	10.76	80.3	203.8	685.4
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	22.127	26.55	201.8	503.6	1690.3
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	21.702	26.04	201.3	497.4	1659.0
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	21.277	25.53	200.5	490.8	1627.3
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	20.851	25.02	199.3	483.7	1595.2
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	20.424	24.51	197.9	476.3	1562.8
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	19.997	24.00	196.3	468.6	1530.1
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	19.569	23.48	194.4	460.7	1497.1
92.92	Bot - Section 3	1.00	1.25	7.577	8.33	0.00	1.200	1.664	2.92	11.217	13.46	112.2	265.9	859.0
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	2.08	8.033	9.64	80.7	191.3	964.7
98.92	Top - Section 2	1.00	1.26	7.677	8.45	0.00	1.200	1.674	3.92	14.902	17.88	151.0	354.4	1786.9
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	1.08	4.075	4.89	41.4	97.6	277.3
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	18.550	22.26	190.4	442.0	1258.4
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	18.121	21.75	187.8	433.2	1228.7
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	17.692	21.23	185.1	424.2	1198.8
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	17.262	20.71	182.2	415.0	1168.7
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	16.833	20.20	179.2	405.6	1138.5
127.08	Bot - Section 4	1.00	1.33	8.093	8.90	0.00	1.200	1.717	2.08	6.864	8.24	73.3	166.9	465.1
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	2.92	9.646	11.58	103.5	234.4	942.0
132.33	Top - Section 3	1.00	1.34	8.162	8.98	0.00	1.200	1.723	2.33	7.572	9.09	81.6	184.5	739.0
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	2.67	8.585	10.30	92.9	209.2	470.0
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	5.00	15.729	18.87	171.5	381.6	858.0
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	15.298	18.36	168.0	371.7	833.5
150.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	1.745	5.00	14.868	17.84	164.5	361.7	808.9
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	5.00	14.437	17.32	160.8	351.6	784.2
160.00	Appurtenance(s)	1.00	1.40	8.495	9.34	0.00	1.200	1.757	5.00	14.006	16.81	157.1	341.4	759.4
165.00		1.00	1.41	8.551	9.41	0.00	1.200	1.762	5.00	13.575	16.29	153.2	331.1	734.4
167.00	Appurtenance(s)	1.00	1.41	8.572	9.43	0.00	1.200	1.764	2.00	5.309	6.37	60.1	130.8	288.0
170.00		1.00	1.42	8.604	9.46	0.00	1.200	1.767	3.00	7.834	9.40	89.0	192.4	423.9
175.00		1.00	1.42	8.657	9.52	0.00	1.200	1.772	5.00	12.713	15.26	145.3	310.2	684.3
177.00	Appurtenance(s)	1.00	1.43	8.678	9.55	0.00	1.200	1.774	2.00	4.964	5.96	56.9	122.4	267.9
180.00	Appurtenance(s)	1.00	1.43	8.709	9.58	0.00	1.200	1.777	3.00	7.317	8.78	84.1	179.8	393.7
								Totals:	**180.00**			**6,546.9**		**54,691.1**

Discrete Appurtenance Forces

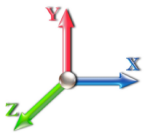
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 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	180.00	Lightning Rod	1	8.744	9.618	1.00	1.00	3.47	64.99	0.000	3.500	33.35	0.00	116.72
2	177.00	EMS RR90-17-02DP	3	8.678	9.546	0.58	0.80	9.27	366.16	0.000	0.000	88.48	0.00	0.00
3	177.00	AIR6419 B41	3	8.678	9.546	0.57	0.80	11.27	693.92	0.000	0.000	107.62	0.00	0.00
4	177.00	VV-65A-R1	3	8.678	9.546	0.66	0.80	15.25	709.99	0.000	0.000	145.58	0.00	0.00
5	177.00	782 11056	3	8.678	9.546	0.40	0.80	0.47	19.71	0.000	0.000	4.53	0.00	0.00
6	177.00	mount pipe & end	1	8.678	9.546	0.56	0.75	25.19	1037.23	0.000	0.000	240.43	0.00	0.00
7	177.00	HRK12 (Handrail Kit)	1	8.678	9.546	1.00	1.00	13.46	891.56	0.000	0.000	128.46	0.00	0.00
8	177.00	Ericsson 4449 B71 + B85	3	8.684	9.553	0.40	0.80	2.60	472.51	0.000	0.625	24.88	0.00	15.55
9	177.00	APXVAARR18_43-U-NA2	3	8.678	9.546	0.56	0.80	27.32	1391.60	0.000	0.000	260.75	0.00	0.00
10	177.00	4460 B25 + B66	3	8.678	9.546	0.40	0.80	2.93	423.05	0.000	0.000	27.95	0.00	0.00
11	177.00	Low Profile Platform	1	8.678	9.546	1.00	1.00	43.59	3674.34	0.000	0.000	416.08	0.00	0.00
12	177.00	KRY 112 144/2	3	8.681	9.549	0.40	0.80	1.07	50.72	0.000	0.287	10.23	0.00	2.94
13	177.00	KRY 112 489/2	3	8.683	9.551	0.40	0.80	1.53	94.18	0.000	0.458	14.58	0.00	6.68
14	167.00	Platform Mount w/ Mods	1	8.572	9.429	1.00	1.00	65.21	3664.05	0.000	0.000	614.92	0.00	0.00
15	167.00	Commscope	1	8.572	9.429	1.00	1.00	3.17	119.22	0.000	0.000	29.90	0.00	0.00
16	167.00	Samsung B5/B13	3	8.572	9.429	0.38	0.75	2.74	353.68	0.000	0.000	25.85	0.00	0.00
17	167.00	Samsung B2/B66A	3	8.572	9.429	0.38	0.75	2.76	463.99	0.000	0.000	25.99	0.00	0.00
18	167.00	Antel BXA-70063-6CF	3	8.572	9.429	0.55	0.75	14.53	590.62	0.000	0.000	136.99	0.00	0.00
19	167.00	Samsung VZS01	3	8.572	9.429	0.52	0.75	8.06	651.02	0.000	0.000	76.03	0.00	0.00
20	167.00	JMA Wireless	6	8.572	9.429	0.65	0.75	44.09	1965.16	0.000	0.000	415.73	0.00	0.00
21	160.00	LGP21901 Diplexers	6	8.495	9.345	0.40	0.80	3.95	624.76	0.000	0.000	36.88	0.00	0.00
22	160.00	CCI HPA-65R-BUU-H8	3	8.495	9.345	0.63	0.80	27.69	1124.53	0.000	0.000	258.79	0.00	0.00
23	160.00	Ericsson RRUS-12 B2	3	8.495	9.345	0.40	0.80	5.30	356.08	0.000	0.000	49.49	0.00	0.00
24	160.00	Ericsson RRUS A2	3	8.495	9.345	0.40	0.80	3.41	154.75	0.000	0.000	31.85	0.00	0.00
25	160.00	LGP21401 TMA	6	8.495	9.345	0.40	0.80	5.11	291.19	0.000	0.000	47.80	0.00	0.00
26	160.00	Powerwave 7020.00 RET	12	8.495	9.345	0.40	0.80	4.26	120.51	0.000	0.000	39.79	0.00	0.00
27	160.00	Handrail Kit [SitePro1	1	8.495	9.345	1.00	1.00	17.36	396.00	0.000	0.000	162.20	0.00	0.00
28	160.00	Raycap	1	8.495	9.345	1.00	1.00	4.48	215.77	0.000	0.000	41.90	0.00	0.00
29	160.00	Ericsson RRUS4449	3	8.495	9.345	0.40	0.80	3.03	393.72	0.000	0.000	28.27	0.00	0.00
30	160.00	DMP65R-BU8DA	3	8.495	9.345	0.63	0.80	37.36	1483.62	0.000	0.000	349.13	0.00	0.00
31	160.00	Raycap DC6-48-60-18-8F	1	8.495	9.345	1.00	1.00	2.17	86.84	0.000	0.000	20.32	0.00	0.00
32	160.00	Low Profile Platform	1	8.495	9.345	1.00	1.00	39.78	3040.86	0.000	0.000	371.70	0.00	0.00
33	160.00	7770	3	8.462	9.308	0.58	0.80	11.52	677.20	0.000	-3.000	107.18	0.00	-321.53
34	150.00	MC-PK8-DSH	1	8.381	9.219	1.00	1.00	84.82	3387.23	0.000	0.000	781.97	0.00	0.00
35	150.00	RDIDC-9181-OF-48	1	8.381	9.219	0.75	0.75	1.93	66.83	0.000	0.000	17.83	0.00	0.00
36	150.00	TA08025-B604	3	8.381	9.219	0.38	0.75	2.84	345.63	0.000	0.000	26.15	0.00	0.00
37	150.00	TA08025-B605	3	8.381	9.219	0.38	0.75	2.84	389.11	0.000	0.000	26.15	0.00	0.00
38	150.00	MX08FRO665-21	3	8.381	9.219	0.55	0.75	23.23	903.21	0.000	0.000	214.19	0.00	0.00
							Totals:		**31,755.53**			**5,439.93**		

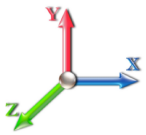
Total Applied Force Summary

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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		179.46	2413.93	0.00	0.00
10.00		177.00	2413.17	0.00	0.00
15.00		174.34	2397.61	0.00	0.00
20.00		182.07	2375.56	0.00	0.00
25.00		187.73	2349.76	0.00	0.00
30.00		191.82	2321.48	0.00	0.00
35.00		194.76	2291.44	0.00	0.00
40.00		196.80	2260.05	0.00	0.00
45.00		198.13	2227.61	0.00	0.00
45.92		36.08	405.10	0.00	0.00
50.00		164.41	2804.00	0.00	0.00
53.00		120.68	2035.37	0.00	0.00
55.00		80.32	791.96	0.00	0.00
60.00		201.84	1957.08	0.00	0.00
65.00		201.33	1926.21	0.00	0.00
70.00		200.48	1894.88	0.00	0.00
75.00		199.34	1863.15	0.00	0.00
80.00		197.93	1831.06	0.00	0.00
85.00		196.28	1798.65	0.00	0.00
90.00		194.41	1765.95	0.00	0.00
92.92		112.18	1015.89	0.00	0.00
95.00		80.72	1076.82	0.00	0.00
98.92		151.02	1997.86	0.00	0.00
100.00		41.39	335.65	0.00	0.00
105.00		190.36	1528.09	0.00	0.00
110.00		187.79	1498.62	0.00	0.00
115.00		185.07	1468.96	0.00	0.00
120.00		182.20	1439.12	0.00	0.00
125.00		179.20	1409.11	0.00	0.00
127.08		73.33	577.52	0.00	0.00
130.00		103.54	1100.36	0.00	0.00
132.33		81.58	865.07	0.00	0.00
135.00		92.89	614.91	0.00	0.00
140.00		171.49	1129.32	0.00	0.00
145.00		168.03	1105.03	0.00	0.00
150.00	(11) attachments	1230.75	6172.63	0.00	0.00
155.00		160.81	1050.08	0.00	0.00
160.00	(46) attachments	1702.36	9991.26	0.00	-321.53
165.00		153.22	915.84	0.00	0.00
167.00	(20) attachments	1385.49	8168.34	0.00	0.00
170.00		88.98	487.48	0.00	0.00
175.00		145.27	790.43	0.00	0.00
177.00	(30) attachments	1526.44	10135.37	0.00	25.18
180.00	(1) attachments	117.45	509.80	0.00	116.72
	Totals:	**11,986.81**	**95,507.56**	**0.00**	**-179.64**

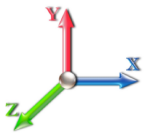
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	69.07
10.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	71.51
15.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	73.07
20.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	74.24
25.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	75.18
30.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	75.97
35.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	76.67
40.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	77.28
45.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	77.83
45.92	Climbing Ladder	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.532	0.00	14.29
50.00	Climbing Ladder	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	63.97
53.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.732	0.00	47.17
55.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	31.52
60.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	79.22
65.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	79.62
70.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	80.00
75.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	80.35
80.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	80.68
85.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	81.00
90.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	81.30
92.92	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	7.577	0.00	47.52
95.00	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	34.00
98.92	Climbing Ladder	Yes	3.92	0.000	0.00	0.00	0.00	0.000	0.000	7.677	0.00	64.08
100.00	Climbing Ladder	Yes	1.08	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	17.74
105.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	82.13
110.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	82.38
115.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	82.63
120.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	82.86
125.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	83.09
127.08	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.093	0.00	34.55
130.00	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	48.71
132.33	Climbing Ladder	Yes	2.33	0.000	0.00	0.00	0.00	0.000	0.000	8.162	0.00	38.81
135.00	Climbing Ladder	Yes	2.67	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	44.66
140.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	83.73
145.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.321	0.00	83.93
150.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.381	0.00	84.12
155.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.439	0.00	84.31
160.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	84.50
165.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.551	0.00	84.68
167.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.572	0.00	33.90
170.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.604	0.00	50.91
175.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.657	0.00	85.02
177.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.678	0.00	34.04
180.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.709	0.00	51.11
										Totals:	**0.0**	**2,893.3**

Calculated Forces

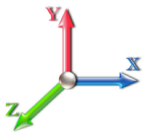
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 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	-95.50	-12.04	0.00	-1648.8	0.00	1648.87	5508.12	2754.06	13547.4	6725.55	0.00	0.000	0.000	0.263
5.00	-93.07	-11.96	0.00	-1588.6	0.00	1588.68	5452.09	2726.05	13177.2	6541.73	0.03	-0.062	0.000	0.260
10.00	-90.65	-11.88	0.00	-1528.8	0.00	1528.89	5394.71	2697.35	12808.5	6358.68	0.13	-0.124	0.000	0.257
15.00	-88.24	-11.80	0.00	-1469.5	0.00	1469.50	5335.97	2667.98	12441.5	6176.49	0.30	-0.188	0.000	0.254
20.00	-85.85	-11.70	0.00	-1410.5	0.00	1410.53	5275.87	2637.93	12076.4	5995.24	0.53	-0.252	0.000	0.252
25.00	-83.49	-11.60	0.00	-1352.0	0.00	1352.02	5214.41	2607.20	11713.3	5815.02	0.83	-0.318	0.000	0.249
30.00	-81.15	-11.49	0.00	-1294.0	0.00	1294.03	5151.59	2575.80	11352.6	5635.92	1.19	-0.384	0.000	0.245
35.00	-78.85	-11.37	0.00	-1236.6	0.00	1236.61	5087.42	2543.71	10994.2	5458.02	1.63	-0.451	0.000	0.242
40.00	-76.58	-11.24	0.00	-1179.7	0.00	1179.77	5021.88	2510.94	10638.5	5281.41	2.14	-0.518	0.000	0.239
45.00	-74.35	-11.08	0.00	-1123.5	0.00	1123.57	4954.99	2477.50	10285.5	5106.18	2.72	-0.587	0.000	0.235
45.92	-73.93	-11.08	0.00	-1113.4	0.00	1113.41	4942.58	2471.29	10221.1	5074.21	2.83	-0.600	0.000	0.234
50.00	-71.12	-10.95	0.00	-1068.1	0.00	1068.17	4886.75	2443.37	9935.52	4932.41	3.37	-0.657	0.000	0.231
53.00	-69.08	-10.84	0.00	-1035.3	0.00	1035.33	3967.43	1983.71	8109.29	4025.79	3.80	-0.699	0.000	0.275
55.00	-68.28	-10.82	0.00	-1013.6	0.00	1013.65	3947.58	1973.79	8001.39	3972.23	4.10	-0.728	0.000	0.273
60.00	-66.31	-10.68	0.00	-959.55	0.00	959.55	3897.00	1948.50	7732.70	3838.84	4.90	-0.806	0.000	0.267
65.00	-64.38	-10.54	0.00	-906.15	0.00	906.15	3845.06	1922.53	7465.70	3706.29	5.79	-0.885	0.000	0.261
70.00	-62.47	-10.40	0.00	-853.44	0.00	853.44	3791.77	1895.89	7200.54	3574.65	6.76	-0.965	0.000	0.255
75.00	-60.60	-10.25	0.00	-801.46	0.00	801.46	3737.12	1868.56	6937.41	3444.02	7.81	-1.045	0.000	0.249
80.00	-58.75	-10.10	0.00	-750.22	0.00	750.22	3681.11	1840.56	6676.48	3314.49	8.95	-1.125	0.000	0.242
85.00	-56.95	-9.95	0.00	-699.72	0.00	699.72	3623.74	1811.87	6417.92	3186.13	10.17	-1.205	0.000	0.235
90.00	-55.17	-9.77	0.00	-649.99	0.00	649.99	3565.02	1782.51	6161.91	3059.03	11.47	-1.285	0.000	0.228
92.92	-54.15	-9.68	0.00	-621.48	0.00	621.48	3530.13	1765.07	6013.81	2985.51	12.27	-1.333	0.000	0.224
95.00	-53.07	-9.62	0.00	-601.32	0.00	601.32	3504.93	1752.47	5908.61	2933.28	12.86	-1.367	0.000	0.220
98.92	-51.07	-9.45	0.00	-563.66	0.00	563.66	2742.07	1371.04	4616.42	2291.78	14.01	-1.429	0.000	0.265
100.00	-50.73	-9.45	0.00	-553.42	0.00	553.42	2732.96	1366.48	4575.83	2271.63	14.34	-1.447	0.000	0.262
105.00	-49.19	-9.30	0.00	-506.17	0.00	506.17	2690.08	1345.04	4389.32	2179.04	15.90	-1.537	0.000	0.251
110.00	-47.68	-9.14	0.00	-459.68	0.00	459.68	2645.83	1322.92	4204.31	2087.20	17.56	-1.625	0.000	0.238
115.00	-46.21	-8.98	0.00	-413.98	0.00	413.98	2600.23	1300.12	4020.98	1996.19	19.30	-1.711	0.000	0.225
120.00	-44.76	-8.82	0.00	-369.08	0.00	369.08	2553.28	1276.64	3839.50	1906.09	21.14	-1.795	0.000	0.211
125.00	-43.35	-8.64	0.00	-324.98	0.00	324.98	2504.96	1252.48	3660.03	1816.99	23.06	-1.875	0.000	0.196
127.08	-42.77	-8.58	0.00	-307.04	0.00	307.04	2484.49	1242.25	3586.13	1780.31	23.89	-1.909	0.000	0.190
130.00	-41.67	-8.46	0.00	-281.98	0.00	281.98	2455.29	1227.64	3482.76	1728.99	25.07	-1.954	0.000	0.180
132.33	-40.80	-8.38	0.00	-262.29	0.00	262.29	1489.30	744.65	2121.68	1053.29	26.03	-1.989	0.000	0.277
135.00	-40.18	-8.31	0.00	-239.89	0.00	239.89	1477.63	738.82	2071.36	1028.31	27.16	-2.028	0.000	0.261
140.00	-39.05	-8.16	0.00	-198.34	0.00	198.34	1454.76	727.38	1977.27	981.60	29.33	-2.118	0.000	0.229
145.00	-37.94	-8.00	0.00	-157.55	0.00	157.55	1430.53	715.26	1883.34	934.97	31.59	-2.199	0.000	0.195
150.00	-31.81	-6.56	0.00	-117.57	0.00	117.57	1404.94	702.47	1789.74	888.50	33.93	-2.267	0.000	0.155
155.00	-30.76	-6.38	0.00	-84.77	0.00	84.77	1377.99	688.99	1696.65	842.29	36.34	-2.323	0.000	0.123
160.00	-20.85	-4.29	0.00	-52.85	0.00	52.85	1349.68	674.84	1604.25	796.42	38.80	-2.365	0.000	0.082
165.00	-19.94	-4.10	0.00	-31.42	0.00	31.42	1320.02	660.01	1512.71	750.97	41.29	-2.393	0.000	0.057
167.00	-11.83	-2.38	0.00	-23.22	0.00	23.22	1307.77	653.89	1476.37	732.93	42.29	-2.402	0.000	0.041
170.00	-11.35	-2.27	0.00	-16.09	0.00	16.09	1289.00	644.50	1422.20	706.04	43.81	-2.411	0.000	0.032
175.00	-10.57	-2.09	0.00	-4.74	0.00	4.74	1256.62	628.31	1332.89	661.70	46.34	-2.420	0.000	0.016
177.00	-0.50	-0.14	0.00	-0.53	0.00	0.53	1243.29	621.64	1297.54	644.16	47.35	-2.421	0.000	0.001
180.00	0.00	-0.12	0.00	-0.12	0.00	0.12	1222.88	611.44	1244.96	618.05	48.87	-2.421	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	23
Gust Response Factor	1.10				**Sds**	0.18		**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1403.7	0.00	0.03	0.02	24.91	
10.00		1379.3	0.01	0.05	0.03	35.84	
15.00		1354.9	0.01	0.06	0.03	41.10	
20.00		1330.6	0.02	0.07	0.04	43.55	
25.00		1306.2	0.04	0.07	0.04	44.57	
30.00		1281.8	0.05	0.07	0.04	44.90	
35.00		1257.5	0.07	0.07	0.04	44.97	
40.00		1233.1	0.09	0.07	0.04	45.00	
45.00		1208.7	0.12	0.07	0.03	45.02	
45.92	Bot - Section 2	218.97	0.12	0.07	0.03	8.19	
50.00		1805.5	0.15	0.07	0.03	68.53	
53.00	Top - Section 1	1307.2	0.16	0.07	0.03	50.07	
55.00		401.39	0.18	0.07	0.03	15.44	
60.00		988.87	0.21	0.06	0.02	38.05	
65.00		968.00	0.25	0.06	0.02	36.42	
70.00		947.14	0.29	0.05	0.01	33.52	
75.00		926.28	0.33	0.04	0.01	28.88	
80.00		905.41	0.37	0.03	0.01	22.14	
85.00		884.55	0.42	0.01	0.01	13.24	
90.00		863.69	0.47	-0.01	0.01	2.69	
92.92	Bot - Section 3	494.18	0.50	-0.02	0.01	-2.18	
95.00		644.51	0.53	-0.03	0.01	-6.33	
98.92	Top - Section 2	1193.6	0.57	-0.04	0.01	-23.36	
100.00		149.70	0.58	-0.05	0.01	-3.30	
105.00		680.33	0.64	-0.07	0.02	-21.76	
110.00		662.92	0.71	-0.09	0.03	-25.59	
115.00		645.50	0.77	-0.11	0.05	-26.81	
120.00		628.09	0.84	-0.12	0.07	-25.65	
125.00		610.68	0.91	-0.12	0.09	-22.38	
127.08	Bot - Section 4	248.52	0.94	-0.12	0.10	-8.43	
130.00		589.65	0.99	-0.11	0.12	-17.15	
132.33	Top - Section 3	462.07	1.02	-0.10	0.14	-11.30	
135.00		217.29	1.06	-0.09	0.17	-3.97	
140.00		397.05	1.14	-0.04	0.21	-1.66	
145.00		384.86	1.23	0.03	0.27	5.05	
150.00	Appurtenance(s)	2731.7	1.31	0.14	0.35	92.07	
155.00		360.49	1.40	0.29	0.43	20.77	
160.00	Appurtenance(s)	3907.4	1.49	0.48	0.53	331.75	
165.00		336.12	1.59	0.74	0.65	38.87	
167.00	Appurtenance(s)	3203.4	1.63	0.86	0.71	413.06	
170.00		192.90	1.69	1.07	0.79	28.92	
175.00		311.76	1.79	1.48	0.95	58.56	
177.00	Appurtenance(s)	4005.8	1.83	1.67	1.03	817.28	
180.00	Appurtenance(s)	213.28	1.89	1.98	1.14	48.93	
	Totals:	**45,245.5**				**2,342.4**	**Total Wind:** **48,151.8**

Seismic Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Calculated Forces

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	23
Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28	**SA**	0.03	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-61.95	-2.55	0.00	-366.72	0.00	366.72	5508.12	2754.06	13547.4	6725.55		0.00	0.00	0.066
5.00	-60.04	-2.54	0.00	-353.97	0.00	353.97	5452.09	2726.05	13177.2	6541.73		0.01	-0.01	0.065
10.00	-58.15	-2.52	0.00	-341.28	0.00	341.28	5394.71	2697.35	12808.5	6358.68		0.03	-0.03	0.064
15.00	-56.30	-2.49	0.00	-328.71	0.00	328.71	5335.97	2667.98	12441.5	6176.49		0.07	-0.04	0.064
20.00	-54.47	-2.46	0.00	-316.27	0.00	316.27	5275.87	2637.93	12076.4	5995.24		0.12	-0.06	0.063
25.00	-52.67	-2.42	0.00	-303.99	0.00	303.99	5214.41	2607.20	11713.3	5815.02		0.18	-0.07	0.062
30.00	-50.91	-2.39	0.00	-291.87	0.00	291.87	5151.59	2575.80	11352.6	5635.92		0.27	-0.09	0.062
35.00	-49.17	-2.35	0.00	-279.92	0.00	279.92	5087.42	2543.71	10994.2	5458.02		0.36	-0.10	0.061
40.00	-47.46	-2.32	0.00	-268.15	0.00	268.15	5021.88	2510.94	10638.5	5281.41		0.48	-0.12	0.060
45.00	-45.78	-2.28	0.00	-256.56	0.00	256.56	4954.99	2477.50	10285.5	5106.18		0.61	-0.13	0.059
45.92	-45.47	-2.28	0.00	-254.47	0.00	254.47	4942.58	2471.29	10221.1	5074.21		0.63	-0.13	0.059
50.00	-43.12	-2.21	0.00	-245.18	0.00	245.18	4886.75	2443.37	9935.52	4932.41		0.76	-0.15	0.059
53.00	-41.41	-2.16	0.00	-238.55	0.00	238.55	3967.43	1983.71	8109.29	4025.79		0.85	-0.16	0.070
55.00	-40.84	-2.15	0.00	-234.23	0.00	234.23	3947.58	1973.79	8001.39	3972.23		0.92	-0.16	0.069
60.00	-39.42	-2.12	0.00	-223.46	0.00	223.46	3897.00	1948.50	7732.70	3838.84		1.10	-0.18	0.068
65.00	-38.03	-2.09	0.00	-212.85	0.00	212.85	3845.06	1922.53	7465.70	3706.29		1.30	-0.20	0.067
70.00	-36.67	-2.07	0.00	-202.38	0.00	202.38	3791.77	1895.89	7200.54	3574.65		1.52	-0.22	0.066
75.00	-35.33	-2.05	0.00	-192.04	0.00	192.04	3737.12	1868.56	6937.41	3444.02		1.76	-0.24	0.065
80.00	-34.01	-2.03	0.00	-181.81	0.00	181.81	3681.11	1840.56	6676.48	3314.49		2.02	-0.26	0.064
85.00	-32.72	-2.02	0.00	-171.66	0.00	171.66	3623.74	1811.87	6417.92	3186.13		2.30	-0.28	0.063
90.00	-31.45	-2.02	0.00	-161.56	0.00	161.56	3565.02	1782.51	6161.91	3059.03		2.61	-0.30	0.062
92.92	-30.73	-2.02	0.00	-155.66	0.00	155.66	3530.13	1765.07	6013.81	2985.51		2.79	-0.31	0.061
95.00	-29.86	-2.02	0.00	-151.45	0.00	151.45	3504.93	1752.47	5908.61	2933.28		2.93	-0.32	0.060
98.92	-28.24	-2.02	0.00	-143.52	0.00	143.52	2742.07	1371.04	4616.42	2291.78		3.20	-0.33	0.073
100.00	-28.01	-2.03	0.00	-141.34	0.00	141.34	2732.96	1366.48	4575.83	2271.63		3.27	-0.34	0.072
105.00	-26.97	-2.03	0.00	-131.21	0.00	131.21	2690.08	1345.04	4389.32	2179.04		3.64	-0.36	0.070
110.00	-25.94	-2.03	0.00	-121.06	0.00	121.06	2645.83	1322.92	4204.31	2087.20		4.03	-0.38	0.068
115.00	-24.94	-2.04	0.00	-110.89	0.00	110.89	2600.23	1300.12	4020.98	1996.19		4.44	-0.41	0.065
120.00	-23.96	-2.04	0.00	-100.71	0.00	100.71	2553.28	1276.64	3839.50	1906.09		4.88	-0.43	0.062
125.00	-22.99	-2.04	0.00	-90.51	0.00	90.51	2504.96	1252.48	3660.03	1816.99		5.34	-0.45	0.059
127.08	-22.60	-2.04	0.00	-86.28	0.00	86.28	2484.49	1242.25	3586.13	1780.31		5.54	-0.46	0.058
130.00	-21.76	-2.04	0.00	-80.32	0.00	80.32	2455.29	1227.64	3482.76	1728.99		5.83	-0.47	0.055
132.33	-21.10	-2.04	0.00	-75.58	0.00	75.58	1489.30	744.65	2121.68	1053.29		6.06	-0.48	0.086
135.00	-20.71	-2.04	0.00	-70.14	0.00	70.14	1477.63	738.82	2071.36	1028.31		6.34	-0.50	0.082
140.00	-20.01	-2.04	0.00	-59.95	0.00	59.95	1454.76	727.38	1977.27	981.60		6.87	-0.52	0.075
145.00	-19.31	-2.04	0.00	-49.74	0.00	49.74	1430.53	715.26	1883.34	934.97		7.43	-0.55	0.067
150.00	-15.81	-1.92	0.00	-39.55	0.00	39.55	1404.94	702.47	1789.74	888.50		8.02	-0.57	0.056
155.00	-15.15	-1.89	0.00	-29.96	0.00	29.96	1377.99	688.99	1696.65	842.29		8.62	-0.59	0.047
160.00	-10.24	-1.51	0.00	-20.49	0.00	20.49	1349.68	674.84	1604.25	796.42		9.25	-0.60	0.033
165.00	-9.70	-1.47	0.00	-12.92	0.00	12.92	1320.02	660.01	1512.71	750.97		9.89	-0.62	0.025
167.00	-5.81	-1.02	0.00	-9.97	0.00	9.97	1307.77	653.89	1476.37	732.93		10.15	-0.62	0.018
170.00	-5.54	-0.99	0.00	-6.92	0.00	6.92	1289.00	644.50	1422.20	706.04		10.54	-0.62	0.014
175.00	-5.10	-0.92	0.00	-2.00	0.00	2.00	1256.62	628.31	1332.89	661.70		11.19	-0.63	0.007
177.00	-0.28	-0.05	0.00	-0.16	0.00	0.16	1243.29	621.64	1297.54	644.16		11.45	-0.63	0.000
180.00	0.00	-0.05	0.00	0.00	0.00	0.00	1222.88	611.44	1244.96	618.05		11.85	-0.63	0.000

Seismic Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	23
Gust Response Factor	1.10				**Sds**	0.18		**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1403.7	0.00	0.03	0.02	24.91	
10.00		1379.3	0.01	0.05	0.03	35.84	
15.00		1354.9	0.01	0.06	0.03	41.10	
20.00		1330.6	0.02	0.07	0.04	43.55	
25.00		1306.2	0.04	0.07	0.04	44.57	
30.00		1281.8	0.05	0.07	0.04	44.90	
35.00		1257.5	0.07	0.07	0.04	44.97	
40.00		1233.1	0.09	0.07	0.04	45.00	
45.00		1208.7	0.12	0.07	0.03	45.02	
45.92	Bot - Section 2	218.97	0.12	0.07	0.03	8.19	
50.00		1805.5	0.15	0.07	0.03	68.53	
53.00	Top - Section 1	1307.2	0.16	0.07	0.03	50.07	
55.00		401.39	0.18	0.07	0.03	15.44	
60.00		988.87	0.21	0.06	0.02	38.05	
65.00		968.00	0.25	0.06	0.02	36.42	
70.00		947.14	0.29	0.05	0.01	33.52	
75.00		926.28	0.33	0.04	0.01	28.88	
80.00		905.41	0.37	0.03	0.01	22.14	
85.00		884.55	0.42	0.01	0.01	13.24	
90.00		863.69	0.47	-0.01	0.01	2.69	
92.92	Bot - Section 3	494.18	0.50	-0.02	0.01	-2.18	
95.00		644.51	0.53	-0.03	0.01	-6.33	
98.92	Top - Section 2	1193.6	0.57	-0.04	0.01	-23.36	
100.00		149.70	0.58	-0.05	0.01	-3.30	
105.00		680.33	0.64	-0.07	0.02	-21.76	
110.00		662.92	0.71	-0.09	0.03	-25.59	
115.00		645.50	0.77	-0.11	0.05	-26.81	
120.00		628.09	0.84	-0.12	0.07	-25.65	
125.00		610.68	0.91	-0.12	0.09	-22.38	
127.08	Bot - Section 4	248.52	0.94	-0.12	0.10	-8.43	
130.00		589.65	0.99	-0.11	0.12	-17.15	
132.33	Top - Section 3	462.07	1.02	-0.10	0.14	-11.30	
135.00		217.29	1.06	-0.09	0.17	-3.97	
140.00		397.05	1.14	-0.04	0.21	-1.66	
145.00		384.86	1.23	0.03	0.27	5.05	
150.00	Appurtenance(s)	2731.7	1.31	0.14	0.35	92.07	
155.00		360.49	1.40	0.29	0.43	20.77	
160.00	Appurtenance(s)	3907.4	1.49	0.48	0.53	331.75	
165.00		336.12	1.59	0.74	0.65	38.87	
167.00	Appurtenance(s)	3203.4	1.63	0.86	0.71	413.06	
170.00		192.90	1.69	1.07	0.79	28.92	
175.00		311.76	1.79	1.48	0.95	58.56	
177.00	Appurtenance(s)	4005.8	1.83	1.67	1.03	817.28	
180.00	Appurtenance(s)	213.28	1.89	1.98	1.14	48.93	
	Totals:	**45,245.5**				**2,342.4**	**Total Wind:** **48,151.8**

Seismic Segment Forces (Factored)

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Calculated Forces

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	23
Gust Response Factor	1.10			**Sds**	0.18			**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.28	**SA**	0.03	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-46.46	-2.55	0.00	-360.74	0.00	360.74	5508.12	2754.06	13547.4	6725.55		0.00	0.00	0.062
5.00	-45.03	-2.53	0.00	-348.01	0.00	348.01	5452.09	2726.05	13177.2	6541.73		0.01	-0.01	0.061
10.00	-43.61	-2.51	0.00	-335.35	0.00	335.35	5394.71	2697.35	12808.5	6358.68		0.03	-0.03	0.061
15.00	-42.22	-2.48	0.00	-322.82	0.00	322.82	5335.97	2667.98	12441.5	6176.49		0.06	-0.04	0.060
20.00	-40.85	-2.44	0.00	-310.44	0.00	310.44	5275.87	2637.93	12076.4	5995.24		0.12	-0.06	0.060
25.00	-39.51	-2.40	0.00	-298.24	0.00	298.24	5214.41	2607.20	11713.3	5815.02		0.18	-0.07	0.059
30.00	-38.18	-2.37	0.00	-286.22	0.00	286.22	5151.59	2575.80	11352.6	5635.92		0.26	-0.08	0.058
35.00	-36.88	-2.33	0.00	-274.38	0.00	274.38	5087.42	2543.71	10994.2	5458.02		0.36	-0.10	0.058
40.00	-35.59	-2.29	0.00	-262.73	0.00	262.73	5021.88	2510.94	10638.5	5281.41		0.47	-0.11	0.057
45.00	-34.33	-2.25	0.00	-251.27	0.00	251.27	4954.99	2477.50	10285.5	5106.18		0.60	-0.13	0.056
45.92	-34.10	-2.25	0.00	-249.21	0.00	249.21	4942.58	2471.29	10221.1	5074.21		0.62	-0.13	0.056
50.00	-32.34	-2.18	0.00	-240.04	0.00	240.04	4886.75	2443.37	9935.52	4932.41		0.74	-0.15	0.055
53.00	-31.06	-2.13	0.00	-233.50	0.00	233.50	3967.43	1983.71	8109.29	4025.79		0.84	-0.15	0.066
55.00	-30.63	-2.12	0.00	-229.24	0.00	229.24	3947.58	1973.79	8001.39	3972.23		0.90	-0.16	0.065
60.00	-29.57	-2.09	0.00	-218.64	0.00	218.64	3897.00	1948.50	7732.70	3838.84		1.08	-0.18	0.065
65.00	-28.52	-2.06	0.00	-208.20	0.00	208.20	3845.06	1922.53	7465.70	3706.29		1.28	-0.20	0.064
70.00	-27.50	-2.03	0.00	-197.91	0.00	197.91	3791.77	1895.89	7200.54	3574.65		1.49	-0.22	0.063
75.00	-26.49	-2.01	0.00	-187.76	0.00	187.76	3737.12	1868.56	6937.41	3444.02		1.73	-0.23	0.062
80.00	-25.51	-1.99	0.00	-177.74	0.00	177.74	3681.11	1840.56	6676.48	3314.49		1.98	-0.25	0.061
85.00	-24.54	-1.98	0.00	-167.80	0.00	167.80	3623.74	1811.87	6417.92	3186.13		2.26	-0.27	0.059
90.00	-23.59	-1.98	0.00	-157.92	0.00	157.92	3565.02	1782.51	6161.91	3059.03		2.56	-0.29	0.058
92.92	-23.04	-1.98	0.00	-152.15	0.00	152.15	3530.13	1765.07	6013.81	2985.51		2.74	-0.30	0.057
95.00	-22.39	-1.98	0.00	-148.03	0.00	148.03	3504.93	1752.47	5908.61	2933.28		2.87	-0.31	0.057
98.92	-21.18	-1.98	0.00	-140.28	0.00	140.28	2742.07	1371.04	4616.42	2291.78		3.13	-0.33	0.069
100.00	-21.01	-1.98	0.00	-138.14	0.00	138.14	2732.96	1366.48	4575.83	2271.63		3.21	-0.33	0.068
105.00	-20.22	-1.98	0.00	-128.24	0.00	128.24	2690.08	1345.04	4389.32	2179.04		3.57	-0.35	0.066
110.00	-19.45	-1.99	0.00	-118.32	0.00	118.32	2645.83	1322.92	4204.31	2087.20		3.95	-0.38	0.064
115.00	-18.70	-1.99	0.00	-108.39	0.00	108.39	2600.23	1300.12	4020.98	1996.19		4.35	-0.40	0.061
120.00	-17.96	-1.99	0.00	-98.45	0.00	98.45	2553.28	1276.64	3839.50	1906.09		4.78	-0.42	0.059
125.00	-17.24	-1.99	0.00	-88.50	0.00	88.50	2504.96	1252.48	3660.03	1816.99		5.24	-0.44	0.056
127.08	-16.95	-1.99	0.00	-84.37	0.00	84.37	2484.49	1242.25	3586.13	1780.31		5.43	-0.45	0.054
130.00	-16.31	-1.99	0.00	-78.55	0.00	78.55	2455.29	1227.64	3482.76	1728.99		5.71	-0.46	0.052
132.33	-15.82	-1.99	0.00	-73.93	0.00	73.93	1489.30	744.65	2121.68	1053.29		5.94	-0.47	0.081
135.00	-15.53	-1.99	0.00	-68.61	0.00	68.61	1477.63	738.82	2071.36	1028.31		6.21	-0.48	0.077
140.00	-15.00	-1.99	0.00	-58.66	0.00	58.66	1454.76	727.38	1977.27	981.60		6.73	-0.51	0.070
145.00	-14.48	-1.99	0.00	-48.70	0.00	48.70	1430.53	715.26	1883.34	934.97		7.28	-0.54	0.062
150.00	-11.85	-1.88	0.00	-38.76	0.00	38.76	1404.94	702.47	1789.74	888.50		7.85	-0.56	0.052
155.00	-11.36	-1.85	0.00	-29.39	0.00	29.39	1377.99	688.99	1696.65	842.29		8.45	-0.58	0.043
160.00	-7.68	-1.49	0.00	-20.12	0.00	20.12	1349.68	674.84	1604.25	796.42		9.06	-0.59	0.031
165.00	-7.27	-1.44	0.00	-12.70	0.00	12.70	1320.02	660.01	1512.71	750.97		9.68	-0.60	0.022
167.00	-4.35	-1.00	0.00	-9.81	0.00	9.81	1307.77	653.89	1476.37	732.93		9.94	-0.61	0.017
170.00	-4.15	-0.97	0.00	-6.81	0.00	6.81	1289.00	644.50	1422.20	706.04		10.32	-0.61	0.013
175.00	-3.83	-0.91	0.00	-1.97	0.00	1.97	1256.62	628.31	1332.89	661.70		10.96	-0.61	0.006
177.00	-0.21	-0.05	0.00	-0.15	0.00	0.15	1243.29	621.64	1297.54	644.16		11.22	-0.61	0.000
180.00	0.00	-0.05	0.00	0.00	0.00	0.00	1222.88	611.44	1244.96	618.05		11.60	-0.61	0.000

Wind Loading - Shaft

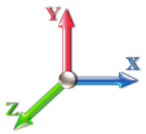
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case: 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	7.442	8.19	282.00	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	277.19	0.750	0.000	5.00	25.272	18.95	155.2	0.0	1403.7
10.00		1.00	0.85	7.442	8.19	272.37	0.750	0.000	5.00	24.837	18.63	152.5	0.0	1379.4
15.00		1.00	0.85	7.442	8.19	267.55	0.750	0.000	5.00	24.401	18.30	149.8	0.0	1355.0
20.00		1.00	0.90	7.896	8.69	270.63	0.750	0.000	5.00	23.966	17.97	156.1	0.0	1330.6
25.00		1.00	0.95	8.276	9.10	271.98	0.750	0.000	5.00	23.530	17.65	160.7	0.0	1306.3
30.00		1.00	0.98	8.600	9.46	272.07	0.750	0.000	5.00	23.095	17.32	163.9	0.0	1281.9
35.00		1.00	1.01	8.883	9.77	271.26	0.750	0.000	5.00	22.659	16.99	166.1	0.0	1257.5
40.00		1.00	1.04	9.137	10.05	269.76	0.750	0.000	5.00	22.224	16.67	167.5	0.0	1233.1
45.00		1.00	1.07	9.366	10.30	267.72	0.750	0.000	5.00	21.788	16.34	168.4	0.0	1208.8
45.92	Bot - Section 2	1.00	1.07	9.406	10.35	267.30	0.750	0.000	0.92	3.947	2.96	30.6	0.0	219.0
50.00		1.00	1.09	9.576	10.53	265.24	0.750	0.000	4.08	17.666	13.25	139.6	0.0	1805.5
53.00	Top - Section 1	1.00	1.11	9.694	10.66	263.58	0.750	0.000	3.00	12.794	9.60	102.3	0.0	1307.3
55.00		1.00	1.12	9.770	10.75	266.44	0.750	0.000	2.00	8.442	6.33	68.0	0.0	401.4
60.00		1.00	1.14	9.951	10.95	263.32	0.750	0.000	5.00	20.800	15.60	170.8	0.0	988.9
65.00		1.00	1.16	10.120	11.13	259.93	0.750	0.000	5.00	20.365	15.27	170.0	0.0	968.0
70.00		1.00	1.17	10.279	11.31	256.30	0.750	0.000	5.00	19.929	14.95	169.0	0.0	947.1
75.00		1.00	1.19	10.430	11.47	252.46	0.750	0.000	5.00	19.494	14.62	167.7	0.0	926.3
80.00		1.00	1.21	10.572	11.63	248.44	0.750	0.000	5.00	19.058	14.29	166.2	0.0	905.4
85.00		1.00	1.22	10.708	11.78	244.25	0.750	0.000	5.00	18.623	13.97	164.5	0.0	884.5
90.00		1.00	1.24	10.838	11.92	239.91	0.750	0.000	5.00	18.187	13.64	162.6	0.0	863.7
92.92	Bot - Section 3	1.00	1.25	10.911	12.00	237.32	0.750	0.000	2.92	10.408	7.81	93.7	0.0	494.2
95.00		1.00	1.25	10.962	12.06	235.43	0.750	0.000	2.08	7.454	5.59	67.4	0.0	644.5
98.92	Top - Section 2	1.00	1.26	11.055	12.16	231.84	0.750	0.000	3.92	13.810	10.36	126.0	0.0	1193.7
100.00		1.00	1.27	11.081	12.19	234.42	0.750	0.000	1.08	3.773	2.83	34.5	0.0	149.7
105.00		1.00	1.28	11.195	12.31	229.72	0.750	0.000	5.00	17.147	12.86	158.4	0.0	680.3
110.00		1.00	1.29	11.305	12.44	224.91	0.750	0.000	5.00	16.711	12.53	155.9	0.0	662.9
115.00		1.00	1.30	11.412	12.55	219.99	0.750	0.000	5.00	16.276	12.21	153.2	0.0	645.5
120.00		1.00	1.32	11.514	12.67	214.99	0.750	0.000	5.00	15.840	11.88	150.5	0.0	628.1
125.00		1.00	1.33	11.614	12.78	209.90	0.750	0.000	5.00	15.405	11.55	147.6	0.0	610.7
127.08	Bot - Section 4	1.00	1.33	11.654	12.82	207.76	0.750	0.000	2.08	6.270	4.70	60.3	0.0	248.5
130.00		1.00	1.34	11.710	12.88	204.72	0.750	0.000	2.92	8.808	6.61	85.1	0.0	589.7
132.33	Top - Section 3	1.00	1.34	11.754	12.93	202.28	0.750	0.000	2.33	6.904	5.18	66.9	0.0	462.1
135.00		1.00	1.35	11.803	12.98	202.06	0.750	0.000	2.67	7.816	5.86	76.1	0.0	217.3
140.00		1.00	1.36	11.894	13.08	196.74	0.750	0.000	5.00	14.284	10.71	140.2	0.0	397.0
145.00		1.00	1.37	11.982	13.18	191.36	0.750	0.000	5.00	13.849	10.39	136.9	0.0	384.9
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	185.91	0.750	0.000	5.00	13.413	10.06	133.5	0.0	372.7
155.00		1.00	1.39	12.152	13.37	180.39	0.750	0.000	5.00	12.978	9.73	130.1	0.0	360.5
160.00	Appurtenance(s)	1.00	1.40	12.233	13.46	174.82	0.750	0.000	5.00	12.542	9.41	126.6	0.0	348.3
165.00		1.00	1.41	12.313	13.54	169.19	0.750	0.000	5.00	12.107	9.08	123.0	0.0	336.1
167.00	Appurtenance(s)	1.00	1.41	12.344	13.58	166.92	0.750	0.000	2.00	4.721	3.54	48.1	0.0	131.0
170.00		1.00	1.42	12.390	13.63	163.50	0.750	0.000	3.00	6.950	5.21	71.0	0.0	192.9
175.00		1.00	1.42	12.466	13.71	157.77	0.750	0.000	5.00	11.236	8.43	115.6	0.0	311.8
177.00	Appurtenance(s)	1.00	1.43	12.496	13.75	155.46	0.750	0.000	2.00	4.372	3.28	45.1	0.0	121.3
180.00	Appurtenance(s)	1.00	1.43	12.540	13.79	151.98	0.750	0.000	3.00	6.428	4.82	66.5	0.0	178.3
								Totals:	**180.00**			**5,463.5**		**32,335.3**

Discrete Appurtenance Forces

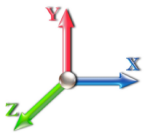
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

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	180.00	Lightning Rod	1	12.591	13.850	1.00	1.00	1.05	35.00	0.000	3.500	14.54	0.00	50.90
2	177.00	EMS RR90-17-02DP	3	12.496	13.746	0.58	0.80	7.53	54.00	0.000	0.000	103.56	0.00	0.00
3	177.00	AIR6419 B41	3	12.496	13.746	0.57	0.80	9.63	309.00	0.000	0.000	132.34	0.00	0.00
4	177.00	VV-65A-R1	3	12.496	13.746	0.66	0.80	13.03	132.30	0.000	0.000	179.08	0.00	0.00
5	177.00	782 11056	3	12.496	13.746	0.40	0.80	0.14	8.70	0.000	0.000	1.98	0.00	0.00
6	177.00	mount pipe & end	1	12.496	13.746	0.56	0.75	10.86	250.00	0.000	0.000	149.23	0.00	0.00
7	177.00	HRK12 (Handrail Kit)	1	12.496	13.746	1.00	1.00	6.75	261.72	0.000	0.000	92.78	0.00	0.00
8	177.00	Ericsson 4449 B71 + B85	3	12.505	13.756	0.40	0.80	1.98	222.00	0.000	0.625	27.24	0.00	17.02
9	177.00	APXVAARR18_43-U-NA2	3	12.496	13.746	0.56	0.80	26.48	318.00	0.000	0.000	363.94	0.00	0.00
10	177.00	4460 B25 + B66	3	12.496	13.746	0.40	0.80	2.26	253.50	0.000	0.000	31.01	0.00	0.00
11	177.00	Low Profile Platform	1	12.496	13.746	1.00	1.00	24.00	2000.00	0.000	0.000	329.90	0.00	0.00
12	177.00	KRY 112 144/2	3	12.500	13.750	0.40	0.80	0.49	29.10	0.000	0.287	6.77	0.00	1.94
13	177.00	KRY 112 489/2	3	12.503	13.753	0.40	0.80	0.78	46.20	0.000	0.458	10.73	0.00	4.92
14	167.00	Platform Mount w/ Mods	1	12.344	13.578	1.00	1.00	36.00	2000.00	0.000	0.000	488.82	0.00	0.00
15	167.00	Commscope	1	12.344	13.578	1.00	1.00	2.51	20.00	0.000	0.000	34.08	0.00	0.00
16	167.00	Samsung B5/B13	3	12.344	13.578	0.38	0.75	2.11	253.20	0.000	0.000	28.72	0.00	0.00
17	167.00	Samsung B2/B66A	3	12.344	13.578	0.38	0.75	2.10	210.90	0.000	0.000	28.57	0.00	0.00
18	167.00	Antel BXA-70063-6CF	3	12.344	13.578	0.55	0.75	12.43	51.00	0.000	0.000	168.83	0.00	0.00
19	167.00	Samsung VZS01	3	12.344	13.578	0.52	0.75	6.68	261.30	0.000	0.000	90.65	0.00	0.00
20	167.00	JMA Wireless	6	12.344	13.578	0.65	0.75	38.64	276.00	0.000	0.000	524.68	0.00	0.00
21	160.00	LGP21901 Diplexers	6	12.233	13.457	0.40	0.80	1.51	186.00	0.000	0.000	20.35	0.00	0.00
22	160.00	CCI HPA-65R-BUU-H8	3	12.233	13.457	0.63	0.80	24.61	204.00	0.000	0.000	331.17	0.00	0.00
23	160.00	Ericsson RRUS-12 B2	3	12.233	13.457	0.40	0.80	3.78	174.00	0.000	0.000	50.87	0.00	0.00
24	160.00	Ericsson RRUS A2	3	12.233	13.457	0.40	0.80	2.23	63.60	0.000	0.000	30.04	0.00	0.00
25	160.00	LGP21401 TMA	6	12.233	13.457	0.40	0.80	3.10	105.00	0.000	0.000	41.66	0.00	0.00
26	160.00	Powerwave 7020.00 RET	12	12.233	13.457	0.40	0.80	1.92	26.40	0.000	0.000	25.84	0.00	0.00
27	160.00	Handrail Kit [SitePro1	1	12.233	13.457	1.00	1.00	8.75	330.00	0.000	0.000	117.74	0.00	0.00
28	160.00	Raycap	1	12.233	13.457	1.00	1.00	3.78	26.20	0.000	0.000	50.87	0.00	0.00
29	160.00	Ericsson RRUS4449	3	12.233	13.457	0.40	0.80	2.36	219.00	0.000	0.000	31.81	0.00	0.00
30	160.00	DMP65R-BU8DA	3	12.233	13.457	0.63	0.80	26.07	287.10	0.000	0.000	350.81	0.00	0.00
31	160.00	Raycap DC6-48-60-18-8F	1	12.233	13.457	1.00	1.00	1.47	32.80	0.000	0.000	19.78	0.00	0.00
32	160.00	Low Profile Platform	1	12.233	13.457	1.00	1.00	22.00	1800.00	0.000	0.000	296.04	0.00	0.00
33	160.00	7770	3	12.185	13.403	0.58	0.80	9.64	105.00	0.000	-3.000	129.15	0.00	-387.46
34	150.00	MC-PK8-DSH	1	12.068	13.275	1.00	1.00	37.59	1727.00	0.000	0.000	499.01	0.00	0.00
35	150.00	RDIDC-9181-OF-48	1	12.068	13.275	0.75	0.75	1.51	21.90	0.000	0.000	20.01	0.00	0.00
36	150.00	TA08025-B604	3	12.068	13.275	0.38	0.75	2.21	191.70	0.000	0.000	29.27	0.00	0.00
37	150.00	TA08025-B605	3	12.068	13.275	0.38	0.75	2.21	225.00	0.000	0.000	29.27	0.00	0.00
38	150.00	MX08FRO665-21	3	12.068	13.275	0.55	0.75	20.80	193.50	0.000	0.000	276.06	0.00	0.00
							Totals:		**12,910.12**			**5,157.19**		

Total Applied Force Summary

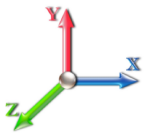
Structure:	CT02652-S-SBA		**Code:**	TIA-222-G	6/15/2022
Site Name:	Colchester 3 CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 32

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 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		155.16	1594.53	0.00	0.00
10.00		152.49	1570.16	0.00	0.00
15.00		149.81	1545.79	0.00	0.00
20.00		156.12	1521.42	0.00	0.00
25.00		160.66	1497.06	0.00	0.00
30.00		163.85	1472.69	0.00	0.00
35.00		166.07	1448.32	0.00	0.00
40.00		167.52	1423.95	0.00	0.00
45.00		168.36	1399.58	0.00	0.00
45.92		30.63	253.95	0.00	0.00
50.00		139.56	1961.36	0.00	0.00
53.00		102.32	1421.77	0.00	0.00
55.00		68.05	477.71	0.00	0.00
60.00		170.76	1179.67	0.00	0.00
65.00		170.03	1158.80	0.00	0.00
70.00		169.01	1137.94	0.00	0.00
75.00		167.73	1117.08	0.00	0.00
80.00		166.23	1096.21	0.00	0.00
85.00		164.52	1075.35	0.00	0.00
90.00		162.61	1054.49	0.00	0.00
92.92		93.69	605.48	0.00	0.00
95.00		67.41	724.01	0.00	0.00
98.92		125.95	1343.14	0.00	0.00
100.00		34.49	191.04	0.00	0.00
105.00		158.37	871.13	0.00	0.00
110.00		155.86	853.72	0.00	0.00
115.00		153.23	836.30	0.00	0.00
120.00		150.47	818.89	0.00	0.00
125.00		147.60	801.48	0.00	0.00
127.08		60.28	327.76	0.00	0.00
130.00		85.09	701.21	0.00	0.00
132.33		66.95	550.86	0.00	0.00
135.00		76.11	319.30	0.00	0.00
140.00		140.17	587.85	0.00	0.00
145.00		136.90	575.66	0.00	0.00
150.00	(11) attachments	987.17	2922.58	0.00	0.00
155.00		130.10	546.29	0.00	0.00
160.00	(46) attachments	1622.71	4093.21	0.00	-387.46
165.00		122.98	451.22	0.00	0.00
167.00	(20) attachments	1412.43	3249.48	0.00	0.00
170.00		71.05	224.16	0.00	0.00
175.00		115.56	363.86	0.00	0.00
177.00	(30) attachments	1473.62	4026.65	0.00	23.88
180.00	(1) attachments	81.04	233.98	0.00	50.90
	Totals:	**10,620.69**	**51,627.10**	**0.00**	**-312.67**

Linear Appurtenance Segment Forces (Factored)

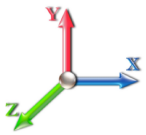
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 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	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	34.50
10.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	34.50
15.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	34.50
20.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	34.50
25.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	34.50
30.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	34.50
35.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	34.50
40.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	34.50
45.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	34.50
45.92	Climbing Ladder	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.406	0.00	6.33
50.00	Climbing Ladder	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	28.17
53.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	9.694	0.00	20.70
55.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	13.80
60.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	34.50
65.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	34.50
70.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	34.50
75.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	34.50
80.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	34.50
85.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	34.50
90.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	34.50
92.92	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	10.911	0.00	20.13
95.00	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	14.37
98.92	Climbing Ladder	Yes	3.92	0.000	0.00	0.00	0.00	0.000	0.000	11.055	0.00	27.03
100.00	Climbing Ladder	Yes	1.08	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	7.47
105.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	34.50
110.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	34.50
115.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	34.50
120.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	34.50
125.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	34.50
127.08	Climbing Ladder	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	11.654	0.00	14.33
130.00	Climbing Ladder	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	20.17
132.33	Climbing Ladder	Yes	2.33	0.000	0.00	0.00	0.00	0.000	0.000	11.754	0.00	16.05
135.00	Climbing Ladder	Yes	2.67	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	18.45
140.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.894	0.00	34.50
145.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.982	0.00	34.50
150.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.068	0.00	34.50
155.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.152	0.00	34.50
160.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.233	0.00	34.50
165.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.313	0.00	34.50
167.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.344	0.00	13.80
170.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.390	0.00	20.70
175.00	Climbing Ladder	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	12.466	0.00	34.50
177.00	Climbing Ladder	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	12.496	0.00	13.80
180.00	Climbing Ladder	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.540	0.00	20.70
										Totals:	**0.0**	**1,242.0**

Calculated Forces

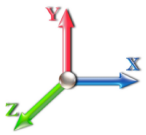
Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 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	-51.62	-10.64	0.00	-1395.9	0.00	1395.98	5508.12	2754.06	13547.4	6725.55	0.00	0.000	0.000	0.217
5.00	-50.02	-10.53	0.00	-1342.7	0.00	1342.76	5452.09	2726.05	13177.2	6541.73	0.03	-0.052	0.000	0.214
10.00	-48.44	-10.42	0.00	-1290.0	0.00	1290.09	5394.71	2697.35	12808.5	6358.68	0.11	-0.105	0.000	0.212
15.00	-46.88	-10.31	0.00	-1237.9	0.00	1237.97	5335.97	2667.98	12441.5	6176.49	0.25	-0.159	0.000	0.209
20.00	-45.35	-10.20	0.00	-1186.4	0.00	1186.40	5275.87	2637.93	12076.4	5995.24	0.45	-0.213	0.000	0.207
25.00	-43.85	-10.07	0.00	-1135.4	0.00	1135.42	5214.41	2607.20	11713.3	5815.02	0.70	-0.268	0.000	0.204
30.00	-42.37	-9.94	0.00	-1085.0	0.00	1085.06	5151.59	2575.80	11352.6	5635.92	1.01	-0.323	0.000	0.201
35.00	-40.91	-9.81	0.00	-1035.3	0.00	1035.35	5087.42	2543.71	10994.2	5458.02	1.38	-0.379	0.000	0.198
40.00	-39.48	-9.67	0.00	-986.32	0.00	986.32	5021.88	2510.94	10638.5	5281.41	1.80	-0.436	0.000	0.195
45.00	-38.07	-9.51	0.00	-937.98	0.00	937.98	4954.99	2477.50	10285.5	5106.18	2.29	-0.493	0.000	0.191
45.92	-37.81	-9.50	0.00	-929.26	0.00	929.26	4942.58	2471.29	10221.1	5074.21	2.39	-0.504	0.000	0.191
50.00	-35.85	-9.37	0.00	-890.48	0.00	890.48	4886.75	2443.37	9935.52	4932.41	2.84	-0.551	0.000	0.188
53.00	-34.42	-9.27	0.00	-862.38	0.00	862.38	3967.43	1983.71	8109.29	4025.79	3.20	-0.587	0.000	0.223
55.00	-33.94	-9.22	0.00	-843.84	0.00	843.84	3947.58	1973.79	8001.39	3972.23	3.45	-0.611	0.000	0.221
60.00	-32.75	-9.07	0.00	-797.74	0.00	797.74	3897.00	1948.50	7732.70	3838.84	4.12	-0.676	0.000	0.216
65.00	-31.58	-8.93	0.00	-752.37	0.00	752.37	3845.06	1922.53	7465.70	3706.29	4.87	-0.742	0.000	0.211
70.00	-30.44	-8.78	0.00	-707.74	0.00	707.74	3791.77	1895.89	7200.54	3574.65	5.68	-0.808	0.000	0.206
75.00	-29.31	-8.63	0.00	-663.85	0.00	663.85	3737.12	1868.56	6937.41	3444.02	6.56	-0.874	0.000	0.201
80.00	-28.21	-8.48	0.00	-620.72	0.00	620.72	3681.11	1840.56	6676.48	3314.49	7.51	-0.940	0.000	0.195
85.00	-27.13	-8.32	0.00	-578.34	0.00	578.34	3623.74	1811.87	6417.92	3186.13	8.53	-1.006	0.000	0.189
90.00	-26.07	-8.17	0.00	-536.72	0.00	536.72	3565.02	1782.51	6161.91	3059.03	9.62	-1.073	0.000	0.183
92.92	-25.46	-8.08	0.00	-512.90	0.00	512.90	3530.13	1765.07	6013.81	2985.51	10.29	-1.112	0.000	0.179
95.00	-24.73	-8.01	0.00	-496.07	0.00	496.07	3504.93	1752.47	5908.61	2933.28	10.78	-1.140	0.000	0.176
98.92	-23.39	-7.87	0.00	-464.69	0.00	464.69	2742.07	1371.04	4616.42	2291.78	11.74	-1.192	0.000	0.211
100.00	-23.19	-7.85	0.00	-456.16	0.00	456.16	2732.96	1366.48	4575.83	2271.63	12.01	-1.206	0.000	0.209
105.00	-22.31	-7.70	0.00	-416.90	0.00	416.90	2690.08	1345.04	4389.32	2179.04	13.31	-1.280	0.000	0.200
110.00	-21.45	-7.55	0.00	-378.39	0.00	378.39	2645.83	1322.92	4204.31	2087.20	14.69	-1.353	0.000	0.189
115.00	-20.61	-7.41	0.00	-340.61	0.00	340.61	2600.23	1300.12	4020.98	1996.19	16.15	-1.424	0.000	0.179
120.00	-19.79	-7.26	0.00	-303.58	0.00	303.58	2553.28	1276.64	3839.50	1906.09	17.67	-1.492	0.000	0.167
125.00	-18.99	-7.11	0.00	-267.29	0.00	267.29	2504.96	1252.48	3660.03	1816.99	19.27	-1.559	0.000	0.155
127.08	-18.66	-7.05	0.00	-252.53	0.00	252.53	2484.49	1242.25	3586.13	1780.31	19.96	-1.586	0.000	0.149
130.00	-17.95	-6.95	0.00	-231.93	0.00	231.93	2455.29	1227.64	3482.76	1728.99	20.94	-1.623	0.000	0.141
132.33	-17.40	-6.88	0.00	-215.76	0.00	215.76	1489.30	744.65	2121.68	1053.29	21.74	-1.652	0.000	0.217
135.00	-17.08	-6.81	0.00	-197.37	0.00	197.37	1477.63	738.82	2071.36	1028.31	22.67	-1.684	0.000	0.204
140.00	-16.49	-6.67	0.00	-163.32	0.00	163.32	1454.76	727.38	1977.27	981.60	24.48	-1.759	0.000	0.178
145.00	-15.91	-6.53	0.00	-129.96	0.00	129.96	1430.53	715.26	1883.34	934.97	26.36	-1.825	0.000	0.150
150.00	-13.01	-5.47	0.00	-97.29	0.00	97.29	1404.94	702.47	1789.74	888.50	28.30	-1.882	0.000	0.119
155.00	-12.47	-5.33	0.00	-69.96	0.00	69.96	1377.99	688.99	1696.65	842.29	30.30	-1.928	0.000	0.092
160.00	-8.43	-3.57	0.00	-43.34	0.00	43.34	1349.68	674.84	1604.25	796.42	32.33	-1.962	0.000	0.061
165.00	-7.98	-3.43	0.00	-25.49	0.00	25.49	1320.02	660.01	1512.71	750.97	34.40	-1.985	0.000	0.040
167.00	-4.79	-1.91	0.00	-18.63	0.00	18.63	1307.77	653.89	1476.37	732.93	35.24	-1.992	0.000	0.029
170.00	-4.56	-1.83	0.00	-12.90	0.00	12.90	1289.00	644.50	1422.20	706.04	36.49	-1.999	0.000	0.022
175.00	-4.20	-1.70	0.00	-3.75	0.00	3.75	1256.62	628.31	1332.89	661.70	38.59	-2.006	0.000	0.009
177.00	-0.23	-0.09	0.00	-0.32	0.00	0.32	1243.29	621.64	1297.54	644.16	39.43	-2.007	0.000	0.001
180.00	0.00	-0.08	0.00	-0.05	0.00	0.05	1222.88	611.44	1244.96	618.05	40.69	-2.007	0.000	0.000

Final Analysis Summary

Structure:	CT02652-S-SBA	**Code:**	TIA-222-G	6/15/2022	
Site Name:	Colchester 3 CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	48.3	0.00	61.85	0.00	0.00	6371.42
0.9D + 1.6W 101 mph Wind	48.2	0.00	46.36	0.00	0.00	6276.07
1.2D + 1.0Di + 1.0Wi 50 mph Wind	12.0	0.00	95.50	0.00	0.00	1648.87
1.2D + 1.0E	2.5	0.00	61.95	0.00	0.00	366.72
0.9D + 1.0E	2.5	0.00	46.46	0.00	0.00	360.74
1.0D + 1.0W 60 mph Wind	10.6	0.00	51.62	0.00	0.00	1395.98

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-39.44	-42.32	0.00	-3942.2	0.00	-3942.2	3967.43	1983.7	8109.29	4025.79	53.00	0.990
0.9D + 1.6W 101 mph Wind	-29.14	-41.80	0.00	-3862.7	0.00	-3862.7	3967.43	1983.7	8109.29	4025.79	53.00	0.967
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-40.80	-8.38	0.00	-262.29	0.00	-262.29	1489.30	744.65	2121.68	1053.29	132.33	0.277
1.2D + 1.0E	-21.10	-2.04	0.00	-75.58	0.00	-75.58	1489.30	744.65	2121.68	1053.29	132.33	0.086
0.9D + 1.0E	-15.82	-1.99	0.00	-73.93	0.00	-73.93	1489.30	744.65	2121.68	1053.29	132.33	0.081
1.0D + 1.0W 60 mph Wind	-34.42	-9.27	0.00	-862.38	0.00	-862.38	3967.43	1983.7	8109.29	4025.79	53.00	0.223

Base Plate Summary

Structure:	CT02652-S-SB		**Code:**	TIA-222-G	6/15/2022
Site Name:	Colchester 3 CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 36

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	5045.00
Axial (kip):	56.10
Shear (kip):	39.50
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	6371.42
Axial (kip):	61.85
Shear (kip):	48.28

Base Plate	
Yield (ksi):	60.00
Width (in):	74.62
Style:	Polygon
Polygon Sides:	16.00
Clip Length (in):	14.84
Effective Len (in):	13.35
Moment (kip-in):	981.03
Allow Stress (ksi):	81.00
Applied Stress (ksi):	58.32
Stress Ratio:	0.72

Anchor Bolts	
Bolt Circle:	68.62
Number Bolts:	20.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Radial
Cluster Dist (in):	0.00
Start Angle (deg):	0.00
Compression	
Force (kip):	227.62
Allowable (kip):	260.00
Ratio:	0.89
Tension	
Force (kip):	218.07
Allowable (kip):	260.00
Ratio:	0.86

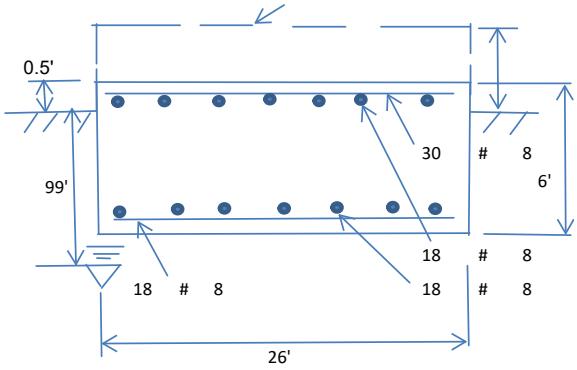
Monopole Mat Foundation Design

			Date: 6/14/2022
Customer Name:	T-Mobile	**TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	180
Site Number:	CT02652-S-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	130363	**Engineer Login ID:**	

Foundation Info Obtained from: Mapping Operation

Structure Type: Monopole

Analysis or Design? Analysis

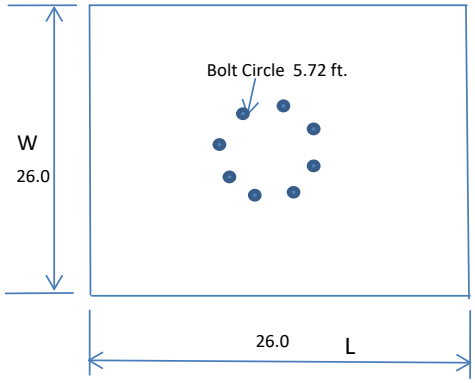


Base Reactions (Factored):

Axial Load (Kips):	91.4	Shear Force (Kips):	48.3
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6371.4
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Anchor Bolt Circle (ft.):	5.72	Depth of Base BG (ft.):	5.50
Thickness of Pad (ft):	6.00		
Length of Pad (ft.):	26	Width of Pad (ft.):	26
Final Length of pad (ft)	26.0	Final width of pad (ft):	26.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	12.0	
Pad Steel Rebar Size (#):	8			
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):	30	Qty. of Rebar in Pad (W):	30	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	18	Qty. of Rebar in Pad (W):	18	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

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):	30000	Ultimate Skin Friction:	425	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4056.00	Total Dry Concrete Weight (Kips):	608.40
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	608.40	Total Vertical Load on Base (Kips):	699.84

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3732	<	Allowable Factored Soil Bearing (psf): 22500	0.17	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	8307.0	>	Design Factored Momont (kips-ft): 6491	0.78	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.28	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

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1755.9	>	One-Way Factored Shear (L-D. Kips):	326.6	0.19	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1755.9	>	One-Way Factored Shear (W-D., Kips)	326.6	0.19	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	2063.1	>	One-Way Factored Shear (C-C, Kips):	942.8	0.46	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0011	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0011		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	7210.2	>	Moment at Bottom (L-Direct. K-Ft):	682.8	0.09	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	7210.2	>	Moment at Bottom (W-Direct. K-Ft):	682.8	0.09	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	10169.3	>	Moment at Bottom (C-C Dir. K-Ft):	965.7	0.09	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0007	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0007		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	4349.0	>	Moment at the top (L-Dir Kips-Ft):	189.9	0.04	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	4349.0	>	Moment at the top (W-Dir Kips-Ft):	189.9	0.04	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6140.5	>	Moment at the top (C-C Direc. K-Ft):	835.6	0.14	OK!

EXHIBIT 8

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

Post-Mod Antenna Mount Analysis Report

Existing 180-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT02652-S-SBA

Customer Site Name: Colchester 3 CT

Carrier Name: T-Mobile (App#: 227783-2)

Carrier Site ID / Name: CT11472A / CT11472A

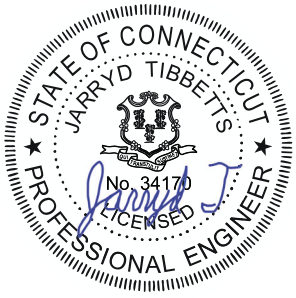
Site Location: 29 Mahoney Road

Colchester, Connecticut

New London County

Latitude: 41.564533

Longitude: -72.251697



7/3/2023

Analysis Result:

Max Structural Usage: 53.2% [Pass]

Report Prepared By: Progesh Roka

Introduction

The purpose of this report is to summarize the analysis results on the (1) Low Profile Platform at 177.00' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount mapping by Full Metal Tower Services, dated 4/29/2019.
Antenna Loading	SBA, Application #: 227783, v2 dated 05/17/2023
Existing Modification	N/A
Proposed Modification	TES Project No. 141449

Analysis Criteria

Wind Speed Used in the Analysis: 125 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: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-H/2021 IBC
Exposure Category: C
Risk Category: II
Topographic Category: 1
Crest Height (Ft): 0
Ground Elevation Factor: 0.987

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

Mount Information

(1) Low Profile Platform at 177.00' elevation

Final Antenna Configuration

3	RFS APXVAARR18_43-U-NA20
9	EMS RR90-17-02DP
1	Ericsson ANT3 A 0.6 HPX
3	Ericsson KRY 112 144/2
3	Ericsson KRY 112 489/2
3	Ericsson Radio 4449
3	Ericsson Mini-Link 6365
3	Kathrein Scala 782 11056

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 53.2%, which occurs in the collar connection. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

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

Standard Conditions

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

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

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.

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

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

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

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

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

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

Structure: CT02652-S-SBA - Colchester 3 CT

Sector: A

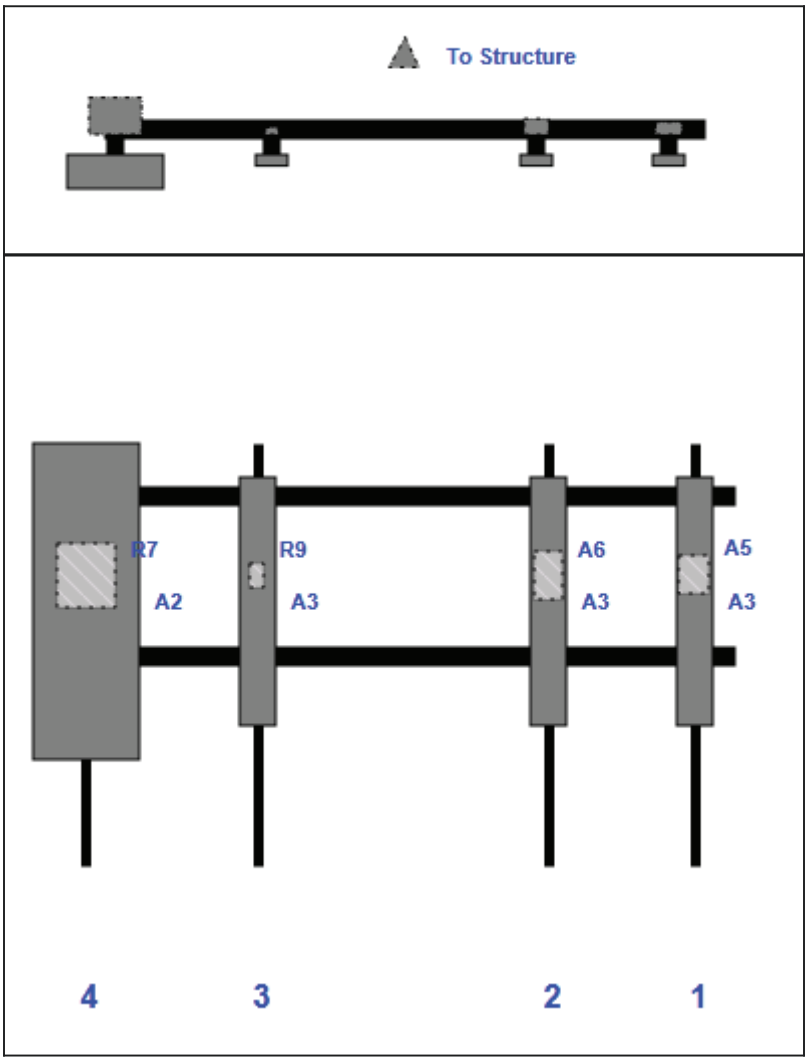
Structure Type: Monopole

Mount Elev: 177.00

6/30/2023

Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure

Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A3	RR90-17-02DP	56.00	8.00	141.00	1	a	Front	35.94			
A5	KRY 112 144/2	8.60	6.60	141.00	1	a	Behind	30.00			
A3	RR90-17-02DP	56.00	8.00	108.00	2	a	Front	35.94			
A6	KRY 112 489/2	11.00	6.10	108.00	2	a	Behind	30.00			
A3	RR90-17-02DP	56.00	8.00	42.00	3	a	Front	35.94			
R9	782 11056	5.50	3.20	42.00	3	a	Behind	30.00			
A2	APXVAARR18_43-U-NA20	72.00	24.00	3.00	4	a	Front	36.00			
R7	Radio 4449	14.90	13.10	3.00	4	a	Behind	30.00			

Structure: CT02652-S-SBA - Colchester 3 CT

Sector: B

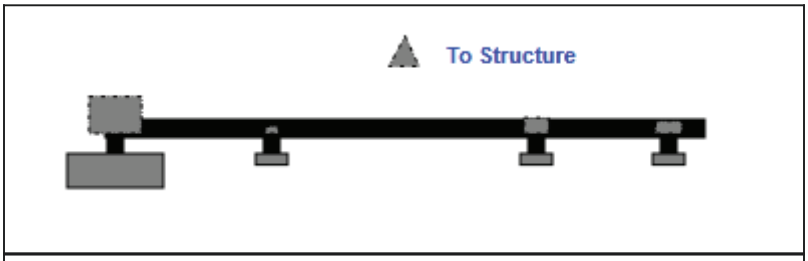
Structure Type: Monopole

Mount Elev: 177.00

6/30/2023

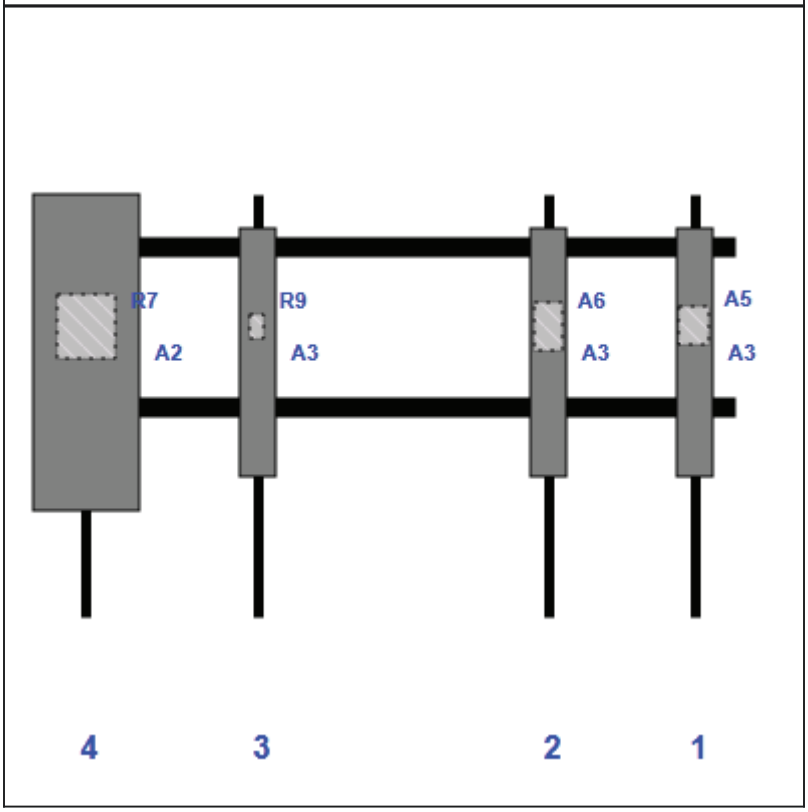
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



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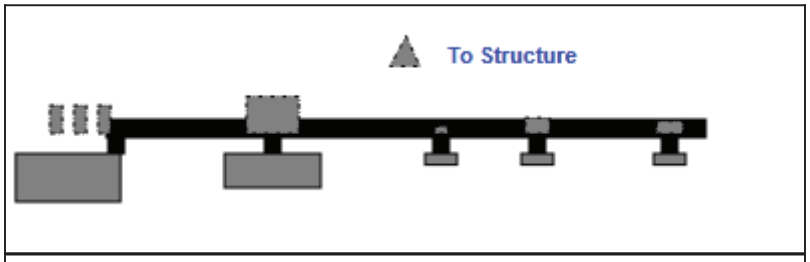
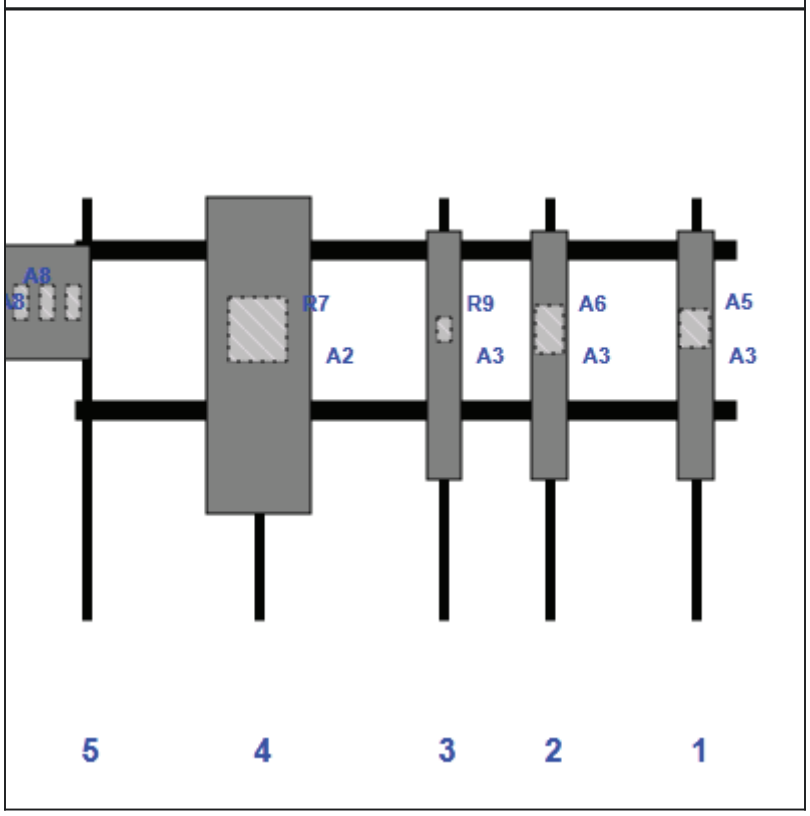
A5	KRY 112 144/2	8.60	6.60	141.00	1	a	Behind	30.00			
A3	RR90-17-02DP	56.00	8.00	108.00	2	a	Front	35.94			
A6	KRY 112 489/2	11.00	6.10	108.00	2	a	Behind	30.00			
A3	RR90-17-02DP	56.00	8.00	42.00	3	a	Front	35.94			
R9	782 11056	5.50	3.20	42.00	3	a	Behind	30.00			
A2	APXVAARR18_43-U-NA20	72.00	24.00	3.00	4	a	Front	36.00			
R7	Radio 4449	14.90	13.10	3.00	4	a	Behind	30.00			

Plan View



Front View

Looking Toward Structure

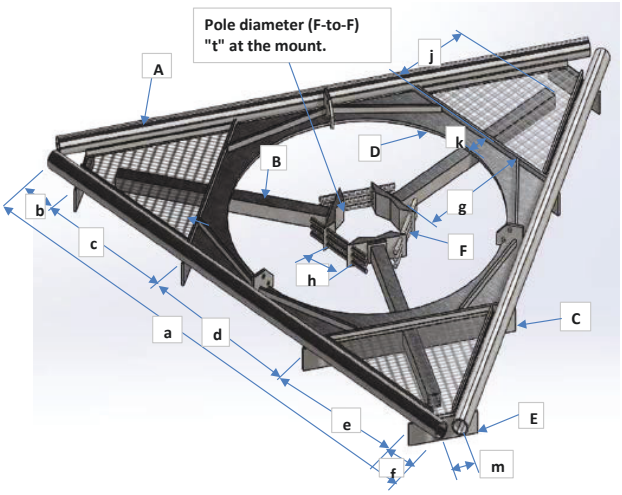


Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A3	RR90-17-02DP	56.00	8.00	141.00	1	a	Front	35.94			
A5	KRY 112 144/2	8.60	6.60	141.00	1	a	Behind	30.00			
A3	RR90-17-02DP	56.00	8.00	108.00	2	a	Front	35.94			
A6	KRY 112 489/2	11.00	6.10	108.00	2	a	Behind	30.00			
A3	RR90-17-02DP	56.00	8.00	84.00	3	a	Front	35.94			
R9	782 11056	5.50	3.20	84.00	3	a	Behind	30.00			
A2	APXVAARR18_43-U-NA20	72.00	24.00	42.00	4	a	Front	36.00			
R7	Radio 4449	14.90	13.10	42.00	4	a	Behind	30.00			
A4	ANT3 A 0.6 HPX	26.10	26.10	3.00	5	a	Front	24.00	-12.00		
A8	Mini-Link 6365	7.80	3.10	3.00	5	a	Behind	24.00	-15.00		
A8	Mini-Link 6365	7.80	3.10	3.00	5	b	Behind	24.00	-9.00		
A8	Mini-Link 6365	7.80	3.10	3.00	5	c	Behind	24.00	-3.00		

Antenna Mount Type "MT-D" Mapping Form (PATENT PENDING)

FCC # 1228267

Tower Owner:	SBA Communications	**Mapping Date:**	4/29/19
Site Name:	Colchester 3 CT	**Structure Type:**	Monopole
Site Number or ID:	CT02652-S-SBA	**Structure Height (Ft.):**	180
Mapping Contractor:	Full Metal Tower Services	**Mount Height (Ft.):**	178.3



Geometries (Unit: inches)

a	150	**e**	35	**j**	15	**o**	N/A	**s**	N/A
b	15	**f**	15	**k**	7	**p**	N/A	**t**	26
c	35	**g**	33	**m**	12	**q**	N/A	**u ***	30
d	50	**h**	29	**n**	N/A	**r**	N/A	**v ***	72

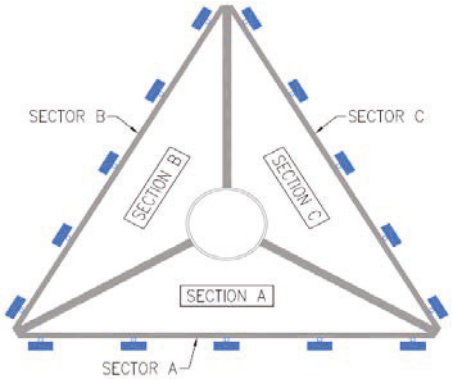
Members/Bolts (Unit: inches) *** - See Ant. Layout for "u", "v" and member "K" (pipe)**

Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	**F**	5/8" Bolt		29	
B	Tubing 4x4x1/4	4	4	0.25	**G**				
C	3/8" Thick. Plate	0	0	0.375	**H**				
D	1/4" Thick. Plate	0	0	0.25	**J**				
E	3/8" Thick. Plate	0	0	0.375	**K* (pipe)**	2.375 OD x 0.154 Pipe	2.375	2.067	0.154

Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)	N/A
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)	3

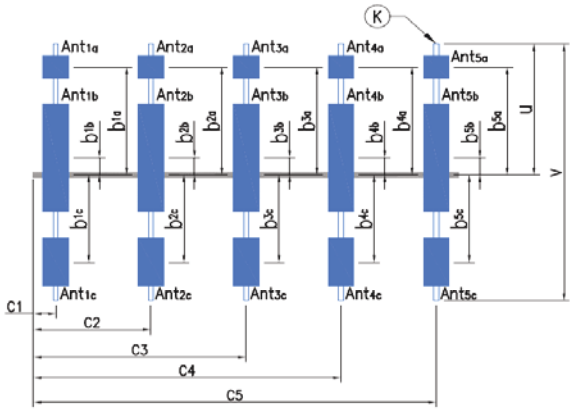
Please enter the infomation below if members can't be found from the drop down lists

(3) TMAs (6"x4"x12") Mounted to member A behind Antenn Pos2



Climbing ladder is Located at Section A, at 90° Degree Azimuth

Ants. Items	Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (In.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C_1, C_2, C_3, C_4, C_5" (in.)	Photo Numbers
Sector A									
Ant_{1a}									
Ant_{1b}	Antenna A	8.5	3	56	1/2" (2)	+4"	6	9	
Ant_{1c}	TMA A	6	4	12	1/2" (2)	+12"	N/A	9	
Ant_{2a}									
Ant_{2b}	Antenna B	12	7.5	96.5	1/2" (2)	+10"	7	147	
Ant_{2c}									
Ant_{3a}									
Ant_{3b}									
Ant_{3c}									
Ant_{4a}									
Ant_{4b}									
Ant_{4c}									
Ant_{5a}									
Ant_{5b}									
Ant_{5c}									
Are Ant same as sector A?	Yes	**Antennas on Sector B are the same as Sector A**							

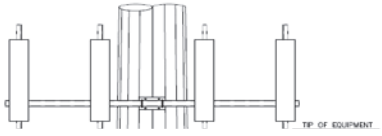


Antenna Layout

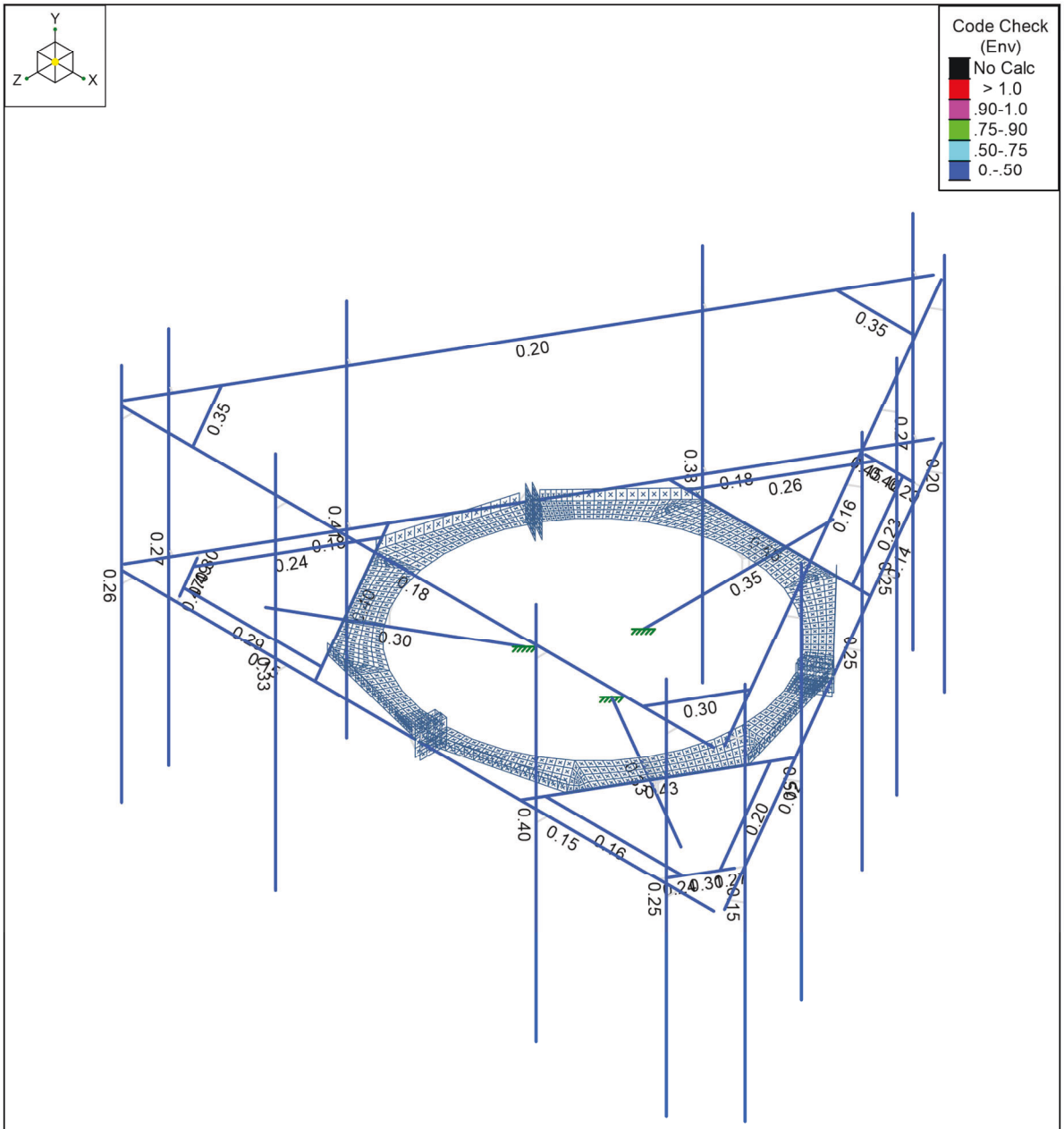
Azimuth (Degree) of Each Sector and Climbing Information

Sector A:	60°	Deg	
Sector B:	180°	Deg	
Sector C:	310°	Deg	
Climbing	90°	Deg	Located at Section A
Climbing Facility	Corrosion Type:		No corrosion observed
	Access:		Climbing path was unobstructed.
	Condition:		N/A

Are Ant same as sector A/B?	Same As A	**Antennas on Sector C are the same as Sector A**

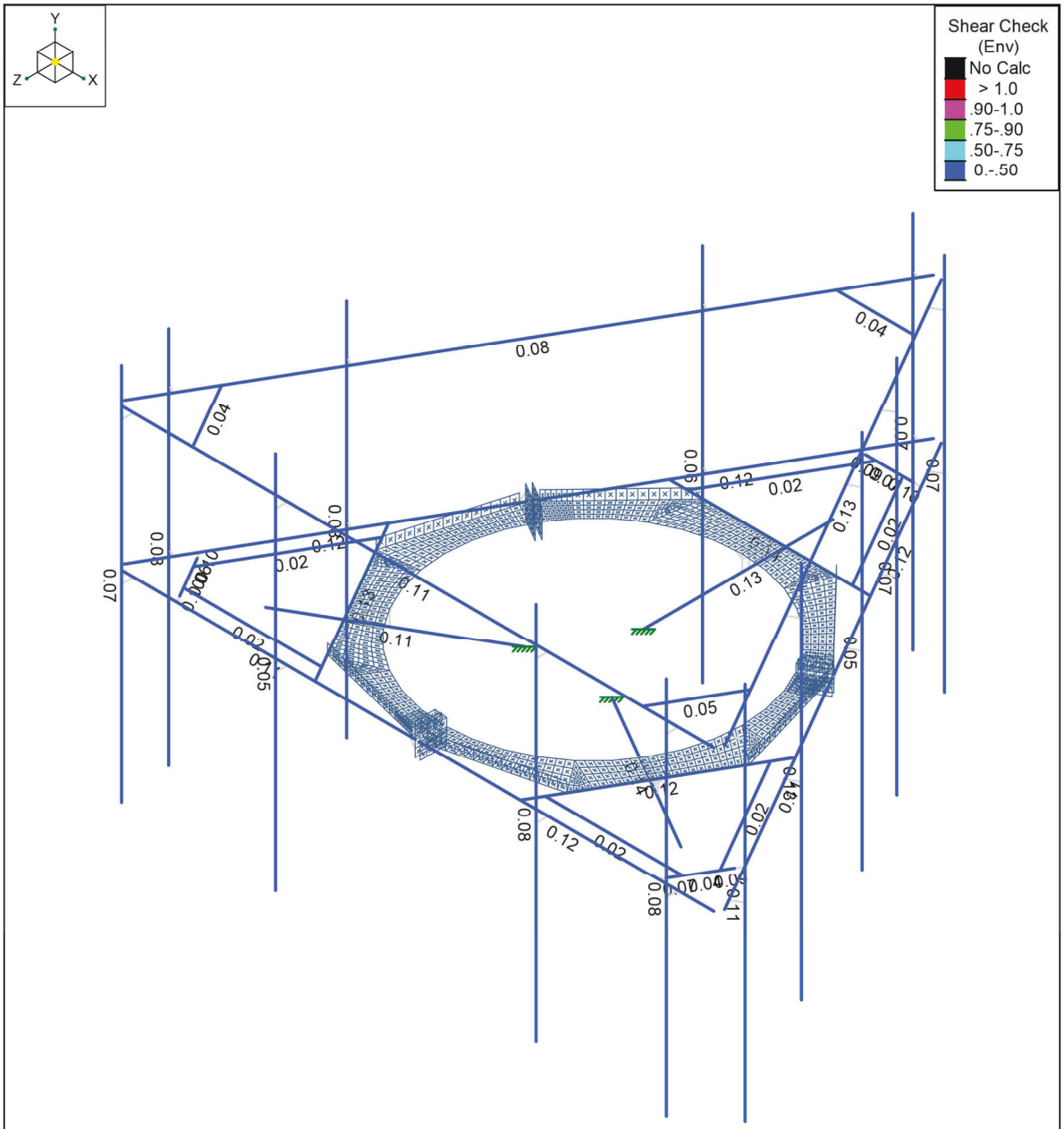


Tower Engineering Solutions, LLC	CT02652-S-SBA_MT_LO_Loads Only_H	SK-1
SB		Jun 30, 2023
TES Project No. 141449		CT02652-S-SBA_141449_H_RIS…



Member Code Checks Displayed (Enveloped)

Tower Engineering Solutions, LLC	CT02652-S-SBA_MT_LO_Loads Only_H	SK-2
SB		Jun 30, 2023
TES Project No. 141449		CT02652-S-SBA_141449_H_RIS…



Member Shear Checks Displayed (Enveloped)

Tower Engineering Solutions, LLC	CT02652-S-SBA_MT_LO_Loads Only_H	SK-3
SB		Jun 30, 2023
TES Project No. 141449		CT02652-S-SBA_141449_H_RIS…

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
1	Antenna D	None				120		
2	Antenna Di	None				120		
3	Antenna Wo (0 Deg)	None				120		
4	Antenna Wo (30 Deg)	None				120		
5	Antenna Wo (60 Deg)	None				120		
6	Antenna Wo (90 Deg)	None				120		
7	Antenna Wo (120 Deg)	None				120		
8	Antenna Wo (150 Deg)	None				120		
9	Antenna Wo (180 Deg)	None				120		
10	Antenna Wo (210 Deg)	None				120		
11	Antenna Wo (240 Deg)	None				120		
12	Antenna Wo (270 Deg)	None				120		
13	Antenna Wo (300 Deg)	None				120		
14	Antenna Wo (330 Deg)	None				120		
15	Antenna Wi (0 Deg)	None				120		
16	Antenna Wi (30 Deg)	None				120		
17	Antenna Wi (60 Deg)	None				120		
18	Antenna Wi (90 Deg)	None				120		
19	Antenna Wi (120 Deg)	None				120		
20	Antenna Wi (150 Deg)	None				120		
21	Antenna Wi (180 Deg)	None				120		
22	Antenna Wi (210 Deg)	None				120		
23	Antenna Wi (240 Deg)	None				120		
24	Antenna Wi (270 Deg)	None				120		
25	Antenna Wi (300 Deg)	None				120		
26	Antenna Wi (330 Deg)	None				120		
27	Antenna Wm (0 Deg)	None				120		
28	Antenna Wm (30 Deg)	None				120		
29	Antenna Wm (60 Deg)	None				120		
30	Antenna Wm (90 Deg)	None				120		
31	Antenna Wm (120 Deg)	None				120		
32	Antenna Wm (150 Deg)	None				120		
33	Antenna Wm (180 Deg)	None				120		
34	Antenna Wm (210 Deg)	None				120		
35	Antenna Wm (240 Deg)	None				120		
36	Antenna Wm (270 Deg)	None				120		
37	Antenna Wm (300 Deg)	None				120		
38	Antenna Wm (330 Deg)	None				120		
39	Structure D	None		-1				6
40	Structure Di	None					46	6
41	Structure Wo (0 Deg)	None					92	
42	Structure Wo (30 Deg)	None					92	
43	Structure Wo (60 Deg)	None					92	
44	Structure Wo (90 Deg)	None					92	
45	Structure Wo (120 Deg)	None					92	
46	Structure Wo (150 Deg)	None					92	
47	Structure Wo (180 Deg)	None					92	
48	Structure Wo (210 Deg)	None					92	
49	Structure Wo (240 Deg)	None					92	
50	Structure Wo (270 Deg)	None					92	
51	Structure Wo (300 Deg)	None					92	
52	Structure Wo (330 Deg)	None					92	
53	Structure Wi (0 Deg)	None					92	
54	Structure Wi (30 Deg)	None					92	
55	Structure Wi (60 Deg)	None					92	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
56	Structure Wi (90 Deg)	None					92	
57	Structure Wi (120 Deg)	None					92	
58	Structure Wi (150 Deg)	None					92	
59	Structure Wi (180 Deg)	None					92	
60	Structure Wi (210 Deg)	None					92	
61	Structure Wi (240 Deg)	None					92	
62	Structure Wi (270 Deg)	None					92	
63	Structure Wi (300 Deg)	None					92	
64	Structure Wi (330 Deg)	None					92	
65	Structure Wm (0 Deg)	None					92	
66	Structure Wm (30 Deg)	None					92	
67	Structure Wm (60 Deg)	None					92	
68	Structure Wm (90 Deg)	None					92	
69	Structure Wm (120 Deg)	None					92	
70	Structure Wm (150 Deg)	None					92	
71	Structure Wm (180 Deg)	None					92	
72	Structure Wm (210 Deg)	None					92	
73	Structure Wm (240 Deg)	None					92	
74	Structure Wm (270 Deg)	None					92	
75	Structure Wm (300 Deg)	None					92	
76	Structure Wm (330 Deg)	None					92	
77	Lm1	None				1		
78	Lm2	None				1		
79	Lv1	None				1		
80	Lv2	None				1		
81	Antenna Ev	None				120		
82	Antenna Eh (0 Deg)	None				80		
83	Antenna Eh (90 Deg)	None				80		
84	Structure Ev	ELY		-0.043				6
85	Structure Eh (0 Deg)	ELZ			-0.108			6
86	Structure Eh (90 Deg)	ELX	0.108					6
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	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.2D+1.0Wo (0 Deg)	Yes	Y	1	1.2	39	1.2	3	1	41	1								
2	1.2D+1.0Wo (30 Deg)	Yes	Y	1	1.2	39	1.2	4	1	42	1								
3	1.2D+1.0Wo (60 Deg)	Yes	Y	1	1.2	39	1.2	5	1	43	1								
4	1.2D+1.0Wo (90 Deg)	Yes	Y	1	1.2	39	1.2	6	1	44	1								
5	1.2D+1.0Wo (120 Deg)	Yes	Y	1	1.2	39	1.2	7	1	45	1								
6	1.2D+1.0Wo (150 Deg)	Yes	Y	1	1.2	39	1.2	8	1	46	1								
7	1.2D+1.0Wo (180 Deg)	Yes	Y	1	1.2	39	1.2	9	1	47	1								
8	1.2D+1.0Wo (210 Deg)	Yes	Y	1	1.2	39	1.2	10	1	48	1								
9	1.2D+1.0Wo (240 Deg)	Yes	Y	1	1.2	39	1.2	11	1	49	1								
10	1.2D+1.0Wo (270 Deg)	Yes	Y	1	1.2	39	1.2	12	1	50	1								
11	1.2D+1.0Wo (300 Deg)	Yes	Y	1	1.2	39	1.2	13	1	51	1								
12	1.2D+1.0Wo (330 Deg)	Yes	Y	1	1.2	39	1.2	14	1	52	1								
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1				
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1				
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1				
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1				

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1				
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1				
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1				
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	22	1	60	1				
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	23	1	61	1				
22	1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	24	1	62	1				
23	1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63	1				
24	1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	26	1	64	1				
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	27	1	65	1						
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	28	1	66	1						
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	29	1	67	1						
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	30	1	68	1						
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	31	1	69	1						
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	32	1	70	1						
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	33	1	71	1						
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	34	1	72	1						
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	35	1	73	1						
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	36	1	74	1						
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	37	1	75	1						
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	38	1	76	1						
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	27	1	65	1						
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	28	1	66	1						
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	29	1	67	1						
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	30	1	68	1						
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	31	1	69	1						
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	32	1	70	1						
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	33	1	71	1						
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	34	1	72	1						
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	35	1	73	1						
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	36	1	74	1						
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	37	1	75	1						
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	38	1	76	1						
49	1.2D + 1.5Lv1	Yes	Y	1	1.2	39	1.2	79	1.5										
50	1.2D + 1.5Lv2	Yes	Y	1	1.2	39	1.2	80	1.5										
51	1.4D	Yes	Y	1	1.4	39	1.4												
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX	
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX	
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX	
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX	
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
72	0.9D - 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
73	0.9D - 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
75	0.9D - 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	-6.25	0	3.704857	
2	N2	6.25	0	3.704857	
3	N3	0	-0.333	0	
4	N4	-5.083	0	3.704857	
5	N5	-2.167	0	3.704857	
6	N6	2.167	0	3.704857	
7	N7	5.083	0	3.704857	
8	N8	6.3335	0	3.56023	
9	N9	0.0835	0	-7.265087	
10	N10	5.75	0	2.549579	
11	N11	4.292	0	0.024249	
12	N12	2.125	0	-3.729106	
13	N13	0.667	0	-6.254436	
14	N14	-0.0835	0	-7.265087	
15	N15	-6.3335	0	3.56023	
16	N16	-0.667	0	-6.254436	
17	N17	-2.125	0	-3.729106	
18	N18	-4.292	0	0.024249	
19	N19	-5.75	0	2.549579	
20	N20	-5.275258	0	3.371857	
21	N21	-2.359258	0	3.371857	
22	N22	5.275258	0	3.371857	
23	N23	2.359258	0	3.371857	
24	N24	5.557743	0	2.882579	
25	N25	4.099743	0	0.357249	
26	N26	0.282485	0	-6.254436	
27	N27	1.740485	0	-3.729106	
28	N28	-0.282485	0	-6.254436	
29	N29	-1.740485	0	-3.729106	
30	N30	-5.557743	0	2.882579	
31	N31	-4.099743	0	0.357249	
32	N32	-0.052083	0	3.704857	
33	N33	0	-0.333	-1.062441	
34	N34	-2.525758	0	3.083471	
35	N35	2.525758	0	3.083471	
36	N36	0	0	-3.729106	
37	N37	0	0	-3.146106	
38	N38	-2.724607	0	1.573053	
39	N39	-2.410057	0	2.022278	
40	N40	-2.022278	0	2.410057	
41	N41	-1.573053	0	2.724607	
42	N42	-1.076031	0	2.956372	
43	N43	-0.546315	0	3.098309	
44	N44	-0.052083	0	3.146106	
45	N45	0.546315	0	3.098309	
46	N46	1.076031	0	2.956372	
47	N47	1.573053	0	2.724607	
48	N48	2.022278	0	2.410057	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
49	N49	2.410057	0	2.022278	
50	N50	2.724607	0	1.573053	
51	N51	-3.2295	0	1.864553	
52	N52	-2.9795	0	2.297565	
53	N53	-2.7295	0	2.730578	
54	N54	3.2295	0	1.864553	
55	N55	2.9795	0	2.297565	
56	N56	2.7295	0	2.730578	
57	N57	-1.894318	0	3.238817	
58	N58	-1.262879	0	3.394164	
59	N59	-0.631439	0	3.54951	
60	N60	0.631439	0	3.54951	
61	N61	1.262879	0	3.394164	
62	N62	1.894318	0	3.238817	
63	N63	-0.273158	0	3.122207	
64	N64	-0.317303	0	3.626794	
65	N65	0	0	-3.583356	
66	N66	0	0	-3.437606	
67	N67	0	0	-3.291856	
68	N68	2.850831	0	1.645928	
69	N69	2.977054	0	1.718803	
70	N70	3.103277	0	1.791678	
71	N71	2.64597	0	1.685359	
72	N72	2.567332	0	1.797665	
73	N73	2.488694	0	1.909971	
74	N74	2.776227	0	1.757221	
75	N75	2.701624	0	1.868514	
76	N76	2.627021	0	1.979807	
77	N77	2.552418	0	2.0911	
78	N78	2.906485	0	1.829082	
79	N79	2.835916	0	1.939362	
80	N80	2.765347	0	2.049642	
81	N81	2.694778	0	2.159922	
82	N82	3.036743	0	1.900944	
83	N83	2.970208	0	2.010211	
84	N84	2.903674	0	2.119477	
85	N85	2.837139	0	2.228744	
86	N86	3.167	0	1.972806	
87	N87	3.1045	0	2.081059	
88	N88	3.042	0	2.189312	
89	N89	2.313112	0	2.119222	
90	N90	2.216167	0	2.216167	
91	N91	2.119222	0	2.313112	
92	N92	2.464084	0	2.190871	
93	N93	2.37575	0	2.290643	
94	N94	2.287417	0	2.390415	
95	N95	2.199083	0	2.490187	
96	N96	2.615056	0	2.262521	
97	N97	2.535334	0	2.365119	
98	N98	2.455611	0	2.467718	
99	N99	2.375889	0	2.570317	
100	N100	2.766028	0	2.33417	
101	N101	2.694917	0	2.439596	
102	N102	2.623806	0	2.545022	
103	N103	2.552695	0	2.650448	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
104	N104	2.917	0	2.405819	
105	N105	2.8545	0	2.514072	
106	N106	2.792	0	2.622325	
107	N107	2.399888	0	2.915117	
108	N108	2.274018	0	2.746764	
109	N109	2.148148	0	2.57841	
110	N110	2.367898	0	3.122307	
111	N111	2.253416	0	2.963904	
112	N112	2.138935	0	2.805501	
113	N113	2.024453	0	2.647098	
114	N114	1.909971	0	2.488694	
115	N115	2.210038	0	3.161144	
116	N116	2.106945	0	3.012691	
117	N117	2.003852	0	2.864238	
118	N118	1.900758	0	2.715785	
119	N119	1.797665	0	2.567332	
120	N120	2.052178	0	3.199981	
121	N121	1.960473	0	3.061478	
122	N122	1.868769	0	2.922975	
123	N123	1.777064	0	2.784472	
124	N124	1.685359	0	2.64597	
125	N125	1.814002	0	3.110265	
126	N126	1.733686	0	2.981712	
127	N127	1.653369	0	2.85316	
128	N128	1.736458	0	3.277654	
129	N129	1.664543	0	3.153877	
130	N130	1.592628	0	3.030101	
131	N131	1.520713	0	2.906325	
132	N132	1.448797	0	2.782549	
133	N133	1.578599	0	3.31649	
134	N134	1.515084	0	3.19749	
135	N135	1.45157	0	3.07849	
136	N136	1.388056	0	2.95949	
137	N137	1.324542	0	2.84049	
138	N138	1.420739	0	3.355327	
139	N139	1.365626	0	3.241103	
140	N140	1.310513	0	3.126879	
141	N141	1.2554	0	3.012655	
142	N142	1.200287	0	2.898431	
143	N143	1.216167	0	3.284716	
144	N144	1.169455	0	3.175268	
145	N145	1.122743	0	3.06582	
146	N146	1.105019	0	3.433	
147	N147	1.064665	0	3.322714	
148	N148	1.024311	0	3.212428	
149	N149	0.983957	0	3.102142	
150	N150	0.943602	0	2.991856	
151	N151	0.947159	0	3.471837	
152	N152	0.913163	0	3.360713	
153	N153	0.879166	0	3.249589	
154	N154	0.84517	0	3.138465	
155	N155	0.811173	0	3.027341	
156	N156	0.789299	0	3.510674	
157	N157	0.761661	0	3.398712	
158	N158	0.734022	0	3.286749	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
159	N159	0.706383	0	3.174787	
160	N160	0.678744	0	3.062825	
161	N161	0.610158	0	3.43671	
162	N162	0.588877	0	3.32391	
163	N163	0.567596	0	3.211109	
164	N164	0.409737	0	3.110258	
165	N165	0.273158	0	3.122207	
166	N166	0.136579	0	3.134156	
167	N167	0.425697	0	3.22978	
168	N168	0.283798	0	3.248451	
169	N169	0.141899	0	3.267122	
170	N170	-0.052083	0	3.285793	
171	N171	0.441658	0	3.349303	
172	N172	0.294439	0	3.374696	
173	N173	0.147219	0	3.400088	
174	N174	-0.052083	0	3.425481	
175	N175	0.457619	0	3.468825	
176	N176	0.305079	0	3.50094	
177	N177	0.15254	0	3.533054	
178	N178	-0.052083	0	3.565169	
179	N179	0.47358	0	3.588347	
180	N180	0.31572	0	3.627184	
181	N181	0.15786	0	3.66602	
182	N182	-0.678744	0	3.062825	
183	N183	-0.811173	0	3.027341	
184	N184	-0.943602	0	2.991856	
185	N185	-0.567596	0	3.211109	
186	N186	-0.706383	0	3.174787	
187	N187	-0.84517	0	3.138465	
188	N188	-0.983957	0	3.102142	
189	N189	-1.122743	0	3.06582	
190	N190	-0.588877	0	3.32391	
191	N191	-0.734022	0	3.286749	
192	N192	-0.879166	0	3.249589	
193	N193	-1.024311	0	3.212428	
194	N194	-1.169455	0	3.175268	
195	N195	-0.610158	0	3.43671	
196	N196	-0.761661	0	3.398712	
197	N197	-0.913163	0	3.360713	
198	N198	-1.064665	0	3.322714	
199	N199	-1.216167	0	3.284716	
200	N200	-0.789299	0	3.510674	
201	N201	-0.947159	0	3.471837	
202	N202	-1.105019	0	3.433	
203	N203	-1.448797	0	2.782549	
204	N204	-1.324542	0	2.84049	
205	N205	-1.200287	0	2.898431	
206	N206	-1.653369	0	2.85316	
207	N207	-1.520713	0	2.906325	
208	N208	-1.388056	0	2.95949	
209	N209	-1.2554	0	3.012655	
210	N210	-1.733686	0	2.981712	
211	N211	-1.592628	0	3.030101	
212	N212	-1.45157	0	3.07849	
213	N213	-1.310513	0	3.126879	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
214	N214	-1.814002	0	3.110265	
215	N215	-1.664543	0	3.153877	
216	N216	-1.515084	0	3.19749	
217	N217	-1.365626	0	3.241103	
218	N218	-1.736458	0	3.277654	
219	N219	-1.578599	0	3.31649	
220	N220	-1.420739	0	3.355327	
221	N221	-1.685359	0	2.64597	
222	N222	-1.797665	0	2.567332	
223	N223	-1.909971	0	2.488694	
224	N224	-1.811229	0	2.814323	
225	N225	-1.908193	0	2.733289	
226	N226	-2.005156	0	2.652255	
227	N227	-2.10212	0	2.571221	
228	N228	-2.199083	0	2.490187	
229	N229	-2.049405	0	2.904039	
230	N230	-2.131026	0	2.820609	
231	N231	-2.212647	0	2.737178	
232	N232	-2.294268	0	2.653748	
233	N233	-2.375889	0	2.570317	
234	N234	-2.287581	0	2.993755	
235	N235	-2.35386	0	2.907928	
236	N236	-2.420138	0	2.822101	
237	N237	-2.486416	0	2.736275	
238	N238	-2.552695	0	2.650448	
239	N239	-2.576693	0	2.995247	
240	N240	-2.627629	0	2.907024	
241	N241	-2.678565	0	2.818801	
242	N242	-2.119222	0	2.313112	
243	N243	-2.216167	0	2.216167	
244	N244	-2.313112	0	2.119222	
245	N245	-2.287417	0	2.390415	
246	N246	-2.37575	0	2.290643	
247	N247	-2.464084	0	2.190871	
248	N248	-2.552418	0	2.0911	
249	N249	-2.455611	0	2.467718	
250	N250	-2.535334	0	2.365119	
251	N251	-2.615056	0	2.262521	
252	N252	-2.694778	0	2.159922	
253	N253	-2.623806	0	2.545022	
254	N254	-2.694917	0	2.439596	
255	N255	-2.766028	0	2.33417	
256	N256	-2.837139	0	2.228744	
257	N257	-2.792	0	2.622325	
258	N258	-2.8545	0	2.514072	
259	N259	-2.917	0	2.405819	
260	N260	-2.488694	0	1.909971	
261	N261	-2.567332	0	1.797665	
262	N262	-2.64597	0	1.685359	
263	N263	-2.627021	0	1.979807	
264	N264	-2.701624	0	1.868514	
265	N265	-2.776227	0	1.757221	
266	N266	-2.850831	0	1.645928	
267	N267	-2.765347	0	2.049642	
268	N268	-2.835916	0	1.939362	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
269	N269	-2.906485	0	1.829082	
270	N270	-2.977054	0	1.718803	
271	N271	-2.903674	0	2.119477	
272	N272	-2.970208	0	2.010211	
273	N273	-3.036743	0	1.900944	
274	N274	-3.103277	0	1.791678	
275	N275	-3.042	0	2.189312	
276	N276	-3.1045	0	2.081059	
277	N277	-3.167	0	1.972806	
278	N278	-0.478026	0	3.104284	
279	N279	-0.409737	0	3.110258	
280	N280	-0.341447	0	3.116233	
281	N281	-0.496746	0	3.220421	
282	N282	-0.425895	0	3.229732	
283	N283	-0.355045	0	3.239043	
284	N284	-0.284194	0	3.248354	
285	N285	-0.515466	0	3.336557	
286	N286	-0.442054	0	3.349205	
287	N287	-0.368642	0	3.361853	
288	N288	-0.295231	0	3.374501	
289	N289	-0.534186	0	3.452694	
290	N290	-0.458213	0	3.468679	
291	N291	-0.38224	0	3.484663	
292	N292	-0.306267	0	3.500647	
293	N293	-0.552905	0	3.568831	
294	N294	-0.474371	0	3.588152	
295	N295	-0.395837	0	3.607473	
296	N296	-0.204868	0	3.128182	
297	N297	-0.136579	0	3.134156	
298	N298	-0.213146	0	3.257714	
299	N299	-0.142097	0	3.267074	
300	N300	-0.221423	0	3.387246	
301	N301	-0.147615	0	3.399991	
302	N302	-0.2297	0	3.516778	
303	N303	-0.153133	0	3.532908	
304	N304	-0.237978	0	3.64631	
305	N305	-0.158652	0	3.665826	
306	N306	2.627629	0	2.907024	
307	N307	2.425845	0	2.741368	
308	N308	-2.210038	0	3.161144	
309	N309	-1.99771	0	3.015632	
310	N310	0	-0.333222	-3.729106	
311	N311	0	-0.333174	-3.146106	
312	N312	0	-0.33321	-3.583356	
313	N313	0	-0.333198	-3.437606	
314	N314	0	-0.333186	-3.291856	
315	N315	-3.2295	-0.333222	1.864553	
316	N316	-2.724607	-0.333174	1.573053	
317	N317	-3.103277	-0.33321	1.791678	
318	N318	-2.977054	-0.333198	1.718803	
319	N319	-2.850831	-0.333186	1.645928	
320	N320	3.2295	-0.333222	1.864553	
321	N321	2.724607	-0.333174	1.573053	
322	N322	3.103277	-0.33321	1.791678	
323	N323	2.977054	-0.333198	1.718803	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
324	N324	2.850831	-0.333186	1.645928	
325	N325	-2.023557	0	2.959835	
326	N326	-2.195728	0	3.041071	
327	N327	-2.367898	0	3.122307	
328	N328	-2.103874	0	3.088388	
329	N329	-1.838463	0	2.906498	
330	N330	-1.865698	0	2.998672	
331	N331	-1.958938	0	3.099326	
332	N332	-2.052178	0	3.199981	
333	N333	2.576693	0	2.995247	
334	N334	2.463312	0	2.869657	
335	N335	2.526737	0	2.824196	
336	N336	2.349931	0	2.744066	
337	N337	2.678565	0	2.818801	
338	N338	2.539716	0	2.737322	
339	N339	2.400867	0	2.655843	
340	N340	2.274507	0	2.617127	
341	N341	0.052084	0	3.704857	
342	N342	0.052084	0	3.146106	
343	N343	0.052084	0	3.285793	
344	N344	0.052084	0	3.425481	
345	N345	0.052084	0	3.565169	
346	N346	-0.052083	0.333333	3.704857	
347	N347	-0.052083	0.333333	3.285793	
348	N348	-0.052083	0.333333	3.425481	
349	N349	-0.052083	0.333333	3.565169	
350	N350	0.052084	0.333333	3.704857	
351	N351	0.052084	0.333333	3.285793	
352	N352	0.052084	0.333333	3.425481	
353	N353	0.052084	0.333333	3.565169	
354	N354	-0.052083	-0.333333	3.704857	
355	N355	-0.052083	-0.333333	3.146106	
356	N356	-0.052083	-0.333333	3.285793	
357	N357	-0.052083	-0.333333	3.425481	
358	N358	-0.052083	-0.333333	3.565169	
359	N359	0.052084	-0.333333	3.704857	
360	N360	0.052084	-0.333333	3.146106	
361	N361	0.052084	-0.333333	3.285793	
362	N362	0.052084	-0.333333	3.425481	
363	N363	0.052084	-0.333333	3.565169	
364	N364	-0.052083	-0.166666	3.704857	
365	N365	-0.052083	-0.166666	3.146106	
366	N366	-0.052083	-0.166666	3.285793	
367	N367	-0.052083	-0.166666	3.425481	
368	N368	-0.052083	-0.166666	3.565169	
369	N369	0.052084	-0.166666	3.704857	
370	N370	0.052084	-0.166666	3.146106	
371	N371	0.052084	-0.166666	3.285793	
372	N372	0.052084	-0.166666	3.425481	
373	N373	0.052084	-0.166666	3.565169	
374	N374	-0.052083	0.166667	3.704857	
375	N375	-0.052083	0.166667	3.146106	
376	N376	-0.052083	0.166667	3.285793	
377	N377	-0.052083	0.166667	3.425481	
378	N378	-0.052083	0.166667	3.565169	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
379	N379	0.052084	0.166667	3.704857	
380	N380	0.052084	0.166667	3.146106	
381	N381	0.052084	0.166667	3.285793	
382	N382	0.052084	0.166667	3.425481	
383	N383	0.052084	0.166667	3.565169	
384	N384	3.234542	0	-1.807323	
385	N385	3.933243	0	0.645635	
386	N386	1.407485	0	-3.729106	
387	N387	2.956372	0	1.076031	
388	N388	3.098309	0	0.546315	
389	N389	3.146106	0	0	
390	N390	3.098309	0	-0.546315	
391	N391	2.956372	0	-1.076031	
392	N392	2.750649	0	-1.527948	
393	N393	2.410057	0	-2.022278	
394	N394	2.022278	0	-2.410057	
395	N395	1.573053	0	-2.724607	
396	N396	1.076031	0	-2.956372	
397	N397	0.546315	0	-3.098309	
398	N398	3.4795	0	1.43154	
399	N399	3.7295	0	0.998527	
400	N400	0.5	0	-3.729106	
401	N401	1	0	-3.729106	
402	N402	3.752057	0	0.021119	
403	N403	3.570871	0	-0.603397	
404	N404	3.389686	0	-1.227913	
405	N405	2.758246	0	-2.321598	
406	N406	2.307993	0	-2.790767	
407	N407	1.857739	0	-3.259936	
408	N408	2.84049	0	-1.324542	
409	N409	3.299547	0	-1.538604	
410	N410	0.136579	0	-3.134156	
411	N411	0.273158	0	-3.122207	
412	N412	0.409737	0	-3.110258	
413	N413	0.133684	0	-3.282894	
414	N414	0.267368	0	-3.273932	
415	N415	0.401052	0	-3.26497	
416	N416	0.534737	0	-3.256008	
417	N417	0.130789	0	-3.431631	
418	N418	0.261579	0	-3.425656	
419	N419	0.392368	0	-3.419682	
420	N420	0.523158	0	-3.413707	
421	N421	0.127895	0	-3.580368	
422	N422	0.255789	0	-3.577381	
423	N423	0.383684	0	-3.574394	
424	N424	0.511579	0	-3.571406	
425	N425	0.125	0	-3.729106	
426	N426	0.25	0	-3.729106	
427	N427	0.375	0	-3.729106	
428	N428	0.678744	0	-3.062825	
429	N429	0.811173	0	-3.027341	
430	N430	0.943602	0	-2.991856	
431	N431	0.665308	0	-3.229395	
432	N432	0.79588	0	-3.202782	
433	N433	0.926452	0	-3.176169	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
434	N434	1.057024	0	-3.149556	
435	N435	0.651872	0	-3.395965	
436	N436	0.780587	0	-3.378223	
437	N437	0.909301	0	-3.360481	
438	N438	1.038016	0	-3.342739	
439	N439	0.638436	0	-3.562535	
440	N440	0.765293	0	-3.553664	
441	N441	0.892151	0	-3.544793	
442	N442	1.019008	0	-3.535922	
443	N443	0.625	0	-3.729106	
444	N444	0.75	0	-3.729106	
445	N445	0.875	0	-3.729106	
446	N446	1.324622	0	-3.535922	
447	N447	1.241758	0	-3.342739	
448	N448	1.158895	0	-3.149556	
449	N449	1.520048	0	-3.611813	
450	N450	1.440108	0	-3.433468	
451	N451	1.360168	0	-3.255122	
452	N452	1.280227	0	-3.076777	
453	N453	1.200287	0	-2.898431	
454	N454	1.632612	0	-3.494521	
455	N455	1.555594	0	-3.331013	
456	N456	1.478577	0	-3.167505	
457	N457	1.40156	0	-3.003998	
458	N458	1.324542	0	-2.84049	
459	N459	1.745175	0	-3.377229	
460	N460	1.671081	0	-3.228559	
461	N461	1.596986	0	-3.079889	
462	N462	1.522892	0	-2.931219	
463	N463	1.448797	0	-2.782549	
464	N464	1.786567	0	-3.126104	
465	N465	1.715396	0	-2.992272	
466	N466	1.644224	0	-2.85844	
467	N467	1.970302	0	-3.142644	
468	N468	1.899066	0	-3.018475	
469	N469	1.827831	0	-2.894307	
470	N470	1.756595	0	-2.770138	
471	N471	1.685359	0	-2.64597	
472	N472	2.082866	0	-3.025352	
473	N473	2.011566	0	-2.910847	
474	N474	1.940265	0	-2.796342	
475	N475	1.868965	0	-2.681837	
476	N476	1.797665	0	-2.567332	
477	N477	2.195429	0	-2.908059	
478	N478	2.124065	0	-2.803218	
479	N479	2.0527	0	-2.698377	
480	N480	1.981336	0	-2.593536	
481	N481	1.909971	0	-2.488694	
482	N482	2.236564	0	-2.695589	
483	N483	2.165135	0	-2.600412	
484	N484	2.093706	0	-2.505234	
485	N485	2.420556	0	-2.673475	
486	N486	2.345223	0	-2.583384	
487	N487	2.269889	0	-2.493293	
488	N488	2.194556	0	-2.403203	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
489	N489	2.119222	0	-2.313112	
490	N490	2.53312	0	-2.556182	
491	N491	2.453881	0	-2.471179	
492	N492	2.374643	0	-2.386175	
493	N493	2.295405	0	-2.301171	
494	N494	2.216167	0	-2.216167	
495	N495	2.645683	0	-2.43889	
496	N496	2.56254	0	-2.358973	
497	N497	2.479397	0	-2.279056	
498	N498	2.396255	0	-2.199139	
499	N499	2.313112	0	-2.119222	
500	N500	2.671199	0	-2.246768	
501	N501	2.584152	0	-2.171938	
502	N502	2.497104	0	-2.097108	
503	N503	2.488694	0	-1.909971	
504	N504	2.567332	0	-1.797665	
505	N505	2.64597	0	-1.685359	
506	N506	2.584223	0	-1.983555	
507	N507	2.671342	0	-1.870002	
508	N508	2.758461	0	-1.756449	
509	N509	2.871622	0	-1.597792	
510	N510	2.679752	0	-2.057138	
511	N511	2.775353	0	-1.942339	
512	N512	2.870953	0	-1.82754	
513	N513	2.992595	0	-1.667635	
514	N514	2.775281	0	-2.130722	
515	N515	2.879363	0	-2.014676	
516	N516	2.983445	0	-1.89863	
517	N517	3.113569	0	-1.737479	
518	N518	2.87081	0	-2.204305	
519	N519	2.983373	0	-2.087013	
520	N520	3.095937	0	-1.969721	
521	N521	2.991856	0	-0.943602	
522	N522	3.027341	0	-0.811173	
523	N523	3.062825	0	-0.678744	
524	N524	3.064701	0	-1.114002	
525	N525	3.102638	0	-0.975648	
526	N526	3.140575	0	-0.837294	
527	N527	3.178512	0	-0.69894	
528	N528	3.21645	0	-0.560586	
529	N529	3.173029	0	-1.151972	
530	N530	3.213419	0	-1.007693	
531	N531	3.25381	0	-0.863414	
532	N532	3.2942	0	-0.719135	
533	N533	3.33459	0	-0.574856	
534	N534	3.281357	0	-1.189942	
535	N535	3.324201	0	-1.039738	
536	N536	3.367044	0	-0.889534	
537	N537	3.409888	0	-0.73933	
538	N538	3.452731	0	-0.589126	
539	N539	3.434982	0	-1.071784	
540	N540	3.480279	0	-0.915655	
541	N541	3.525575	0	-0.759526	
542	N542	3.134156	0	-0.136579	
543	N543	3.122207	0	-0.273158	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
544	N544	3.110258	0	-0.409737	
545	N545	3.297593	0	0.00528	
546	N546	3.277307	0	-0.136187	
547	N547	3.257022	0	-0.277653	
548	N548	3.236736	0	-0.419119	
549	N549	3.449081	0	0.01056	
550	N550	3.420459	0	-0.135794	
551	N551	3.391836	0	-0.282148	
552	N552	3.363213	0	-0.428502	
553	N553	3.600569	0	0.015839	
554	N554	3.56361	0	-0.135402	
555	N555	3.52665	0	-0.286644	
556	N556	3.48969	0	-0.437885	
557	N557	3.706761	0	-0.13501	
558	N558	3.661464	0	-0.291139	
559	N559	3.616168	0	-0.447268	
560	N560	3.134156	0	0.136579	
561	N561	3.122207	0	0.273158	
562	N562	3.110258	0	0.409737	
563	N563	3.34289	0	0.161409	
564	N564	3.321194	0	0.285899	
565	N565	3.299498	0	0.410389	
566	N566	3.277803	0	0.534879	
567	N567	3.256107	0	0.659368	
568	N568	3.539674	0	0.322818	
569	N569	3.508232	0	0.435218	
570	N570	3.476789	0	0.547619	
571	N571	3.445347	0	0.66002	
572	N572	3.413905	0	0.772421	
573	N573	3.736458	0	0.484226	
574	N574	3.695269	0	0.584538	
575	N575	3.65408	0	0.68485	
576	N576	3.612891	0	0.785162	
577	N577	3.571702	0	0.885474	
578	N578	3.882307	0	0.733858	
579	N579	3.831371	0	0.822081	
580	N580	3.780436	0	0.910304	
581	N581	3.062825	0	0.678744	
582	N582	3.027341	0	0.811173	
583	N583	2.991856	0	0.943602	
584	N584	3.213869	0	0.785754	
585	N585	3.171631	0	0.912139	
586	N586	3.129392	0	1.038524	
587	N587	3.087154	0	1.164909	
588	N588	3.364913	0	0.892763	
589	N589	3.31592	0	1.013104	
590	N590	3.266928	0	1.133445	
591	N591	3.217936	0	1.253786	
592	N592	3.515956	0	0.999772	
593	N593	3.46021	0	1.114069	
594	N594	3.404464	0	1.228366	
595	N595	3.348718	0	1.342663	
596	N596	3.667	0	1.106781	
597	N597	3.6045	0	1.215034	
598	N598	3.542	0	1.323287	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
599	N599	2.898431	0	1.200287	
600	N600	2.84049	0	1.324542	
601	N601	2.782549	0	1.448797	
602	N602	3.028073	0	1.285163	
603	N603	2.968992	0	1.405418	
604	N604	2.909911	0	1.525673	
605	N605	3.157716	0	1.37004	
606	N606	3.097495	0	1.486294	
607	N607	3.037274	0	1.602549	
608	N608	3.287358	0	1.454917	
609	N609	3.225998	0	1.56717	
610	N610	3.164637	0	1.679424	
611	N611	3.417	0	1.539793	
612	N612	3.3545	0	1.648046	
613	N613	3.292	0	1.7563	
614	N614	2.927402	0	-1.138159	
615	N615	2.898431	0	-1.200287	
616	N616	2.86946	0	-1.262414	
617	N617	3.037339	0	-1.180016	
618	N618	3.009977	0	-1.24603	
619	N619	2.982616	0	-1.312044	
620	N620	2.955254	0	-1.378058	
621	N621	3.147276	0	-1.221872	
622	N622	3.121524	0	-1.291773	
623	N623	3.095771	0	-1.361673	
624	N624	3.070019	0	-1.431573	
625	N625	3.257214	0	-1.263729	
626	N626	3.23307	0	-1.337516	
627	N627	3.208927	0	-1.411302	
628	N628	3.184783	0	-1.485089	
629	N629	3.367151	0	-1.305586	
630	N630	3.344617	0	-1.383258	
631	N631	3.322082	0	-1.460931	
632	N632	2.811519	0	-1.38667	
633	N633	2.782549	0	-1.448797	
634	N634	2.927836	0	-1.444267	
635	N635	2.900417	0	-1.510477	
636	N636	3.044152	0	-1.501865	
637	N637	3.018286	0	-1.572157	
638	N638	3.160469	0	-1.559463	
639	N639	3.136155	0	-1.633837	
640	N640	3.276786	0	-1.61706	
641	N641	3.254024	0	-1.695516	
642	N642	1.203743	0	-3.729106	
643	N643	1.161172	0	-3.471528	
644	N644	3.84265	0	0.333377	
645	N645	3.610468	0	0.222251	
646	N646	3.575071	0	0.272534	
647	N647	3.731509	0	0.38102	
648	N648	3.887946	0	0.489506	
649	N649	3.726559	0	0.277814	
650	N650	3.436332	0	0.138907	
651	N651	3.529775	0	0.116405	
652	N652	3.663564	0	0.146827	
653	N653	3.797353	0	0.177248	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
654	N654	1.305614	0	-3.729106	
655	N655	1.253539	0	-3.568119	
656	N656	1.182457	0	-3.600317	
657	N657	1.201465	0	-3.407133	
658	N658	1.101871	0	-3.729106	
659	N659	1.100733	0	-3.568119	
660	N660	1.099594	0	-3.407133	
661	N661	1.129244	0	-3.278344	
662	N662	3.182458	0	-1.897535	
663	N663	2.698565	0	-1.618159	
664	N664	2.819539	0	-1.688003	
665	N665	2.940512	0	-1.757847	
666	N666	3.061485	0	-1.827691	
667	N667	3.234542	0.333333	-1.807323	
668	N668	2.871622	0.333333	-1.597792	
669	N669	2.992595	0.333333	-1.667635	
670	N670	3.113569	0.333333	-1.737479	
671	N671	3.182458	0.333333	-1.897535	
672	N672	2.819539	0.333333	-1.688003	
673	N673	2.940512	0.333333	-1.757847	
674	N674	3.061485	0.333333	-1.827691	
675	N675	3.234542	-0.333333	-1.807323	
676	N676	2.750649	-0.333333	-1.527948	
677	N677	2.871622	-0.333333	-1.597792	
678	N678	2.992595	-0.333333	-1.667635	
679	N679	3.113569	-0.333333	-1.737479	
680	N680	3.182458	-0.333333	-1.897535	
681	N681	2.698565	-0.333333	-1.618159	
682	N682	2.819539	-0.333333	-1.688003	
683	N683	2.940512	-0.333333	-1.757847	
684	N684	3.061485	-0.333333	-1.827691	
685	N685	3.234542	-0.166666	-1.807323	
686	N686	2.750649	-0.166666	-1.527948	
687	N687	2.871622	-0.166666	-1.597792	
688	N688	2.992595	-0.166666	-1.667635	
689	N689	3.113569	-0.166666	-1.737479	
690	N690	3.182458	-0.166666	-1.897535	
691	N691	2.698565	-0.166666	-1.618159	
692	N692	2.819539	-0.166666	-1.688003	
693	N693	2.940512	-0.166666	-1.757847	
694	N694	3.061485	-0.166666	-1.827691	
695	N695	3.234542	0.166667	-1.807323	
696	N696	2.750649	0.166667	-1.527948	
697	N697	2.871622	0.166667	-1.597792	
698	N698	2.992595	0.166667	-1.667635	
699	N699	3.113569	0.166667	-1.737479	
700	N700	3.182458	0.166667	-1.897535	
701	N701	2.698565	0.166667	-1.618159	
702	N702	2.819539	0.166667	-1.688003	
703	N703	2.940512	0.166667	-1.757847	
704	N704	3.061485	0.166667	-1.827691	
705	N705	-3.182459	0	-1.897534	
706	N706	-1.407485	0	-3.729106	
707	N707	-3.933243	0	0.645635	
708	N708	-0.546315	0	-3.098309	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
709	N709	-1.076031	0	-2.956372	
710	N710	-1.573053	0	-2.724607	
711	N711	-2.022278	0	-2.410057	
712	N712	-2.410057	0	-2.022278	
713	N713	-2.698566	0	-1.618158	
714	N714	-2.956372	0	-1.076031	
715	N715	-3.098309	0	-0.546315	
716	N716	-3.146106	0	0	
717	N717	-3.098309	0	0.546315	
718	N718	-2.956372	0	1.076031	
719	N719	-0.5	0	-3.729106	
720	N720	-1	0	-3.729106	
721	N721	-3.4795	0	1.43154	
722	N722	-3.7295	0	0.998527	
723	N723	-1.857739	0	-3.259936	
724	N724	-2.307993	0	-2.790767	
725	N725	-2.758246	0	-2.321598	
726	N726	-3.389686	0	-1.227913	
727	N727	-3.570871	0	-0.603397	
728	N728	-3.752057	0	0.021119	
729	N729	-2.567332	0	-1.797665	
730	N730	-2.982244	0	-2.08819	
731	N731	-2.782549	0	1.448797	
732	N732	-2.84049	0	1.324542	
733	N733	-2.898431	0	1.200287	
734	N734	-2.909911	0	1.525673	
735	N735	-2.968992	0	1.405418	
736	N736	-3.028073	0	1.285163	
737	N737	-3.087154	0	1.164909	
738	N738	-3.037274	0	1.602549	
739	N739	-3.097495	0	1.486294	
740	N740	-3.157716	0	1.37004	
741	N741	-3.217936	0	1.253786	
742	N742	-3.164637	0	1.679424	
743	N743	-3.225998	0	1.56717	
744	N744	-3.287358	0	1.454917	
745	N745	-3.348718	0	1.342663	
746	N746	-3.292	0	1.7563	
747	N747	-3.3545	0	1.648046	
748	N748	-3.417	0	1.539793	
749	N749	-2.991856	0	0.943602	
750	N750	-3.027341	0	0.811173	
751	N751	-3.062825	0	0.678744	
752	N752	-3.129392	0	1.038524	
753	N753	-3.171631	0	0.912139	
754	N754	-3.213869	0	0.785754	
755	N755	-3.256107	0	0.659368	
756	N756	-3.266928	0	1.133445	
757	N757	-3.31592	0	1.013104	
758	N758	-3.364913	0	0.892763	
759	N759	-3.413905	0	0.772421	
760	N760	-3.404464	0	1.228366	
761	N761	-3.46021	0	1.114069	
762	N762	-3.515956	0	0.999772	
763	N763	-3.571702	0	0.885474	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
764	N764	-3.542	0	1.323287	
765	N765	-3.6045	0	1.215034	
766	N766	-3.667	0	1.106781	
767	N767	-3.724509	0	0.620805	
768	N768	-3.515776	0	0.595975	
769	N769	-3.307043	0	0.571145	
770	N770	-3.887946	0	0.489506	
771	N771	-3.693524	0	0.469564	
772	N772	-3.499102	0	0.449621	
773	N773	-3.30468	0	0.429679	
774	N774	-3.110258	0	0.409737	
775	N775	-3.84265	0	0.333377	
776	N776	-3.662539	0	0.318322	
777	N777	-3.482429	0	0.303267	
778	N778	-3.302318	0	0.288213	
779	N779	-3.122207	0	0.273158	
780	N780	-3.797353	0	0.177248	
781	N781	-3.631554	0	0.167081	
782	N782	-3.465755	0	0.156913	
783	N783	-3.299956	0	0.146746	
784	N784	-3.134156	0	0.136579	
785	N785	-3.600569	0	0.015839	
786	N786	-3.449081	0	0.01056	
787	N787	-3.297593	0	0.00528	
788	N788	-3.706761	0	-0.13501	
789	N789	-3.56361	0	-0.135402	
790	N790	-3.420459	0	-0.135794	
791	N791	-3.277307	0	-0.136187	
792	N792	-3.134156	0	-0.136579	
793	N793	-3.661464	0	-0.291139	
794	N794	-3.52665	0	-0.286644	
795	N795	-3.391836	0	-0.282148	
796	N796	-3.257022	0	-0.277653	
797	N797	-3.122207	0	-0.273158	
798	N798	-3.616168	0	-0.447268	
799	N799	-3.48969	0	-0.437885	
800	N800	-3.363213	0	-0.428502	
801	N801	-3.236736	0	-0.419119	
802	N802	-3.110258	0	-0.409737	
803	N803	-3.452731	0	-0.589126	
804	N804	-3.33459	0	-0.574856	
805	N805	-3.21645	0	-0.560586	
806	N806	-3.525575	0	-0.759526	
807	N807	-3.409888	0	-0.73933	
808	N808	-3.2942	0	-0.719135	
809	N809	-3.178512	0	-0.69894	
810	N810	-3.062825	0	-0.678744	
811	N811	-3.480279	0	-0.915655	
812	N812	-3.367044	0	-0.889534	
813	N813	-3.25381	0	-0.863414	
814	N814	-3.140575	0	-0.837294	
815	N815	-3.027341	0	-0.811173	
816	N816	-3.434982	0	-1.071784	
817	N817	-3.324201	0	-1.039738	
818	N818	-3.213419	0	-1.007693	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
819	N819	-3.102638	0	-0.975648	
820	N820	-2.991856	0	-0.943602	
821	N821	-3.281357	0	-1.189942	
822	N822	-3.173029	0	-1.151972	
823	N823	-3.064701	0	-1.114002	
824	N824	-2.898431	0	-1.200287	
825	N825	-2.84049	0	-1.324542	
826	N826	-2.782549	0	-1.448797	
827	N827	-3.009921	0	-1.246225	
828	N828	-2.955141	0	-1.378449	
829	N829	-2.900361	0	-1.510673	
830	N830	-2.819539	0	-1.688002	
831	N831	-3.12141	0	-1.292164	
832	N832	-3.069791	0	-1.432356	
833	N833	-3.018173	0	-1.572548	
834	N834	-2.940512	0	-1.757846	
835	N835	-3.2329	0	-1.338103	
836	N836	-3.184442	0	-1.486263	
837	N837	-3.135985	0	-1.634424	
838	N838	-3.061486	0	-1.82769	
839	N839	-3.344389	0	-1.384042	
840	N840	-3.299093	0	-1.540171	
841	N841	-3.253797	0	-1.6963	
842	N842	-2.313112	0	-2.119222	
843	N843	-2.216167	0	-2.216167	
844	N844	-2.119222	0	-2.313112	
845	N845	-2.497104	0	-2.097108	
846	N846	-2.396255	0	-2.199139	
847	N847	-2.295405	0	-2.301171	
848	N848	-2.194556	0	-2.403203	
849	N849	-2.093706	0	-2.505234	
850	N850	-2.584152	0	-2.171938	
851	N851	-2.479397	0	-2.279056	
852	N852	-2.374643	0	-2.386175	
853	N853	-2.269889	0	-2.493293	
854	N854	-2.165135	0	-2.600412	
855	N855	-2.671199	0	-2.246768	
856	N856	-2.56254	0	-2.358973	
857	N857	-2.453881	0	-2.471179	
858	N858	-2.345223	0	-2.583384	
859	N859	-2.236564	0	-2.695589	
860	N860	-2.645683	0	-2.43889	
861	N861	-2.53312	0	-2.556182	
862	N862	-2.420556	0	-2.673475	
863	N863	-1.685359	0	-2.64597	
864	N864	-1.797665	0	-2.567332	
865	N865	-1.909971	0	-2.488694	
866	N866	-1.644224	0	-2.85844	
867	N867	-1.756595	0	-2.770138	
868	N868	-1.868965	0	-2.681837	
869	N869	-1.981336	0	-2.593536	
870	N870	-1.715396	0	-2.992272	
871	N871	-1.827831	0	-2.894307	
872	N872	-1.940265	0	-2.796342	
873	N873	-2.0527	0	-2.698377	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
874	N874	-1.786567	0	-3.126104	
875	N875	-1.899066	0	-3.018475	
876	N876	-2.011566	0	-2.910847	
877	N877	-2.124065	0	-2.803218	
878	N878	-1.970302	0	-3.142644	
879	N879	-2.082866	0	-3.025352	
880	N880	-2.195429	0	-2.908059	
881	N881	-1.448797	0	-2.782549	
882	N882	-1.324542	0	-2.84049	
883	N883	-1.200287	0	-2.898431	
884	N884	-1.531661	0	-2.975732	
885	N885	-1.413002	0	-3.019188	
886	N886	-1.294342	0	-3.062644	
887	N887	-1.175683	0	-3.1061	
888	N888	-1.057024	0	-3.149556	
889	N889	-1.490269	0	-3.226856	
890	N890	-1.377206	0	-3.255827	
891	N891	-1.264142	0	-3.284798	
892	N892	-1.151079	0	-3.313768	
893	N893	-1.038016	0	-3.342739	
894	N894	-1.448877	0	-3.477981	
895	N895	-1.34141	0	-3.492466	
896	N896	-1.233942	0	-3.506952	
897	N897	-1.126475	0	-3.521437	
898	N898	-1.019008	0	-3.535922	
899	N899	-1.305614	0	-3.729106	
900	N900	-1.203743	0	-3.729106	
901	N901	-1.101871	0	-3.729106	
902	N902	-0.943602	0	-2.991856	
903	N903	-0.811173	0	-3.027341	
904	N904	-0.678744	0	-3.062825	
905	N905	-0.926452	0	-3.176169	
906	N906	-0.79588	0	-3.202782	
907	N907	-0.665308	0	-3.229395	
908	N908	-0.534737	0	-3.256008	
909	N909	-0.909301	0	-3.360481	
910	N910	-0.780587	0	-3.378223	
911	N911	-0.651872	0	-3.395965	
912	N912	-0.523158	0	-3.413707	
913	N913	-0.892151	0	-3.544793	
914	N914	-0.765293	0	-3.553664	
915	N915	-0.638436	0	-3.562535	
916	N916	-0.511579	0	-3.571406	
917	N917	-0.875	0	-3.729106	
918	N918	-0.75	0	-3.729106	
919	N919	-0.625	0	-3.729106	
920	N920	-0.409737	0	-3.110258	
921	N921	-0.273158	0	-3.122207	
922	N922	-0.136579	0	-3.134156	
923	N923	-0.401052	0	-3.26497	
924	N924	-0.267368	0	-3.273932	
925	N925	-0.133684	0	-3.282894	
926	N926	-0.392368	0	-3.419682	
927	N927	-0.261579	0	-3.425656	
928	N928	-0.130789	0	-3.431631	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
929	N929	-0.383684	0	-3.574394	
930	N930	-0.255789	0	-3.577381	
931	N931	-0.127895	0	-3.580368	
932	N932	-0.375	0	-3.729106	
933	N933	-0.25	0	-3.729106	
934	N934	-0.125	0	-3.729106	
935	N935	-2.449376	0	-1.966125	
936	N936	-2.488694	0	-1.909971	
937	N937	-2.528013	0	-1.853818	
938	N938	-2.540593	0	-2.040405	
939	N939	-2.584082	0	-1.983702	
940	N940	-2.627571	0	-1.926999	
941	N941	-2.67106	0	-1.870296	
942	N942	-2.631811	0	-2.114685	
943	N943	-2.67947	0	-2.057433	
944	N944	-2.727129	0	-2.00018	
945	N945	-2.774788	0	-1.942928	
946	N946	-2.723028	0	-2.188965	
947	N947	-2.774858	0	-2.131163	
948	N948	-2.826687	0	-2.073361	
949	N949	-2.878516	0	-2.015559	
950	N950	-2.814246	0	-2.263246	
951	N951	-2.870245	0	-2.204894	
952	N952	-2.926245	0	-2.146542	
953	N953	-2.606651	0	-1.741512	
954	N954	-2.64597	0	-1.685359	
955	N955	-2.71469	0	-1.813446	
956	N956	-2.75832	0	-1.756597	
957	N957	-2.822729	0	-1.885381	
958	N958	-2.870671	0	-1.827834	
959	N959	-2.930769	0	-1.957315	
960	N960	-2.983022	0	-1.899072	
961	N961	-3.038808	0	-2.029249	
962	N962	-3.095372	0	-1.970309	
963	N963	-3.831371	0	0.822081	
964	N964	-3.587017	0	0.730159	
965	N965	-1.632612	0	-3.494521	
966	N966	-1.612759	0	-3.237883	
967	N967	-1.551514	0	-3.23237	
968	N968	-1.535781	0	-3.422091	
969	N969	-1.520048	0	-3.611813	
970	N970	-1.622685	0	-3.366202	
971	N971	-1.597869	0	-3.045405	
972	N972	-1.664077	0	-3.115077	
973	N973	-1.704626	0	-3.246153	
974	N974	-1.745175	0	-3.377229	
975	N975	-3.882307	0	0.733858	
976	N976	-3.716852	0	0.698463	
977	N977	-3.709194	0	0.77612	
978	N978	-3.551397	0	0.663067	
979	N979	-3.780436	0	0.910304	
980	N980	-3.640448	0	0.830797	
981	N981	-3.500461	0	0.75129	
982	N982	-3.403752	0	0.661218	
983	N983	-3.234542	0	-1.807322	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
984	N984	-2.750649	0	-1.527947	
985	N985	-2.871623	0	-1.597791	
986	N986	-2.992596	0	-1.667635	
987	N987	-3.113569	0	-1.737479	
988	N988	-3.182459	0.333333	-1.897534	
989	N989	-2.819539	0.333333	-1.688002	
990	N990	-2.940512	0.333333	-1.757846	
991	N991	-3.061486	0.333333	-1.82769	
992	N992	-3.234542	0.333333	-1.807322	
993	N993	-2.871623	0.333333	-1.597791	
994	N994	-2.992596	0.333333	-1.667635	
995	N995	-3.113569	0.333333	-1.737479	
996	N996	-3.182459	-0.333333	-1.897534	
997	N997	-2.698566	-0.333333	-1.618158	
998	N998	-2.819539	-0.333333	-1.688002	
999	N999	-2.940512	-0.333333	-1.757846	
1000	N1000	-3.061486	-0.333333	-1.82769	
1001	N1001	-3.234542	-0.333333	-1.807322	
1002	N1002	-2.750649	-0.333333	-1.527947	
1003	N1003	-2.871623	-0.333333	-1.597791	
1004	N1004	-2.992596	-0.333333	-1.667635	
1005	N1005	-3.113569	-0.333333	-1.737479	
1006	N1006	-3.182459	-0.166666	-1.897534	
1007	N1007	-2.698566	-0.166666	-1.618158	
1008	N1008	-2.819539	-0.166666	-1.688002	
1009	N1009	-2.940512	-0.166666	-1.757846	
1010	N1010	-3.061486	-0.166666	-1.82769	
1011	N1011	-3.234542	-0.166666	-1.807322	
1012	N1012	-2.750649	-0.166666	-1.527947	
1013	N1013	-2.871623	-0.166666	-1.597791	
1014	N1014	-2.992596	-0.166666	-1.667635	
1015	N1015	-3.113569	-0.166666	-1.737479	
1016	N1016	-3.182459	0.166667	-1.897534	
1017	N1017	-2.698566	0.166667	-1.618158	
1018	N1018	-2.819539	0.166667	-1.688002	
1019	N1019	-2.940512	0.166667	-1.757846	
1020	N1020	-3.061486	0.166667	-1.82769	
1021	N1021	-3.234542	0.166667	-1.807322	
1022	N1022	-2.750649	0.166667	-1.527947	
1023	N1023	-2.871623	0.166667	-1.597791	
1024	N1024	-2.992596	0.166667	-1.667635	
1025	N1025	-3.113569	0.166667	-1.737479	
1026	N1026	-2.525758	0.208333	3.083471	
1027	N1027	2.525758	0.208333	3.083471	
1028	N1028	-1.894318	0.208333	3.238817	
1029	N1029	-1.262879	0.208333	3.394164	
1030	N1030	-0.631439	0.208333	3.54951	
1031	N1031	0.631439	0.208333	3.54951	
1032	N1032	1.262879	0.208333	3.394164	
1033	N1033	1.894318	0.208333	3.238817	
1034	N1034	-0.317303	0.208333	3.626794	
1035	N1035	2.367898	0.208333	3.122307	
1036	N1036	2.210038	0.208333	3.161144	
1037	N1037	2.052178	0.208333	3.199981	
1038	N1038	1.736458	0.208333	3.277654	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1039	N1039	1.578599	0.208333	3.31649	
1040	N1040	1.420739	0.208333	3.355327	
1041	N1041	1.105019	0.208333	3.433	
1042	N1042	0.947159	0.208333	3.471837	
1043	N1043	0.789299	0.208333	3.510674	
1044	N1044	0.47358	0.208333	3.588347	
1045	N1045	0.31572	0.208333	3.627184	
1046	N1046	0.15786	0.208333	3.66602	
1047	N1047	-0.789299	0.208333	3.510674	
1048	N1048	-0.947159	0.208333	3.471837	
1049	N1049	-1.105019	0.208333	3.433	
1050	N1050	-1.736458	0.208333	3.277654	
1051	N1051	-1.578599	0.208333	3.31649	
1052	N1052	-1.420739	0.208333	3.355327	
1053	N1053	-0.552905	0.208333	3.568831	
1054	N1054	-0.474371	0.208333	3.588152	
1055	N1055	-0.395837	0.208333	3.607473	
1056	N1056	-0.237978	0.208333	3.64631	
1057	N1057	-0.158652	0.208333	3.665826	
1058	N1058	-2.210038	0.208333	3.161144	
1059	N1059	-2.367898	0.208333	3.122307	
1060	N1060	-2.052178	0.208333	3.199981	
1061	N1061	3.933243	0.208333	0.645635	
1062	N1062	1.407485	0.208333	-3.729106	
1063	N1063	3.752057	0.208333	0.021119	
1064	N1064	3.570871	0.208333	-0.603397	
1065	N1065	3.389686	0.208333	-1.227913	
1066	N1066	2.758246	0.208333	-2.321598	
1067	N1067	2.307993	0.208333	-2.790767	
1068	N1068	1.857739	0.208333	-3.259936	
1069	N1069	3.299547	0.208333	-1.538604	
1070	N1070	1.520048	0.208333	-3.611813	
1071	N1071	1.632612	0.208333	-3.494521	
1072	N1072	1.745175	0.208333	-3.377229	
1073	N1073	1.970302	0.208333	-3.142644	
1074	N1074	2.082866	0.208333	-3.025352	
1075	N1075	2.195429	0.208333	-2.908059	
1076	N1076	2.420556	0.208333	-2.673475	
1077	N1077	2.53312	0.208333	-2.556182	
1078	N1078	2.645683	0.208333	-2.43889	
1079	N1079	2.87081	0.208333	-2.204305	
1080	N1080	2.983373	0.208333	-2.087013	
1081	N1081	3.095937	0.208333	-1.969721	
1082	N1082	3.434982	0.208333	-1.071784	
1083	N1083	3.480279	0.208333	-0.915655	
1084	N1084	3.525575	0.208333	-0.759526	
1085	N1085	3.706761	0.208333	-0.13501	
1086	N1086	3.661464	0.208333	-0.291139	
1087	N1087	3.616168	0.208333	-0.447268	
1088	N1088	3.367151	0.208333	-1.305586	
1089	N1089	3.344617	0.208333	-1.383258	
1090	N1090	3.322082	0.208333	-1.460931	
1091	N1091	3.276786	0.208333	-1.61706	
1092	N1092	3.254024	0.208333	-1.695516	
1093	N1093	3.84265	0.208333	0.333377	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1094	N1094	3.887946	0.208333	0.489506	
1095	N1095	3.797353	0.208333	0.177248	
1096	N1096	-1.407485	0.208333	-3.729106	
1097	N1097	-3.933243	0.208333	0.645635	
1098	N1098	-1.857739	0.208333	-3.259936	
1099	N1099	-2.307993	0.208333	-2.790767	
1100	N1100	-2.758246	0.208333	-2.321598	
1101	N1101	-3.389686	0.208333	-1.227913	
1102	N1102	-3.570871	0.208333	-0.603397	
1103	N1103	-3.752057	0.208333	0.021119	
1104	N1104	-2.982244	0.208333	-2.08819	
1105	N1105	-3.887946	0.208333	0.489506	
1106	N1106	-3.84265	0.208333	0.333377	
1107	N1107	-3.797353	0.208333	0.177248	
1108	N1108	-3.706761	0.208333	-0.13501	
1109	N1109	-3.661464	0.208333	-0.291139	
1110	N1110	-3.616168	0.208333	-0.447268	
1111	N1111	-3.525575	0.208333	-0.759526	
1112	N1112	-3.480279	0.208333	-0.915655	
1113	N1113	-3.434982	0.208333	-1.071784	
1114	N1114	-3.344389	0.208333	-1.384042	
1115	N1115	-3.299093	0.208333	-1.540171	
1116	N1116	-3.253797	0.208333	-1.6963	
1117	N1117	-2.645683	0.208333	-2.43889	
1118	N1118	-2.53312	0.208333	-2.556182	
1119	N1119	-2.420556	0.208333	-2.673475	
1120	N1120	-1.970302	0.208333	-3.142644	
1121	N1121	-2.082866	0.208333	-3.025352	
1122	N1122	-2.195429	0.208333	-2.908059	
1123	N1123	-2.814246	0.208333	-2.263246	
1124	N1124	-2.870245	0.208333	-2.204894	
1125	N1125	-2.926245	0.208333	-2.146542	
1126	N1126	-3.038808	0.208333	-2.029249	
1127	N1127	-3.095372	0.208333	-1.970309	
1128	N1128	-1.632612	0.208333	-3.494521	
1129	N1129	-1.520048	0.208333	-3.611813	
1130	N1130	-1.745175	0.208333	-3.377229	
1131	N1131	-0.507185	0	-6.254436	
1132	N1132	0.507185	0	-6.254436	
1133	N1133	-5.162908	0	3.566453	
1134	N1134	-5.670093	0	2.687983	
1135	N1135	5.670093	0	2.687983	
1136	N1136	5.162908	0	3.566453	
1137	N1137	-3.247595	-0.333	1.875	
1138	N1138	3.247595	-0.333	1.875	
1139	N1139	0	0	-6.254436	
1140	N1140	0	-0.333333	-5.062461	
1141	N1141	0	-0.083333	-3.146106	
1142	N1142	0	-0.083333	-3.291856	
1143	N1143	0	-0.083333	-3.437606	
1144	N1144	0	-0.083333	-3.583356	
1145	N1145	0	-0.083333	-3.729106	
1146	N1146	-2.724607	-0.083333	1.573053	
1147	N1147	-2.850831	-0.083333	1.645928	
1148	N1148	-2.977054	-0.083333	1.718803	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1149	N1149	-3.103277	-0.083333	1.791678	
1150	N1150	-3.2295	-0.083333	1.864553	
1151	N1151	2.724607	-0.083333	1.573053	
1152	N1152	2.850831	-0.083333	1.645928	
1153	N1153	2.977054	-0.083333	1.718803	
1154	N1154	3.103277	-0.083333	1.791678	
1155	N1155	3.2295	-0.083333	1.864553	
1156	N1156	5.5	0	3.704857	
1157	N1157	2.75	0	3.704857	
1158	N1158	-2.75	0	3.704857	
1159	N1159	-6	0	3.704857	
1160	N1160	-6	4.000333	3.954857	
1161	N1161	-6	-3.999667	3.954857	
1162	N1162	5.5	4	3.954857	
1163	N1163	2.75	4	3.954857	
1164	N1164	-2.75	4	3.954857	
1165	N1165	5.5	-4	3.954857	
1166	N1166	2.75	-4	3.954857	
1167	N1167	-2.75	-4	3.954857	
1168	N1168	-0.177083	0	3.704857	
1169	N1169	0.177083	0	3.704857	
1170	N1170	3.297042	0	-1.69907	
1171	N1171	3.119959	0	-2.005787	
1172	N1172	-3.119959	0	-2.005787	
1173	N1173	-3.297042	0	-1.69907	
1174	N1174	-0.920101	-0.333	0.531221	
1175	N1175	-4.38422	-0.333333	2.53123	
1176	N1176	0.920101	-0.333	0.531221	
1177	N1177	4.38422	-0.333333	2.53123	
1178	N1178	5.5	0	3.954857	
1179	N1179	2.75	0	3.954857	
1180	N1180	-2.75	0	3.954857	
1181	N1181	-6	0	3.954857	
1182	N1182	0.4585	0	-6.615568	
1183	N1183	1.8335	0	-4.233998	
1184	N1184	4.5835	0	0.529141	
1185	N1185	6.2085	0	3.343724	
1186	N1186	6.425007	4.000333	3.218724	
1187	N1187	6.425007	-3.999667	3.218724	
1188	N1188	2.050007	4	-4.358998	
1189	N1189	4.800007	4	0.404141	
1190	N1190	2.050007	-4	-4.358998	
1191	N1191	4.800007	-4	0.404141	
1192	N1192	0.675007	0	-6.740568	
1193	N1193	2.050007	0	-4.358998	
1194	N1194	4.800007	0	0.404141	
1195	N1195	6.425007	0	3.218724	
1196	N1196	-5.9585	0	2.910711	
1197	N1197	-4.5835	0	0.529141	
1198	N1198	-1.8335	0	-4.233998	
1199	N1199	-0.2085	0	-7.048581	
1200	N1200	-0.425007	4.000333	-7.173581	
1201	N1201	-0.425007	-3.999667	-7.173581	
1202	N1202	-6.175007	4	2.785711	
1203	N1203	-4.800007	4	0.404141	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1204	N1204	-2.050007	4	-4.358998	
1205	N1205	-6.175007	-4	2.785711	
1206	N1206	-4.800007	-4	0.404141	
1207	N1207	-2.050007	-4	-4.358998	
1208	N1208	-6.175007	0	2.785711	
1209	N1209	-4.800007	0	0.404141	
1210	N1210	-2.050007	0	-4.358998	
1211	N1211	-0.425007	0	-7.173581	
1212	N1212	-6.25	3	3.704857	
1213	N1213	6.25	3	3.704857	
1214	N1214	6.3335	3	3.56023	
1215	N1215	0.0835	3	-7.265087	
1216	N1216	-0.0835	3	-7.265087	
1217	N1217	-6.3335	3	3.56023	
1218	N1218	5.5	3	3.704857	
1219	N1219	2.75	3	3.704857	
1220	N1220	-2.75	3	3.704857	
1221	N1221	-6	3	3.704857	
1222	N1222	5.5	3	3.954857	
1223	N1223	2.75	3	3.954857	
1224	N1224	-2.75	3	3.954857	
1225	N1225	-6	3	3.954857	
1226	N1226	0.4585	3	-6.615568	
1227	N1227	1.8335	3	-4.233998	
1228	N1228	4.5835	3	0.529141	
1229	N1229	6.2085	3	3.343724	
1230	N1230	0.675007	3	-6.740568	
1231	N1231	2.050007	3	-4.358998	
1232	N1232	4.800007	3	0.404141	
1233	N1233	6.425007	3	3.218724	
1234	N1234	-5.9585	3	2.910711	
1235	N1235	-4.5835	3	0.529141	
1236	N1236	-1.8335	3	-4.233998	
1237	N1237	-0.2085	3	-7.048581	
1238	N1238	-6.175007	3	2.785711	
1239	N1239	-4.800007	3	0.404141	
1240	N1240	-2.050007	3	-4.358998	
1241	N1241	-0.425007	3	-7.173581	
1242	N1242	0.675007	4	-6.740568	
1243	N1243	0.675007	-4	-6.740568	
1244	N1244	-4.75	3	3.704857	
1245	N1245	4.75	3	3.704857	
1246	N1246	5.5835	3	2.261192	
1247	N1247	0.8335	3	-5.966049	
1248	N1248	-0.8335	3	-5.966049	
1249	N1249	-5.5835	3	2.261192	
1250	N1251	3.050007	-3.999667	-2.626948	
1251	N1252	3.050007	3	-2.626948	
1252	N1253	2.8335	3	-2.501948	
1253	N1254	2.8335	0	-2.501948	
1254	N1255	3.050007	0	-2.626948	
1255	N1256	3.050007	4.000333	-2.626948	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Mount Pipes 1	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
2	Face Horizontal	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
3	Plan Bracing	PL3/8X4	Beam	RECT	A36 Gr.36	Typical	1.5	0.018	2	0.066
4	Grating Angle	L2X2X4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
5	Standoff Arm	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
6	Plate Bracing2	PL3/8X4	Beam	RECT	A36 Gr.36	Typical	1.5	0.018	2	0.066
7	MP 2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
8	Support Rail	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
9	End Connection	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	0.031

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	CF1A	1.5CU1.25X035	Beam	CU	A570 Gr.33	Typical	0.131	0.022	0.052	5.4e-5

Aluminum Section Sets

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

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A570 Gr.33	29500	11346	0.3	0.65	0.49	33	52
2	A607 C1 Gr.55	29500	11346	0.3	0.65	0.49	55	70

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Table B.4	kt	Ftu [ksi]	Fty [ksi]	Fcy [ksi]	Fsu [ksi]	Ct
1	3003-H14	10100	3787.5	0.33	1.3	0.173	Table B.4-1	1	19	16	13	12	141
2	6061-T6	10100	3787.5	0.33	1.3	0.173	Table B.4-2	1	38	35	35	24	141
3	6063-T5	10100	3787.5	0.33	1.3	0.173	Table B.4-2	1	22	16	16	13	141
4	6063-T6	10100	3787.5	0.33	1.3	0.173	Table B.4-2	1	30	25	25	19	141
5	5052-H34	10200	3787.5	0.33	1.3	0.173	Table B.4-1	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	0.33	1.3	0.173	Table B.4-1	1	24	15	15	15	141

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N1	N32		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
2	M2	N18	N5		Plan Bracing	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
3	M3	N6	N11		Plan Bracing	Beam	RECT	A36 Gr.36	Typical
4	M4	N1131	N28		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
5	M5	N12	N17		Plan Bracing	Beam	RECT	A36 Gr.36	Typical
6	M6	N20	N21	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N22	N23		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N24	N25	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N26	N27		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N28	N29	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
11	M11	N30	N31		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
12	M12	N341	N2		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
13	M13	N33	N1140		HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical
14	M14	N37	N1141		RIGID	None	None	RIGID	Typical
15	M15	N67	N1142		RIGID	None	None	RIGID	Typical
16	M16	N66	N1143		RIGID	None	None	RIGID	Typical
17	M17	N65	N1144		RIGID	None	None	RIGID	Typical
18	M18	N36	N1145		RIGID	None	None	RIGID	Typical
19	M19	N377	N382		RIGID	None	None	RIGID	Typical
20	M20	N367	N372		RIGID	None	None	RIGID	Typical
21	M21	N366	N371		RIGID	None	None	RIGID	Typical
22	M22	N8	N384		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
23	M23	N662	N9		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
24	M24	N698	N703		RIGID	None	None	RIGID	Typical
25	M25	N688	N693		RIGID	None	None	RIGID	Typical
26	M26	N687	N692		RIGID	None	None	RIGID	Typical
27	M27	N14	N705		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
28	M28	N983	N15		Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
29	M29	N1019	N1024		RIGID	None	None	RIGID	Typical
30	M30	N1009	N1014		RIGID	None	None	RIGID	Typical
31	M31	N1008	N1013		RIGID	None	None	RIGID	Typical
32	M32	N16	N1131		RIGID	None	None	RIGID	Typical
33	M33	N13	N1132		RIGID	None	None	RIGID	Typical
34	M34	N1133	N20		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
35	M35	N4	N1133		RIGID	None	None	RIGID	Typical
36	M36	N19	N1134		RIGID	None	None	RIGID	Typical
37	M37	N1135	N24		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
38	M38	N10	N1135		RIGID	None	None	RIGID	Typical
39	M39	N7	N1136		RIGID	None	None	RIGID	Typical
40	M40	N30	N1134		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
41	M41	N28	N26		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
42	M42	N26	N1132		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
43	M43	N24	N22		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
44	M44	N22	N1136		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
45	M45	N20	N30		Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
46	M46	N1141	N311		RIGID	None	None	RIGID	Typical
47	M47	N1142	N314		RIGID	None	None	RIGID	Typical
48	M48	N1143	N313		RIGID	None	None	RIGID	Typical
49	M49	N1144	N312		RIGID	None	None	RIGID	Typical
50	M50	N1145	N310		RIGID	None	None	RIGID	Typical
51	M51	N1141	N922		RIGID	None	None	RIGID	Typical
52	M52	N1141	N410		RIGID	None	None	RIGID	Typical
53	M53	N1142	N925		RIGID	None	None	RIGID	Typical
54	M54	N1142	N413		RIGID	None	None	RIGID	Typical
55	M55	N1143	N928		RIGID	None	None	RIGID	Typical
56	M56	N1143	N417		RIGID	None	None	RIGID	Typical
57	M57	N1144	N931		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
58	M58	N1144	N421		RIGID	None	None	RIGID	Typical
59	M59	N1145	N934		RIGID	None	None	RIGID	Typical
60	M60	N1145	N425		RIGID	None	None	RIGID	Typical
61	M61	N38	N1146		RIGID	None	None	RIGID	Typical
62	M62	N266	N1147		RIGID	None	None	RIGID	Typical
63	M63	N270	N1148		RIGID	None	None	RIGID	Typical
64	M64	N274	N1149		RIGID	None	None	RIGID	Typical
65	M65	N51	N1150		RIGID	None	None	RIGID	Typical
66	M66	N1146	N316		RIGID	None	None	RIGID	Typical
67	M67	N1147	N319		RIGID	None	None	RIGID	Typical
68	M68	N1148	N318		RIGID	None	None	RIGID	Typical
69	M69	N1149	N317		RIGID	None	None	RIGID	Typical
70	M70	N1150	N315		RIGID	None	None	RIGID	Typical
71	M71	N1146	N262		RIGID	None	None	RIGID	Typical
72	M72	N1146	N731		RIGID	None	None	RIGID	Typical
73	M73	N1147	N265		RIGID	None	None	RIGID	Typical
74	M74	N1147	N734		RIGID	None	None	RIGID	Typical
75	M75	N1148	N269		RIGID	None	None	RIGID	Typical
76	M76	N1148	N738		RIGID	None	None	RIGID	Typical
77	M77	N1149	N273		RIGID	None	None	RIGID	Typical
78	M78	N1149	N742		RIGID	None	None	RIGID	Typical
79	M79	N1150	N277		RIGID	None	None	RIGID	Typical
80	M80	N1150	N746		RIGID	None	None	RIGID	Typical
81	M81	N50	N1151		RIGID	None	None	RIGID	Typical
82	M82	N68	N1152		RIGID	None	None	RIGID	Typical
83	M83	N69	N1153		RIGID	None	None	RIGID	Typical
84	M84	N70	N1154		RIGID	None	None	RIGID	Typical
85	M85	N54	N1155		RIGID	None	None	RIGID	Typical
86	M86	N1151	N321		RIGID	None	None	RIGID	Typical
87	M87	N1152	N324		RIGID	None	None	RIGID	Typical
88	M88	N1153	N323		RIGID	None	None	RIGID	Typical
89	M89	N1154	N322		RIGID	None	None	RIGID	Typical
90	M90	N1155	N320		RIGID	None	None	RIGID	Typical
91	M91	N1151	N601		RIGID	None	None	RIGID	Typical
92	M92	N1151	N71		RIGID	None	None	RIGID	Typical
93	M93	N1152	N604		RIGID	None	None	RIGID	Typical
94	M94	N1152	N74		RIGID	None	None	RIGID	Typical
95	M95	N1153	N607		RIGID	None	None	RIGID	Typical
96	M96	N1153	N78		RIGID	None	None	RIGID	Typical
97	M97	N1154	N610		RIGID	None	None	RIGID	Typical
98	M98	N1154	N82		RIGID	None	None	RIGID	Typical
99	M99	N1155	N613		RIGID	None	None	RIGID	Typical
100	M100	N1155	N86		RIGID	None	None	RIGID	Typical
101	MP3A	N1164	N1167		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
102	MP2A	N1163	N1166		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
103	MP1A	N1162	N1165		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
104	MP4A	N1160	N1161		MP 2	Beam	Pipe	A53 Gr.B	Typical
105	M105	N374	N1168		RIGID	None	None	RIGID	Typical
106	M106	N1168	N364		RIGID	None	None	RIGID	Typical
107	M107	N379	N1169		RIGID	None	None	RIGID	Typical
108	M108	N1169	N369		RIGID	None	None	RIGID	Typical
109	M109	N695	N1170		RIGID	None	None	RIGID	Typical
110	M110	N1170	N685		RIGID	None	None	RIGID	Typical
111	M111	N700	N1171		RIGID	None	None	RIGID	Typical
112	M112	N1171	N690		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
113	M113	N1016	N1172		RIGID	None	None	RIGID	Typical
114	M114	N1172	N1006		RIGID	None	None	RIGID	Typical
115	M115	N1021	N1173		RIGID	None	None	RIGID	Typical
116	M116	N1173	N1011		RIGID	None	None	RIGID	Typical
117	M117	N1174	N1175		HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical
118	M118	N1176	N1177		HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical
119	M119	N1181	N1159		RIGID	None	None	RIGID	Typical
120	M120	N1180	N1158		RIGID	None	None	RIGID	Typical
121	M121	N1179	N1157		RIGID	None	None	RIGID	Typical
122	M122	N1178	N1156		RIGID	None	None	RIGID	Typical
123	MP4C	N1189	N1191		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
124	MP2C	N1188	N1190		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
125	MP5C	N1186	N1187		MP 2	Beam	Pipe	A53 Gr.B	Typical
126	M127	N1195	N1185		RIGID	None	None	RIGID	Typical
127	M128	N1194	N1184		RIGID	None	None	RIGID	Typical
128	M129	N1193	N1183		RIGID	None	None	RIGID	Typical
129	M130	N1192	N1182		RIGID	None	None	RIGID	Typical
130	MP3B	N1204	N1207		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
131	MP2B	N1203	N1206		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
132	MP1B	N1202	N1205		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
133	MP4B	N1200	N1201		MP 2	Beam	Pipe	A53 Gr.B	Typical
134	M135	N1211	N1199		RIGID	None	None	RIGID	Typical
135	M136	N1210	N1198		RIGID	None	None	RIGID	Typical
136	M137	N1209	N1197		RIGID	None	None	RIGID	Typical
137	M138	N1208	N1196		RIGID	None	None	RIGID	Typical
138	M139	N1212	N1213		Support Rail	Beam	Pipe	A53 Gr.B	Typical
139	M140	N1217	N1216		Support Rail	Beam	Pipe	A53 Gr.B	Typical
140	M141	N1215	N1214		Support Rail	Beam	Pipe	A53 Gr.B	Typical
141	M142	N1225	N1221		RIGID	None	None	RIGID	Typical
142	M143	N1224	N1220		RIGID	None	None	RIGID	Typical
143	M144	N1223	N1219		RIGID	None	None	RIGID	Typical
144	M145	N1222	N1218		RIGID	None	None	RIGID	Typical
145	M146	N1233	N1229		RIGID	None	None	RIGID	Typical
146	M147	N1232	N1228		RIGID	None	None	RIGID	Typical
147	M148	N1231	N1227		RIGID	None	None	RIGID	Typical
148	M149	N1230	N1226		RIGID	None	None	RIGID	Typical
149	M150	N1241	N1237		RIGID	None	None	RIGID	Typical
150	M151	N1240	N1236		RIGID	None	None	RIGID	Typical
151	M152	N1239	N1235		RIGID	None	None	RIGID	Typical
152	M153	N1238	N1234		RIGID	None	None	RIGID	Typical
153	MP1C	N1242	N1243		Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
154	M154	N1247	N1248	180	End Connection	Beam	Single Angle	A36 Gr.36	Typical
155	M155	N1249	N1244	180	End Connection	Beam	Single Angle	A36 Gr.36	Typical
156	M156	N1245	N1246	180	End Connection	Beam	Single Angle	A36 Gr.36	Typical
157	M157	N1255	N1254		RIGID	None	None	RIGID	Typical
158	M158	N1252	N1253		RIGID	None	None	RIGID	Typical
159	MP3C	N1256	N1251	240	MP 2	Beam	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	Physical	Deflection Ratio Options	Analysis Offset [in]	Seismic DR
1	M1	Yes	N/A		None
2	M2	Yes	N/A		None
3	M3	Yes	N/A		None
4	M4	Yes	N/A		None
5	M5	Yes	N/A		None

Member Advanced Data (Continued)

	Label	Physical	Deflection Ratio Options	Analysis Offset [in]	Seismic DR
6	M6	Yes	N/A		None
7	M7	Yes	N/A		None
8	M8	Yes	N/A		None
9	M9	Yes	N/A		None
10	M10	Yes	N/A		None
11	M11	Yes	N/A		None
12	M12	Yes	N/A		None
13	M13	Yes	N/A		None
14	M14	Yes	** NA **		None
15	M15	Yes	** NA **		None
16	M16	Yes	** NA **		None
17	M17	Yes	** NA **		None
18	M18	Yes	** NA **		None
19	M19	Yes	** NA **		None
20	M20	Yes	** NA **		None
21	M21	Yes	** NA **		None
22	M22	Yes	N/A		None
23	M23	Yes	N/A		None
24	M24	Yes	** NA **		None
25	M25	Yes	** NA **		None
26	M26	Yes	** NA **		None
27	M27	Yes	N/A		None
28	M28	Yes	N/A		None
29	M29	Yes	** NA **		None
30	M30	Yes	** NA **		None
31	M31	Yes	** NA **		None
32	M32	Yes	** NA **		None
33	M33	Yes	** NA **		None
34	M34	Yes	N/A		None
35	M35	Yes	** NA **		None
36	M36	Yes	** NA **		None
37	M37	Yes	N/A		None
38	M38	Yes	** NA **		None
39	M39	Yes	** NA **		None
40	M40	Yes	N/A		None
41	M41	Yes	N/A		None
42	M42	Yes	N/A		None
43	M43	Yes	N/A		None
44	M44	Yes	N/A		None
45	M45	Yes	N/A		None
46	M46	Yes	** NA **		None
47	M47	Yes	** NA **		None
48	M48	Yes	** NA **		None
49	M49	Yes	** NA **		None
50	M50	Yes	** NA **		None
51	M51	Yes	** NA **		None
52	M52	Yes	** NA **		None
53	M53	Yes	** NA **		None
54	M54	Yes	** NA **		None
55	M55	Yes	** NA **		None
56	M56	Yes	** NA **		None
57	M57	Yes	** NA **		None
58	M58	Yes	** NA **		None
59	M59	Yes	** NA **		None
60	M60	Yes	** NA **		None

Member Advanced Data (Continued)

	Label	Physical	Deflection Ratio Options	Analysis Offset [in]	Seismic DR
61	M61	Yes	** NA **		None
62	M62	Yes	** NA **		None
63	M63	Yes	** NA **		None
64	M64	Yes	** NA **		None
65	M65	Yes	** NA **		None
66	M66	Yes	** NA **		None
67	M67	Yes	** NA **		None
68	M68	Yes	** NA **		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
79	M79	Yes	** NA **		None
80	M80	Yes	** NA **		None
81	M81	Yes	** NA **		None
82	M82	Yes	** NA **		None
83	M83	Yes	** NA **		None
84	M84	Yes	** NA **		None
85	M85	Yes	** NA **		None
86	M86	Yes	** NA **		None
87	M87	Yes	** NA **		None
88	M88	Yes	** NA **		None
89	M89	Yes	** NA **		None
90	M90	Yes	** NA **		None
91	M91	Yes	** NA **		None
92	M92	Yes	** NA **		None
93	M93	Yes	** NA **		None
94	M94	Yes	** NA **		None
95	M95	Yes	** NA **		None
96	M96	Yes	** NA **		None
97	M97	Yes	** NA **		None
98	M98	Yes	** NA **		None
99	M99	Yes	** NA **		None
100	M100	Yes	** NA **		None
101	MP3A	Yes	N/A		None
102	MP2A	Yes	N/A		None
103	MP1A	Yes	N/A		None
104	MP4A	Yes	N/A		None
105	M105	Yes	** NA **		None
106	M106	Yes	** NA **		None
107	M107	Yes	** NA **		None
108	M108	Yes	** NA **		None
109	M109	Yes	** NA **		None
110	M110	Yes	** NA **		None
111	M111	Yes	** NA **		None
112	M112	Yes	** NA **		None
113	M113	Yes	** NA **		None
114	M114	Yes	** NA **		None
115	M115	Yes	** NA **		None

Member Advanced Data (Continued)

	Label	Physical	Deflection Ratio Options	Analysis Offset [in]	Seismic DR
116	M116	Yes	** NA **		None
117	M117	Yes	N/A		None
118	M118	Yes	N/A		None
119	M119	Yes	** NA **		None
120	M120	Yes	** NA **		None
121	M121	Yes	** NA **		None
122	M122	Yes	** NA **		None
123	MP4C	Yes	N/A		None
124	MP2C	Yes	N/A		None
125	MP5C	Yes	N/A		None
126	M127	Yes	** NA **		None
127	M128	Yes	** NA **		None
128	M129	Yes	** NA **		None
129	M130	Yes	** NA **		None
130	MP3B	Yes	N/A		None
131	MP2B	Yes	N/A		None
132	MP1B	Yes	N/A		None
133	MP4B	Yes	N/A		None
134	M135	Yes	** NA **		None
135	M136	Yes	** NA **		None
136	M137	Yes	** NA **		None
137	M138	Yes	** NA **		None
138	M139	Yes	N/A	+z	None
139	M140	Yes	N/A	+z	None
140	M141	Yes	N/A	+z	None
141	M142	Yes	** NA **		None
142	M143	Yes	** NA **		None
143	M144	Yes	** NA **		None
144	M145	Yes	** NA **		None
145	M146	Yes	** NA **		None
146	M147	Yes	** NA **		None
147	M148	Yes	** NA **		None
148	M149	Yes	** NA **		None
149	M150	Yes	** NA **		None
150	M151	Yes	** NA **		None
151	M152	Yes	** NA **		None
152	M153	Yes	** NA **		None
153	MP1C	Yes	N/A		None
154	M154	Yes	N/A		None
155	M155	Yes	N/A		None
156	M156	Yes	N/A		None
157	M157	Yes	** NA **		None
158	M158	Yes	** NA **		None
159	MP3C	Yes	N/A		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
1	M1	Face Horizontal	6.198			Lbyy	1	1	N/A	N/A	Lateral
2	M2	Plan Bracing	4.25	Segment	Segment	Lbyy	0.65	0.65	N/A	N/A	Lateral
3	M3	Plan Bracing	4.25	Segment	Segment	Lbyy	0.65	0.65	N/A	N/A	Lateral
4	M4	Plate Bracing2	0.225			Lbyy	0.65	0.65	N/A	N/A	Lateral
5	M5	Plan Bracing	4.25	Segment	Segment	Lbyy	0.65	0.65	N/A	N/A	Lateral
6	M6	Grating Angle	2.916			Lbyy	0.65	0.65	N/A	N/A	Lateral
7	M7	Grating Angle	2.916			Lbyy	0.65	0.65	N/A	N/A	Lateral
8	M8	Grating Angle	2.916			Lbyy	0.65	0.65	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lb y-y [ft]	Lb z-z [ft]	Lcomp top [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
9	M9	Grating Angle	2.916			Lbyy	0.65	0.65	N/A	N/A	Lateral
10	M10	Grating Angle	2.916			Lbyy	0.65	0.65	N/A	N/A	Lateral
11	M11	Grating Angle	2.916			Lbyy	0.65	0.65	N/A	N/A	Lateral
12	M12	Face Horizontal	6.198			Lbyy	1	1	N/A	N/A	Lateral
13	M13	HSS4X4X4	4			Lbyy	2.1	2.1	N/A	N/A	Lateral
14	M22	Face Horizontal	6.198			Lbyy	1	1	N/A	N/A	Lateral
15	M23	Face Horizontal	6.198			Lbyy	1	1	N/A	N/A	Lateral
16	M27	Face Horizontal	6.198			Lbyy	1	1	N/A	N/A	Lateral
17	M28	Face Horizontal	6.198			Lbyy	1	1	N/A	N/A	Lateral
18	M34	Plate Bracing2	0.225			Lbyy	0.65	0.65	N/A	N/A	Lateral
19	M37	Plate Bracing2	0.225			Lbyy	0.65	0.65	N/A	N/A	Lateral
20	M40	Plate Bracing2	0.225			Lbyy	0.65	0.65	N/A	N/A	Lateral
21	M41	Plate Bracing2	0.565			Lbyy	0.65	0.65	N/A	N/A	Lateral
22	M42	Plate Bracing2	0.225			Lbyy	0.65	0.65	N/A	N/A	Lateral
23	M43	Plate Bracing2	0.565			Lbyy	0.65	0.65	N/A	N/A	Lateral
24	M44	Plate Bracing2	0.225			Lbyy	0.65	0.65	N/A	N/A	Lateral
25	M45	Plate Bracing2	0.565			Lbyy	0.65	0.65	N/A	N/A	Lateral
26	MP3A	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
27	MP2A	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
28	MP1A	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
29	MP4A	MP 2	8			Lbyy			N/A	N/A	Lateral
30	M117	HSS4X4X4	4			Lbyy	2.1	2.1	N/A	N/A	Lateral
31	M118	HSS4X4X4	4			Lbyy	2.1	2.1	N/A	N/A	Lateral
32	MP4C	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
33	MP2C	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
34	MP5C	MP 2	8			Lbyy			N/A	N/A	Lateral
35	MP3B	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
36	MP2B	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
37	MP1B	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
38	MP4B	MP 2	8			Lbyy			N/A	N/A	Lateral
39	M139	Support Rail	12.5			Lbyy			N/A	N/A	Lateral
40	M140	Support Rail	12.5			Lbyy			N/A	N/A	Lateral
41	M141	Support Rail	12.5			Lbyy			N/A	N/A	Lateral
42	MP1C	Mount Pipes 1	8			Lbyy			N/A	N/A	Lateral
43	M154	End Connection	1.667			Lbyy			N/A	N/A	Lateral
44	M155	End Connection	1.667			Lbyy			N/A	N/A	Lateral
45	M156	End Connection	1.667			Lbyy			N/A	N/A	Lateral
46	MP3C	MP 2	8			Lbyy			N/A	N/A	Lateral

Cold Formed Steel Design Parameters

No Data to Print...

Aluminum Design Parameters

No Data to Print...

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N33	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N1174	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N1176	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Node Reactions

No Data to Print...

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M1	1	max	0	75	0.003	8	0.002	12	0	75	0	75	0	75
2			min	0	1	0	18	-0.001	2	0	1	0	1	0	1
3		2	max	836.951	6	32.254	2	62.392	9	0.028	2	0.356	6	0.087	10
4			min	-853.445	12	-327.328	32	-128.784	3	-0.222	20	-0.362	12	-0.163	4
5		3	max	845.607	6	19.157	2	65.277	9	0.028	2	0.208	7	0.385	33
6			min	-862.101	12	-340.425	32	-131.669	3	-0.222	20	-0.319	1	-0.133	3
7		4	max	1317.261	5	270.103	9	296.101	1	0.227	34	0.192	7	0.549	9
8			min	-1030.461	11	-197.032	3	-186.153	6	-0.113	40	-0.341	1	-0.343	3
9		5	max	837.868	3	44.201	10	123.201	2	0	32	0.053	12	0.012	8
10			min	-648.88	9	-40.699	40	-77.331	8	0	2	-0.045	6	-0.006	2
11	M2	1	max	861.883	6	28.018	3	261.672	1	0.008	1	0.038	7	0.071	2
12			min	-636.711	12	-895.455	33	-228.861	7	-0.024	7	-0.043	1	-0.598	32
13		2	max	57.089	8	-0.615	3	0.297	10	0.003	36	0	12	0.469	22
14			min	-1966.575	14	-858.294	33	-1.165	4	-0.003	6	0	18	-0.076	4
15		3	max	0	72	2.88	14	1.727	3	0	75	0	9	0	20
16			min	-0.648	2	0.823	71	-1.727	9	0	1	0	3	0	65
17		4	max	-74.542	10	848.839	32	2.199	14	0.003	1	0	6	0.492	8
18			min	-1903.05	16	34.216	2	-0.296	8	-0.004	31	0	24	-0.156	2
19		5	max	740.355	1	886.528	32	142.329	12	0.021	23	0.02	12	-0.048	5
20			min	-426.575	7	-13.597	2	-143.558	6	-0.003	5	-0.02	6	-0.546	35
21	M3	1	max	817.381	1	-6.404	12	193.091	8	0.008	9	0.028	2	0.134	9
22			min	-575.395	7	-814.555	42	-161.344	2	-0.023	3	-0.033	8	-0.492	3
23		2	max	-31.467	5	-41.679	11	0.126	7	0.003	8	0	8	0.495	7
24			min	-1899.626	23	-788.135	41	-1.031	24	-0.006	2	0	14	-0.146	1
25		3	max	0	68	2.881	22	1.727	11	0	75	0	5	0	16
26			min	-0.648	10	0.823	67	-1.727	5	0	1	0	11	0	73
27		4	max	-322.508	6	915.745	41	2.137	22	0.006	8	0	2	0.553	4
28			min	-1767.209	21	3.527	11	-0.308	4	-0.004	2	0	8	-0.134	10
29		5	max	1087.149	9	967.9	41	162.027	8	0.021	7	0.028	8	0.075	1
30			min	-809.419	3	-32.67	11	-169.781	2	-0.007	1	-0.03	2	-0.663	43
31	M4	1	max	408.755	5	94.665	5	800.887	5	0.025	4	0.106	10	0.294	5
32			min	-468.279	11	-179.291	11	-524.255	11	-0.021	10	-0.143	5	-0.219	11
33		2	max	409.009	5	94.321	5	801.033	5	0.025	4	0.078	10	0.289	5
34			min	-468.532	11	-179.635	11	-524.401	11	-0.021	10	-0.098	4	-0.209	11
35		3	max	409.262	5	93.977	5	801.18	5	0.025	4	0.049	10	0.283	5
36			min	-468.786	11	-179.979	11	-524.547	11	-0.021	10	-0.054	4	-0.199	11
37		4	max	409.516	5	93.633	5	801.326	5	0.025	4	0.02	10	0.278	5
38			min	-469.039	11	-180.323	11	-524.694	11	-0.021	10	-0.01	4	-0.189	11
39		5	max	409.769	5	93.289	5	801.472	5	0.025	4	0.037	5	0.273	5
40			min	-469.292	11	-180.667	11	-524.84	11	-0.021	10	-0.012	11	-0.179	11
41	M5	1	max	1073.263	10	-4.376	7	213.057	5	0	5	0.031	10	0.105	5
42			min	-784.343	4	-1067.59	13	-187.29	11	-0.025	23	-0.035	4	-0.707	23
43		2	max	-41.075	1	-44.05	7	0.299	2	0.004	2	0	4	0.617	3
44			min	-1920.493	19	-1043.446	13	-1.166	8	-0.006	8	0	10	-0.208	9
45		3	max	0	64	-0.823	65	1.727	1	0	75	0	1	0	14
46			min	-0.648	8	-2.88	20	-1.727	7	0	1	0	7	0	71
47		4	max	-175.151	2	895.241	13	2.135	18	0.002	4	0	10	0.522	24
48			min	-1898.153	19	60.021	7	-0.054	12	-0.001	10	0	16	-0.013	6
49		5	max	694.334	5	909.003	13	130.135	4	0.023	3	0.018	5	0.077	8
50			min	-424.076	11	32.338	7	-137.693	10	-0.006	9	-0.02	11	-0.511	14
51	M6	1	max	305.173	16	93.312	12	29.013	6	0	2	0.087	7	0.185	1
52			min	-21.87	10	-63.713	6	-13.597	12	-0.002	20	-0.111	1	-0.148	7

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
53		2	max	305.173	16	102.783	1	20.915	6	0	2	0.063	7	0.128	1
54			min	-21.87	10	-72.667	7	-21.695	12	-0.002	20	-0.068	1	-0.102	7
55		3	max	305.173	16	113.857	1	12.106	6	0	2	0.031	6	0.06	1
56			min	-21.87	10	-83.741	7	-30.503	12	-0.002	20	-0.025	12	-0.056	7
57		4	max	305.173	16	124.931	1	4.317	6	0	2	0.025	2	0.002	5
58			min	-21.87	10	-94.815	7	-44.323	24	-0.002	20	-0.017	8	-0.033	35
59		5	max	305.173	16	136.004	1	0.34	6	0	2	0.071	1	0.048	6
60			min	-21.87	10	-105.889	7	-54.431	24	-0.002	20	-0.068	7	-0.107	12
61	M7	1	max	307.796	10	30.181	20	53.755	2	0.002	15	0.064	8	0.095	8
62			min	-74.991	4	-3.884	38	-44.437	8	0	9	-0.069	2	-0.094	2
63		2	max	307.796	10	16.046	8	60.948	2	0.002	15	0.05	8	0.06	8
64			min	-74.991	4	-10.502	38	-51.63	8	0	9	-0.043	2	-0.061	2
65		3	max	307.796	10	7.779	8	68.14	2	0.002	15	0.027	8	0.032	7
66			min	-74.991	4	-18.769	38	-58.822	8	0	9	-0.017	2	-0.028	1
67		4	max	307.796	10	0.116	8	75.333	2	0.002	15	0.016	12	0.031	39
68			min	-74.991	4	-34.028	14	-66.015	8	0	9	-0.01	6	-0.011	9
69		5	max	307.796	10	-3.853	8	82.526	2	0.002	15	0.041	1	0.084	2
70			min	-74.991	4	-44.115	14	-73.207	8	0	9	-0.047	7	-0.044	8
71	M8	1	max	282.727	24	66.214	8	30.318	14	0	1	0.059	2	0.113	8
72			min	-21.37	6	-38.644	2	-3.166	8	-0.002	43	-0.083	8	-0.078	2
73		2	max	282.727	24	73.407	8	13.602	2	0	1	0.046	2	0.074	9
74			min	-21.37	6	-45.837	2	-11.266	8	-0.002	43	-0.05	8	-0.047	2
75		3	max	282.727	24	80.599	8	4.793	2	0	1	0.026	2	0.033	9
76			min	-21.37	6	-53.029	2	-20.075	8	-0.002	43	-0.019	8	-0.024	3
77		4	max	282.727	24	87.792	8	-2.998	2	0	1	0.016	10	0.013	2
78			min	-21.37	6	-60.222	2	-39.429	20	-0.002	43	-0.007	4	-0.032	44
79		5	max	282.727	24	94.985	8	-6.976	2	0	1	0.048	9	0.043	2
80			min	-21.37	6	-67.414	2	-49.538	20	-0.002	43	-0.042	3	-0.093	8
81	M9	1	max	303.52	18	31.858	17	84.36	11	0.002	14	0.082	4	0.148	4
82			min	-50.94	12	-9.987	11	-71.417	5	0	8	-0.092	10	-0.149	10
83		2	max	303.52	18	21.387	5	87.332	10	0.002	14	0.058	4	0.1	4
84			min	-50.94	12	-18.085	11	-73.929	4	0	8	-0.055	10	-0.1	10
85		3	max	303.52	18	12.579	5	94.525	10	0.002	14	0.026	4	0.052	4
86			min	-50.94	12	-26.893	11	-81.122	4	0	8	-0.019	10	-0.043	10
87		4	max	303.52	18	4.789	5	101.718	10	0.002	14	0.017	10	0.029	23
88			min	-50.94	12	-39.346	23	-88.314	4	0	8	-0.015	4	0.005	5
89		5	max	303.52	18	0.812	5	108.91	10	0.002	14	0.053	10	0.095	10
90			min	-50.94	12	-49.454	23	-95.507	4	0	8	-0.062	4	-0.042	4
91	M10	1	max	308.944	20	87.77	4	26.73	10	0	7	0.08	10	0.167	5
92			min	-20.587	2	-60.536	10	-15.971	4	-0.002	13	-0.1	5	-0.132	11
93		2	max	308.944	20	94.963	4	20.114	10	0	7	0.059	10	0.114	5
94			min	-20.587	2	-67.728	10	-22.587	4	-0.002	13	-0.062	4	-0.091	11
95		3	max	308.944	20	104.31	5	11.846	10	0	7	0.031	10	0.052	5
96			min	-20.587	2	-76.617	11	-30.855	4	-0.002	13	-0.025	4	-0.049	11
97		4	max	308.944	20	115.384	5	4.177	10	0	7	0.02	6	0.007	9
98			min	-20.587	2	-87.691	11	-44.493	16	-0.002	13	-0.014	12	-0.033	3
99		5	max	308.944	20	126.458	5	0.205	10	0	7	0.062	5	0.05	10
100			min	-20.587	2	-98.764	11	-54.587	16	-0.002	13	-0.062	11	-0.11	4
101	M11	1	max	366.618	2	33.498	1	90.029	7	0.002	21	0.089	12	0.153	12
102			min	-118.213	8	-16.027	7	-79.706	1	0	3	-0.094	6	-0.154	6
103		2	max	366.618	2	26.881	1	91.413	7	0.002	21	0.064	12	0.1	12
104			min	-118.213	8	-22.643	7	-81.091	1	0	3	-0.058	6	-0.102	6
105		3	max	366.618	2	18.614	1	97.031	6	0.002	21	0.032	1	0.048	12
106			min	-118.213	8	-30.911	7	-86.176	12	0	3	-0.023	7	-0.042	6
107		4	max	366.618	2	10.945	1	104.223	6	0.002	21	0.018	4	0.035	31

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
108			min	-118.213	8	-38.58	7	-93.369	12	0	3	-0.013	10	-0.01	1
109		5	max	366.618	2	6.973	1	111.416	6	0.002	21	0.051	6	0.102	7
110			min	-118.213	8	-47.729	19	-100.561	12	0	3	-0.058	12	-0.058	1
111	M12	1	max	667.064	9	53.818	33	61.113	6	0	12	0.044	3	0.012	7
112			min	-527.881	3	-38.538	3	-91.476	12	0	42	-0.038	9	-0.006	1
113		2	max	1114.792	9	200.608	9	196.298	8	0.192	34	0.205	8	0.438	5
114			min	-879.6	3	-259.579	3	-270.651	2	-0.146	40	-0.305	2	-0.255	11
115		3	max	557.28	8	256.455	42	103.388	1	0.304	18	0.059	7	0.363	40
116			min	-590.223	2	-12.326	12	-53.388	7	0.089	12	-0.11	1	-0.136	10
117		4	max	548.624	8	243.358	42	82.29	12	0.304	18	0.042	12	0.175	3
118			min	-581.568	2	-25.423	12	-32.142	6	0.089	12	-0.016	6	-0.231	9
119		5	max	0	75	0.001	20	0.001	6	0	75	0	75	0	75
120			min	0	1	-0.007	6	-0.003	8	0	1	0	1	0	1
121	M13	1	max	4604.574	7	2378.281	13	2023.337	10	0.983	10	2.574	4	5.263	1
122			min	-963.808	1	226.755	7	-1999.715	4	-1.085	4	-2.623	10	-0.982	7
123		2	max	4604.574	7	2353.596	13	2006.024	10	0.983	10	0.582	4	3.402	1
124			min	-963.808	1	211.955	7	-1982.401	4	-1.085	4	-0.609	10	-1.202	7
125		3	max	4604.574	7	2328.912	13	1988.71	10	0.983	10	1.389	10	1.556	1
126			min	-963.808	1	197.155	7	-1965.088	4	-1.085	4	-1.391	4	-1.406	7
127		4	max	6.493	9	24.688	21	17.314	10	0	75	0.009	4	0.012	21
128			min	-6.493	3	10.567	64	-17.314	4	0	1	-0.009	10	0.005	64
129		5	max	0	75	0.004	21	0	6	0	75	0	75	0	75
130			min	0	1	-0.016	11	-0.002	11	0	1	0	1	0	1
131	M22	1	max	0	75	0.002	4	0.001	8	0	75	0	75	0	75
132			min	0	1	0	38	0	10	0	1	0	1	0	1
133		2	max	532.5	2	24.255	10	33.634	7	0.034	2	0.12	3	0.262	7
134			min	-646.271	8	-266.183	40	-83.085	1	-0.366	20	-0.146	9	-0.314	1
135		3	max	541.155	2	11.158	10	30.749	7	0.034	2	0.074	4	0.354	7
136			min	-654.927	8	-279.28	40	-80.2	1	-0.366	20	-0.177	10	-0.27	1
137		4	max	1195.512	1	235.474	6	314.767	8	0.279	8	0.233	2	0.287	41
138			min	-1061.898	7	-176.492	12	-203.719	2	-0.186	2	-0.372	8	-0.137	11
139		5	max	772.544	1	79.319	7	112.684	10	0	5	0.049	7	0.016	1
140			min	-665.305	7	-66.447	1	-66.471	4	0	11	-0.036	1	-0.014	7
141	M23	1	max	1010.67	5	46.465	42	16.013	10	0	8	0.052	11	0.017	1
142			min	-937.152	11	-39.208	12	-42.887	4	0	2	-0.046	5	-0.016	7
143		2	max	1072.078	5	125.533	7	386.932	4	0.199	5	0.236	4	0.279	3
144			min	-880.977	11	-392.887	1	-520.104	10	-0.329	11	-0.329	10	-0.082	9
145		3	max	783.325	4	253.122	14	188.95	10	0.352	14	0.179	4	0.349	13
146			min	-841.884	10	11.378	8	-144.558	4	0.06	8	-0.246	10	0.005	7
147		4	max	776.888	5	229.538	14	173.958	10	0.352	14	0.046	11	0.041	10
148			min	-834.237	11	-1.719	8	-129.566	4	0.06	8	-0.044	5	-0.069	40
149		5	max	0	75	0.001	16	0	8	0	75	0	75	0	75
150			min	0	1	-0.008	2	-0.004	10	0	1	0	1	0	1
151	M27	1	max	0	75	0.002	12	0.003	4	0	75	0	75	0	75
152			min	0	1	0	22	-0.001	6	0	1	0	1	0	1
153		2	max	849.763	10	5.948	6	79.075	4	0.007	6	0.366	10	0.118	2
154			min	-823.6	4	-269.236	24	-137.046	10	-0.267	24	-0.381	4	-0.214	8
155		3	max	858.419	10	-7.149	6	64.083	4	0.007	6	0.181	11	0.428	2
156			min	-832.255	4	-292.819	24	-122.054	10	-0.267	24	-0.287	5	-0.156	8
157		4	max	1416.329	9	310.746	2	274.271	4	0.137	2	0.177	11	0.578	1
158			min	-1092.673	3	-225.412	8	-175.353	10	-0.106	32	-0.313	5	-0.311	7
159		5	max	859.295	7	49.497	2	119.069	6	0	13	0.051	3	0.015	24
160			min	-654.141	1	-49.908	8	-75.457	12	0	7	-0.044	9	-0.003	6
161	M28	1	max	800.718	1	56.238	2	75.239	10	0	3	0.059	7	0.015	23
162			min	-640.586	7	-45.532	8	-105.844	4	0	33	-0.055	1	-0.003	5

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
163		2	max	1440.274	1	243.691	2	263.338	12	0.117	2	0.28	12	0.541	9
164			min	-1155.123	7	-293.503	8	-335	6	-0.138	32	-0.38	6	-0.331	3
165		3	max	847.317	1	308.443	34	149.816	6	0.336	22	0.128	12	0.39	33
166			min	-860.761	7	-0.17	4	-95.6	12	0.084	4	-0.191	6	-0.168	3
167		4	max	842.32	1	295.346	34	140.385	7	0.336	22	0.044	7	0.114	7
168			min	-855.763	7	-13.267	4	-87.092	1	0.084	4	-0.023	1	-0.211	1
169		5	max	0	75	0.001	24	0	10	0	75	0	75	0	75
170			min	0	1	-0.008	10	-0.004	12	0	1	0	1	0	1
171	M34	1	max	383.42	1	73.727	2	878.601	1	0.028	1	0.118	7	0.218	1
172			min	-459.509	7	-371.122	32	-588.549	7	-0.024	7	-0.157	1	-0.192	7
173		2	max	383.673	1	73.383	2	878.747	1	0.028	1	0.085	7	0.215	1
174			min	-459.763	7	-371.466	32	-588.695	7	-0.024	7	-0.108	1	-0.182	7
175		3	max	383.926	1	73.039	2	878.894	1	0.028	1	0.052	7	0.212	1
176			min	-460.016	7	-371.81	32	-588.841	7	-0.024	7	-0.058	1	-0.173	7
177		4	max	384.18	1	72.694	2	879.04	1	0.028	1	0.021	6	0.21	1
178			min	-460.269	7	-372.154	32	-588.988	7	-0.024	7	-0.011	12	-0.163	7
179		5	max	384.433	1	72.35	2	879.186	1	0.028	1	0.041	1	0.207	1
180			min	-460.523	7	-372.499	32	-589.134	7	-0.024	7	-0.015	7	-0.153	7
181	M37	1	max	88.596	9	271.001	44	537.821	8	0.024	9	0.058	2	0.172	41
182			min	-167.624	3	-100.825	2	-259.936	2	-0.019	3	-0.095	8	-0.011	11
183		2	max	88.849	9	270.657	44	537.821	8	0.024	9	0.043	2	0.157	41
184			min	-167.877	3	-101.169	2	-259.936	2	-0.019	3	-0.065	8	-0.009	11
185		3	max	89.102	9	270.313	44	537.821	8	0.024	9	0.028	2	0.146	17
186			min	-168.131	3	-101.513	2	-259.936	2	-0.019	3	-0.035	8	-0.007	11
187		4	max	89.356	9	269.969	44	537.821	8	0.024	9	0.015	1	0.148	17
188			min	-168.384	3	-101.857	2	-259.936	2	-0.019	3	-0.006	7	-0.004	11
189		5	max	89.609	9	269.625	44	537.821	8	0.024	9	0.03	21	0.15	16
190			min	-168.638	3	-102.201	2	-259.936	2	-0.019	3	-0.002	3	-0.002	11
191	M40	1	max	212.721	1	39.066	2	423.065	12	0.023	12	0.026	6	0.152	21
192			min	-302.734	7	-371.988	32	-588.671	6	-0.026	6	-0.005	12	0.005	7
193		2	max	212.974	1	38.722	2	423.065	12	0.023	12	0.022	1	0.163	21
194			min	-302.987	7	-372.333	32	-588.671	6	-0.026	6	-0.01	7	0.016	7
195		3	max	213.228	1	38.378	2	423.065	12	0.023	12	0.043	12	0.173	21
196			min	-303.24	7	-372.677	32	-588.671	6	-0.026	6	-0.04	6	0.023	3
197		4	max	213.481	1	38.034	2	423.065	12	0.023	12	0.066	12	0.184	21
198			min	-303.494	7	-373.021	32	-588.671	6	-0.026	6	-0.073	6	0.023	3
199		5	max	213.734	1	37.69	2	423.065	12	0.023	12	0.09	12	0.195	21
200			min	-303.747	7	-373.365	32	-588.671	6	-0.026	6	-0.106	6	0.024	3
201	M41	1	max	468.265	5	104.793	5	542.308	4	0.011	11	0.14	10	0.25	5
202			min	-424.094	11	-202.825	11	-497.995	10	-0.017	5	-0.152	4	-0.159	11
203		2	max	468.902	5	103.608	5	542.308	4	0.011	11	0.07	10	0.235	5
204			min	-424.731	11	-204.011	11	-497.995	10	-0.017	5	-0.076	4	-0.131	11
205		3	max	469.539	5	102.422	5	542.308	4	0.011	11	0.002	5	0.22	5
206			min	-425.368	11	-205.155	11	-498.012	10	-0.017	5	-0.001	11	-0.102	11
207		4	max	470.176	5	101.33	5	542.276	4	0.011	11	0.078	5	0.206	5
208			min	-426.005	11	-206.341	11	-498.012	10	-0.017	5	-0.071	10	-0.073	11
209		5	max	470.813	5	100.145	5	542.276	4	0.011	11	0.154	5	0.192	5
210			min	-426.643	11	-207.526	11	-498.012	10	-0.017	5	-0.141	10	-0.044	11
211	M42	1	max	281.103	5	70.575	5	429.404	4	0.026	4	0.03	10	0.167	5
212			min	-348.63	11	-197.688	11	-609.108	10	-0.027	10	-0.009	4	-0.024	11
213		2	max	281.356	5	70.231	5	429.404	4	0.026	4	0.017	5	0.169	17
214			min	-348.884	11	-198.032	11	-609.108	10	-0.027	10	-0.006	11	-0.013	11
215		3	max	281.61	5	69.887	5	429.404	4	0.026	4	0.04	4	0.174	17
216			min	-349.137	11	-198.376	11	-609.108	10	-0.027	10	-0.039	10	-0.002	11
217		4	max	281.863	5	69.543	5	429.404	4	0.026	4	0.064	4	0.18	13

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
218			min	-349.391	11	-198.72	11	-609.108	10	-0.027	10	-0.073	10	0.01	11
219		5	max	282.116	5	69.199	5	429.404	4	0.026	4	0.088	4	0.188	13
220			min	-349.644	11	-199.064	11	-609.108	10	-0.027	10	-0.107	10	0.021	11
221	M43	1	max	140.3	10	268.878	44	400.512	8	0.007	45	0.096	2	0.15	16
222			min	-125.23	4	-124.331	2	-340.829	2	-0.005	3	-0.113	8	-0.008	11
223		2	max	141.403	10	267.693	44	400.512	8	0.007	45	0.048	2	0.16	16
224			min	-126.333	4	-125.516	2	-340.829	2	-0.005	3	-0.056	8	-0.001	11
225		3	max	142.507	10	266.509	44	400.512	8	0.007	45	0.001	9	0.17	16
226			min	-127.437	4	-126.701	2	-340.829	2	-0.005	3	-0.001	3	0.006	10
227		4	max	143.61	10	265.324	44	400.512	8	0.007	45	0.057	8	0.181	16
228			min	-128.54	4	-127.885	2	-340.829	2	-0.005	3	-0.048	2	-0.006	46
229		5	max	144.714	10	264.139	44	400.512	8	0.007	45	0.113	8	0.191	16
230			min	-129.644	4	-129.07	2	-340.829	2	-0.005	3	-0.097	2	-0.043	46
231	M44	1	max	27.347	1	265.848	44	263.267	8	0.02	8	0.024	23	0.189	15
232			min	-120.559	7	-125.834	2	-410.618	2	-0.019	2	-0.002	5	-0.04	46
233		2	max	27.093	1	265.504	44	263.267	8	0.02	8	0.017	9	0.195	15
234			min	-120.306	7	-126.178	2	-410.618	2	-0.019	2	-0.006	3	-0.054	46
235		3	max	26.84	1	265.16	44	263.267	8	0.02	8	0.031	8	0.201	15
236			min	-120.053	7	-126.522	2	-410.618	2	-0.019	2	-0.027	2	-0.069	46
237		4	max	26.587	1	264.816	44	263.267	8	0.02	8	0.046	8	0.207	15
238			min	-119.799	7	-126.866	2	-410.618	2	-0.019	2	-0.05	2	-0.084	44
239		5	max	26.333	1	264.471	44	263.267	8	0.02	8	0.06	8	0.214	14
240			min	-119.546	7	-127.21	2	-410.618	2	-0.019	2	-0.074	2	-0.099	44
241	M45	1	max	441.618	1	70.102	2	600.459	1	0.013	7	0.151	7	0.182	1
242			min	-417.2	7	-366.965	32	-538.407	7	-0.017	1	-0.168	1	-0.13	7
243		2	max	442.255	1	68.917	2	600.826	1	0.013	7	0.075	7	0.174	1
244			min	-417.837	7	-368.151	32	-538.775	7	-0.017	1	-0.084	1	-0.102	7
245		3	max	442.892	1	67.731	2	601.194	1	0.013	7	0.001	1	0.166	1
246			min	-418.474	7	-369.336	32	-539.143	7	-0.017	1	-0.001	7	-0.073	7
247		4	max	443.529	1	66.546	2	601.562	1	0.013	7	0.086	1	0.159	1
248			min	-419.111	7	-370.522	32	-539.51	7	-0.017	1	-0.077	7	-0.044	7
249		5	max	444.166	1	65.36	2	601.93	1	0.013	7	0.171	1	0.157	13
250			min	-419.748	7	-371.708	32	-539.878	7	-0.017	1	-0.154	7	-0.015	7
251	MP3A	1	max	0	75	0.052	21	0.058	1	0	75	0	75	0	75
252			min	0	1	-0.022	3	-0.053	7	0	1	0	1	0	1
253		2	max	392.804	18	229.979	11	193.576	1	0.05	8	0.056	17	0.126	10
254			min	-23.568	12	-376.79	5	-102.405	7	-0.033	2	0.014	7	-0.186	4
255		3	max	419.168	18	259.037	10	227.037	1	0.049	8	0.463	1	0.598	4
256			min	-27.46	1	-405.093	4	-135.865	7	-0.033	2	-0.245	7	-0.365	10
257		4	max	-5.948	74	24.756	4	24.792	7	0	75	0.025	1	0.025	4
258			min	-18.614	20	-24.778	10	-24.76	1	0	1	-0.025	7	-0.025	10
259		5	max	0	75	0.019	3	0.119	20	0	75	0	75	0	75
260			min	0	1	-0.088	21	-0.023	2	0	1	0	1	0	1
261	MP2A	1	max	0	75	0.025	10	0.065	13	0	75	0	75	0	75
262			min	0	1	-0.033	16	-0.049	8	0	1	0	1	0	1
263		2	max	372.93	44	426.764	9	210.677	2	0.029	1	0.061	20	0.204	9
264			min	-7.917	2	-306.276	3	-143.487	8	-0.057	7	-0.001	2	-0.158	3
265		3	max	399.74	44	470.154	9	260.317	2	0.028	1	0.489	2	0.51	3
266			min	-27.46	2	-349.666	3	-193.126	8	-0.055	7	-0.293	8	-0.703	9
267		4	max	-5.948	72	24.771	4	24.791	7	0	75	0.025	1	0.025	4
268			min	-18.614	17	-24.758	10	-24.769	1	0	1	-0.025	7	-0.025	10
269		5	max	0	75	0.055	17	0.089	20	0	75	0	75	0	75
270			min	0	1	-0.018	11	-0.033	2	0	1	0	1	0	1
271	MP1A	1	max	0	75	0.033	10	0.053	13	0	75	0	75	0	75
272			min	0	1	-0.044	16	-0.038	8	0	1	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
273		2	max	109.714	7	268.529	9	112.542	37	0.069	2	0.019	5	0.116	9
274			min	-320.109	37	-126.902	3	-30.418	7	-0.078	8	-0.015	47	-0.058	3
275		3	max	129.684	7	300.555	9	119.184	6	0.07	2	0.25	1	0.234	3
276			min	-300.139	37	-158.928	3	-161.207	1	-0.079	8	-0.245	7	-0.458	9
277		4	max	-5.948	72	24.788	4	24.778	7	0	75	0.025	1	0.025	4
278			min	-18.614	17	-24.772	10	-24.777	1	0	1	-0.025	7	-0.025	10
279		5	max	0	75	0.064	16	0.045	8	0	75	0	75	0	75
280			min	0	1	-0.032	10	-0.044	2	0	1	0	1	0	1
281	MP4A	1	max	168.679	24	223.587	9	389.272	1	0.148	9	-0.034	65	-0.006	74
282			min	45.416	65	-223.522	3	-389.277	7	-0.148	3	-0.125	23	-0.022	23
283		2	max	223.03	8	53.813	11	191.578	13	0.066	8	0.211	1	-0.034	7
284			min	-310.27	2	-341.484	17	-14.597	7	-0.066	2	-0.244	7	-0.139	25
285		3	max	324.978	8	214.13	2	448.674	7	0.148	3	0.944	1	0.708	5
286			min	-218.429	14	-404.598	5	-448.604	1	-0.148	9	-0.85	7	-0.542	9
287		4	max	-9.571	72	30.702	4	31.537	7	0.001	3	0.03	1	0.03	4
288			min	-25.551	14	-30.771	10	-31.467	1	-0.001	9	-0.03	7	-0.03	10
289		5	max	0	75	0.084	4	0.238	21	0	75	0	75	0	75
290			min	0	1	-0.251	22	-0.033	3	0	1	0	1	0	1
291	M117	1	max	4509.831	3	2083.196	21	1506.376	6	0.913	6	1.88	12	4.73	9
292			min	-886.405	9	155.849	3	-1546.879	12	-0.978	12	-1.839	6	-1.136	3
293		2	max	4509.831	3	2058.511	21	1489.063	6	0.913	6	0.341	12	3.059	9
294			min	-886.405	9	141.049	3	-1529.566	12	-0.978	12	-0.342	6	-1.284	3
295		3	max	4509.831	3	2033.827	21	1471.749	6	0.913	6	1.139	6	1.403	9
296			min	-886.405	9	126.249	3	-1512.252	12	-0.978	12	-1.179	12	-1.418	3
297		4	max	6.493	5	24.688	17	17.314	6	0	75	0.009	12	0.012	17
298			min	-6.493	11	10.568	72	-17.314	12	0	1	-0.009	6	0.005	72
299		5	max	0	75	0.003	17	0.001	2	0	75	0	75	0	75
300			min	0	1	-0.014	7	-0.001	10	0	1	0	1	0	1
301	M118	1	max	4377.86	11	2031.835	17	1974.979	2	1.26	2	2.451	8	4.629	5
302			min	-799.855	5	162.127	11	-1968.22	8	-1.025	8	-2.454	2	-1.073	11
303		2	max	4377.86	11	2007.151	17	1957.666	2	1.26	2	0.491	8	2.981	5
304			min	-799.855	5	147.327	11	-1950.906	8	-1.025	8	-0.488	2	-1.228	11
305		3	max	4377.86	11	1986.085	41	1940.352	2	1.26	2	1.461	2	1.348	5
306			min	-799.855	5	132.527	11	-1933.592	8	-1.025	8	-1.451	8	-1.368	11
307		4	max	6.493	9	24.687	21	17.314	2	0	75	0.009	8	0.012	21
308			min	-6.493	3	10.568	68	-17.314	8	0	1	-0.009	2	0.005	68
309		5	max	0	75	0.003	21	0.001	4	0	75	0	75	0	75
310			min	0	1	-0.014	7	0	12	0	1	0	1	0	1
311	MP4C	1	max	168.679	24	319.615	9	337.129	2	0.148	4	0.097	24	0.081	16
312			min	45.416	64	-319.675	3	-337.098	8	-0.148	10	0.026	66	0.022	65
313		2	max	332.868	4	169.655	10	319.74	1	0.081	3	0.09	7	0.126	2
314			min	-88.158	10	-55.31	4	-266.755	7	-0.049	9	-0.118	1	-0.118	8
315		3	max	479.981	16	361.827	3	419.495	1	0.148	10	0.722	2	0.693	3
316			min	-80.26	9	-361.673	9	-379.404	2	-0.148	4	-0.795	8	-0.754	9
317		4	max	-5.948	75	24.795	4	24.556	7	0	75	0.025	1	0.025	4
318			min	-18.614	18	-24.642	10	-24.646	1	0	1	-0.024	7	-0.025	10
319		5	max	0	75	0.466	21	0.113	2	0	75	0	75	0	75
320			min	0	1	-0.006	27	-0.336	20	0	1	0	1	0	1
321	MP2C	1	max	0	75	0.053	9	0.063	14	0	75	0	75	0	75
322			min	0	1	-0.049	3	-0.042	8	0	1	0	1	0	1
323		2	max	335.971	13	202.069	10	94.622	11	0.041	9	0.11	5	0.028	11
324			min	36.087	7	-194.023	4	-195.111	5	-0.082	3	-0.107	11	-0.102	5
325		3	max	386.596	13	252.171	10	130.366	12	0.044	9	0.214	1	0.365	4
326			min	62.897	7	-244.125	4	-230.075	6	-0.085	3	-0.346	7	-0.46	10
327		4	max	-5.948	69	24.788	4	24.766	7	0	75	0.025	1	0.025	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
328			min	-18.614	15	-24.763	10	-24.803	1	0	1	-0.025	7	-0.025	10
329		5	max	0	75	0.093	15	0.028	8	0	75	0	75	0	75
330			min	0	1	-0.027	9	-0.14	14	0	1	0	1	0	1
331	MP5C	1	max	0	75	0.02	9	0.017	2	0	75	0	75	0	75
332			min	0	1	-0.02	3	-0.016	8	0	1	0	1	0	1
333		2	max	120.51	3	240.026	23	313.094	2	0.035	10	0.109	7	0.136	11
334			min	-97.9	9	-53.064	5	-228.075	8	-0.014	4	-0.187	1	-0.09	5
335		3	max	134.15	3	267.838	11	341.223	2	0.038	10	0.476	2	0.12	4
336			min	-84.259	9	-81.262	5	-256.204	8	-0.016	4	-0.385	8	-0.409	23
337		4	max	-9.389	74	30.023	4	30	7	0	75	0.03	1	0.03	4
338			min	-24.877	23	-30.009	10	-30.006	1	0	1	-0.03	7	-0.03	10
339		5	max	0	75	0.074	4	0.051	7	0	75	0	75	0	75
340			min	0	1	-0.061	10	-0.057	1	0	1	0	1	0	1
341	MP3B	1	max	0	75	0.037	10	0.052	24	0	75	0	75	0	75
342			min	0	1	-0.053	16	-0.031	6	0	1	0	1	0	1
343		2	max	421.1	22	262.943	9	196.135	2	0.053	11	0.162	9	0.137	9
344			min	-9.08	4	-245.705	3	-366.951	8	-0.028	5	-0.15	3	-0.04	3
345		3	max	447.464	22	289.134	9	221.359	2	0.053	11	0.269	2	0.498	4
346			min	-27.46	4	-271.896	3	-392.174	8	-0.028	5	-0.6	8	-0.435	10
347		4	max	-5.948	71	24.751	4	24.757	7	0	75	0.025	1	0.025	4
348			min	-18.614	16	-24.774	10	-24.801	1	0	1	-0.025	7	-0.025	10
349		5	max	0	75	0.014	3	0.017	7	0	75	0	75	0	75
350			min	0	1	-0.083	21	-0.159	13	0	1	0	1	0	1
351	MP2B	1	max	0	75	0.043	10	0.028	1	0	75	0	75	0	75
352			min	0	1	-0.043	4	-0.046	19	0	1	0	1	0	1
353		2	max	399.835	24	75.41	10	440.801	1	0.024	5	0.13	7	0.088	8
354			min	20.435	6	-197.94	4	-327.014	7	-0.053	11	-0.224	1	-0.049	2
355		3	max	450.46	24	114.995	9	488.397	1	0.025	6	0.714	1	0.447	4
356			min	47.245	6	-253.216	4	-374.609	7	-0.054	12	-0.585	7	-0.227	10
357		4	max	-5.948	74	24.755	4	24.763	7	0	75	0.025	1	0.025	4
358			min	-18.614	14	-24.798	10	-24.767	1	0	1	-0.025	7	-0.025	10
359		5	max	0	75	0.017	3	0.023	7	0	75	0	75	0	75
360			min	0	1	-0.154	21	-0.026	1	0	1	0	1	0	1
361	MP1B	1	max	0	75	0.043	22	0.034	1	0	75	0	75	0	75
362			min	0	1	-0.039	4	-0.044	19	0	1	0	1	0	1
363		2	max	58.195	11	23.658	8	249.852	1	0.049	7	0.049	7	0.018	7
364			min	-161.162	5	-181.463	14	-128.172	7	-0.068	1	-0.111	1	-0.051	1
365		3	max	78.165	11	141.2	5	286.614	1	0.051	7	0.43	1	0.329	15
366			min	-141.192	5	-190.196	15	-164.935	7	-0.071	1	-0.251	7	-0.227	10
367		4	max	-5.948	73	24.766	4	24.78	7	0	75	0.025	1	0.025	4
368			min	-18.614	13	-24.788	10	-24.771	1	0	1	-0.025	7	-0.025	10
369		5	max	0	75	0.031	3	0.044	20	0	75	0	75	0	75
370			min	0	1	-0.095	21	-0.033	2	0	1	0	1	0	1
371	MP4B	1	max	168.679	21	343.209	11	292.258	12	0.142	3	0.063	15	-0.029	73
372			min	45.416	65	-343.204	5	-292.169	6	-0.142	9	0.017	75	-0.11	23
373		2	max	202.174	12	156.509	10	11.26	3	0.087	12	0.149	11	0.209	5
374			min	-301.324	6	-134.203	4	-407.28	21	-0.073	6	-0.039	5	-0.195	11
375		3	max	304.123	12	396.856	4	343.685	6	0.142	9	0.664	12	0.835	4
376			min	-218.429	13	-394.651	11	-423.125	20	-0.142	3	-0.738	19	-0.752	10
377		4	max	-9.571	75	31.279	4	30.893	7	0.001	9	0.03	1	0.03	4
378			min	-25.551	13	-31.322	10	-31.006	1	-0.001	3	-0.03	7	-0.03	10
379		5	max	0	75	0.063	2	0.076	8	0	75	0	75	0	75
380			min	0	1	-0.18	21	-0.373	14	0	1	0	1	0	1
381	M139	1	max	0.001	3	0.003	2	0.002	12	0	8	0	75	0	75
382			min	-0.001	9	-0.001	30	0	2	0	30	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
383		2	max	98.591	5	137.524	12	20.25	1	0.196	2	0.023	7	0.325	30
384			min	-371.12	11	-369.746	6	-99.685	19	-0.105	8	-0.083	1	-0.033	12
385		3	max	-137.813	9	142.076	9	32.022	2	0.039	6	0.033	1	0.087	7
386			min	-491.857	15	-138.811	3	-17.696	8	-0.018	12	-0.085	7	-0.027	1
387		4	max	188.911	9	343.577	8	143.857	3	0.193	7	0.128	3	0.318	44
388			min	-486.288	3	-144.205	2	-60.207	9	-0.213	1	-0.12	9	-0.059	2
389		5	max	0	9	0	48	0.002	8	0	44	0	3	0	75
390			min	0	3	-0.007	6	-0.002	6	0	6	0	9	0	1
391	M140	1	max	0	12	0.008	10	0.001	3	0	10	0	6	0	9
392			min	0	6	-0.001	36	-0.002	10	0	24	0	12	0	3
393		2	max	175.799	1	125.416	7	124.987	8	0.117	11	0.048	2	0.308	36
394			min	-544.53	7	-374.712	1	-72.17	2	-0.179	5	-0.046	8	-0.041	6
395		3	max	-150.742	37	151.191	8	28.311	8	0.022	33	0.09	11	0.1	23
396			min	-622.624	19	-158.115	2	-25.499	2	-0.015	3	-0.029	5	-0.017	5
397		4	max	103.602	9	399.741	9	30.692	8	0.173	6	0.073	4	0.325	22
398			min	-476.084	3	-147.94	3	-99.134	2	-0.069	12	-0.063	10	-0.001	4
399		5	max	0	7	0	2	0.002	4	0	2	0	2	0	75
400			min	0	1	-0.003	4	0	6	0	4	0	8	0	1
401	M141	1	max	0	3	0.008	2	0.001	4	0	2	0	10	0	1
402			min	0	9	-0.001	16	-0.003	2	0	16	0	4	0	7
403		2	max	305.764	5	109.149	11	146.03	11	0.247	3	0.059	14	0.237	4
404			min	-583.927	11	-304.314	5	-48.308	5	-0.253	9	-0.009	12	-0.051	10
405		3	max	32.625	1	292.705	1	91.781	3	0.047	2	0.121	3	0.356	1
406			min	-461.064	43	-233.837	7	-94.315	9	-0.058	8	-0.042	9	-0.265	7
407		4	max	80.54	1	330.43	2	165.017	9	0.34	9	0.214	2	0.284	2
408			min	-346.186	43	-211.053	8	-242.801	3	-0.338	3	-0.179	8	-0.186	8
409		5	max	0	8	0	12	0.001	8	0	12	0	2	0	11
410			min	0	2	-0.002	4	-0.001	1	0	4	0	8	0	5
411	MP1C	1	max	0	75	0.045	22	0.063	13	0	75	0	75	0	75
412			min	0	1	-0.035	3	-0.039	7	0	1	0	1	0	1
413		2	max	130.651	4	105.734	10	33.708	11	0.047	10	0.072	4	0.026	11
414			min	-187.626	10	-105.931	4	-196.42	17	-0.077	4	-0.027	10	-0.049	5
415		3	max	150.621	4	142.714	10	139.608	8	0.05	10	0.214	1	0.21	4
416			min	-167.656	10	-142.911	4	-206.022	6	-0.079	4	-0.343	18	-0.236	10
417		4	max	-5.948	73	24.772	4	24.772	7	0	75	0.025	1	0.025	4
418			min	-18.614	17	-24.771	10	-24.803	1	0	1	-0.025	7	-0.025	10
419		5	max	0	75	0.032	3	0.031	7	0	75	0	75	0	75
420			min	0	1	-0.032	9	-0.122	14	0	1	0	1	0	1
421	M154	1	max	204.927	5	330.057	11	421.111	11	0.004	3	0.329	5	0.18	9
422			min	-429.874	11	-389.122	5	-381.551	5	-0.004	9	-0.424	11	-0.214	3
423		2	max	203.299	5	332.507	11	420.171	11	0.004	3	0.103	5	0.193	9
424			min	-428.246	11	-386.671	5	-380.611	5	-0.004	9	-0.202	11	-0.199	3
425		3	max	201.672	5	334.958	11	419.232	11	0.004	3	0.02	11	0.205	9
426			min	-426.619	11	-384.221	5	-379.672	5	-0.004	9	-0.123	5	-0.184	3
427		4	max	200.044	5	337.408	11	418.292	11	0.004	3	0.242	11	0.217	8
428			min	-424.991	11	-381.77	5	-378.732	5	-0.004	9	-0.348	5	-0.17	3
429		5	max	198.417	5	339.859	11	417.352	11	0.004	3	0.465	11	0.234	8
430			min	-423.364	11	-379.32	5	-377.792	5	-0.004	9	-0.571	5	-0.163	2
431	M155	1	max	202.45	1	310.024	7	427.132	7	0.003	12	0.282	1	0.144	3
432			min	-398.03	7	-378.184	1	-315.569	1	-0.004	6	-0.401	7	-0.175	9
433		2	max	200.823	1	312.474	7	426.192	7	0.003	12	0.078	1	0.163	3
434			min	-396.403	7	-375.734	1	-314.63	1	-0.004	6	-0.184	7	-0.141	9
435		3	max	199.195	1	314.925	7	425.252	7	0.003	12	0.034	7	0.183	4
436			min	-394.775	7	-373.283	1	-313.69	1	-0.004	6	-0.125	1	-0.111	10
437		4	max	197.568	1	317.375	7	424.313	7	0.003	12	0.252	7	0.215	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
438			min	-393.148	7	-370.833	1	-312.75	1	-0.004	6	-0.327	1	-0.093	10
439		5	max	195.94	1	319.825	7	423.373	7	0.003	12	0.471	7	0.248	28
440			min	-391.52	7	-368.382	1	-311.811	1	-0.004	6	-0.528	1	-0.077	10
441	M156	1	max	178.365	9	350.725	2	382.643	3	0.006	8	0.338	8	0.139	10
442			min	-365.583	3	-385.493	8	-311.678	9	-0.006	2	-0.437	2	-0.183	4
443		2	max	176.737	9	353.175	2	381.704	3	0.006	8	0.134	8	0.113	10
444			min	-363.956	3	-383.043	8	-310.739	9	-0.006	2	-0.223	2	-0.127	4
445		3	max	175.11	9	355.626	2	380.764	3	0.006	8	0.001	4	0.119	12
446			min	-362.328	3	-380.592	8	-309.799	9	-0.006	2	-0.095	21	-0.104	6
447		4	max	173.482	9	358.076	2	379.824	3	0.006	8	0.207	2	0.128	12
448			min	-360.701	3	-378.142	8	-308.859	9	-0.006	2	-0.269	8	-0.084	6
449		5	max	171.855	9	360.527	2	378.885	3	0.006	8	0.424	2	0.137	12
450			min	-359.073	3	-375.691	8	-307.92	9	-0.006	2	-0.47	8	-0.067	6
451	MP3C	1	max	0	75	0.029	6	0.081	9	0	75	0	75	0	75
452			min	0	1	-0.035	24	-0.088	3	0	1	0	1	0	1
453		2	max	144.222	14	449.531	6	256.266	9	0.025	9	0.217	9	0.212	6
454			min	-36.598	8	-509.74	12	-215.007	3	-0.076	3	-0.066	3	-0.23	12
455		3	max	176.85	14	484.389	6	294.547	9	0.026	9	0.771	9	0.826	12
456			min	-37.094	8	-544.598	12	-253.288	3	-0.077	3	-0.539	3	-0.725	6
457		4	max	-9.389	74	29.999	12	30.076	3	0	75	0.03	9	0.03	12
458			min	-24.877	15	-29.992	6	-30.021	9	0	1	-0.03	3	-0.03	6
459		5	max	0	75	0.05	12	0.188	15	0	75	0	75	0	75
460			min	0	1	-0.043	6	-0.072	9	0	1	0	1	0	1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	MP4C	PIPE_2.0	0.497	4	8	0.132	4		1	14916.096	32130	1.872	1.872	1	H1-1b
2	M45	PL3/8X4	0.494	0.565	1	0.063	0	y	1	44539.829	48600	0.38	4.05	1.071	H1-1b
3	M34	PL3/8X4	0.471	0	1	0.101	0	y	1	47933.941	48600	0.38	4.05	1.019	H1-1b
4	M41	PL3/8X4	0.464	0	5	0.066	0	y	5	44539.829	48600	0.38	4.05	1.103	H1-1b
5	M5	PL3/8X4	0.459	1.992	14	0.143	0.354	y	24	48392.894	48600	0.38	4.05	2.842	H1-1b
6	M4	PL3/8X4	0.453	0	5	0.09	0	y	4	47933.941	48600	0.38	4.05	1.03	H1-1b
7	M3	PL3/8X4	0.425	2.258	16	0.116	3.896	y	43	48392.894	48600	0.38	4.05	2.87	H1-1b
8	MP2B	PIPE_2.0	0.41	4	1	0.08	4		1	14916.096	32130	1.872	1.872	1	H1-1b
9	MP2A	PIPE_2.0	0.397	4	9	0.075	4		8	14916.096	32130	1.872	1.872	1	H1-1b
10	M2	PL3/8X4	0.397	1.992	22	0.128	3.542	y	33	48392.894	48600	0.38	4.05	2.843	H1-1b
11	MP3B	PIPE_2.0	0.379	4	9	0.063	4		10	14916.096	32130	1.872	1.872	1	H1-1b
12	M154	L3X3X4	0.352	1.667	5	0.044	1.667	z	10	43870.623	46656	1.688	3.756	1.045	H2-1
13	M13	HSS4X4X4	0.35	0	11	0.132	0	z	4	103844.054	139518	16.181	16.181	2.421	H1-1b
14	M155	L3X3X4	0.346	1.667	1	0.043	0	z	7	43870.623	46656	1.688	3.756	1.335	H2-1
15	MP3A	PIPE_2.0	0.332	4	5	0.053	4		6	14916.096	32130	1.872	1.872	1	H1-1b
16	M118	HSS4X4X4	0.327	0	5	0.144	0	z	2	103844.054	139518	16.181	16.181	2.231	H1-1b
17	M43	PL3/8X4	0.313	0	8	0.04	0	y	45	44539.829	48600	0.38	4.05	1.228	H1-1b
18	M156	L3X3X4	0.302	1.667	8	0.05	0	y	8	43870.623	46656	1.688	3.756	1.5	H2-1
19	M40	PL3/8X4	0.298	0.225	6	0.096	0.225	y	6	47933.941	48600	0.38	4.05	1.221	H1-1b
20	M117	HSS4X4X4	0.297	0	9	0.112	0	z	12	103844.054	139518	16.181	16.181	2.22	H1-1b
21	M42	PL3/8X4	0.293	0.225	10	0.102	0.225	y	10	47933.941	48600	0.38	4.05	1.957	H1-1b
22	M6	L2X2X4	0.288	0	1	0.017	2.916	y	7	25500.22	30585.6	0.691	1.577	1.5	H2-1
23	M37	PL3/8X4	0.272	0	8	0.086	0	y	9	47933.941	48600	0.38	4.05	1.057	H1-1b
24	MP4B	PIPE_2.5	0.268	4	5	0.074	4		9	30038.461	50715	3.596	3.596	1	H1-1b
25	MP1B	PIPE_2.0	0.265	4	1	0.076	4		1	14916.096	32130	1.872	1.872	1	H1-1b
26	MP4A	PIPE_2.5	0.265	4	1	0.074	4		3	30038.461	50715	3.596	3.596	1	H1-1b
27	M10	L2X2X4	0.26	0	5	0.017	2.916	y	11	25500.22	30585.6	0.691	1.577	1.5	H2-1
28	MP1A	PIPE_2.0	0.253	4	8	0.076	4		8	14916.096	32130	1.872	1.872	1	H1-1b
29	MP2C	PIPE_2.0	0.251	4	10	0.073	4		4	14916.096	32130	1.872	1.872	1	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
30	MP3C	PIPE_2.5	0.247	4	11	0.05	4		6	30038.461	50715	3.596	3.596	1	H1-1b
31	M11	L2X2X4	0.237	0	1	0.016	2.916	y	20	25500.22	30585.6	0.691	1.577	1.5	H2-1
32	M44	PL3/8X4	0.236	0.225	2	0.074	0.225	y	2	47933.941	48600	0.38	4.05	1.071	H1-1b
33	M9	L2X2X4	0.231	0	10	0.018	2.916	y	13	25500.22	30585.6	0.691	1.577	1.5	H2-1
34	MP1C	PIPE_2.0	0.201	4	5	0.071	4		4	14916.096	32130	1.872	1.872	1	H1-1b
35	M140	PIPE_2.5	0.196	11.068	10	0.081	11.068		11	14558.792	50715	3.596	3.596	1	H1-1b
36	M8	L2X2X4	0.196	0	8	0.019	2.916	y	8	25500.22	30585.6	0.691	1.577	1.5	H2-1
37	M139	PIPE_2.5	0.182	1.432	6	0.107	1.432		1	14558.792	50715	3.596	3.596	1	H1-1b
38	M27	PIPE_3.0	0.18	4.067	2	0.119	1.162		11	53085.347	65205	5.749	5.749	1	H1-1b
39	M28	PIPE_3.0	0.175	2.131	8	0.123	2.131		19	53085.35	65205	5.749	5.749	1	H1-1b
40	M7	L2X2X4	0.162	0	2	0.016	2.916	z	2	25500.22	30585.6	0.691	1.577	1.5	H2-1
41	M141	PIPE_2.5	0.157	11.068	3	0.13	10.937		3	14558.792	50715	3.596	3.596	1	H1-1b
42	M1	PIPE_3.0	0.155	4.067	9	0.109	1.162		7	53085.347	65205	5.749	5.749	1	H1-1b
43	M12	PIPE_3.0	0.155	2.131	3	0.119	2.131		15	53085.35	65205	5.749	5.749	1	H1-1b
44	MP5C	PIPE_2.5	0.146	4	1	0.105	1.083		3	30038.461	50715	3.596	3.596	1	H1-1b
45	M23	PIPE_3.0	0.145	2.131	11	0.123	2.131		13	53085.35	65205	5.749	5.749	1	H1-1b
46	M22	PIPE_3.0	0.124	4.067	7	0.113	4.067		40	53085.347	65205	5.749	5.749	1	H1-1b

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

No Data to Print...

Envelope AA ADM1-10: ASD - BUILDING Member Aluminum Code Checks

No Data to Print...

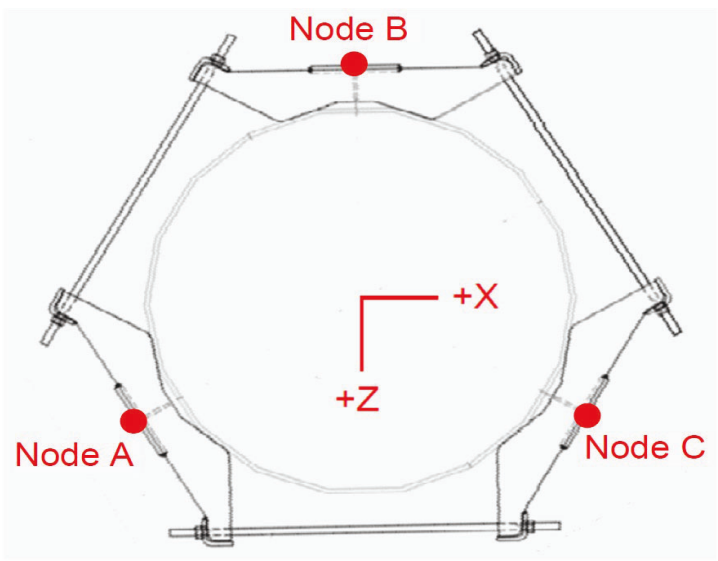
TES
A CONGRUEX® COMPANY

Collar Mount Calculations

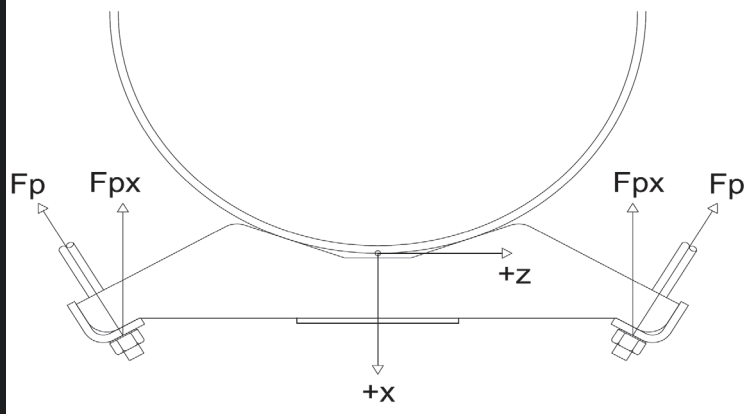
			Date: 6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

NOTE: The results for all load combinations are presented in the Results Summary Table.

Collar # =	1	
RISA Joint Label =	N33	
Load Combination # =	13	
Collar Configuration # =	1	
Applied Axial Force, Fx =	3.273	[Kips]
Applied Moment, M_{UY} =	0.078	[Kip-Ft]
Applied Moment, M_{UZ} =	5.960	[Kip-Ft]
Collar Height, H=	9.53125	[Inches]
# of Rows of Thread Rod, nrows =	3	
Diameter of Thread Rod, db =	0.625	[Inches]
Thread Rod Vert. Spacing, Sv =	2.25	[Inches]
Thread Rod Horiz. Spacing, Sh =	27.9375	[Inches]
Thread Rod Fy =	36	[KSI]
Thread Rod Fu =	58	[KSI]
Thread Rod Pretension, Fp =	6.136	[K/bolt]
Fpx =	5.314	[K/bolt]
ϕ =	1.0	



Typical Collar Mount Configuration



Local Coordinates

Check Sliding:

$$\varphi Rns = (2 \cdot nrows \cdot Fpx - T) \cdot \mu$$

Applied Tension, T =	0.000	
Coefficient of Friction, μ =	0.30	
Applied Vertical Shear, Vy =	2.368	[Kips]
ϕRns =	9.565	
Max Usage (Vy/ϕRns):	24.8%	PASS

Check Rotation:

$$\varphi Mny = (2 \cdot nrows \cdot Fpx + Fx) \cdot (Sh/4)$$

Applied Moment, M_{UY} =	0.078	[Kip-Ft]
ϕMny =	20.462	[Kip-Ft]
Max Usage (Muy/ϕMny):	0.4%	PASS

Check Tilting:

$$\varphi Mnz = \sum_{i=1}^{nrows} (2 \cdot Fpx \cdot y_i) - \left(\frac{T \cdot H}{2}\right)$$

Applied Moment, M_{UZ} =	5.960	
ϕMnz =	12.662	
Max Usage (Muz/ϕMnz):	47.1%	PASS

Check Interaction:

$$\sqrt{\left(\frac{Vy}{\varphi Rns}\right)^2 + \left(\frac{Muy}{\varphi Mny}\right)^2 + \left(\frac{Muz}{\varphi Mnz}\right)^2} \leq 1$$

Interaction Check:	53.2%	PASS

TES
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Collar Mount Calculations			Date
			6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

Results Summary Table

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N33	1	0.9638	0.0093	5.8869	20.2%	0.1%	47.9%	52.0%
1	N33	2	0.5381	0.3431	5.4108	18.7%	1.9%	43.5%	47.4%
1	N33	3	0.0000	1.8656	4.0292	14.9%	9.9%	31.8%	36.5%
1	N33	4	0.0000	3.2399	2.3710	10.6%	16.5%	18.7%	27.1%
1	N33	5	0.0000	2.4471	0.8672	6.8%	12.0%	6.8%	15.4%
1	N33	6	0.0000	0.6332	0.3374	3.8%	3.0%	2.7%	5.6%
1	N33	7	0.0000	0.0660	0.9050	2.4%	0.3%	7.1%	7.6%
1	N33	8	0.0000	0.3977	0.4251	3.6%	1.9%	3.4%	5.3%
1	N33	9	0.0000	1.9232	0.9653	7.1%	9.5%	7.6%	14.1%
1	N33	10	0.0000	3.2968	2.6275	11.4%	16.8%	20.8%	29.0%
1	N33	11	0.0000	2.5032	4.1251	15.2%	13.3%	32.6%	38.3%
1	N33	12	0.5221	0.6903	5.3198	18.4%	3.8%	42.7%	46.7%
1	N33	13	0.0000	0.0782	5.9604	24.8%	0.4%	47.1%	53.2%
1	N33	14	0.0000	0.0086	5.8707	24.5%	0.0%	46.4%	52.5%
1	N33	15	0.0000	0.3273	5.6067	23.9%	1.6%	44.3%	50.3%
1	N33	16	0.0000	0.5935	5.2786	23.1%	2.9%	41.7%	47.7%
1	N33	17	0.0000	0.4321	4.9781	22.3%	2.1%	39.3%	45.3%
1	N33	18	0.0000	0.0851	4.7474	21.8%	0.4%	37.5%	43.4%
1	N33	19	0.0000	0.0507	4.6422	21.5%	0.2%	36.7%	42.5%
1	N33	20	0.0000	0.1375	4.7319	21.7%	0.7%	37.4%	43.2%
1	N33	21	0.0000	0.4563	4.9968	22.4%	2.2%	39.5%	45.4%
1	N33	22	0.0000	0.7225	5.3250	23.2%	3.5%	42.1%	48.2%
1	N33	23	0.0000	0.5610	5.6255	23.9%	2.7%	44.4%	50.5%
1	N33	24	0.0000	0.2141	5.8562	24.5%	1.0%	46.3%	52.3%
1	N33	25	0.0000	0.2038	1.9941	9.6%	1.0%	15.7%	18.5%
1	N33	26	0.0000	0.1865	1.9681	9.5%	0.9%	15.5%	18.2%
1	N33	27	0.0000	0.1046	1.8941	9.3%	0.5%	15.0%	17.6%
1	N33	28	0.0000	0.0317	1.8059	9.1%	0.2%	14.3%	16.9%
1	N33	29	0.0000	0.0739	1.7265	8.9%	0.4%	13.6%	16.3%
1	N33	30	0.0000	0.1705	1.6624	8.7%	0.9%	13.1%	15.8%
1	N33	31	0.0000	0.2080	1.6320	8.7%	1.0%	12.9%	15.6%
1	N33	32	0.0000	0.2253	1.6580	8.7%	1.1%	13.1%	15.8%
1	N33	33	0.0000	0.3072	1.7310	8.9%	1.5%	13.7%	16.4%
1	N33	34	0.0000	0.3801	1.8202	9.1%	1.9%	14.4%	17.1%
1	N33	35	0.0000	0.3379	1.8996	9.3%	1.7%	15.0%	17.8%
1	N33	36	0.0000	0.2414	1.9637	9.5%	1.2%	15.5%	18.2%
1	N33	37	0.0000	0.1511	1.9508	9.4%	0.8%	15.4%	18.1%
1	N33	38	0.0000	0.1684	1.9249	9.3%	0.9%	15.2%	17.9%
1	N33	39	0.0000	0.2503	1.8509	9.2%	1.3%	14.6%	17.3%
1	N33	40	0.0000	0.3232	1.7627	8.9%	1.6%	13.9%	16.6%
1	N33	41	0.0000	0.2810	1.6832	8.7%	1.4%	13.3%	16.0%
1	N33	42	0.0000	0.1845	1.6192	8.6%	0.9%	12.8%	15.4%

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Collar Mount Calculations			Date
			6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

Results Summary Table (Continued)

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N33	43	0.0000	0.1469	1.5888	8.5%	0.7%	12.5%	15.2%
1	N33	44	0.0000	0.1296	1.6137	8.6%	0.6%	12.7%	15.4%
1	N33	45	0.0000	0.0487	1.6877	8.7%	0.2%	13.3%	15.9%
1	N33	46	0.0000	0.0252	1.7760	9.0%	0.1%	14.0%	16.6%
1	N33	47	0.0000	0.0169	1.8564	9.2%	0.1%	14.7%	17.3%
1	N33	48	0.0000	0.1135	1.9204	9.3%	0.6%	15.2%	17.8%
1	N33	49	0.0000	0.0278	3.2878	14.8%	0.1%	26.0%	29.9%
1	N33	50	0.0000	0.0611	2.4733	11.1%	0.3%	19.5%	22.4%
1	N33	51	0.0000	0.0335	2.9189	12.8%	0.2%	23.1%	26.4%
1	N33	52	0.0000	0.0300	2.7104	11.7%	0.2%	21.4%	24.4%
1	N33	53	0.0000	0.0211	2.6930	11.6%	0.1%	21.3%	24.2%
1	N33	54	0.0000	0.0582	2.6474	11.5%	0.3%	20.9%	23.9%
1	N33	55	0.0000	0.0722	2.5867	11.4%	0.4%	20.4%	23.4%
1	N33	56	0.0000	0.0582	2.5271	11.2%	0.3%	20.0%	22.9%
1	N33	57	0.0000	0.0221	2.4848	11.1%	0.1%	19.6%	22.6%
1	N33	58	0.0000	0.0290	2.4707	11.1%	0.1%	19.5%	22.4%
1	N33	59	0.0000	0.0791	2.4892	11.1%	0.4%	19.7%	22.6%
1	N33	60	0.0000	0.1173	2.5347	11.3%	0.6%	20.0%	23.0%
1	N33	61	0.0000	0.1303	2.5945	11.4%	0.7%	20.5%	23.5%
1	N33	62	0.0000	0.1173	2.6541	11.5%	0.6%	21.0%	23.9%
1	N33	63	0.0000	0.0802	2.6964	11.6%	0.4%	21.3%	24.3%
1	N33	64	0.0000	0.0208	1.9046	8.1%	0.1%	15.0%	17.1%
1	N33	65	0.0000	0.0303	1.8872	8.1%	0.2%	14.9%	17.0%
1	N33	66	0.0000	0.0675	1.8417	8.0%	0.3%	14.5%	16.6%
1	N33	67	0.0000	0.0814	1.7809	7.8%	0.4%	14.1%	16.1%
1	N33	68	0.0000	0.0675	1.7213	7.7%	0.3%	13.6%	15.6%
1	N33	69	0.0000	0.0313	1.6790	7.6%	0.2%	13.3%	15.3%
1	N33	70	0.0000	0.0198	1.6649	7.6%	0.1%	13.1%	15.2%
1	N33	71	0.0000	0.0709	1.6834	7.6%	0.4%	13.3%	15.3%
1	N33	72	0.0000	0.1080	1.7279	7.7%	0.6%	13.6%	15.7%
1	N33	73	0.0000	0.1220	1.7887	7.9%	0.6%	14.1%	16.2%
1	N33	74	0.0000	0.1080	1.8483	8.0%	0.6%	14.6%	16.7%
1	N33	75	0.0000	0.0709	1.8906	8.1%	0.4%	14.9%	17.0%
1	N1174	1	0.0000	1.8604	0.4608	5.5%	9.1%	3.6%	11.2%
1	N1174	2	0.0000	0.3483	0.7714	2.4%	1.7%	6.1%	6.8%
1	N1174	3	0.0000	0.0875	1.0824	1.7%	0.4%	8.5%	8.7%
1	N1174	4	0.0000	0.2951	0.4903	3.2%	1.4%	3.9%	5.2%
1	N1174	5	0.0000	0.9057	0.6524	6.0%	4.5%	5.2%	9.1%
1	N1174	6	0.0000	2.3407	2.1384	9.7%	11.9%	16.9%	22.8%
1	N1174	7	0.0000	1.8050	3.7575	13.7%	9.6%	29.7%	34.1%
1	N1174	8	0.6139	0.2949	4.9790	17.2%	1.6%	40.1%	43.6%
1	N1174	9	0.8864	0.0342	5.2900	18.1%	0.2%	43.0%	46.6%

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Collar Mount Calculations			Date
			6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

Results Summary Table (Continued)

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N1174	10	0.4254	0.2420	4.7021	16.3%	1.3%	37.6%	41.0%
1	N1174	11	0.0000	0.9593	3.5650	13.2%	5.1%	28.2%	31.5%
1	N1174	12	0.0000	2.3952	2.0845	9.6%	12.2%	16.5%	22.6%
1	N1174	13	0.0000	0.4256	4.1344	19.4%	2.0%	32.7%	38.0%
1	N1174	14	0.0000	0.1231	3.8930	18.8%	0.6%	30.7%	36.0%
1	N1174	15	0.0000	0.0607	3.8240	18.6%	0.3%	30.2%	35.5%
1	N1174	16	0.0000	0.0699	3.9340	18.9%	0.3%	31.1%	36.4%
1	N1174	17	0.0000	0.1764	4.1630	19.5%	0.8%	32.9%	38.2%
1	N1174	18	0.0000	0.4313	4.4588	20.2%	2.1%	35.2%	40.6%
1	N1174	19	0.0000	0.2973	4.7738	20.9%	1.4%	37.7%	43.2%
1	N1174	20	0.0000	0.0053	5.0151	21.5%	0.0%	39.6%	45.1%
1	N1174	21	0.0000	0.0676	5.0850	21.7%	0.3%	40.2%	45.6%
1	N1174	22	0.0000	0.0584	4.9750	21.4%	0.3%	39.3%	44.8%
1	N1174	23	0.0000	0.3047	4.7460	20.9%	1.5%	37.5%	42.9%
1	N1174	24	0.0000	0.5596	4.4502	20.2%	2.7%	35.1%	40.6%
1	N1174	25	0.0000	0.1429	4.9905	20.4%	0.7%	39.4%	44.4%
1	N1174	26	0.0000	0.0633	4.9257	20.2%	0.3%	38.9%	43.8%
1	N1174	27	0.0000	0.0490	4.9087	20.2%	0.2%	38.8%	43.7%
1	N1174	28	0.0000	0.0600	4.9396	20.2%	0.3%	39.0%	44.0%
1	N1174	29	0.0000	0.0040	5.0006	20.4%	0.0%	39.5%	44.4%
1	N1174	30	0.0000	0.0800	5.0790	20.6%	0.4%	40.1%	45.1%
1	N1174	31	0.0000	0.0517	5.1657	20.8%	0.3%	40.8%	45.8%
1	N1174	32	0.0000	0.0290	5.2310	21.0%	0.1%	41.3%	46.3%
1	N1174	33	0.0000	0.0423	5.2467	21.0%	0.2%	41.4%	46.5%
1	N1174	34	0.0000	0.0313	5.2158	20.9%	0.2%	41.2%	46.2%
1	N1174	35	0.0000	0.0952	5.1556	20.8%	0.5%	40.7%	45.7%
1	N1174	36	0.0000	0.1722	5.0764	20.6%	0.9%	40.1%	45.1%
1	N1174	37	0.0000	0.0550	1.5412	8.2%	0.3%	12.2%	14.7%
1	N1174	38	0.0000	0.1347	1.4759	8.0%	0.7%	11.7%	14.2%
1	N1174	39	0.0000	0.1490	1.4594	8.0%	0.7%	11.5%	14.1%
1	N1174	40	0.0000	0.1380	1.4903	8.1%	0.7%	11.8%	14.3%
1	N1174	41	0.0000	0.2019	1.5513	8.2%	1.0%	12.3%	14.8%
1	N1174	42	0.0000	0.2779	1.6297	8.4%	1.4%	12.9%	15.5%
1	N1174	43	0.0000	0.2496	1.7165	8.7%	1.3%	13.6%	16.1%
1	N1174	44	0.0000	0.1690	1.7817	8.8%	0.9%	14.1%	16.6%
1	N1174	45	0.0000	0.1557	1.7983	8.9%	0.8%	14.2%	16.8%
1	N1174	46	0.0000	0.1667	1.7674	8.8%	0.8%	14.0%	16.5%
1	N1174	47	0.0000	0.1027	1.7063	8.6%	0.5%	13.5%	16.0%
1	N1174	48	0.0000	0.0257	1.6271	8.4%	0.1%	12.9%	15.4%
1	N1174	49	0.0000	0.0600	2.0846	9.7%	0.3%	16.5%	19.1%
1	N1174	50	0.0000	0.0279	2.8989	13.4%	0.1%	22.9%	26.5%
1	N1174	51	0.0000	0.0320	2.4649	11.2%	0.2%	19.5%	22.5%

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Collar Mount Calculations			Date
			6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

Results Summary Table (Continued)

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N1174	52	0.0000	0.1017	2.1293	9.8%	0.5%	16.8%	19.5%
1	N1174	53	0.0000	0.0780	2.0879	9.7%	0.4%	16.5%	19.1%
1	N1174	54	0.0000	0.0414	2.0725	9.7%	0.2%	16.4%	19.0%
1	N1174	55	0.0000	0.0012	2.0882	9.7%	0.0%	16.5%	19.1%
1	N1174	56	0.0000	0.0322	2.1309	9.8%	0.2%	16.8%	19.5%
1	N1174	57	0.0000	0.0488	2.1889	10.0%	0.2%	17.3%	20.0%
1	N1174	58	0.0000	0.0456	2.2469	10.1%	0.2%	17.7%	20.4%
1	N1174	59	0.0000	0.0219	2.2884	10.2%	0.1%	18.1%	20.8%
1	N1174	60	0.0000	0.0157	2.3037	10.2%	0.1%	18.2%	20.9%
1	N1174	61	0.0000	0.0560	2.2875	10.2%	0.3%	18.1%	20.8%
1	N1174	62	0.0000	0.0894	2.2454	10.1%	0.5%	17.7%	20.4%
1	N1174	63	0.0000	0.1059	2.1868	10.0%	0.5%	17.3%	19.9%
1	N1174	64	0.0000	0.0935	1.4488	6.7%	0.5%	11.4%	13.3%
1	N1174	65	0.0000	0.0698	1.4064	6.6%	0.4%	11.1%	12.9%
1	N1174	66	0.0000	0.0322	1.3920	6.6%	0.2%	11.0%	12.8%
1	N1174	67	0.0000	0.0080	1.4081	6.6%	0.0%	11.1%	12.9%
1	N1174	68	0.0000	0.0414	1.4503	6.7%	0.2%	11.5%	13.3%
1	N1174	69	0.0000	0.0580	1.5083	6.9%	0.3%	11.9%	13.8%
1	N1174	70	0.0000	0.0538	1.5663	7.0%	0.3%	12.4%	14.2%
1	N1174	71	0.0000	0.0301	1.6078	7.1%	0.2%	12.7%	14.6%
1	N1174	72	0.0000	0.0065	1.6231	7.1%	0.0%	12.8%	14.7%
1	N1174	73	0.0000	0.0468	1.6070	7.1%	0.2%	12.7%	14.5%
1	N1174	74	0.0000	0.0802	1.5639	7.0%	0.4%	12.4%	14.2%
1	N1174	75	0.0000	0.0967	1.5063	6.9%	0.5%	11.9%	13.7%
1	N1176	1	0.0000	1.9088	0.3231	5.1%	9.3%	2.6%	10.9%
1	N1176	2	0.0000	3.1117	2.0048	9.3%	15.8%	15.8%	24.3%
1	N1176	3	0.0000	1.9428	3.6875	13.6%	10.3%	29.1%	33.8%
1	N1176	4	0.4596	0.1897	4.7877	16.6%	1.0%	38.4%	41.8%
1	N1176	5	0.7999	0.7348	5.1811	17.8%	4.1%	42.0%	45.8%
1	N1176	6	0.5763	0.6352	4.8965	16.9%	3.5%	39.4%	43.0%
1	N1176	7	0.0000	1.9040	3.8456	14.0%	10.2%	30.4%	34.9%
1	N1176	8	0.0000	3.1065	2.1713	9.7%	15.9%	17.1%	25.3%
1	N1176	9	0.0000	1.9360	0.4826	5.5%	9.5%	3.8%	11.6%
1	N1176	10	0.0000	0.1982	0.6242	2.7%	0.9%	4.9%	5.7%
1	N1176	11	0.0000	0.7409	1.0179	1.7%	3.5%	8.0%	8.9%
1	N1176	12	0.0000	0.6412	0.7337	2.4%	3.1%	5.8%	7.0%
1	N1176	13	0.0000	0.4311	3.9718	18.8%	2.1%	31.4%	36.6%
1	N1176	14	0.0000	0.6588	4.2970	19.6%	3.2%	33.9%	39.3%
1	N1176	15	0.0000	0.4244	4.6289	20.4%	2.1%	36.6%	41.9%
1	N1176	16	0.0000	0.0112	4.8547	21.0%	0.1%	38.3%	43.7%
1	N1176	17	0.0000	0.1155	4.9334	21.2%	0.6%	39.0%	44.3%
1	N1176	18	0.0000	0.1431	4.8683	21.0%	0.7%	38.4%	43.8%

TES A CONGRUEX COMPANY	Collar Mount Calculations		Date
			6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

Results Summary Table (Continued)

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N1176	19	0.0000	0.4172	4.6587	20.5%	2.0%	36.8%	42.2%
1	N1176	20	0.0000	0.6449	4.3331	19.7%	3.1%	34.2%	39.6%
1	N1176	21	0.0000	0.4105	4.0012	18.9%	2.0%	31.6%	36.9%
1	N1176	22	0.0000	0.0018	3.7754	18.3%	0.0%	29.8%	35.0%
1	N1176	23	0.0000	0.1294	3.6968	18.1%	0.6%	29.2%	34.4%
1	N1176	24	0.0000	0.1560	3.7613	18.3%	0.7%	29.7%	34.9%
1	N1176	25	0.0000	0.0528	1.4959	8.0%	0.3%	11.8%	14.3%
1	N1176	26	0.0000	0.0105	1.5852	8.3%	0.1%	12.5%	15.0%
1	N1176	27	0.0000	0.0510	1.6749	8.5%	0.3%	13.2%	15.7%
1	N1176	28	0.0000	0.1650	1.7335	8.6%	0.8%	13.7%	16.2%
1	N1176	29	0.0000	0.1939	1.7548	8.7%	1.0%	13.9%	16.4%
1	N1176	30	0.0000	0.1890	1.7392	8.7%	1.0%	13.7%	16.3%
1	N1176	31	0.0000	0.2561	1.6835	8.5%	1.3%	13.3%	15.8%
1	N1176	32	0.0000	0.3204	1.5937	8.3%	1.6%	12.6%	15.2%
1	N1176	33	0.0000	0.2579	1.5041	8.1%	1.3%	11.9%	14.4%
1	N1176	34	0.0000	0.1440	1.4459	7.9%	0.7%	11.4%	13.9%
1	N1176	35	0.0000	0.1150	1.4241	7.9%	0.6%	11.2%	13.7%
1	N1176	36	0.0000	0.1210	1.4397	7.9%	0.6%	11.4%	13.9%
1	N1176	37	0.0000	0.1011	4.9880	20.4%	0.5%	39.4%	44.3%
1	N1176	38	0.0000	0.1654	5.0773	20.6%	0.8%	40.1%	45.1%
1	N1176	39	0.0000	0.1028	5.1670	20.8%	0.5%	40.8%	45.8%
1	N1176	40	0.0000	0.0111	5.2256	21.0%	0.1%	41.3%	46.3%
1	N1176	41	0.0000	0.0400	5.2469	21.0%	0.2%	41.4%	46.5%
1	N1176	42	0.0000	0.0351	5.2313	21.0%	0.2%	41.3%	46.3%
1	N1176	43	0.0000	0.1023	5.1756	20.8%	0.5%	40.9%	45.9%
1	N1176	44	0.0000	0.1666	5.0858	20.6%	0.8%	40.2%	45.2%
1	N1176	45	0.0000	0.1041	4.9970	20.4%	0.5%	39.5%	44.4%
1	N1176	46	0.0000	0.0099	4.9380	20.2%	0.0%	39.0%	43.9%
1	N1176	47	0.0000	0.0388	4.9175	20.2%	0.2%	38.8%	43.8%
1	N1176	48	0.0000	0.0329	4.9318	20.2%	0.2%	38.9%	43.9%
1	N1176	49	0.0000	0.0353	2.0582	9.6%	0.2%	16.3%	18.9%
1	N1176	50	0.0000	0.0301	2.0572	9.6%	0.2%	16.2%	18.9%
1	N1176	51	0.0000	0.0033	2.4335	11.1%	0.0%	19.2%	22.2%
1	N1176	52	0.0000	0.0806	2.0974	9.7%	0.4%	16.6%	19.2%
1	N1176	53	0.0000	0.0864	2.1576	9.9%	0.4%	17.0%	19.7%
1	N1176	54	0.0000	0.0690	2.2188	10.0%	0.4%	17.5%	20.2%
1	N1176	55	0.0000	0.0343	2.2633	10.1%	0.2%	17.9%	20.5%
1	N1176	56	0.0000	0.0085	2.2805	10.2%	0.0%	18.0%	20.7%
1	N1176	57	0.0000	0.0489	2.2653	10.1%	0.2%	17.9%	20.6%
1	N1176	58	0.0000	0.0753	2.2226	10.0%	0.4%	17.6%	20.2%
1	N1176	59	0.0000	0.0811	2.1624	9.9%	0.4%	17.1%	19.7%
1	N1176	60	0.0000	0.0637	2.1020	9.7%	0.3%	16.6%	19.2%

TES A CONGRUEX COMPANY	Collar Mount Calculations		Date
			6/30/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T Mobiile	Mount Elev. [ft]:	177
Site Name:	Colchester 3 CT	Engineer Name:	P.Roka
Site Number:	CT02652-S-SBA	TES Project #:	141449

Results Summary Table (Continued)

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N1176	61	0.0000	0.0291	2.0567	9.6%	0.1%	16.2%	18.9%
1	N1176	62	0.0000	0.0138	2.0395	9.6%	0.1%	16.1%	18.7%
1	N1176	63	0.0000	0.0542	2.0547	9.6%	0.3%	16.2%	18.9%
1	N1176	64	0.0000	0.0793	1.4259	6.6%	0.4%	11.3%	13.1%
1	N1176	65	0.0000	0.0850	1.4861	6.8%	0.4%	11.7%	13.6%
1	N1176	66	0.0000	0.0686	1.5468	6.9%	0.4%	12.2%	14.1%
1	N1176	67	0.0000	0.0340	1.5918	7.0%	0.2%	12.6%	14.4%
1	N1176	68	0.0000	0.0089	1.6090	7.1%	0.0%	12.7%	14.6%
1	N1176	69	0.0000	0.0493	1.5938	7.1%	0.3%	12.6%	14.4%
1	N1176	70	0.0000	0.0757	1.5506	6.9%	0.4%	12.2%	14.1%
1	N1176	71	0.0000	0.0815	1.4909	6.8%	0.4%	11.8%	13.6%
1	N1176	72	0.0000	0.0651	1.4296	6.7%	0.3%	11.3%	13.1%
1	N1176	73	0.0000	0.0304	1.3851	6.5%	0.2%	10.9%	12.7%
1	N1176	74	0.0000	0.0134	1.3675	6.5%	0.1%	10.8%	12.6%
1	N1176	75	0.0000	0.0528	1.3832	6.5%	0.3%	10.9%	12.7%

EXHIBIT 9

Radio Frequency Exposure Analysis Report

July 6, 2022

Centerline on behalf of T-Mobile
Centerline Communications Project Number: N/A

T-Mobile Site Name: Rt2 / Colchester-Bozrah
Site Number: CT11472A

Site Address: 29 Mahoney Road, Colchester, CT 06415

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	24.61752 µW/cm^2
Cumulative General Population % MPE (Ground Level):	2.4618199999999999%

750 West Center Street | Suite 301 | West Bridgewater | MA | 02379

July 6, 2022

Centerline
Attn: Jessica Meyer, Project Coordinator
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **Rt2 / Colchester-Bozrah**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed T-Mobile facility at **29 Mahoney Road, Colchester, CT 06415** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

Data & Results

The following table details the antennas and operating parameters for the T-Mobile antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.

Maximum Calculated Cumulative Power Density (Location: approximately 500' northeast of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
T-Mobile A 1	COMMSCOPE VV-65A-R1	1900	15.77	177.00	2.00	140.00	10572.02	0.00009	1000.00	0.00001
T-Mobile A 1	COMMSCOPE VV-65A-R1	2100	16.47	177.00	2.00	140.00	12421.04	0.00008	1000.00	0.00001
T-Mobile A 1	COMMSCOPE VV-65A-R1	1900	15.77	177.00	1.00	15.00	566.36	0.00001	1000.00	0.00000
T-Mobile A 2	ERICSSON AIR6419	2500	22.05	177.00	2.00	80.00	25651.93	11.99176	1000.00	1.19918
T-Mobile A 2	ERICSSON AIR6419	2500	22.05	177.00	2.00	80.00	25651.93	11.99176	1000.00	1.19918
T-Mobile A 3	RFS APXVAALL24 43-U-NA20	700	13.65	177.00	4.00	40.00	3707.83	0.00004	466.67	0.00001
T-Mobile A 3	RFS APXVAALL24 43-U-NA20	600	12.95	177.00	2.00	40.00	1577.94	0.00002	400.00	0.00001
T-Mobile A 3	RFS APXVAALL24 43-U-NA20	600	12.95	177.00	2.00	30.00	1183.45	0.00002	400.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65A-R1	1900	15.77	177.00	2.00	140.00	10572.02	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65A-R1	2100	16.47	177.00	2.00	140.00	12421.04	0.00000	1000.00	0.00000
T-Mobile B 4	COMMSCOPE VV-65A-R1	1900	15.77	177.00	1.00	15.00	566.36	0.00000	1000.00	0.00000
T-Mobile B 5	ERICSSON AIR6419	2500	22.05	177.00	2.00	80.00	25651.93	0.05726	1000.00	0.00573
T-Mobile B 5	ERICSSON AIR6419	2500	22.05	177.00	2.00	80.00	25651.93	0.05726	1000.00	0.00573
T-Mobile B 6	RFS APXVAALL24 43-U-NA20	700	13.65	177.00	4.00	40.00	3707.83	0.00000	466.67	0.00000
T-Mobile B 6	RFS APXVAALL24 43-U-NA20	600	12.95	177.00	2.00	40.00	1577.94	0.00000	400.00	0.00000
T-Mobile B 6	RFS APXVAALL24 43-U-NA20	600	12.95	177.00	2.00	30.00	1183.45	0.00000	400.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65A-R1	1900	15.77	177.00	2.00	140.00	10572.02	0.00000	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65A-R1	2100	16.47	177.00	2.00	140.00	12421.04	0.00000	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VV-65A-R1	1900	15.77	177.00	1.00	15.00	566.36	0.00000	1000.00	0.00000
T-Mobile C 8	ERICSSON AIR6419	2500	22.05	177.00	2.00	80.00	25651.93	0.25875	1000.00	0.02588
T-Mobile C 8	ERICSSON AIR6419	2500	22.05	177.00	2.00	80.00	25651.93	0.25875	1000.00	0.02588
T-Mobile C 9	RFS APXVAALL24 43-U-NA20	700	13.65	177.00	4.00	40.00	3707.83	0.00000	466.67	0.00000
T-Mobile C 9	RFS APXVAALL24 43-U-NA20	600	12.95	177.00	2.00	40.00	1577.94	0.00000	400.00	0.00000
T-Mobile C 9	RFS APXVAALL24 43-U-NA20	600	12.95	177.00	2.00	30.00	1183.45	0.00000	400.00	0.00000
Verizon A 10	ANTEL BXA-70063-6CF	850	14.50	167.00	7.00	20.00	3945.74	0.00004	566.67	0.00001
Verizon A 11	JMA MX06FRO660-03	700	12.05	167.00	2.00	40.00	1282.60	0.00004	466.67	0.00001
Verizon A 11	JMA MX06FRO660-03	850	12.05	167.00	2.00	40.00	1282.60	0.00005	566.67	0.00001
Verizon A 11	JMA MX06FRO660-03	1900	15.75	167.00	4.00	40.00	6013.40	0.00006	1000.00	0.00001
Verizon A 12	JMA MX06FRO660-03	700	12.05	167.00	2.00	40.00	1282.60	0.00004	466.67	0.00001
Verizon A 12	JMA MX06FRO660-03	850	12.05	167.00	2.00	40.00	1282.60	0.00005	566.67	0.00001
Verizon A 12	JMA MX06FRO660-03	2100	15.95	167.00	4.00	40.00	6296.80	0.00007	1000.00	0.00001
Verizon A 13	SAMSUNG MT6407	3700	23.35	167.00	4.00	50.00	43254.37	0.00072	1000.00	0.00007
Verizon B 14	ANTEL BXA-70063-6CF	850	14.50	167.00	7.00	20.00	3945.74	0.00000	566.67	0.00000
Verizon B 15	JMA MX06FRO660-03	700	12.05	167.00	2.00	40.00	1282.60	0.00000	466.67	0.00000
Verizon B 15	JMA MX06FRO660-03	850	12.05	167.00	2.00	40.00	1282.60	0.00000	566.67	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
Verizon B 15	JMA MX06FRO660-03	1900	15.75	167.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Verizon B 16	JMA MX06FRO660-03	700	12.05	167.00	2.00	40.00	1282.60	0.00000	466.67	0.00000
Verizon B 16	JMA MX06FRO660-03	850	12.05	167.00	2.00	40.00	1282.60	0.00000	566.67	0.00000
Verizon B 16	JMA MX06FRO660-03	2100	15.95	167.00	4.00	40.00	6296.80	0.00000	1000.00	0.00000
Verizon B 17	SAMSUNG MT6407	3700	23.35	167.00	4.00	50.00	43254.37	0.00002	1000.00	0.00000
Verizon C 18	ANTEL BXA-70063-6CF	850	14.50	167.00	7.00	20.00	3945.74	0.00000	566.67	0.00000
Verizon C 19	JMA MX06FRO660-03	700	12.05	167.00	2.00	40.00	1282.60	0.00000	466.67	0.00000
Verizon C 19	JMA MX06FRO660-03	850	12.05	167.00	2.00	40.00	1282.60	0.00000	566.67	0.00000
Verizon C 19	JMA MX06FRO660-03	1900	15.75	167.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Verizon C 20	JMA MX06FRO660-03	700	12.05	167.00	2.00	40.00	1282.60	0.00000	466.67	0.00000
Verizon C 20	JMA MX06FRO660-03	850	12.05	167.00	2.00	40.00	1282.60	0.00000	566.67	0.00000
Verizon C 20	JMA MX06FRO660-03	2100	15.95	167.00	4.00	40.00	6296.80	0.00000	1000.00	0.00000
Verizon C 21	SAMSUNG MT6407	3700	23.35	167.00	4.00	50.00	43254.37	0.00002	1000.00	0.00000
AT&T A 22	POWERWAVE 7770 00	850	11.35	160.00	1.00	40.00	545.83	0.00001	566.67	0.00000
AT&T A 23	CCI HPA-65R-BUU-H8-	1900	14.75	160.00	4.00	40.00	4776.61	0.00005	1000.00	0.00001
AT&T A 23	CCI HPA-65R-BUU-H8-	2100	15.25	160.00	4.00	40.00	5359.45	0.00005	1000.00	0.00001
AT&T A 24	CCI DMP65R-BU8D	700	12.25	160.00	4.00	40.00	2686.09	0.00006	466.67	0.00001
AT&T A 24	CCI DMP65R-BU8D	850	12.55	160.00	4.00	40.00	2878.19	0.00006	566.67	0.00001
AT&T A 24	CCI DMP65R-BU8D	2300	14.25	160.00	4.00	25.00	2660.73	0.00004	1000.00	0.00000
AT&T B 25	POWERWAVE 7770 00	850	11.35	160.00	1.00	40.00	545.83	0.00000	566.67	0.00000
AT&T B 26	CCI HPA-65R-BUU-H8-	1900	14.75	160.00	4.00	40.00	4776.61	0.00000	1000.00	0.00000
AT&T B 26	CCI HPA-65R-BUU-H8-	2100	15.25	160.00	4.00	40.00	5359.45	0.00000	1000.00	0.00000
AT&T B 27	CCI DMP65R-BU8D	700	12.25	160.00	4.00	40.00	2686.09	0.00000	466.67	0.00000
AT&T B 27	CCI DMP65R-BU8D	850	12.55	160.00	4.00	40.00	2878.19	0.00000	566.67	0.00000
AT&T B 27	CCI DMP65R-BU8D	2300	14.25	160.00	4.00	25.00	2660.73	0.00000	1000.00	0.00000
AT&T C 28	POWERWAVE 7770 00	850	11.35	160.00	1.00	40.00	545.83	0.00000	566.67	0.00000
AT&T C 29	CCI HPA-65R-BUU-H8-	1900	14.75	160.00	4.00	40.00	4776.61	0.00000	1000.00	0.00000
AT&T C 29	CCI HPA-65R-BUU-H8-	2100	15.25	160.00	4.00	40.00	5359.45	0.00000	1000.00	0.00000
AT&T C 30	CCI DMP65R-BU8D	700	12.25	160.00	4.00	40.00	2686.09	0.00000	466.67	0.00000
AT&T C 30	CCI DMP65R-BU8D	850	12.55	160.00	4.00	40.00	2878.19	0.00000	566.67	0.00000
AT&T C 30	CCI DMP65R-BU8D	2300	14.25	160.00	4.00	25.00	2660.73	0.00000	1000.00	0.00000
Dish A 31	JMA MX08FRO665-21	600	11.35	150.00	4.00	40.00	2183.33	0.00008	400.00	0.00002
Dish A 31	JMA MX08FRO665-21	700	12.05	150.00	4.00	40.00	2565.19	0.00010	466.67	0.00002
Dish A 31	JMA MX08FRO665-21	2007	15.75	150.00	4.00	40.00	6013.40	0.00008	1000.00	0.00001
Dish A 31	JMA MX08FRO665-21	2100	16.75	150.00	4.00	40.00	7570.42	0.00008	1000.00	0.00001
Dish 0 32	JMA MX08FRO665-21	600	11.35	150.00	4.00	40.00	2183.33	0.00000	400.00	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
Dish 0 32	JMA MX08FRO665-21	700	12.05	150.00	4.00	40.00	2565.19	0.00000	466.67	0.00000
Dish 0 32	JMA MX08FRO665-21	2007	15.75	150.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish 0 32	JMA MX08FRO665-21	2100	16.75	150.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
Dish 0 33	JMA MX08FRO665-21	600	11.35	150.00	4.00	40.00	2183.33	0.00000	400.00	0.00000
Dish 0 33	JMA MX08FRO665-21	700	12.05	150.00	4.00	40.00	2565.19	0.00000	466.67	0.00000
Dish 0 33	JMA MX08FRO665-21	2007	15.75	150.00	4.00	40.00	6013.40	0.00000	1000.00	0.00000
Dish 0 33	JMA MX08FRO665-21	2100	16.75	150.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000
							Cumulative Power Density:	**24.61752 $\mu W/cm^2$**	**Cumulative % MPE:**	**2.46182%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

Katrina Styx
RF EME Technical Writer
Centerline Communications, LLC