NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

May 2, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Exempt Modification Application
267 Norwich Westerly Road, North Stonington, CT 06379
Latitude: 41.436966
Longitude: -71.881972
Site #: CT01210-S _CT11312A_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 267 Norwich Westerly Road, North Stonington, CT 06379. T-Mobile currently maintains nine (9) antennas at the 147-foot level of the existing 150-foot monopole tower. The property is owned by the North Stonington Volunteer Fire Co. Inc., and the tower is owned by SBA. T-Mobile now intends to replace (6) existing antennas with (6) new antennas. The new antennas would be installed at the 147-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable. Tower modifications will be completed as per the attached TES Post-Mod Structural Analysis dated February 24, 2022.

T-Mobile Planned Modifications:
Remove: None

Remove and Replace:
(3) Ericsson AIR21 KRC118023 Antennas (Remove) - (3) Ericsson AIR6449 B41 Antennas (Replace)
(3) Ericsson AIR21 KRC118023 Antennas (Remove) - (3) Commscope VV-65A-R1 Antennas (Replace)

Install New:
(3) ERICSSON 4460 B25+B66 RRU
(1) HCS Fiber Cable 1.9"

Existing to Remain:
(3) RFS APXVAALL24-43-U-NA20 Antennas
(3) ERICSSON 4449 B71+B85 RRU
(3) HCS Fiber Cable 1.9"
(7) Coax – 1-5/8" *
(6) Twin TMAs – KRY 112 489/2 *

*Equipment listed for entitlement purposed only

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The facility was approved by the Town of North Stonington Planning & Zoning Commission on May 6, 1999. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Bob Carlson, First Selectman, and Nathan Reichert, Zoning Official for the Town of North Stonington, as well as the property owner and the tower owner.

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 modifications 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 modifications 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 telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Bob Carlson, First Selectman
Town of North Stonington
40 Main Street
North Stonington, CT 06359

Nathan Reichert, Zoning Official
Town of North Stonington
40 Main Street
North Stonington, CT 06359

North Stonington Volunteer Fire Co. Inc – Property Owner
40 Main Street
North Stonington, CT 06359

SBA - Tower Owner

Exhibit A

Original Facility Approval

VOL 126 PAGE 741

Town of

NORTH STONINGTON, CT.

PLANNING & ZONING COMMISSION

May 13, 1999

CERTIFIED MAIL
SBA Inc.
125 Shaw Street
Suite 116
New London, Connecticut 06320

NOTICE OF DECISION

At the Special Meeting of the North Stonington Planning & Zoning Commission held on Thursday, May 6, 1999, at the New Town Hall located at 40 Main Street, North Stonington, Connecticut, the Commission acted as follows:

SP#99-031 Application of SBA Inc., of 125 Shaw Street, Suite 116, New London, Connecticut and Sprint Spectrum, LP (Sprint PCS) of 9 Barnes Industrial Road, Wallingford, Connecticut to allow a Special Permit for a 150' multi-tenant monopole and related equipment on land located at the intersection of Route 2/Rocky Hollow Road at 267 Norwich-Westerly Road (a.k.a. Route 2) land is owned by North Stonington Volunteer Fire Co. Inc., Tax map #221, Lot #1.01, was approved with the following conditions applied:

1). Iron Pins shall be set before signing and the proper symbol shall be shown on Sheet S-1, enlarged view.

2). Note shall be amended to the site plan indicating that no more than 4 antenna support platforms each holding no more than 12 panel antennas, are approved; and the installation of additional support platforms and/or antennas shall require an approved site plan modification.

3). Note symbols #8 through #10 on Sheet C-2 shall be removed from the site plan or labeled as "omitted".

4). SE&SC narrative note #17 on Sheet C-4 shall be moved to under note #10 and renumbered.

5). The words "with topsoil added" shall be inserted into note #13 on Sheet C-4 after the word "roughened."

6). A description of the lightening suppression system shall be added to the site plan.

Exhibit B

Property Card

Town of North Stonington, CT

Property Listing Report | Map Block Lot **109 3238** | Building # **1** | Unique Identifier **I0182600**

Property Information

Property Location	267 NRWH WSTLY RD
Mailing Address	40 MAIN ST NORTH [illegible] CT 063590279
Land Use	Governmental Building
Zoning Code	R40
Neighborhood	C130

Owner	NO STONINGTON VOL FIRE CO INC
Co-Owner	
Book / Page	0111/0760
Land Class	Commercial
Census Tract	7071
Acreage	2.57

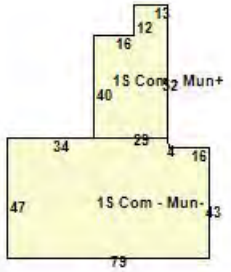
Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	392700	274890
Outbuildings	22500	15750
Land	138200	96740
Total	553400	387380

Utility Information

Electric	NA
Gas	NA
Sewer	NA
Public Water	NA
Well	NA



Primary Construction Details

Year Built	1964
Building Desc.	Commercial
Building Style	
Stories	1
Exterior Walls	Concr/Cinder
Exterior Walls 2	Brick Veneer
Interior Walls	None/Minumum
Interior Walls 2	Panel
Interior Floors 1	Concrete
Interior Floors 2	Hardwood

Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	
Occupancy	0

Building Use	Governmental
Building Condition	Average
Frame Type	C
Fireplaces	0
Bsmt Gar	0
Fin Bsmt Area	900
Fin Bsmt Quality	Average Quality
Building Grade	0
Roof Style	Flat
Roof Cover	Tar and Gravel

Report Created On 10/6/2021

Town of North Stonington, CT

Property Listing Report | Map Block Lot **109 3238** | Building # **1** | Unique Identifier **I0182600**

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
Shed	Frame	100	Average	2000
Fence	4 Ft Chain	75	Average	1970
Paving	Paving	17500	Average	2000
Shed	Frame	80	Average	1970

Attached Extra Features

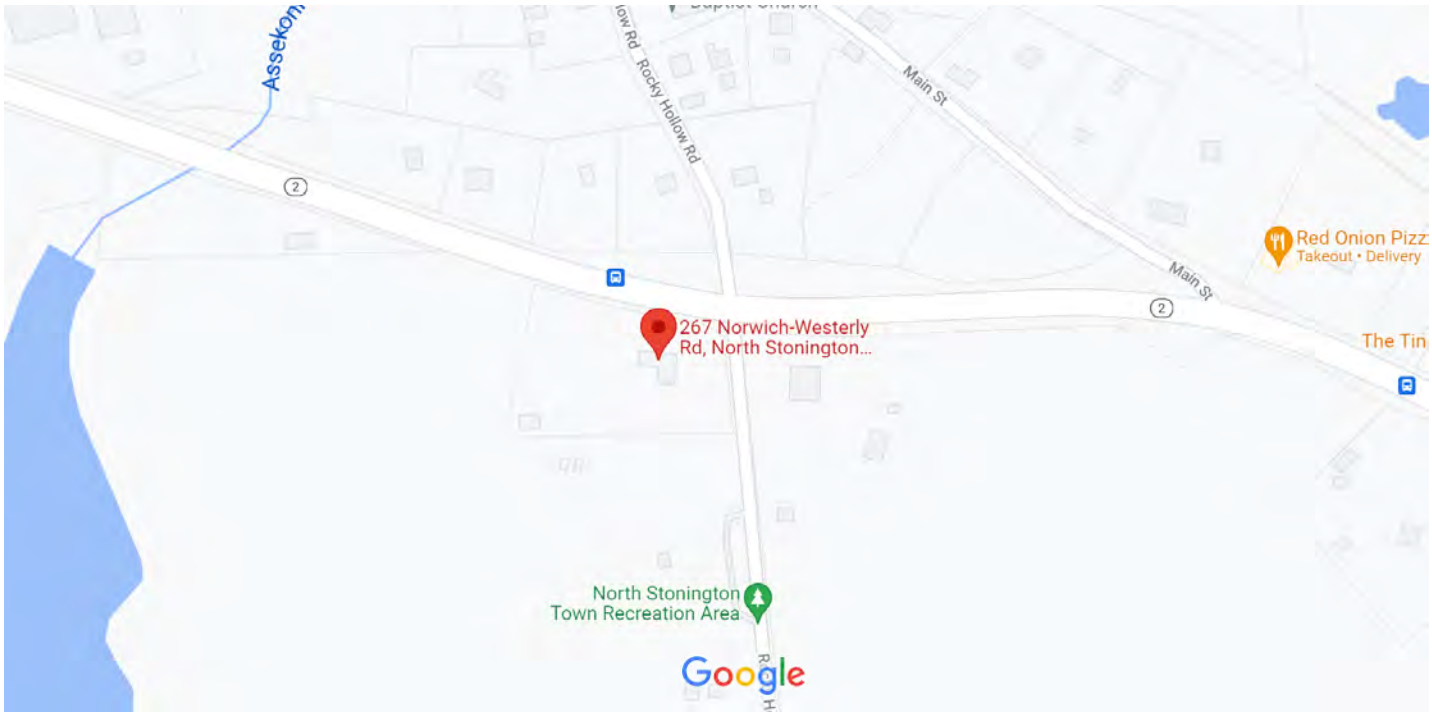
Type	Description	Area (sq ft)	Condition	Year Built

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
NO STONINGTON VOL FIRE CO INC	0111_0760	10/8/1996	0
TOWN OF NORTH STONINGTON	0108_0651	1/25/1996	0
STATE OF CONNECTICUT	0026_0498	12/17/1954	0

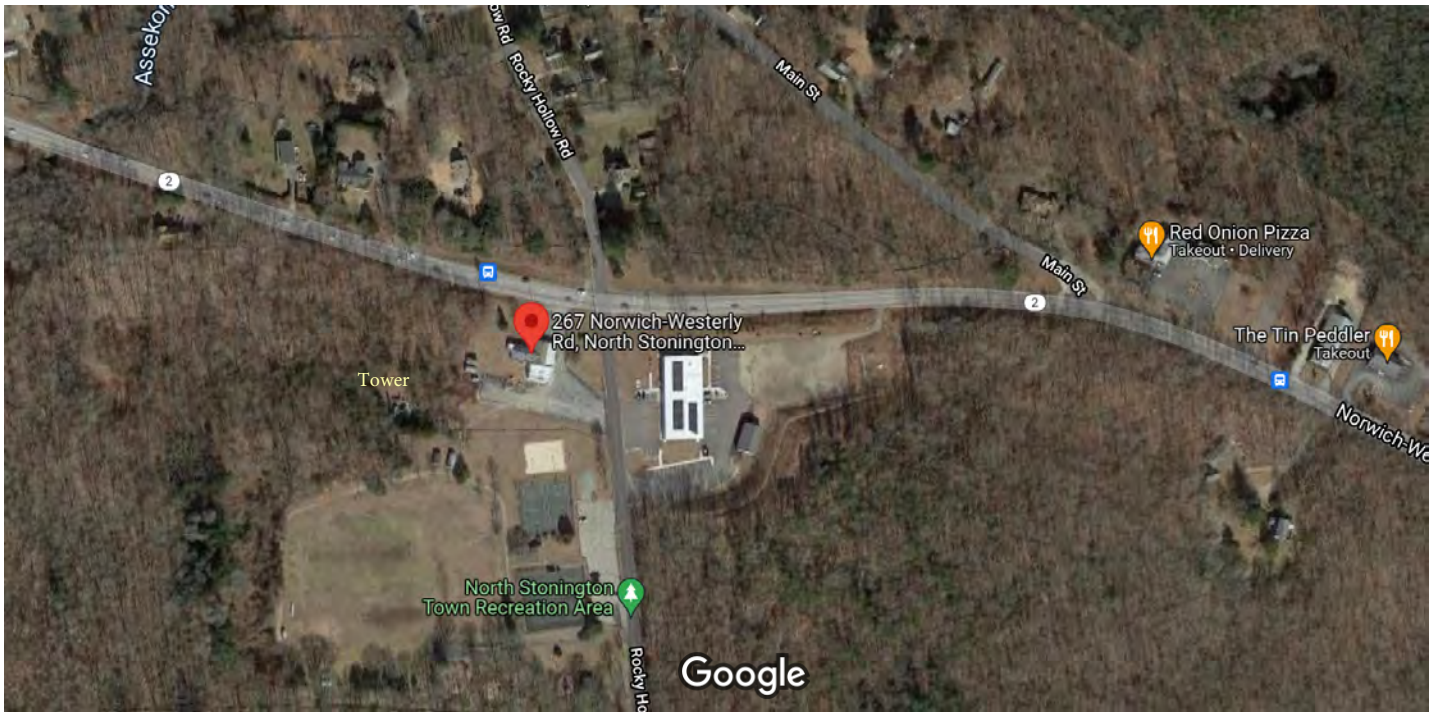
Report Created On **10/6/2021**

Google Maps 267 Norwich-Westerly Rd



Map data ©2021 200 ft

Google Maps 267 Norwich-Westerly Rd



Imagery ©2021 Maxar Technologies, RIGIS, USDA Farm Service Agency, Map data ©2021 200 ft

Exhibit C

Construction Drawings

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

N. STONINGTON/RT.2

267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06379
NEW LONDON COUNTY

SITE NO.: CT11312A

SITE TYPE: 150'± MONOPOLE

RF DESIGN GUIDELINE: 67D5A998E HYBRID

SCOPE OF WORK

REMOVE:
- 6 ANTENNAS
- 3 TMAs
- 1 S8000 CABINET
- ALL COAX CABLES

INSTALL:
- 6 ANTENNAS
- 3 RRUs
- 1 B160 BATTERY CABINET
- 1 6160 CABINET
- 1 HYBRID CABLES

SITE NOTES

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

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

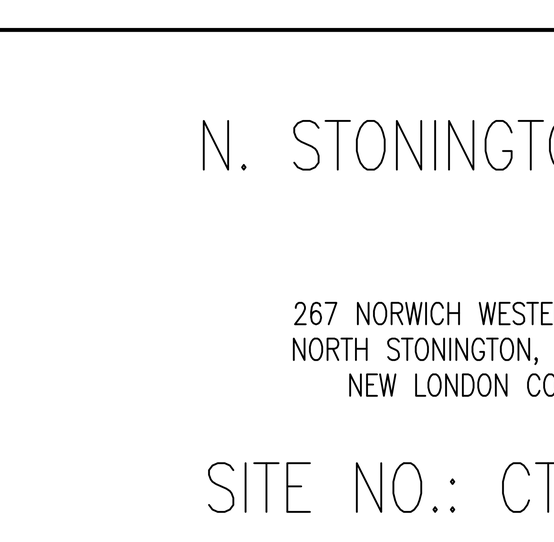
GENERAL NOTES

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 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 33B FOR I-95 SOUTH TOWARD PROVIDENCE RI. KEEP RIGHT AT FORK TO STAY ON I-95 SOUTH. TAKE EXIT 93 FOR CT-216 TOWARD CT-184/CLARKS FALLS. TURN RIGHT ONTO CT-216 NORTH/CLARKS FALLS ROAD. TURN LEFT ONTO CT-184 WEST. AT TRAFFIC CIRCLE, TAKE 1ST EXIT ONTO CT-2 WEST/STATE HIGHWAY 184. SITE IS LOCATED ON THE LEFT HAND SIDE.

SHEET INDEX

SHT. NO.	DESCRIPTION	VER.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLAN	0
A-2	TOWER ELEVATIONS & ANTENNA PLAN	0
A-3	SITE DETAILS	0
A-4	ANTENNA & FEEDLINE CHARTS	0
E-1	ELECTRIC & GROUNDING DETAILS	0

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:	CT11312A
SITE NAME:	N. STONINGTON/RT.2
SBA SITE NUMBER:	CT01210-S
SBA SITE NAME:	NORTH STONINGTON
SITE ADDRESS:	267 NORWICH WESTERLY ROAD NORTH STONINGTON, CT 06379
PROPERTY OWNER:	NORTH STONINGTON VOLUNTEER FIRE CO INC. 40 MAIN STREET NORTH STONINGTON, CT 06359-0279
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON
ZONING DISTRICT:	R40 (HIGH-DENSITY RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	150'±
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: 41.437114° N41°26'13.61" LONGITUDE: -71.881467° W71°52'53.28"

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
CLEMENT J. SAJEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/16/21	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11312A

SITE ADDRESS:
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06379

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.373

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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STATE OF CONNECTICUT
CLEMENT J. SAJEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/16/21	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11312A

SITE ADDRESS:
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06379

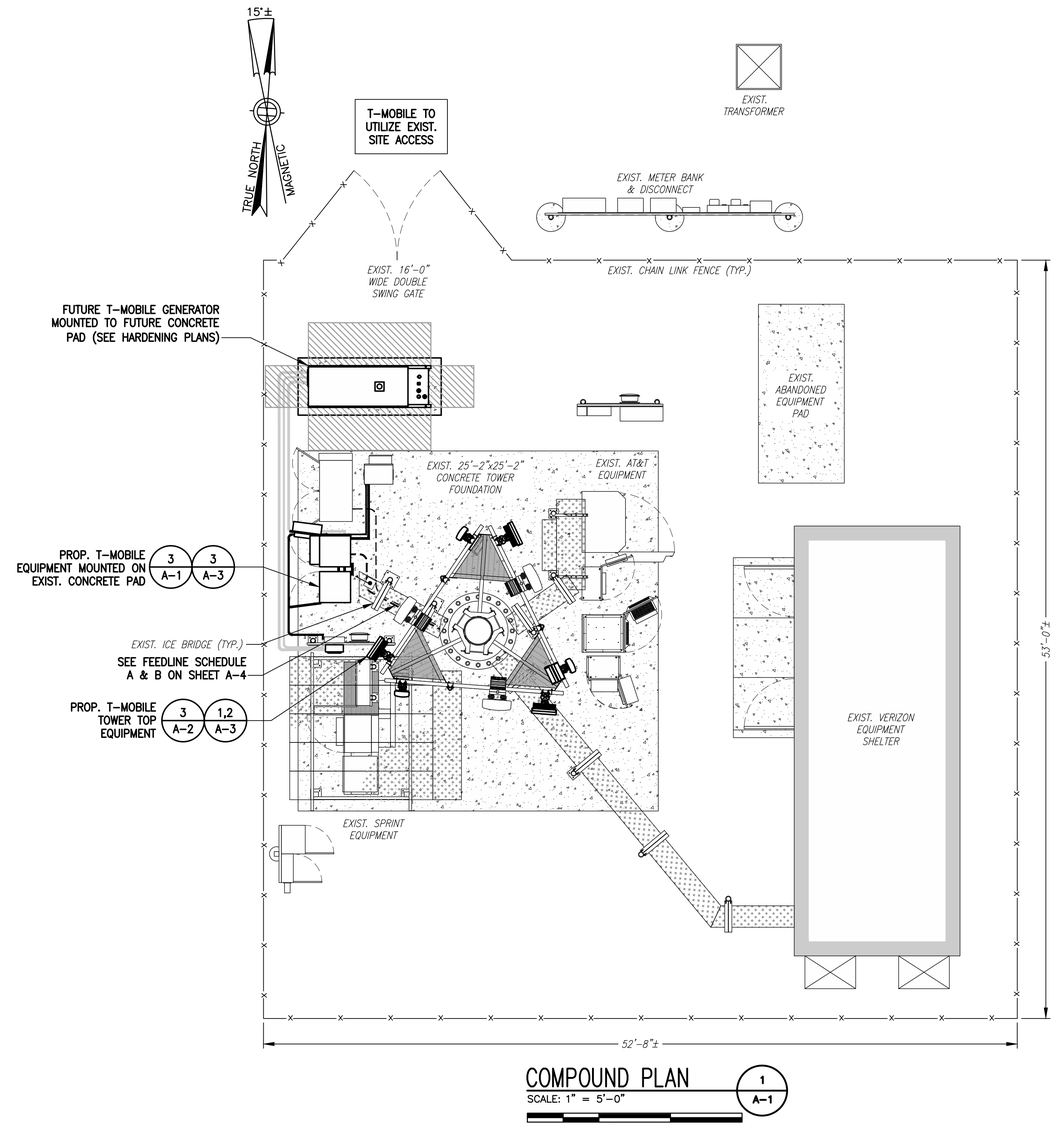
SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

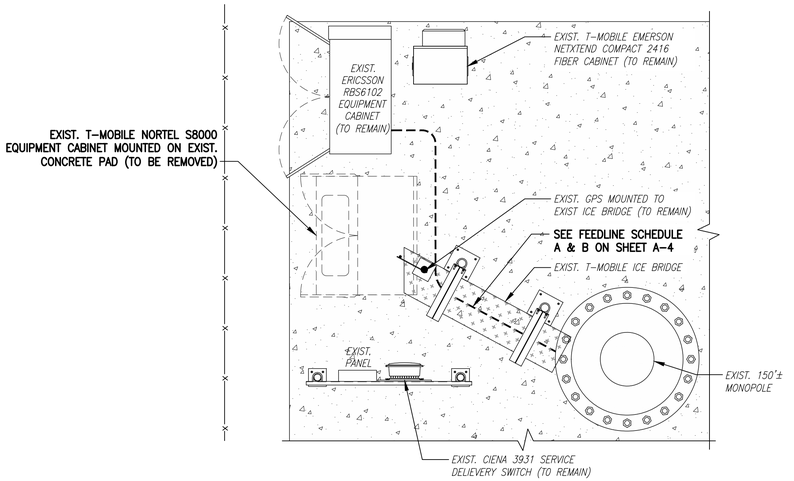
1815.373

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.

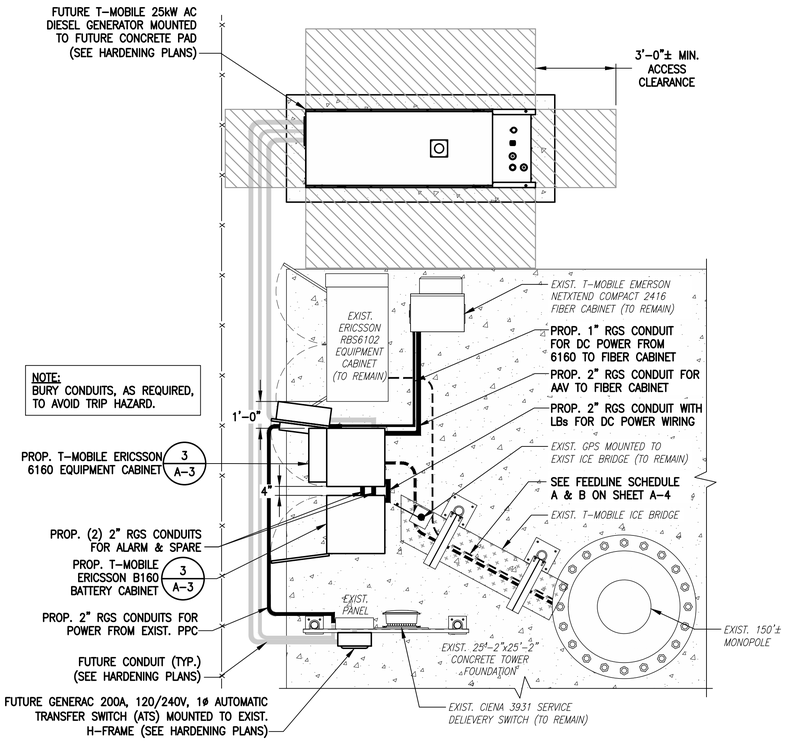
SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



COMPOUND PLAN 1 A-1
SCALE: 1" = 5'-0"
0 5'-0" 10'-0 15'-0"



EXISTING EQUIPMENT PLAN 2 A-1
SCALE: 3/8" = 1'-0"
0 2'-8" 5'-4" 8'-0"



PROPOSED EQUIPMENT PLAN 3 A-1
SCALE: 3/8" = 1'-0"
0 2'-8" 5'-4" 8'-0"

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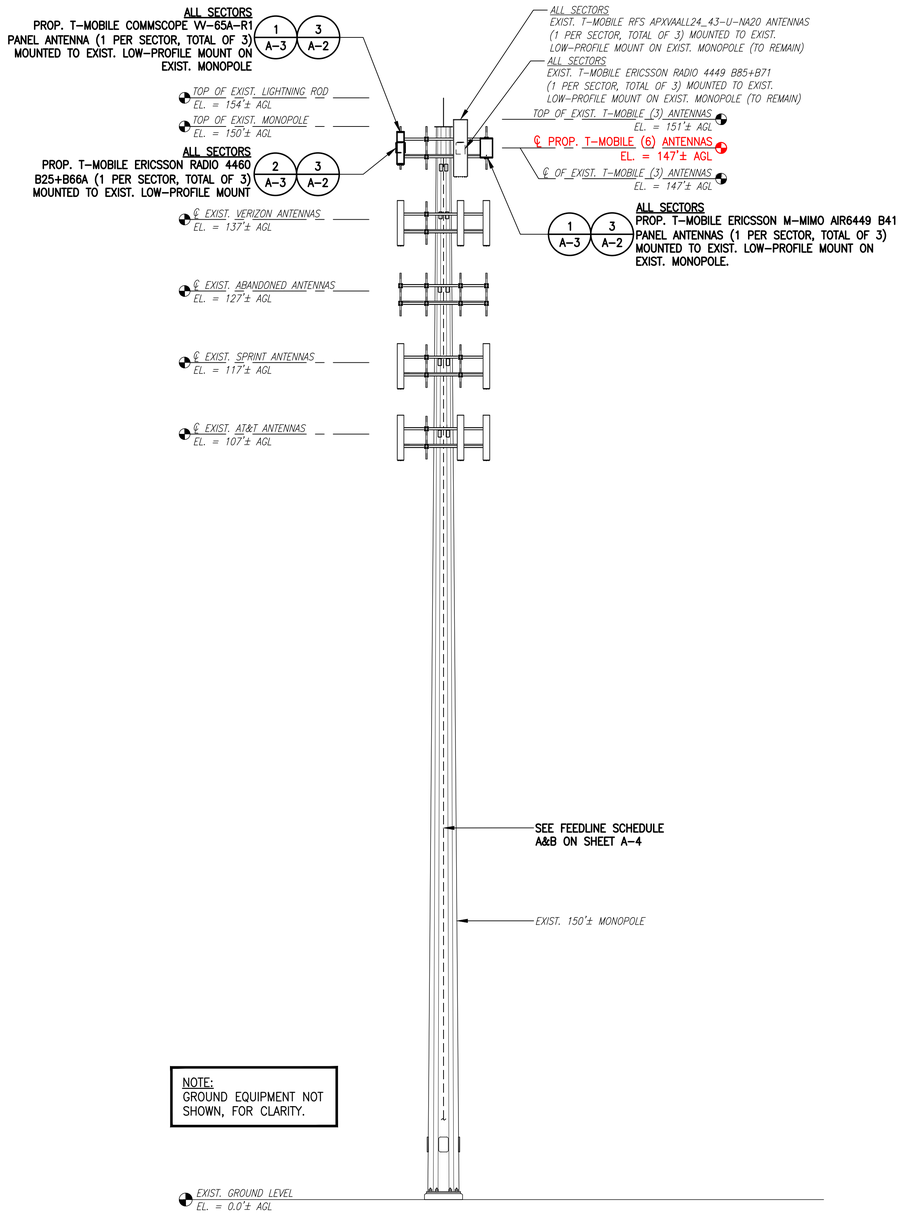
NORTH STONINGTON, CT 06379

SHEET TITLE
COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
A-1

1815.373



NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION
1 / A-2
SCALE: 1/8" =1'-0"
0 8' 16' 24'

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.

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

SPECIAL CONSTRUCTION NOTE:
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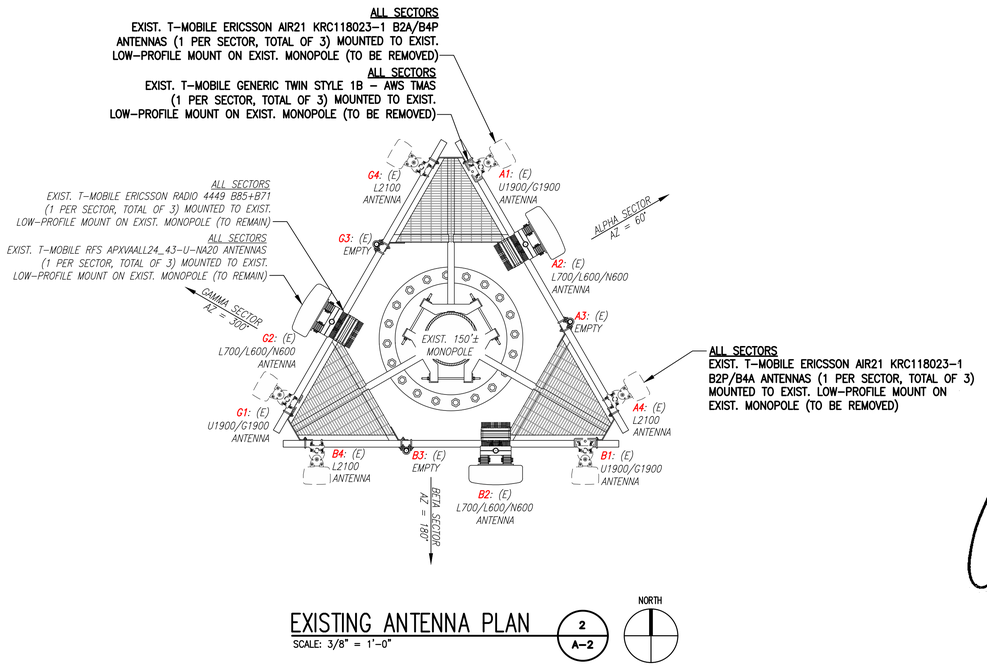
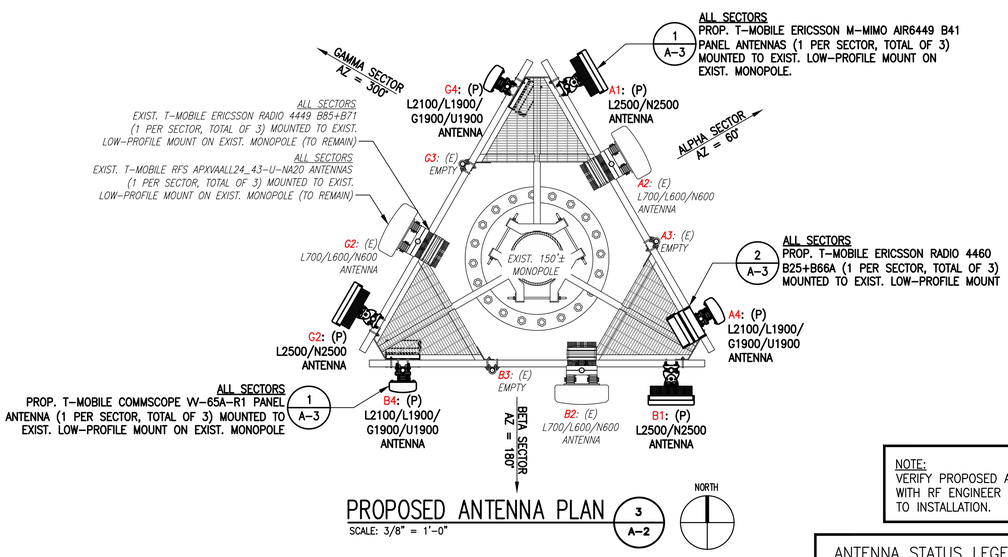


EXISTING ANTENNA PLAN
2 / A-2
SCALE: 3/8" = 1'-0"
NORTH



PROPOSED ANTENNA PLAN
3 / A-2
SCALE: 3/8" = 1'-0"
NORTH

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

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

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

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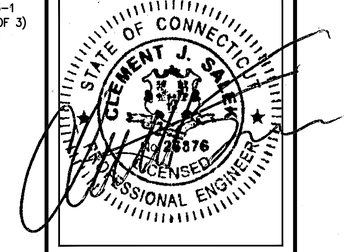

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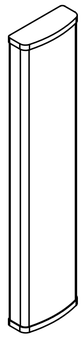
NORTH STONINGTON, CT 06379

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLANS

SHEET NUMBER
A-2

1815.373



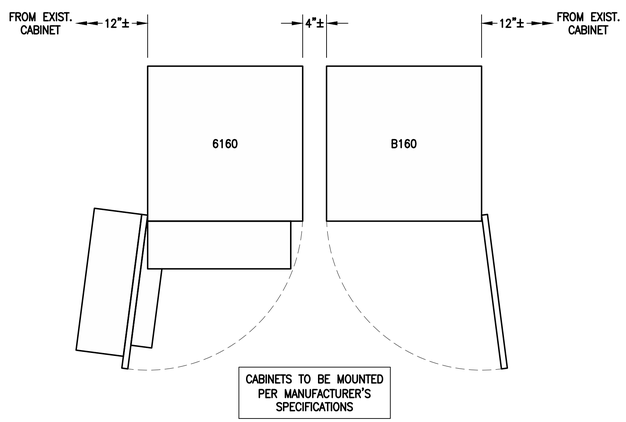
COMMSCOPE VV-65A-R1 ANTENNA
DIMENSIONS: 54.7"H x 12.1"W x 4.6"D
WEIGHT: 23.8 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ERICSSON M-MIMO AIR6449 B41 ANTENNA
DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

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

ERICSSON RADIO 4460 B25+B66
DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

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



ERICSSON 6160 SITE SUPPORT CABINET
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET
DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
QUANTITY: TOTAL OF 1

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

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SBA COMMUNICATIONS CORP.
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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
CLEMENT J. SAMEK
No. 26876
LICENSED
PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/16/21	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11312A

SITE ADDRESS:
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06379

SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.373

FINAL ANTENNA CONFIGURATION

SECTOR		ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1	ERICSSON M-MIMO AIR6449 B41	147'± AGL	60°	0°	2°	L2500/N2500	–	(3) 2" (6x24) HCS FIBER CABLE (1) 2" (6x24) HCS FIBER CABLES
	A2	RFS APXVAALL24_43-U-NA20	147'± AGL	60°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
	A3	EMPTY PIPE	–	–	–	–	–	–	
	A4	COMMSCOPE W-65A-R1	147'± AGL	60°	0°	2°	L2100/L1900/G1900/U1900	RADIO 4460 B25+B66	
BETA	B1	ERICSSON M-MIMO AIR6449 B41	147'± AGL	180°	0°	2°	L2500/N2500	–	
	B2	RFS APXVAALL24_43-U-NA20	147'± AGL	180°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
	B3	EMPTY PIPE	–	–	–	–	–	–	
	B4	COMMSCOPE W-65A-R1	147'± AGL	180°	0°	2°	L2100/L1900/G1900/U1900	RADIO 4460 B25+B66	
GAMMA	G1	ERICSSON M-MIMO AIR6449 B41	147'± AGL	300°	0°	2°	L2500/N2500	–	
	G2	RFS APXVAALL24_43-U-NA20	147'± AGL	300°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
	G3	EMPTY PIPE	–	–	–	–	–	–	
	G4	COMMSCOPE W-65A-R1	147'± AGL	300°	0°	2°	L2100/L1900/G1900/U1900	RADIO 4460 B25+B66	

CABLE NOTE: ALL EXISTING 1-5/8" COAX CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV6 – 11/12/21

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES		LOCATION
A	EXISTING TO REMAIN:	(1) 1/2" COAX CABLE FOR GPS ANTENNA (3) 2" (6x24) HCS FIBER CABLE	ROUTED PER STRUCTURAL ANALYSIS
	EXISTING TO BE REMOVED:	ALL 1-5/8" COAX CABLES (1) 1-1/4" (9x18) HCS FIBER	
B	PROPOSED:	(1) 2" (6x24) HCS FIBER CABLES	

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

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APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/16/21	ISSUED FOR REVIEW	JRV

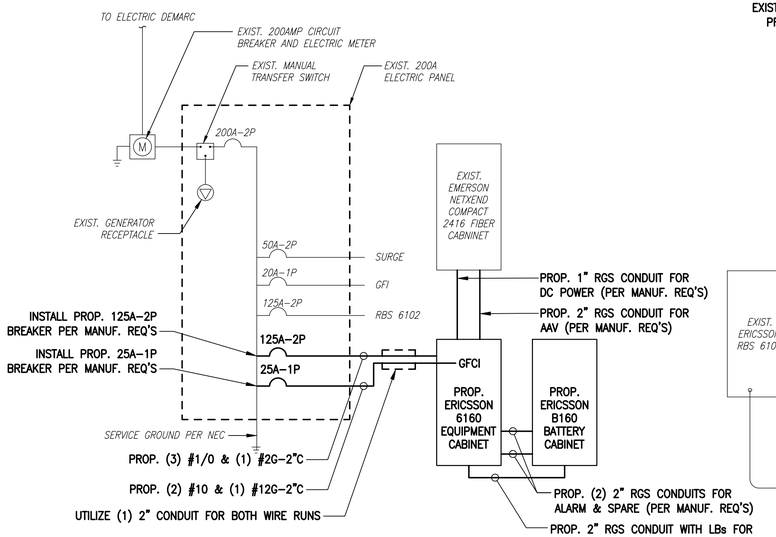
SITE NUMBER:
CT11312A

SITE ADDRESS:
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06379

SHEET TITLE
ANTENNA & FEEDLINE CHARTS

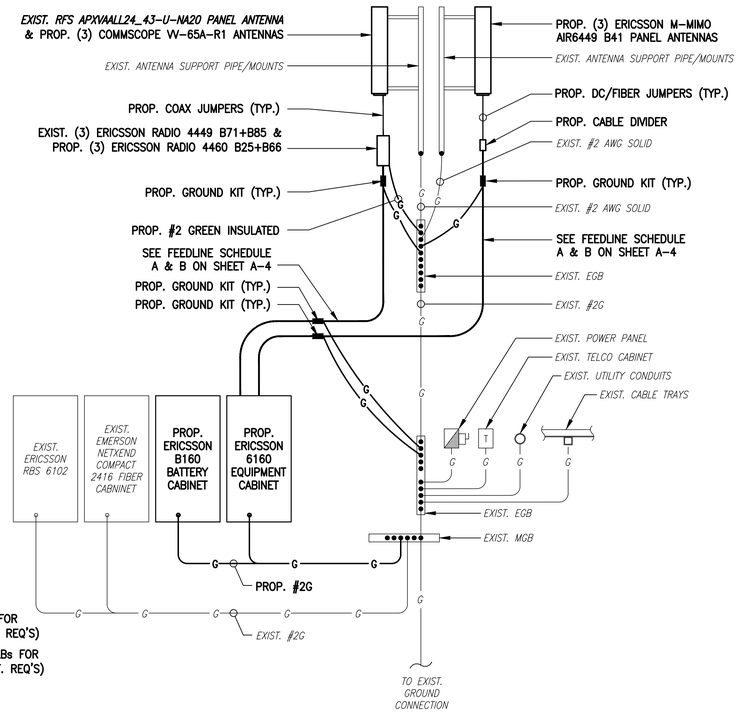
SHEET NUMBER
A-4

1815.373



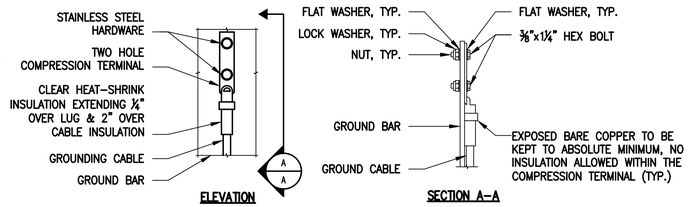
ONE LINE DIAGRAM

SCALE: NOT TO SCALE — 1 / E-1



GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE — 2 / E-1

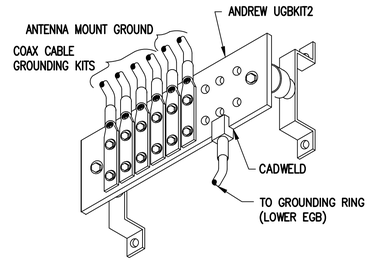


NOTES:

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

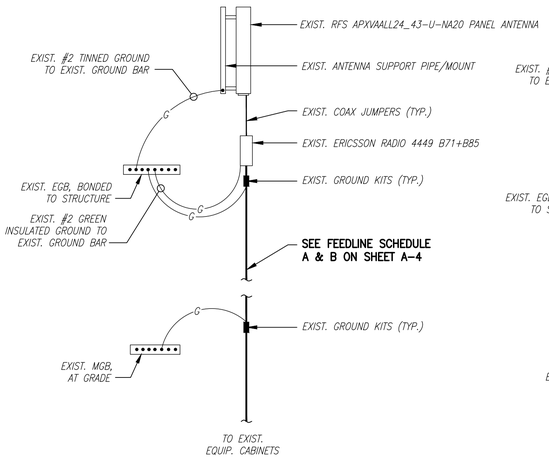
TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE — 3 / E-1

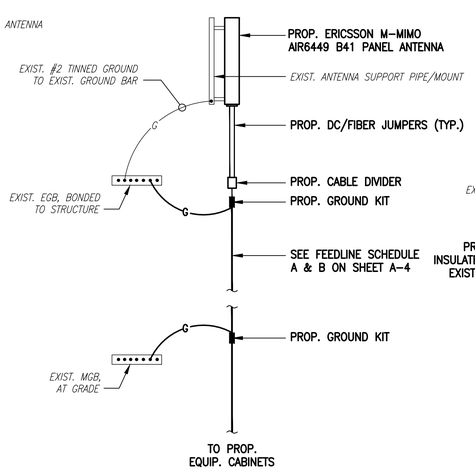


GROUND BAR (EGB)

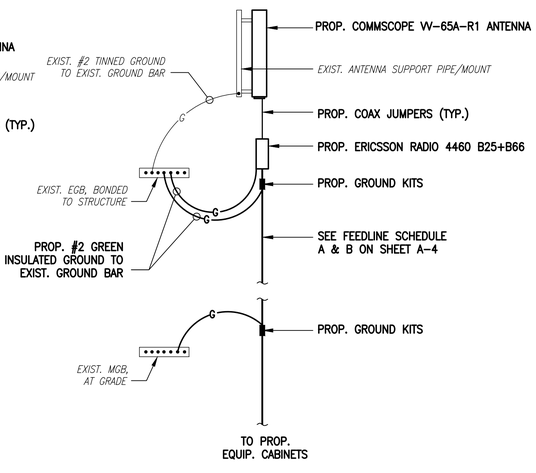
SCALE: NOT TO SCALE — 5 / E-1



L700/L600/N600 ANTENNA



L2500/N2500 ANTENNA



L2100/L1900/G1900/U1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL

SCALE: NOT TO SCALE — 4 / E-1

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 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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STATE OF CONNECTICUT — CLEMENT J. SAREK — No. 26876 — LICENSED PROFESSIONAL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	12/16/21	ISSUED FOR REVIEW	JRV

SITE NUMBER: CT11312A

SITE ADDRESS:
267 NORWICH WESTERLY ROAD
NORTH STONINGTON, CT 06379

SHEET TITLE: ELECTRIC & GROUNDING DETAILS

SHEET NUMBER: E-1

1815.373

Exhibit D

Structural Analysis Report

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

Post-Mod Structural Analysis Report

Existing 150 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01210-S

Customer Site Name: North Stonington

Carrier Name: T-Mobile (App#: 183538, v1)

Carrier Site ID / Name: CT11312A / N. Stonington/Rt. 2

Site Location: 267 Norwich Westerly Road

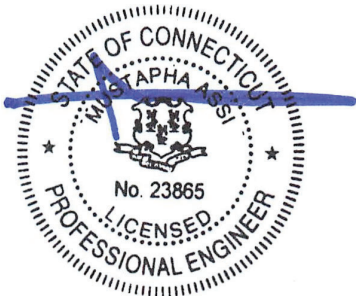
N. Stonington, Connecticut

New London County

Latitude: 41.437066

Longitude: -71.881488

Exp. 01/31/2024



02/24/2022

Analysis Result:

Max Structural Usage: 91.0% [Pass]

Max Foundation Usage: 85.7% [Pass]

Report Prepared By : Walter Velez

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

Post-Mod Structural Analysis Report

Existing 150 ft Valmont Monopole

Customer Name: SBA Communications Corp

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Site Location: 267 Norwich Westerly Road

N. Stonington, Connecticut

New London County

Latitude: 41.437066

Longitude: -71.881488

Analysis Result:

Max Structural Usage: 91.0% [Pass]

Max Foundation Usage: 85.7% [Pass]

Report Prepared By : Walter Velez

Introduction

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

Tower Drawings	Original structural design report prepared by Valmont. Dated 08-31-1999. Order No 18771-99. Previous structural report prepared by Tower Engineering Solutions. Dated 02-04-2022. TES Project No 123124.
Foundation Drawing	Original foundation drawings prepared by Valmont. Dated 07-15-1999. Order No 18771-99. Project No 2856. Drawing No 2856-F.
Geotechnical Report	Geotechnical report prepared by Jaworski Geotech, Inc. Dated 06-08-1999. Project No 99128G.
Mount Analysis	Mount structural analysis prepared by GeoStructural. Dated 01-17-2022. Site No CT11312A.
Modification Drawings	N/A
Proposed Modification	Tower Engineering Solutions Job # 123611

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} = 135.0 mph (3-Sec. Gust)
(Based on IBC 2015)	Nominal Design Wind Speed V_{asd} = 105.0 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 = 0.162, S_1 = 0.058

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	147.0	3	Ericsson Air 21 B2A/B4P - Panel	(1) Low Profile w/ Handrail Kit and Tie Back Kit (Commscope MT-195-14 & VSR-MS-B), (1) Platform Reinforcement Kit (Sitepro PRK-1245L), (1) V-Brace Kit (Sitepro PRK-SFS-L) & (3) New 2.5 STD 8' Mount Pipes	(8) 1 5/8" Coax; (1) 1 5/8" Fiber; (3) 1.9" Fiber	T-Mobile
2		3	Ericsson Air 21 B4A/B2P - Panel			
3		3	RFS APXVAALL24-43-U-NA20 - Panel			
4		3	Ericsson KRY 112 144/1 TMA's			
5		3	Ericsson 4449 B71 + B85 RRU's			
6	137.0	3	Antel BXA-70063/6CF - Panel	Low Profile Platform	(12) 1 5/8"	Verizon
7		6	Antel LPA-80080/4CF - Panel			
8		3	Rymsa MGD5-800T2 - Panel			
9		6	RFS FD9R6004/2C-3L Diplexers			
10		2	Cleargain 850/1900 TMA's			
11	127.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/HRK (Commscope MC-PK8-DSH)	(1) 1.6" Hybrid	Dish Wireless
12		3	Fujitsu TA08025-B605 RRU's			
13		3	Fujitsu TA08025-B604 RRU's			
14		1	Raycap RDIDC-9181-PF-48 COVP			
15	120.0	3	Commscope NNVV-65B-R4 - Panel	Platform w/ Handrail (Sitepro RMQP-496-HK)	(4) 1-1/4" Fiber	Sprint Nextel
16	117.0	3	RFS APXVTM14-C-I20 - Panel			
17		3	ALU 1900 Mhz			
18		6	ALU 800 Mhz			
19		3	ALU TD-RRH8x20-25			
20	107.0	3	Kathrein 7770	Low Profile Platform w/Site Pro 1 HRK14	(12) 1 5/8" (3) 3'' Conduit {Conduit 1: [(1) 1/2" Fiber + (2) 3/4" DC] Conduit 2: [(1) 1/2" Fiber + (2) 1" DC] Conduit 3: [(1) 1" DC]}	AT&T
21		6	Cci DMP65R-BU8DA			
22		6	Powerwave LGP21401 TMA			
23		3	Ericsson RRUS 4449 B5/B12			
24		3	Ericsson RRUS 4478 B14			
25		3	Ericsson RRUS 8843 B2 B66A			
26		1	Raycap DC6-48-60-18-8F			
27		1	Raycap DC9-48-60-24-8C-EV			

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
28	147.0	3	Ericsson AIR6449 B41 - Panel	(1) Low Profile w/ Handrail Kit and Tie Back Kit (Commscope MT-195-14 & VSR-MS-B), (1) Platform Reinforcement Kit (Sitepro PRK-1245L), (1) V-Brace Kit (Sitepro PRK-SFS-L)	(7) 1 5/8" Coax; (4) 1.90" Fiber	T-Mobile
29		3	Commscope VV-65A-R1 - Panel			
30		3	RFS APXVAALL24-43-U-NA20 - Panel			
31		3	Ericsson KRY 112 144/1 TMA's			
32		3	Ericsson 4449 B71 + B85 RRU's			
33		3	Ericsson 4460 B25 + B66 RRU's			

Please see the attached coax layout for the line placement considered in the analysis.

Analysis Results

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

	Pole shafts[1]	Anchor Bolts	Base Plate	Flange Connection
Max. Usage:	**91.0%**	**87.4%**	**72.9%**	**55.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	4272.0	28.1	55.1
Analysis Reactions	5296.9	47.7	57.6

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6308 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard, the 2015 IBC and the 2018 Connecticut State Building Code after the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 123611

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed T-Mobile equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

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 EIA/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 91.00% at 0.0ft

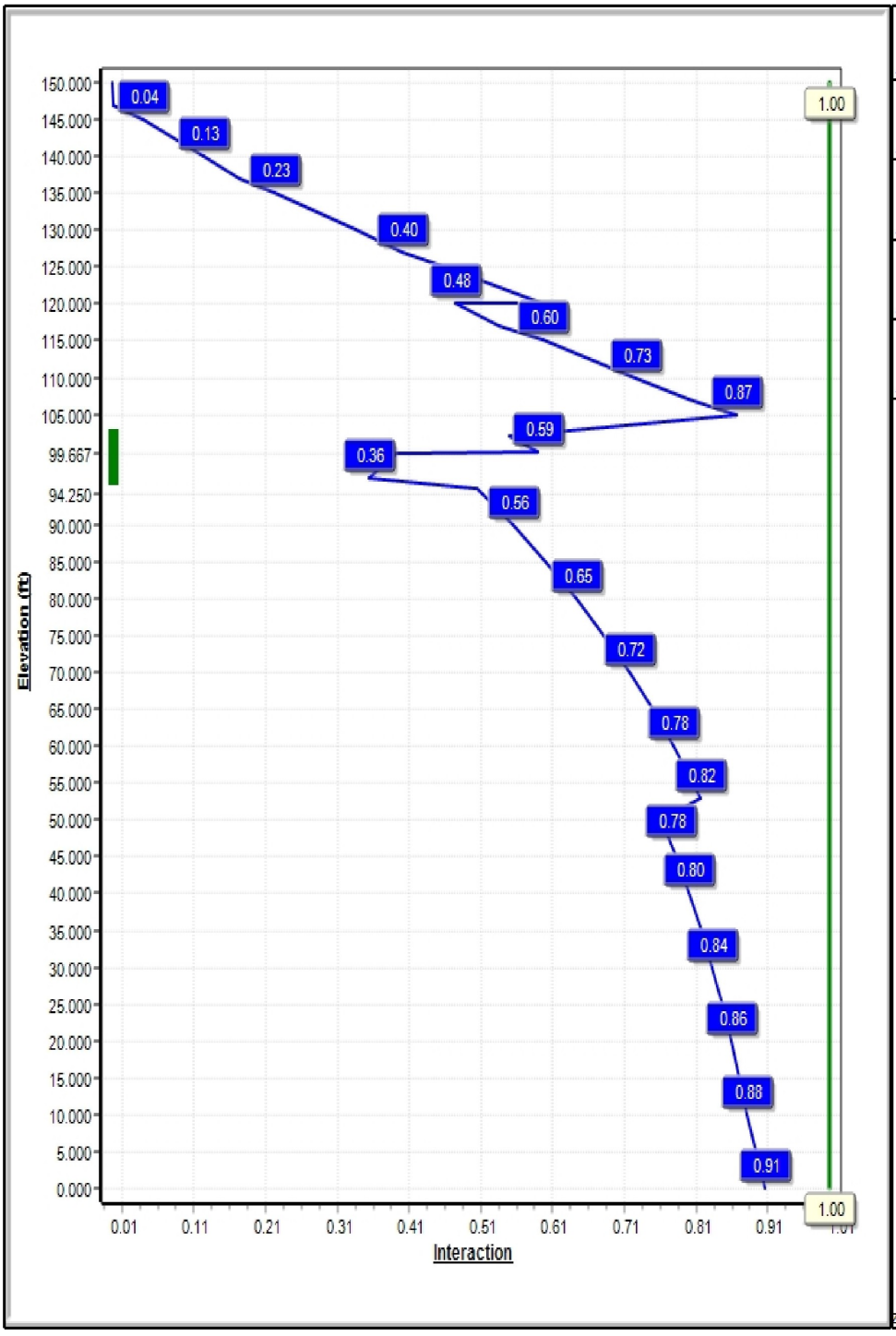
Structure:	CT01210-S-SBA	**Code:**	EIA/TIA-222-G	2/24/2022
Site Name:	North Stonington	**Exposure:**	C	
Height:	150.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

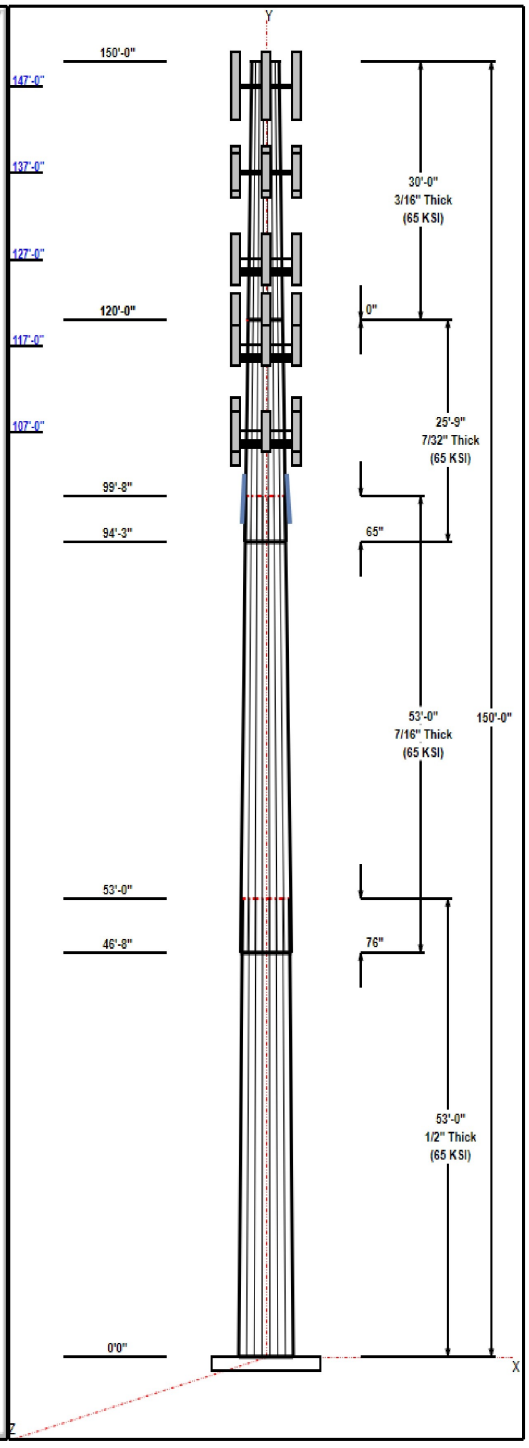
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 105 mph Wind

Iterations: 24





Structure: CT01210-S-SBA

Type: Tapered
Site Name: North Stonington
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.18000

2/24/2022

Tower Engineering Solutions

Shaft Properties

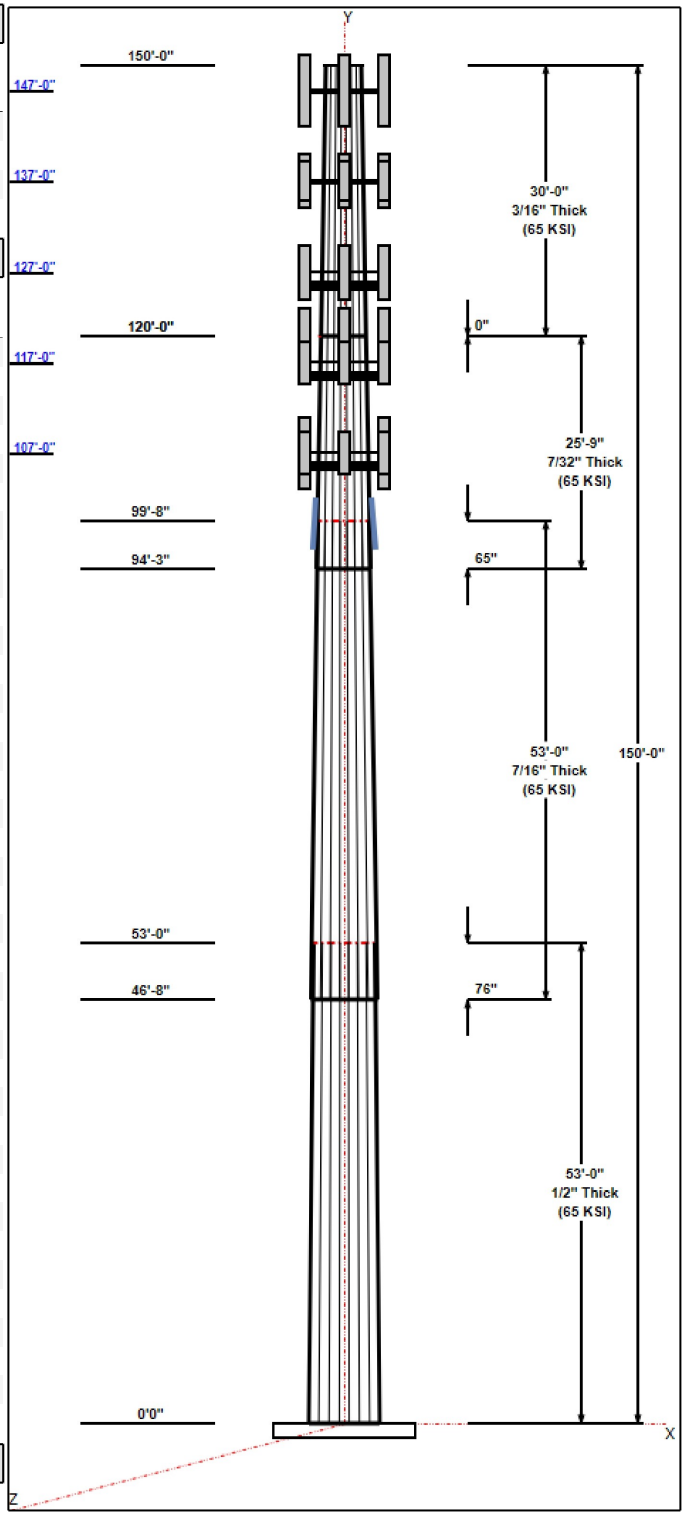
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.00	40.46	50.00	0.500		0.18000	65
2	53.00	32.93	42.47	0.438	Slip	0.18000	65
3	25.75	29.71	34.35	0.219	Slip	0.18000	65
4	30.00	24.31	29.71	0.188	Butt	0.18000	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	153.50	1	Lightning Rod	---
147.00	147.00	3	Ericsson AIR6449 B41	T-Mobile
147.00	147.00	3	Commscope VV-65A-R1	T-Mobile
147.00	147.00	3	RFS	T-Mobile
147.00	147.00	3	Ericsson KRY 112 144/1	T-Mobile
147.00	147.00	3	Ericsson 4449 B71 + B85	T-Mobile
147.00	147.00	3	Ericsson 4460 B25 + B66	T-Mobile
147.00	147.00	1	Platform w/ Hand Rail	T-Mobile
147.00	147.00	1	Tie Back Kit (Commscope	T-Mobile
147.00	147.00	1	Rreinforcement Kit (Sitepro	T-Mobile
147.00	147.00	1	V-Brace Kit (Sitepro	T-Mobile
137.00	137.00	3	Antel BXA-70063/6CF	Verizon
137.00	137.00	6	Antel LPA-80080/4CF	Verizon
137.00	137.00	3	Rymsa MGD5-800T2	Verizon
137.00	137.00	6	RFS FD9R6004/2C-3L	Verizon
137.00	137.00	2	Cleargain 850/1900 TMA's	Verizon
137.00	137.00	1	Low Profile Platform	Verizon
127.00	127.00	3	JMA Wireless	Dish Wireless
127.00	127.00	3	Fujitsu TA08025-B605	Dish Wireless
127.00	127.00	3	Fujitsu TA08025-B604	Dish Wireless
127.00	127.00	1	Raycap	Dish Wireless
127.00	127.00	1	Platform w/HRK	Dish Wireless
117.00	117.00	3	ALU 1900 Mhz	Sprint Nextel
117.00	117.00	6	ALU 800 Mhz	Sprint Nextel
117.00	117.00	3	ALU TD-RRH8x20-25	Sprint Nextel
117.00	117.00	1	Sitepro RMQP-496-HK	Sprint Nextel
117.00	117.00	3	RFS APXVTM14-C-I20	Sprint Nextel
117.00	120.00	3	Commscope	Sprint Nextel
107.00	107.00	3	Ericsson 4449 B5/B12	AT&T
107.00	107.00	3	Ericsson RRUS 4478 B14	AT&T
107.00	107.00	3	Ericsson 8843 B2 B66A	AT&T
107.00	107.00	1	Raycap	AT&T
107.00	107.00	1	Site Pro HRK14	AT&T
107.00	107.00	6	Cci DMP65R-BU8DA	AT&T
107.00	107.00	1	Raycap DC6-48-60-18-8F	AT&T
107.00	107.00	3	Powerwave 7770	AT&T
107.00	107.00	6	Powerwave/LGP21401	AT&T
107.00	107.00	1	Low Profile Platform	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	147.00	Inside	1 5/8" Coax	T-Mobile
3.00	147.00	Inside	1.90" Fiber	T-Mobile
3.00	137.00	Inside	1 5/8" Coax	Verizon
3.00	127.00	Inside	1.6" Hybrid	Dish Wireless



3.00	117.00	Inside	1-1/4" Fiber	Sprint Nextel
94.25	109.25	Outside	6"x1" Link Plate	TES
3.00	107.00	Inside	1 5/8" Coax	AT&T
3.00	107.00	Inside	1" DC	AT&T
3.00	107.00	Inside	1/2" Fiber Cable	AT&T
3.00	107.00	Inside	3" Coax	AT&T
3.00	107.00	Inside	3/4" DC	AT&T

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	64.3	60.0	Polygon

Reactions

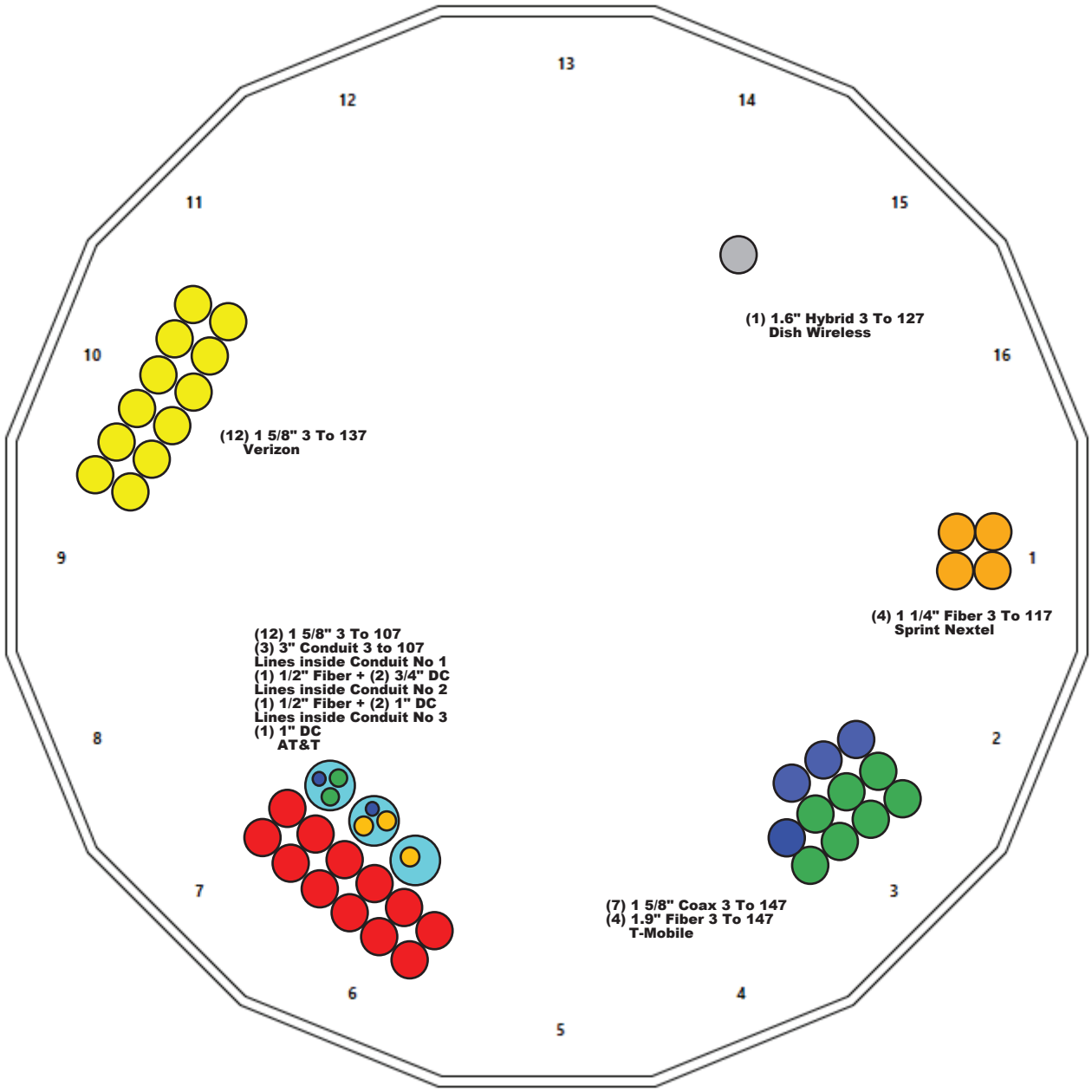
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	5296.9	47.7	57.6
0.9D + 1.6W 105 mph Wind	5227.7	47.6	43.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1318.3	11.5	87.2
1.2D + 1.0E	138.4	1.2	57.8
0.9D + 1.0E	136.4	1.2	43.3
1.0D + 1.0W 60 mph Wind	1074.4	9.7	48.1

Structure: CT01210-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Stonington
Height: 150.00 (ft)

2/24/2022

Tower Engineering Solutions



Shaft Properties

Structure:	CT01210-S-SBA		**Code:**	TIA-222-G	2/24/2022
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	53.000	0.5000	65		0.00	12,867
2	16	53.000	0.4375	65	Slip	76.00	9,380
3	16	25.750	0.2188	65	Slip	65.00	1,945
4	16	30.000	0.1875	65	Flange	0.00	1,638
					Total Shaft Weight:		**25,830**

	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	50.00	0.00	78.95	24439.41	18.30	100.00	40.46	53.00	63.74	12857.1	14.50	80.92	0.180003
2	42.47	46.67	58.67	13097.52	17.72	97.09	32.93	99.67	45.35	6050.90	13.38	75.28	0.180003
3	34.35	94.25	23.82	3504.31	29.64	157.02	29.71	120.00	20.58	2261.65	25.43	135.8	0.180003
4	29.71	120.0	17.66	1944.73	29.93	158.46	24.31	150.00	14.43	1060.92	24.20	129.6	0.180003

Additional Steel

							Intermediate Connectors		Termination Connectors			
Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
96.38	102.1	3	LNP LP6X100-G-10TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	9	9

Load Summary

Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	150.00	Lightning Rod	1	35.00	1.05	1.00	66.41	3.424	1.00	0.00	3.50
2	147.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	239.84	6.599	0.71	0.00	0.00
3	147.00	Commscope VV-65A-R1	3	23.81	5.92	0.73	162.88	6.998	0.73	0.00	0.00
4	147.00	RFS APXVAALL24-43-U-NA20	3	122.80	20.24	0.72	549.53	22.136	0.72	0.00	0.00
5	147.00	Ericsson KRY 112 144/1 TMA's	3	11.02	0.35	0.60	21.80	0.755	0.60	0.00	0.00
6	147.00	Ericsson 4449 B71 + B85 RRU's	3	75.00	1.95	0.67	156.29	2.538	0.67	0.00	0.00
7	147.00	Ericsson 4460 B25 + B66 RRU's	3	104.00	2.14	0.67	172.47	2.645	0.67	0.00	0.00
8	147.00	Platform w/ Hand Rail	1	2000.00	40.00	1.00	4090.03	60.900	1.00	0.00	0.00
9	147.00	Tie Back Kit (Commscope	1	123.10	4.17	1.00	243.17	9.399	1.00	0.00	0.00
10	147.00	Rreinforcement Kit (Sitepro	1	517.00	9.50	1.00	877.18	19.428	1.00	0.00	0.00
11	147.00	V-Brace Kit (Sitepro PRK-SFS-L)	1	642.00	6.30	1.00	1536.53	12.884	1.00	0.00	0.00
12	137.00	Antel BXA-70063/6CF	3	14.90	7.58	0.72	160.19	10.322	0.72	0.00	0.00
13	137.00	Antel LPA-80080/4CF	6	12.00	5.40	0.74	145.25	6.388	0.74	0.00	0.00
14	137.00	Rymsa MGD5-800T2	3	15.40	3.36	0.78	83.32	5.141	0.78	0.00	0.00
15	137.00	RFS FD9R6004/2C-3L	6	3.10	0.36	0.60	11.05	0.799	0.60	0.00	0.00
16	137.00	Cleargain 850/1900 TMA's	2	5.50	0.52	0.60	17.04	1.045	0.60	0.00	0.00
17	137.00	Low Profile Platform	1	1500.00	22.00	1.00	2797.10	39.502	1.00	0.00	0.00
18	127.00	JMA Wireless MX08FRO665-21	3	64.50	12.49	0.74	350.57	13.931	0.74	0.00	0.00
19	127.00	Fujitsu TA08025-B605 RRU's	3	74.95	1.96	0.67	126.36	2.512	0.67	0.00	0.00
20	127.00	Fujitsu TA08025-B604 RRU's	3	63.93	1.96	0.67	113.75	2.512	0.67	0.00	0.00
21	127.00	Raycap RDIDC-9181-PF-48 COVP	1	21.85	2.01	0.67	74.10	2.569	0.67	0.00	0.00
22	127.00	Platform w/HRK (Commscope	1	1727.00	37.59	1.00	3386.97	84.044	1.00	0.00	0.00
23	117.00	ALU 1900 Mhz	3	60.00	2.77	0.67	141.39	4.007	0.67	0.00	0.00
24	117.00	ALU 800 Mhz	6	53.00	2.49	0.67	125.15	3.606	0.67	0.00	0.00
25	117.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	177.20	4.842	0.67	0.00	0.00
26	117.00	Sitepro RMQP-496-HK	1	2449.00	46.00	1.00	4950.49	77.324	1.00	0.00	0.00
27	117.00	RFS APXVTM14-C-I20	3	56.20	6.34	0.77	211.90	7.424	0.77	0.00	0.00
28	117.00	Commscope NNVV-65B-R4	3	77.40	12.27	0.80	355.95	13.690	0.80	0.00	3.00
29	107.00	Ericsson 4449 B5/B12	3	70.00	1.65	0.67	135.42	2.168	0.67	0.00	0.00
30	107.00	Ericsson RRUS 4478 B14	3	59.90	1.84	0.67	105.34	2.349	0.67	0.00	0.00
31	107.00	Ericsson 8843 B2 B66A	3	75.00	1.65	0.67	146.63	2.168	0.67	0.00	0.00
32	107.00	Raycap DC9-48-60-18-8C-EV	1	16.00	4.78	0.67	135.62	5.635	0.67	0.00	0.00
33	107.00	Site Pro HRK14	1	302.36	8.13	1.00	649.27	15.812	1.00	0.00	0.00
34	107.00	Cci DMP65R-BU8DA	6	39.00	13.49	1.00	376.28	36.369	1.00	0.00	0.00
35	107.00	Raycap DC6-48-60-18-8F	1	31.80	0.92	0.67	91.57	1.343	0.67	0.00	0.00
36	107.00	Powerwave 7770	3	35.00	5.50	0.73	164.70	6.527	0.73	0.00	0.00
37	107.00	Powerwave/LGP21401	6	5.50	0.27	0.60	13.65	0.654	0.60	0.00	0.00
38	107.00	Low Profile Platform	1	1500.00	22.00	1.00	2765.43	39.075	1.00	0.00	0.00
		Totals:	**102**	**15,082.14**			**36,452.78**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	147.00	(7) 1 5/8" Coax	0.00	Inside
3.00	147.00	(4) 1.90" Fiber	0.00	Inside
3.00	137.00	(12) 1 5/8" Coax	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)
3.00	127.00	(1) 1.6" Hybrid			0.00	Inside					
3.00	117.00	(4) 1-1/4" Fiber			0.00	Inside					
94.25	109.25	(3) 6"x1" Link Plate			1.00	Outside					
3.00	107.00	(12) 1 5/8" Coax			0.00	Inside					
3.00	107.00	(3) 1" DC			0.00	Inside					
3.00	107.00	(2) 1/2" Fiber Cable			0.00	Inside					
3.00	107.00	(3) 3" Coax			0.00	Inside					
3.00	107.00	(2) 3/4" DC			0.00	Inside					

Shaft Section Properties

Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Increment Length: **5 (ft)**

											Additional Reinforcing			
Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.5000	50.000	78.953	24439.4	18.30	100.00	65	82	0.0				
5.00		0.5000	49.100	77.517	23130.4	17.94	98.20	65	82	1331.1				
10.00		0.5000	48.200	76.081	21869.0	17.58	96.40	65	83	1306.7				
15.00		0.5000	47.300	74.646	20654.3	17.23	94.60	65	83	1282.2				
20.00		0.5000	46.400	73.210	19485.5	16.87	92.80	65	83	1257.8				
25.00		0.5000	45.500	71.775	18361.6	16.51	91.00	65	83	1233.4				
30.00		0.5000	44.600	70.339	17281.8	16.15	89.20	65	83	1209.0				
35.00		0.5000	43.700	68.904	16245.1	15.79	87.40	65	83	1184.5				
40.00		0.5000	42.800	67.468	15250.8	15.44	85.60	65	83	1160.1				
45.00		0.5000	41.900	66.033	14297.9	15.08	83.80	65	83	1135.7				
46.67	Bot - Section 2	0.5000	41.600	65.554	13989.3	14.96	83.20	65	83	373.1				
50.00		0.5000	41.000	64.597	13385.5	14.72	82.00	65	83	1398.8				
53.00	Top - Section 1	0.4375	41.335	57.077	12060.6	17.20	94.48	65	83	1241.5				
55.00		0.4375	40.975	56.575	11744.9	17.04	93.66	65	83	386.7				
60.00		0.4375	40.075	55.319	10979.8	16.63	91.60	65	83	951.9				
65.00		0.4375	39.175	54.063	10248.7	16.22	89.54	65	83	930.5				
70.00		0.4375	38.275	52.807	9550.9	15.81	87.49	65	83	909.1				
75.00		0.4375	37.375	51.551	8885.4	15.40	85.43	65	83	887.8				
80.00		0.4375	36.475	50.294	8251.6	14.99	83.37	65	83	866.4				
85.00		0.4375	35.575	49.038	7648.7	14.58	81.31	65	83	845.0				
90.00		0.4375	34.675	47.782	7075.8	14.17	79.26	65	83	823.6				
94.25	Bot - Section 3	0.4375	33.910	46.715	6612.0	13.83	77.51	65	83	683.3				
95.00		0.4375	33.775	46.526	6532.4	13.76	77.20	65	83	179.6				
96.38	RB1	0.4375	33.526	46.180	6387.4	13.65	76.63	65	83	328.6	18.00	3154.4	2385.9	84.5
99.67	Top - Section 2	0.2188	33.372	23.135	3212.5	28.75	152.56	65	70	772.9	18.00	3049.4	2306.7	201.3
100.00		0.2188	33.312	23.093	3195.1	28.70	152.28	65	70	26.2	18.00	3038.9	2292.4	20.4
102.13	RT1	0.2188	32.929	22.825	3085.3	28.35	150.53	65	70	166.4	18.00	2971.9	2242.1	130.5
105.00		0.2188	32.412	22.465	2941.4	27.88	148.17	65	71	221.2				
107.00		0.2188	32.052	22.214	2843.8	27.55	146.52	65	71	152.0				
110.00		0.2188	31.512	21.837	2701.5	27.06	144.06	65	72	224.8				
115.00		0.2188	30.612	21.209	2475.1	26.24	139.94	65	73	366.2				
117.00		0.2188	30.252	20.958	2388.2	25.92	138.30	65	73	143.5				
120.00	Top - Section 3	0.2188	29.712	20.581	2261.7	25.43	135.83	65	74	212.0				
120.00	Bot - Section 4	0.1875	29.712	17.659	1944.7	29.66	158.46	65	69					
125.00		0.1875	28.812	17.121	1772.2	28.97	153.66	65	70	295.9				
127.00		0.1875	28.452	16.906	1706.2	28.59	151.74	65	70	115.8				
130.00		0.1875	27.912	16.583	1610.3	28.02	148.86	65	71	170.9				
135.00		0.1875	27.012	16.044	1458.5	27.06	144.06	65	72	277.6				
137.00		0.1875	26.652	15.829	1400.6	26.68	142.14	65	72	108.5				
140.00		0.1875	26.112	15.506	1316.6	26.11	139.26	65	73	159.9				
145.00		0.1875	25.212	14.968	1184.1	25.16	134.46	65	74	259.2				
147.00		0.1875	24.852	14.752	1133.8	24.77	132.54	65	75	101.1				
150.00		0.1875	24.312	14.429	1060.9	24.20	129.66	65	75	148.9				
								Total Weight		**25829.7**				**436.7**

Wind Loading - Shaft

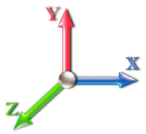
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	22.791	25.07	411.26	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	403.85	0.750	0.000	5.00	21.050	15.79	633.3	0.0	1597.3
10.00		1.00	0.85	22.791	25.07	396.45	0.750	0.000	5.00	20.668	15.50	621.8	0.0	1568.0
15.00		1.00	0.85	22.791	25.07	389.05	0.750	0.000	5.00	20.286	15.21	610.3	0.0	1538.7
20.00		1.00	0.90	24.182	26.60	393.12	0.750	0.000	5.00	19.903	14.93	635.3	0.0	1509.4
25.00		1.00	0.95	25.345	27.88	394.66	0.750	0.000	5.00	19.521	14.64	653.1	0.0	1480.1
30.00		1.00	0.98	26.337	28.97	394.35	0.750	0.000	5.00	19.139	14.35	665.3	0.0	1450.7
35.00		1.00	1.01	27.206	29.93	392.71	0.750	0.000	5.00	18.756	14.07	673.6	0.0	1421.4
40.00		1.00	1.04	27.981	30.78	390.07	0.750	0.000	5.00	18.374	13.78	678.6	0.0	1392.1
45.00		1.00	1.07	28.684	31.55	386.63	0.750	0.000	5.00	17.991	13.49	681.2	0.0	1362.8
46.67	Bot - Section 2	1.00	1.08	28.904	31.79	385.33	0.750	0.000	1.67	5.912	4.43	225.6	0.0	447.8
50.00		1.00	1.09	29.327	32.26	382.54	0.750	0.000	3.33	11.945	8.96	462.4	0.0	1678.6
53.00	Top - Section 1	1.00	1.11	29.689	32.66	379.83	0.750	0.000	3.00	10.605	7.95	415.6	0.0	1489.9
55.00		1.00	1.12	29.922	32.91	386.16	0.750	0.000	2.00	6.994	5.25	276.2	0.0	464.1
60.00		1.00	1.14	30.475	33.52	381.16	0.750	0.000	5.00	17.216	12.91	692.5	0.0	1142.2
65.00		1.00	1.16	30.993	34.09	375.75	0.750	0.000	5.00	16.834	12.63	688.7	0.0	1116.6
70.00		1.00	1.17	31.480	34.63	369.99	0.750	0.000	5.00	16.451	12.34	683.6	0.0	1091.0
75.00		1.00	1.19	31.941	35.13	363.93	0.750	0.000	5.00	16.069	12.05	677.5	0.0	1065.3
80.00		1.00	1.21	32.377	35.62	357.58	0.750	0.000	5.00	15.687	11.77	670.4	0.0	1039.7
85.00		1.00	1.22	32.793	36.07	350.99	0.750	0.000	5.00	15.304	11.48	662.5	0.0	1014.0
90.00		1.00	1.24	33.190	36.51	344.18	0.750	0.000	5.00	14.922	11.19	653.8	0.0	988.4
94.25	Bot - Section 3	1.00	1.25	33.514	36.87	338.22	0.750	0.000	4.25	12.383	9.29	547.8	0.0	820.0
95.00		1.00	1.25	33.570	36.93	337.16	0.750	0.000	0.75	2.184	1.64	96.8	0.0	215.6
96.38	RB1	1.00	1.26	33.672	37.04	335.19	0.750	0.000	1.38	3.997	3.00	177.7	0.0	394.4
99.67	Top - Section 2	1.00	1.26	33.911	37.30	330.44	0.750	0.000	3.29	9.402	7.05	420.9	0.0	927.5
100.00		1.00	1.27	33.935	37.33	334.34	0.750	0.000	0.33	0.944	0.71	42.3	0.0	31.5
102.13	RT1	1.00	1.27	34.086	37.49	331.23	0.750	0.000	2.13	5.994	4.50	269.7	0.0	199.7
105.00		1.00	1.28	34.285	37.71	326.98	0.750	0.000	2.87	7.967	5.98	360.5	0.0	265.4
107.00	Appurtenance(s)	1.00	1.28	34.422	37.86	323.99	0.750	0.000	2.00	5.477	4.11	248.9	0.0	182.4
110.00		1.00	1.29	34.623	38.08	319.46	0.750	0.000	3.00	8.101	6.08	370.2	0.0	269.8
115.00		1.00	1.30	34.948	38.44	311.79	0.750	0.000	5.00	13.196	9.90	608.8	0.0	439.4
117.00	Appurtenance(s)	1.00	1.31	35.075	38.58	308.69	0.750	0.000	2.00	5.171	3.88	239.4	0.0	172.2
120.00	Top - Section 3	1.00	1.32	35.263	38.79	303.99	0.750	0.000	3.00	7.642	5.73	355.7	0.0	254.4
125.00		1.00	1.33	35.567	39.12	296.05	0.750	0.000	5.00	12.431	9.32	583.6	0.0	355.1
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	292.84	0.750	0.000	2.00	4.866	3.65	229.2	0.0	138.9
130.00		1.00	1.34	35.862	39.45	287.99	0.750	0.000	3.00	7.184	5.39	340.1	0.0	205.1
135.00		1.00	1.35	36.148	39.76	279.81	0.750	0.000	5.00	11.667	8.75	556.7	0.0	333.1
137.00	Appurtenance(s)	1.00	1.35	36.260	39.89	276.51	0.750	0.000	2.00	4.560	3.42	218.2	0.0	130.2
140.00		1.00	1.36	36.426	40.07	271.52	0.750	0.000	3.00	6.725	5.04	323.3	0.0	191.9
145.00		1.00	1.37	36.696	40.37	263.14	0.750	0.000	5.00	10.902	8.18	528.1	0.0	311.1
147.00	Appurtenance(s)	1.00	1.37	36.802	40.48	259.75	0.750	0.000	2.00	4.254	3.19	206.6	0.0	121.4
150.00	Appurtenance(s)	1.00	1.38	36.959	40.65	254.65	0.750	0.000	3.00	6.266	4.70	305.7	0.0	178.7
								Totals:	**150.00**			**18,991.5**		**30,995.6**

Discrete Appurtenance Forces

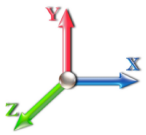
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Lightning Rod	1	37.139	40.852	1.00	1.00	1.05	42.00	0.000	3.500	68.63	0.00	240.21
2	147.00	Ericsson 4449 B71 + B85	3	36.802	40.482	0.50	0.75	2.94	270.00	0.000	0.000	190.40	0.00	0.00
3	147.00	Ericsson AIR6449 B41	3	36.802	40.482	0.53	0.75	9.03	370.80	0.000	0.000	584.62	0.00	0.00
4	147.00	RFS	3	36.802	40.482	0.54	0.75	32.79	442.08	0.000	0.000	2123.77	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	36.802	40.482	0.45	0.75	0.47	39.67	0.000	0.000	30.60	0.00	0.00
6	147.00	Commscope VV-65A-R1	3	36.802	40.482	0.55	0.75	9.72	85.72	0.000	0.000	629.81	0.00	0.00
7	147.00	Platform w/ Hand Rail	1	36.802	40.482	1.00	1.00	40.00	2400.00	0.000	0.000	2590.85	0.00	0.00
8	147.00	Tie Back Kit (Commscope	1	36.802	40.482	1.00	1.00	4.17	147.72	0.000	0.000	270.10	0.00	0.00
9	147.00	Rreinforcement Kit	1	36.802	40.482	1.00	1.00	9.50	620.40	0.000	0.000	615.33	0.00	0.00
10	147.00	V-Brace Kit (Sitepro	1	36.802	40.482	1.00	1.00	6.30	770.40	0.000	0.000	408.06	0.00	0.00
11	147.00	Ericsson 4460 B25 + B66	3	36.802	40.482	0.50	0.75	3.23	374.40	0.000	0.000	208.96	0.00	0.00
12	137.00	Rymsa MGD5-800T2	3	36.260	39.886	0.62	0.80	6.29	55.44	0.000	0.000	401.41	0.00	0.00
13	137.00	Antel BXA-70063/6CF	3	36.260	39.886	0.58	0.80	13.10	53.64	0.000	0.000	835.90	0.00	0.00
14	137.00	Antel LPA-80080/4CF	6	36.260	39.886	0.59	0.80	19.18	86.40	0.000	0.000	1224.07	0.00	0.00
15	137.00	Cleargain 850/1900 TMA's	2	36.260	39.886	0.48	0.80	0.50	13.20	0.000	0.000	31.86	0.00	0.00
16	137.00	RFS FD9R6004/2C-3L	6	36.260	39.886	0.48	0.80	1.04	22.32	0.000	0.000	66.17	0.00	0.00
17	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1800.00	0.000	0.000	1403.99	0.00	0.00
18	127.00	Platform w/HRK	1	35.686	39.255	1.00	1.00	37.59	2072.40	0.000	0.000	2360.93	0.00	0.00
19	127.00	Raycap	1	35.686	39.255	0.50	0.75	1.01	26.22	0.000	0.000	63.44	0.00	0.00
20	127.00	Fujitsu TA08025-B604	3	35.686	39.255	0.50	0.75	2.95	230.15	0.000	0.000	185.58	0.00	0.00
21	127.00	JMA Wireless	3	35.686	39.255	0.55	0.75	20.80	232.20	0.000	0.000	1306.13	0.00	0.00
22	127.00	Fujitsu TA08025-B605	3	35.686	39.255	0.50	0.75	2.95	269.82	0.000	0.000	185.58	0.00	0.00
23	117.00	Commscope	3	35.263	38.789	0.60	0.75	22.09	278.64	0.000	3.000	1370.71	0.00	4112.12
24	117.00	RFS APXVTM14-C-I20	3	35.075	38.583	0.58	0.75	10.98	202.32	0.000	0.000	678.07	0.00	0.00
25	117.00	Sitepro RMQP-496-HK	1	35.075	38.583	1.00	1.00	46.00	2938.80	0.000	0.000	2839.69	0.00	0.00
26	117.00	ALU TD-RRH8x20-25	3	35.075	38.583	0.50	0.75	6.11	252.00	0.000	0.000	376.90	0.00	0.00
27	117.00	ALU 800 Mhz	6	35.075	38.583	0.50	0.75	7.51	381.60	0.000	0.000	463.45	0.00	0.00
28	117.00	ALU 1900 Mhz	3	35.075	38.583	0.50	0.75	4.18	216.00	0.000	0.000	257.78	0.00	0.00
29	107.00	Ericsson 8843 B2 B66A	3	34.422	37.864	0.50	0.75	2.49	270.00	0.000	0.000	150.69	0.00	0.00
30	107.00	Raycap	1	34.422	37.864	0.50	0.75	2.40	19.20	0.000	0.000	145.51	0.00	0.00
31	107.00	Site Pro HRK14	1	34.422	37.864	1.00	1.00	8.13	362.83	0.000	0.000	492.53	0.00	0.00
32	107.00	Ericsson RRUS 4478 B14	3	34.422	37.864	0.50	0.75	2.77	215.64	0.000	0.000	168.04	0.00	0.00
33	107.00	Ericsson 4449 B5/B12	3	34.422	37.864	0.50	0.75	2.49	252.00	0.000	0.000	150.69	0.00	0.00
34	107.00	Low Profile Platform	1	34.422	37.864	1.00	1.00	22.00	1800.00	0.000	0.000	1332.80	0.00	0.00
35	107.00	Cci DMP65R-BU8DA	6	34.422	37.864	0.75	0.75	60.70	280.80	0.000	0.000	3677.63	0.00	0.00
36	107.00	Raycap DC6-48-60-18-8F	1	34.422	37.864	0.50	0.75	0.46	38.16	0.000	0.000	28.01	0.00	0.00
37	107.00	Powerwave 7770	3	34.422	37.864	0.55	0.75	9.03	126.00	0.000	0.000	547.28	0.00	0.00
38	107.00	Powerwave/LGP21401	6	34.422	37.864	0.45	0.75	0.73	39.60	0.000	0.000	44.16	0.00	0.00
							Totals:		**18,098.57**			**28,510.13**		

Total Applied Force Summary

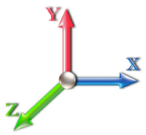
Structure:	CT01210-S-SBA		**Code:**	TIA-222-G	2/24/2022
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		633.28	1721.46	0.00	0.00
10.00		621.77	1878.40	0.00	0.00
15.00		610.27	1849.09	0.00	0.00
20.00		635.32	1819.78	0.00	0.00
25.00		653.08	1790.47	0.00	0.00
30.00		665.35	1761.17	0.00	0.00
35.00		673.56	1731.86	0.00	0.00
40.00		678.64	1702.55	0.00	0.00
45.00		681.21	1673.24	0.00	0.00
46.67		225.57	551.23	0.00	0.00
50.00		462.40	1885.54	0.00	0.00
53.00		415.61	1676.10	0.00	0.00
55.00		276.22	588.25	0.00	0.00
60.00		692.55	1452.66	0.00	0.00
65.00		688.67	1427.02	0.00	0.00
70.00		683.62	1401.37	0.00	0.00
75.00		677.50	1375.73	0.00	0.00
80.00		670.42	1350.08	0.00	0.00
85.00		662.48	1324.44	0.00	0.00
90.00		653.75	1298.79	0.00	0.00
94.25		547.81	1083.81	0.00	0.00
95.00		96.80	317.26	0.00	0.00
96.38		177.65	581.50	0.00	0.00
99.67		420.85	1373.12	0.00	0.00
100.00		42.30	76.66	0.00	0.00
102.13		269.69	488.51	0.00	0.00
105.00		360.55	654.54	0.00	0.00
107.00	(28) attachments	6986.23	3857.86	0.00	0.00
110.00		370.24	542.48	0.00	0.00
115.00		608.76	618.20	0.00	0.00
117.00	(19) attachments	6226.02	4513.05	0.00	4112.12
120.00		355.73	347.95	0.00	0.00
125.00		583.63	510.93	0.00	0.00
127.00	(11) attachments	4330.85	3032.08	0.00	0.00
130.00		340.05	292.09	0.00	0.00
135.00		556.68	478.03	0.00	0.00
137.00	(21) attachments	4181.63	2219.13	0.00	0.00
140.00		323.34	233.98	0.00	0.00
145.00		528.08	381.17	0.00	0.00
147.00	(22) attachments	7859.14	5670.58	0.00	0.00
150.00	(1) attachments	374.32	220.74	0.00	240.21
	Totals:	**47,501.63**	**57,752.92**	**0.00**	**4,352.33**

Linear Appurtenance Segment Forces (Factored)

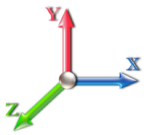
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
95.00	6"x1" Link Plate	Yes	0.75	0.000	1.00	0.06	0.00	0.029	0.000	33.570	0.00	55.13
96.38	6"x1" Link Plate	Yes	1.38	0.000	1.00	0.11	0.00	0.029	0.000	33.672	0.00	101.45
99.67	6"x1" Link Plate	Yes	3.29	0.000	1.00	0.27	0.00	0.030	0.000	33.911	0.00	241.61
100.00	6"x1" Link Plate	Yes	0.33	0.000	1.00	0.03	0.00	0.029	0.000	33.935	0.00	24.50
102.13	6"x1" Link Plate	Yes	2.13	0.000	1.00	0.18	0.00	0.030	0.000	34.086	0.00	156.58
105.00	6"x1" Link Plate	Yes	2.87	0.000	1.00	0.24	0.00	0.030	0.000	34.285	0.00	210.98
107.00	6"x1" Link Plate	Yes	2.00	0.000	1.00	0.17	0.00	0.030	0.000	34.422	0.00	147.02
110.00	6"x1" Link Plate	Yes	2.25	0.000	1.00	0.19	0.00	0.023	0.000	34.623	0.00	165.40
										Totals:	**0.0**	**1,102.7**

Calculated Forces

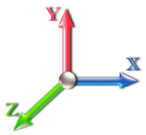
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-57.62	-47.66	0.00	-5296.9	0.00	5296.92	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.910
5.00	-55.66	-47.31	0.00	-5058.6	0.00	5058.65	5739.57	2869.78	11485.2	5701.74	0.16	-0.301	0.000	0.897
10.00	-53.53	-46.96	0.00	-4822.0	0.00	4822.09	5652.47	2826.24	11099.3	5510.17	0.64	-0.605	0.000	0.885
15.00	-51.44	-46.60	0.00	-4587.2	0.00	4587.29	5545.82	2772.91	10682.2	5303.14	1.44	-0.911	0.000	0.875
20.00	-49.39	-46.20	0.00	-4354.2	0.00	4354.29	5439.17	2719.58	10273.2	5100.07	2.56	-1.219	0.000	0.863
25.00	-47.37	-45.76	0.00	-4123.2	0.00	4123.29	5332.51	2666.26	9872.18	4900.97	4.00	-1.529	0.000	0.850
30.00	-45.38	-45.29	0.00	-3894.4	0.00	3894.49	5225.86	2612.93	9479.11	4705.83	5.77	-1.839	0.000	0.837
35.00	-43.43	-44.79	0.00	-3668.0	0.00	3668.03	5119.21	2559.60	9094.03	4514.66	7.86	-2.150	0.000	0.821
40.00	-41.52	-44.27	0.00	-3444.0	0.00	3444.06	5012.56	2506.28	8716.92	4327.45	10.28	-2.462	0.000	0.804
45.00	-39.72	-43.66	0.00	-3222.7	0.00	3222.70	4905.90	2452.95	8347.81	4144.20	13.02	-2.773	0.000	0.786
46.67	-39.06	-43.52	0.00	-3149.9	0.00	3149.93	4870.35	2435.18	8226.55	4084.00	14.01	-2.878	0.000	0.780
50.00	-37.05	-43.08	0.00	-3004.8	0.00	3004.88	4799.25	2399.63	7986.68	3964.92	16.09	-3.087	0.000	0.766
53.00	-35.29	-42.67	0.00	-2875.6	0.00	2875.63	4240.56	2120.28	7137.82	3543.51	18.09	-3.275	0.000	0.820
55.00	-34.55	-42.50	0.00	-2790.2	0.00	2790.29	4203.23	2101.62	7012.05	3481.07	19.49	-3.400	0.000	0.810
60.00	-32.90	-41.90	0.00	-2577.7	0.00	2577.79	4109.91	2054.96	6702.51	3327.41	23.22	-3.725	0.000	0.783
65.00	-31.30	-41.29	0.00	-2368.2	0.00	2368.27	4016.59	2008.29	6399.97	3177.21	27.30	-4.045	0.000	0.754
70.00	-29.73	-40.67	0.00	-2161.8	0.00	2161.80	3923.27	1961.63	6104.41	3030.48	31.70	-4.360	0.000	0.721
75.00	-28.20	-40.04	0.00	-1958.4	0.00	1958.45	3829.95	1914.97	5815.84	2887.23	36.43	-4.667	0.000	0.686
80.00	-26.71	-39.39	0.00	-1758.2	0.00	1758.26	3736.63	1868.31	5534.25	2747.44	41.47	-4.964	0.000	0.648
85.00	-25.26	-38.74	0.00	-1561.3	0.00	1561.30	3643.31	1821.65	5259.66	2611.12	46.81	-5.250	0.000	0.605
90.00	-23.87	-38.07	0.00	-1367.6	0.00	1367.61	3549.99	1774.99	4992.05	2478.26	52.45	-5.523	0.000	0.559
94.25	-22.76	-37.47	0.00	-1205.8	0.00	1205.83	3470.66	1735.33	4770.08	2368.07	57.46	-5.742	0.000	0.516
95.00	-22.42	-37.36	0.00	-1177.7	0.00	1177.73	3456.66	1728.33	4731.43	2348.88	58.37	-5.781	0.000	0.508
96.38	-21.80	-37.16	0.00	-1126.1	0.00	1126.17	3430.91	1715.45	4660.73	2313.78	60.05	-5.850	0.000	0.359
99.67	-20.44	-36.62	0.00	-1004.0	0.00	1004.04	1458.24	729.12	1997.89	991.83	64.11	-5.964	0.000	0.396
100.00	-20.33	-36.59	0.00	-991.84	0.00	991.84	1456.89	728.44	1992.39	989.11	64.52	-5.975	0.000	0.593
102.13	-19.80	-36.31	0.00	-913.89	0.00	913.89	1448.11	724.06	1957.30	971.68	67.21	-6.080	0.000	0.554
102.13	-19.80	-36.31	0.00	-913.89	0.00	913.89	1448.11	724.06	1957.30	971.68	67.21	-6.080	0.000	0.554
105.00	-19.09	-35.93	0.00	-809.67	0.00	809.67	1435.99	717.99	1910.05	948.23	70.90	-6.212	0.000	0.870
107.00	-15.94	-28.62	0.00	-737.81	0.00	737.81	1427.33	713.67	1877.17	931.90	73.53	-6.362	0.000	0.804
110.00	-15.31	-28.26	0.00	-651.96	0.00	651.96	1414.04	707.02	1827.92	907.46	77.59	-6.570	0.000	0.731
115.00	-14.67	-27.63	0.00	-510.68	0.00	510.68	1391.05	695.52	1746.12	866.85	84.63	-6.876	0.000	0.601
117.00	-10.89	-20.93	0.00	-451.30	0.00	451.30	1381.56	690.78	1713.52	850.66	87.52	-6.987	0.000	0.539
120.00	-10.53	-20.57	0.00	-388.50	0.00	388.50	1367.01	683.50	1664.77	826.46	91.95	-7.137	0.000	0.479
120.00	-10.53	-20.57	0.00	-388.50	0.00	388.50	1091.99	545.99	1332.66	661.59	91.95	-7.137	0.000	0.598
125.00	-10.04	-19.95	0.00	-285.65	0.00	285.65	1075.35	537.67	1272.10	631.52	99.53	-7.349	0.000	0.463
127.00	-7.57	-15.28	0.00	-245.75	0.00	245.75	1068.40	534.20	1247.88	619.50	102.62	-7.435	0.000	0.405
130.00	-7.29	-14.92	0.00	-199.91	0.00	199.91	1057.66	528.83	1211.58	601.48	107.31	-7.546	0.000	0.340
135.00	-6.87	-14.32	0.00	-125.30	0.00	125.30	1038.92	519.46	1151.22	571.51	115.28	-7.690	0.000	0.227
137.00	-5.22	-9.88	0.00	-96.66	0.00	96.66	1031.13	515.57	1127.15	559.57	118.50	-7.733	0.000	0.178
140.00	-5.02	-9.53	0.00	-67.02	0.00	67.02	1019.14	509.57	1091.15	541.69	123.36	-7.783	0.000	0.129
145.00	-4.71	-8.96	0.00	-19.36	0.00	19.36	998.31	499.16	1031.47	512.07	131.52	-7.830	0.000	0.043
147.00	-0.17	-0.40	0.00	-1.44	0.00	1.44	989.69	494.84	1007.74	500.29	134.79	-7.835	0.000	0.003
150.00	0.00	-0.37	0.00	-0.24	0.00	0.24	976.44	488.22	972.32	482.70	139.70	-7.835	0.000	0.000

Wind Loading - Shaft

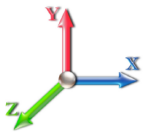
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	22.791	25.07	411.26	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	403.85	0.750	0.000	5.00	21.050	15.79	633.3	0.0	1198.0
10.00		1.00	0.85	22.791	25.07	396.45	0.750	0.000	5.00	20.668	15.50	621.8	0.0	1176.0
15.00		1.00	0.85	22.791	25.07	389.05	0.750	0.000	5.00	20.286	15.21	610.3	0.0	1154.0
20.00		1.00	0.90	24.182	26.60	393.12	0.750	0.000	5.00	19.903	14.93	635.3	0.0	1132.0
25.00		1.00	0.95	25.345	27.88	394.66	0.750	0.000	5.00	19.521	14.64	653.1	0.0	1110.0
30.00		1.00	0.98	26.337	28.97	394.35	0.750	0.000	5.00	19.139	14.35	665.3	0.0	1088.1
35.00		1.00	1.01	27.206	29.93	392.71	0.750	0.000	5.00	18.756	14.07	673.6	0.0	1066.1
40.00		1.00	1.04	27.981	30.78	390.07	0.750	0.000	5.00	18.374	13.78	678.6	0.0	1044.1
45.00		1.00	1.07	28.684	31.55	386.63	0.750	0.000	5.00	17.991	13.49	681.2	0.0	1022.1
46.67	Bot - Section 2	1.00	1.08	28.904	31.79	385.33	0.750	0.000	1.67	5.912	4.43	225.6	0.0	335.8
50.00		1.00	1.09	29.327	32.26	382.54	0.750	0.000	3.33	11.945	8.96	462.4	0.0	1258.9
53.00	Top - Section 1	1.00	1.11	29.689	32.66	379.83	0.750	0.000	3.00	10.605	7.95	415.6	0.0	1117.4
55.00		1.00	1.12	29.922	32.91	386.16	0.750	0.000	2.00	6.994	5.25	276.2	0.0	348.1
60.00		1.00	1.14	30.475	33.52	381.16	0.750	0.000	5.00	17.216	12.91	692.5	0.0	856.7
65.00		1.00	1.16	30.993	34.09	375.75	0.750	0.000	5.00	16.834	12.63	688.7	0.0	837.5
70.00		1.00	1.17	31.480	34.63	369.99	0.750	0.000	5.00	16.451	12.34	683.6	0.0	818.2
75.00		1.00	1.19	31.941	35.13	363.93	0.750	0.000	5.00	16.069	12.05	677.5	0.0	799.0
80.00		1.00	1.21	32.377	35.62	357.58	0.750	0.000	5.00	15.687	11.77	670.4	0.0	779.8
85.00		1.00	1.22	32.793	36.07	350.99	0.750	0.000	5.00	15.304	11.48	662.5	0.0	760.5
90.00		1.00	1.24	33.190	36.51	344.18	0.750	0.000	5.00	14.922	11.19	653.8	0.0	741.3
94.25	Bot - Section 3	1.00	1.25	33.514	36.87	338.22	0.750	0.000	4.25	12.383	9.29	547.8	0.0	615.0
95.00		1.00	1.25	33.570	36.93	337.16	0.750	0.000	0.75	2.184	1.64	96.8	0.0	161.7
96.38	RB1	1.00	1.26	33.672	37.04	335.19	0.750	0.000	1.38	3.997	3.00	177.7	0.0	295.8
99.67	Top - Section 2	1.00	1.26	33.911	37.30	330.44	0.750	0.000	3.29	9.402	7.05	420.9	0.0	695.6
100.00		1.00	1.27	33.935	37.33	334.34	0.750	0.000	0.33	0.944	0.71	42.3	0.0	23.6
102.13	RT1	1.00	1.27	34.086	37.49	331.23	0.750	0.000	2.13	5.994	4.50	269.7	0.0	149.8
105.00		1.00	1.28	34.285	37.71	326.98	0.750	0.000	2.87	7.967	5.98	360.5	0.0	199.0
107.00	Appurtenance(s)	1.00	1.28	34.422	37.86	323.99	0.750	0.000	2.00	5.477	4.11	248.9	0.0	136.8
110.00		1.00	1.29	34.623	38.08	319.46	0.750	0.000	3.00	8.101	6.08	370.2	0.0	202.4
115.00		1.00	1.30	34.948	38.44	311.79	0.750	0.000	5.00	13.196	9.90	608.8	0.0	329.6
117.00	Appurtenance(s)	1.00	1.31	35.075	38.58	308.69	0.750	0.000	2.00	5.171	3.88	239.4	0.0	129.1
120.00	Top - Section 3	1.00	1.32	35.263	38.79	303.99	0.750	0.000	3.00	7.642	5.73	355.7	0.0	190.8
125.00		1.00	1.33	35.567	39.12	296.05	0.750	0.000	5.00	12.431	9.32	583.6	0.0	266.3
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	292.84	0.750	0.000	2.00	4.866	3.65	229.2	0.0	104.2
130.00		1.00	1.34	35.862	39.45	287.99	0.750	0.000	3.00	7.184	5.39	340.1	0.0	153.8
135.00		1.00	1.35	36.148	39.76	279.81	0.750	0.000	5.00	11.667	8.75	556.7	0.0	249.8
137.00	Appurtenance(s)	1.00	1.35	36.260	39.89	276.51	0.750	0.000	2.00	4.560	3.42	218.2	0.0	97.6
140.00		1.00	1.36	36.426	40.07	271.52	0.750	0.000	3.00	6.725	5.04	323.3	0.0	143.9
145.00		1.00	1.37	36.696	40.37	263.14	0.750	0.000	5.00	10.902	8.18	528.1	0.0	233.3
147.00	Appurtenance(s)	1.00	1.37	36.802	40.48	259.75	0.750	0.000	2.00	4.254	3.19	206.6	0.0	91.0
150.00	Appurtenance(s)	1.00	1.38	36.959	40.65	254.65	0.750	0.000	3.00	6.266	4.70	305.7	0.0	134.1
								Totals:	**150.00**			**18,991.5**		**23,246.7**

Discrete Appurtenance Forces

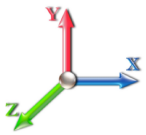
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Lightning Rod	1	37.139	40.852	1.00	1.00	1.05	31.50	0.000	3.500	68.63	0.00	240.21
2	147.00	Ericsson 4449 B71 + B85	3	36.802	40.482	0.50	0.75	2.94	202.50	0.000	0.000	190.40	0.00	0.00
3	147.00	Ericsson AIR6449 B41	3	36.802	40.482	0.53	0.75	9.03	278.10	0.000	0.000	584.62	0.00	0.00
4	147.00	RFS	3	36.802	40.482	0.54	0.75	32.79	331.56	0.000	0.000	2123.77	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	36.802	40.482	0.45	0.75	0.47	29.75	0.000	0.000	30.60	0.00	0.00
6	147.00	Commscope VV-65A-R1	3	36.802	40.482	0.55	0.75	9.72	64.29	0.000	0.000	629.81	0.00	0.00
7	147.00	Platform w/ Hand Rail	1	36.802	40.482	1.00	1.00	40.00	1800.00	0.000	0.000	2590.85	0.00	0.00
8	147.00	Tie Back Kit (Commscope	1	36.802	40.482	1.00	1.00	4.17	110.79	0.000	0.000	270.10	0.00	0.00
9	147.00	Rreinforcement Kit	1	36.802	40.482	1.00	1.00	9.50	465.30	0.000	0.000	615.33	0.00	0.00
10	147.00	V-Brace Kit (Sitepro	1	36.802	40.482	1.00	1.00	6.30	577.80	0.000	0.000	408.06	0.00	0.00
11	147.00	Ericsson 4460 B25 + B66	3	36.802	40.482	0.50	0.75	3.23	280.80	0.000	0.000	208.96	0.00	0.00
12	137.00	Rymsa MGD5-800T2	3	36.260	39.886	0.62	0.80	6.29	41.58	0.000	0.000	401.41	0.00	0.00
13	137.00	Antel BXA-70063/6CF	3	36.260	39.886	0.58	0.80	13.10	40.23	0.000	0.000	835.90	0.00	0.00
14	137.00	Antel LPA-80080/4CF	6	36.260	39.886	0.59	0.80	19.18	64.80	0.000	0.000	1224.07	0.00	0.00
15	137.00	Cleargain 850/1900 TMA's	2	36.260	39.886	0.48	0.80	0.50	9.90	0.000	0.000	31.86	0.00	0.00
16	137.00	RFS FD9R6004/2C-3L	6	36.260	39.886	0.48	0.80	1.04	16.74	0.000	0.000	66.17	0.00	0.00
17	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1350.00	0.000	0.000	1403.99	0.00	0.00
18	127.00	Platform w/HRK	1	35.686	39.255	1.00	1.00	37.59	1554.30	0.000	0.000	2360.93	0.00	0.00
19	127.00	Raycap	1	35.686	39.255	0.50	0.75	1.01	19.67	0.000	0.000	63.44	0.00	0.00
20	127.00	Fujitsu TA08025-B604	3	35.686	39.255	0.50	0.75	2.95	172.61	0.000	0.000	185.58	0.00	0.00
21	127.00	JMA Wireless	3	35.686	39.255	0.55	0.75	20.80	174.15	0.000	0.000	1306.13	0.00	0.00
22	127.00	Fujitsu TA08025-B605	3	35.686	39.255	0.50	0.75	2.95	202.37	0.000	0.000	185.58	0.00	0.00
23	117.00	Commscope	3	35.263	38.789	0.60	0.75	22.09	208.98	0.000	3.000	1370.71	0.00	4112.12
24	117.00	RFS APXVTM14-C-I20	3	35.075	38.583	0.58	0.75	10.98	151.74	0.000	0.000	678.07	0.00	0.00
25	117.00	Sitepro RMQP-496-HK	1	35.075	38.583	1.00	1.00	46.00	2204.10	0.000	0.000	2839.69	0.00	0.00
26	117.00	ALU TD-RRH8x20-25	3	35.075	38.583	0.50	0.75	6.11	189.00	0.000	0.000	376.90	0.00	0.00
27	117.00	ALU 800 Mhz	6	35.075	38.583	0.50	0.75	7.51	286.20	0.000	0.000	463.45	0.00	0.00
28	117.00	ALU 1900 Mhz	3	35.075	38.583	0.50	0.75	4.18	162.00	0.000	0.000	257.78	0.00	0.00
29	107.00	Ericsson 8843 B2 B66A	3	34.422	37.864	0.50	0.75	2.49	202.50	0.000	0.000	150.69	0.00	0.00
30	107.00	Raycap	1	34.422	37.864	0.50	0.75	2.40	14.40	0.000	0.000	145.51	0.00	0.00
31	107.00	Site Pro HRK14	1	34.422	37.864	1.00	1.00	8.13	272.12	0.000	0.000	492.53	0.00	0.00
32	107.00	Ericsson RRUS 4478 B14	3	34.422	37.864	0.50	0.75	2.77	161.73	0.000	0.000	168.04	0.00	0.00
33	107.00	Ericsson 4449 B5/B12	3	34.422	37.864	0.50	0.75	2.49	189.00	0.000	0.000	150.69	0.00	0.00
34	107.00	Low Profile Platform	1	34.422	37.864	1.00	1.00	22.00	1350.00	0.000	0.000	1332.80	0.00	0.00
35	107.00	Cci DMP65R-BU8DA	6	34.422	37.864	0.75	0.75	60.70	210.60	0.000	0.000	3677.63	0.00	0.00
36	107.00	Raycap DC6-48-60-18-8F	1	34.422	37.864	0.50	0.75	0.46	28.62	0.000	0.000	28.01	0.00	0.00
37	107.00	Powerwave 7770	3	34.422	37.864	0.55	0.75	9.03	94.50	0.000	0.000	547.28	0.00	0.00
38	107.00	Powerwave/LGP21401	6	34.422	37.864	0.45	0.75	0.73	29.70	0.000	0.000	44.16	0.00	0.00
							Totals:		**13,573.93**			**28,510.13**		

Total Applied Force Summary

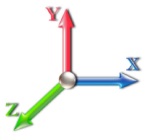
Structure:	CT01210-S-SBA		**Code:**	TIA-222-G	2/24/2022
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 16

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		633.28	1291.09	0.00	0.00
10.00		621.77	1408.80	0.00	0.00
15.00		610.27	1386.82	0.00	0.00
20.00		635.32	1364.84	0.00	0.00
25.00		653.08	1342.86	0.00	0.00
30.00		665.35	1320.87	0.00	0.00
35.00		673.56	1298.89	0.00	0.00
40.00		678.64	1276.91	0.00	0.00
45.00		681.21	1254.93	0.00	0.00
46.67		225.57	413.43	0.00	0.00
50.00		462.40	1414.15	0.00	0.00
53.00		415.61	1257.08	0.00	0.00
55.00		276.22	441.18	0.00	0.00
60.00		692.55	1089.50	0.00	0.00
65.00		688.67	1070.26	0.00	0.00
70.00		683.62	1051.03	0.00	0.00
75.00		677.50	1031.80	0.00	0.00
80.00		670.42	1012.56	0.00	0.00
85.00		662.48	993.33	0.00	0.00
90.00		653.75	974.10	0.00	0.00
94.25		547.81	812.86	0.00	0.00
95.00		96.80	237.95	0.00	0.00
96.38		177.65	436.12	0.00	0.00
99.67		420.85	1029.84	0.00	0.00
100.00		42.30	57.49	0.00	0.00
102.13		269.69	366.38	0.00	0.00
105.00		360.55	490.91	0.00	0.00
107.00	(28) attachments	6986.23	2893.40	0.00	0.00
110.00		370.24	406.86	0.00	0.00
115.00		608.76	463.65	0.00	0.00
117.00	(19) attachments	6226.02	3384.79	0.00	4112.12
120.00		355.73	260.96	0.00	0.00
125.00		583.63	383.20	0.00	0.00
127.00	(11) attachments	4330.85	2274.06	0.00	0.00
130.00		340.05	219.07	0.00	0.00
135.00		556.68	358.52	0.00	0.00
137.00	(21) attachments	4181.63	1664.35	0.00	0.00
140.00		323.34	175.48	0.00	0.00
145.00		528.08	285.88	0.00	0.00
147.00	(22) attachments	7859.14	4252.93	0.00	0.00
150.00	(1) attachments	374.32	165.55	0.00	240.21
	Totals:	**47,501.63**	**43,314.69**	**0.00**	**4,352.33**

Linear Appurtenance Segment Forces (Factored)

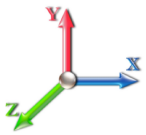
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
95.00	6"x1" Link Plate	Yes	0.75	0.000	1.00	0.06	0.00	0.029	0.000	33.570	0.00	41.35
96.38	6"x1" Link Plate	Yes	1.38	0.000	1.00	0.11	0.00	0.029	0.000	33.672	0.00	76.08
99.67	6"x1" Link Plate	Yes	3.29	0.000	1.00	0.27	0.00	0.030	0.000	33.911	0.00	181.21
100.00	6"x1" Link Plate	Yes	0.33	0.000	1.00	0.03	0.00	0.029	0.000	33.935	0.00	18.38
102.13	6"x1" Link Plate	Yes	2.13	0.000	1.00	0.18	0.00	0.030	0.000	34.086	0.00	117.44
105.00	6"x1" Link Plate	Yes	2.87	0.000	1.00	0.24	0.00	0.030	0.000	34.285	0.00	158.23
107.00	6"x1" Link Plate	Yes	2.00	0.000	1.00	0.17	0.00	0.030	0.000	34.422	0.00	110.27
110.00	6"x1" Link Plate	Yes	2.25	0.000	1.00	0.19	0.00	0.023	0.000	34.623	0.00	124.05
										Totals:	**0.0**	**827.0**

Calculated Forces

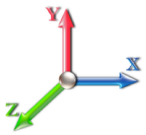
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-43.19	-47.62	0.00	-5227.7	0.00	5227.70	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.896
5.00	-41.65	-47.20	0.00	-4989.6	0.00	4989.63	5739.57	2869.78	11485.2	5701.74	0.16	-0.297	0.000	0.883
10.00	-40.00	-46.77	0.00	-4753.6	0.00	4753.65	5652.47	2826.24	11099.3	5510.17	0.63	-0.597	0.000	0.870
15.00	-38.38	-46.35	0.00	-4519.7	0.00	4519.78	5545.82	2772.91	10682.2	5303.14	1.42	-0.899	0.000	0.859
20.00	-36.79	-45.88	0.00	-4288.0	0.00	4288.04	5439.17	2719.58	10273.2	5100.07	2.52	-1.202	0.000	0.848
25.00	-35.22	-45.39	0.00	-4058.6	0.00	4058.63	5332.51	2666.26	9872.18	4900.97	3.94	-1.507	0.000	0.835
30.00	-33.68	-44.87	0.00	-3831.6	0.00	3831.69	5225.86	2612.93	9479.11	4705.83	5.69	-1.812	0.000	0.821
35.00	-32.17	-44.32	0.00	-3607.3	0.00	3607.37	5119.21	2559.60	9094.03	4514.66	7.75	-2.118	0.000	0.806
40.00	-30.68	-43.76	0.00	-3385.7	0.00	3385.77	5012.56	2506.28	8716.92	4327.45	10.13	-2.425	0.000	0.789
45.00	-29.31	-43.12	0.00	-3167.0	0.00	3167.00	4905.90	2452.95	8347.81	4144.20	12.83	-2.730	0.000	0.770
46.67	-28.79	-42.96	0.00	-3095.1	0.00	3095.13	4870.35	2435.18	8226.55	4084.00	13.80	-2.834	0.000	0.764
50.00	-27.26	-42.51	0.00	-2951.9	0.00	2951.94	4799.25	2399.63	7986.68	3964.92	15.86	-3.039	0.000	0.751
53.00	-25.91	-42.10	0.00	-2824.4	0.00	2824.40	4240.56	2120.28	7137.82	3543.51	17.82	-3.223	0.000	0.804
55.00	-25.32	-41.90	0.00	-2740.2	0.00	2740.21	4203.23	2101.62	7012.05	3481.07	19.20	-3.346	0.000	0.794
60.00	-24.05	-41.27	0.00	-2530.7	0.00	2530.72	4109.91	2054.96	6702.51	3327.41	22.87	-3.665	0.000	0.767
65.00	-22.81	-40.64	0.00	-2324.3	0.00	2324.36	4016.59	2008.29	6399.97	3177.21	26.88	-3.980	0.000	0.738
70.00	-21.60	-40.00	0.00	-2121.1	0.00	2121.16	3923.27	1961.63	6104.41	3030.48	31.21	-4.288	0.000	0.706
75.00	-20.42	-39.35	0.00	-1921.1	0.00	1921.18	3829.95	1914.97	5815.84	2887.23	35.86	-4.589	0.000	0.671
80.00	-19.27	-38.69	0.00	-1724.4	0.00	1724.44	3736.63	1868.31	5534.25	2747.44	40.82	-4.881	0.000	0.633
85.00	-18.16	-38.03	0.00	-1530.9	0.00	1530.98	3643.31	1821.65	5259.66	2611.12	46.08	-5.162	0.000	0.592
90.00	-17.09	-37.36	0.00	-1340.8	0.00	1340.81	3549.99	1774.99	4992.05	2478.26	51.62	-5.429	0.000	0.546
94.25	-16.26	-36.78	0.00	-1182.0	0.00	1182.02	3470.66	1735.33	4770.08	2368.07	56.55	-5.645	0.000	0.504
95.00	-15.99	-36.67	0.00	-1154.4	0.00	1154.44	3456.66	1728.33	4731.43	2348.88	57.43	-5.682	0.000	0.497
96.38	-15.52	-36.48	0.00	-1103.8	0.00	1103.83	3430.91	1715.45	4660.73	2313.78	59.09	-5.750	0.000	0.351
99.67	-14.50	-35.97	0.00	-983.95	0.00	983.95	1458.24	729.12	1997.89	991.83	63.08	-5.861	0.000	0.387
100.00	-14.41	-35.93	0.00	-971.96	0.00	971.96	1456.89	728.44	1992.39	989.11	63.49	-5.872	0.000	0.579
102.13	-14.00	-35.66	0.00	-895.42	0.00	895.42	1448.11	724.06	1957.30	971.68	66.13	-5.975	0.000	0.541
102.13	-14.00	-35.66	0.00	-895.42	0.00	895.42	1448.11	724.06	1957.30	971.68	66.13	-5.975	0.000	0.541
105.00	-13.47	-35.28	0.00	-793.08	0.00	793.08	1435.99	717.99	1910.05	948.23	69.75	-6.105	0.000	0.848
107.00	-11.26	-28.06	0.00	-722.53	0.00	722.53	1427.33	713.67	1877.17	931.90	72.34	-6.251	0.000	0.785
110.00	-10.77	-27.69	0.00	-638.35	0.00	638.35	1414.04	707.02	1827.92	907.46	76.33	-6.455	0.000	0.713
115.00	-10.29	-27.07	0.00	-499.89	0.00	499.89	1391.05	695.52	1746.12	866.85	83.24	-6.755	0.000	0.586
117.00	-7.62	-20.50	0.00	-441.64	0.00	441.64	1381.56	690.78	1713.52	850.66	86.09	-6.864	0.000	0.526
120.00	-7.34	-20.14	0.00	-380.13	0.00	380.13	1367.01	683.50	1664.77	826.46	90.44	-7.011	0.000	0.466
120.00	-7.34	-20.14	0.00	-380.13	0.00	380.13	1091.99	545.99	1332.66	661.59	90.44	-7.011	0.000	0.583
125.00	-6.98	-19.53	0.00	-279.42	0.00	279.42	1075.35	537.67	1272.10	631.52	97.88	-7.218	0.000	0.450
127.00	-5.25	-14.96	0.00	-240.35	0.00	240.35	1068.40	534.20	1247.88	619.50	100.91	-7.301	0.000	0.394
130.00	-5.04	-14.60	0.00	-195.48	0.00	195.48	1057.66	528.83	1211.58	601.48	105.53	-7.410	0.000	0.331
135.00	-4.74	-14.01	0.00	-122.46	0.00	122.46	1038.92	519.46	1151.22	571.51	113.35	-7.551	0.000	0.220
137.00	-3.63	-9.65	0.00	-94.43	0.00	94.43	1031.13	515.57	1127.15	559.57	116.51	-7.593	0.000	0.173
140.00	-3.49	-9.31	0.00	-65.47	0.00	65.47	1019.14	509.57	1091.15	541.69	121.29	-7.642	0.000	0.125
145.00	-3.28	-8.75	0.00	-18.92	0.00	18.92	998.31	499.16	1031.47	512.07	129.30	-7.687	0.000	0.041
147.00	-0.11	-0.39	0.00	-1.42	0.00	1.42	989.69	494.84	1007.74	500.29	132.51	-7.692	0.000	0.003
150.00	0.00	-0.37	0.00	-0.24	0.00	0.24	976.44	488.22	972.32	482.70	137.33	-7.693	0.000	0.000

Wind Loading - Shaft

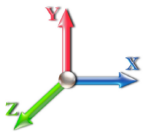
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	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	22.085	26.50	150.7	395.3	1992.5
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	21.777	26.13	148.6	416.8	1984.8
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	21.441	25.73	146.3	426.6	1965.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	21.092	25.31	152.7	431.3	1940.7
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	20.737	24.88	157.3	433.0	1913.1
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	20.377	24.45	160.6	432.8	1883.5
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	20.014	24.02	163.0	431.1	1852.6
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	19.648	23.58	164.6	428.4	1820.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	19.281	23.14	165.5	424.9	1787.7
46.67	Bot - Section 2	1.00	1.08	6.554	7.21	0.00	1.200	1.553	1.67	6.344	7.61	54.9	141.2	588.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	3.33	12.813	15.38	112.5	286.2	1964.8
53.00	Top - Section 1	1.00	1.11	6.732	7.41	0.00	1.200	1.573	3.00	11.391	13.67	101.2	255.9	1745.7
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	2.00	7.520	9.02	67.3	169.8	633.9
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	18.543	22.25	169.1	419.3	1561.6
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	18.171	21.81	168.6	413.7	1530.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	17.799	21.36	167.7	407.7	1498.6
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	17.426	20.91	166.6	401.3	1466.6
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	17.052	20.46	165.3	394.7	1434.4
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	16.678	20.01	163.7	387.8	1401.9
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	16.304	19.56	162.0	380.7	1369.1
94.25	Bot - Section 3	1.00	1.25	7.600	8.36	0.00	1.200	1.666	4.25	13.563	16.28	136.1	318.3	1138.3
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	0.75	2.393	2.87	24.0	56.7	272.3
96.38	RB1	1.00	1.26	7.635	8.40	0.00	1.200	1.670	1.38	4.381	5.26	44.2	103.8	498.1
99.67	Top - Section 2	1.00	1.26	7.690	8.46	0.00	1.200	1.675	3.29	10.320	12.38	104.7	243.9	1171.3
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	0.33	1.037	1.24	10.5	24.7	56.2
102.13	RT1	1.00	1.27	7.729	8.50	0.00	1.200	1.679	2.13	6.590	7.91	67.2	156.4	356.1
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	2.87	8.772	10.53	90.0	208.2	473.6
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	1.687	2.00	6.040	7.25	62.2	143.9	326.3
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	3.00	8.947	10.74	92.7	213.0	482.8
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	14.612	17.53	152.9	346.9	786.4
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	1.702	2.00	5.739	6.89	60.3	137.5	309.7
120.00	Top - Section 3	1.00	1.32	7.996	8.80	0.00	1.200	1.707	3.00	8.496	10.19	89.7	203.3	457.7
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	13.859	16.63	147.5	330.5	685.5
127.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	1.716	2.00	5.438	6.53	58.1	130.8	269.8
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	3.00	8.044	9.65	86.3	193.2	398.3
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	13.106	15.73	141.8	313.5	646.6
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	2.00	5.136	6.16	55.7	124.0	254.2
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	3.00	7.591	9.11	82.8	182.9	374.8
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	12.351	14.82	135.7	296.1	607.2
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	1.742	2.00	4.834	5.80	53.3	117.0	238.4
150.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	1.745	3.00	7.139	8.57	79.0	172.3	351.1
								Totals:	**150.00**			**4,682.8**		**42,491.0**

Discrete Appurtenance Forces

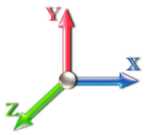
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Lightning Rod	1	8.421	9.264	1.00	1.00	3.42	64.41	0.000	3.500	31.71	0.00	111.00
2	147.00	Ericsson 4449 B71 + B85	3	8.345	9.180	0.50	0.75	3.83	513.88	0.000	0.000	35.12	0.00	0.00
3	147.00	Ericsson AIR6449 B41	3	8.345	9.180	0.53	0.75	10.54	686.23	0.000	0.000	96.77	0.00	0.00
4	147.00	RFS	3	8.345	9.180	0.54	0.75	35.86	1722.28	0.000	0.000	329.19	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	8.345	9.180	0.45	0.75	1.02	62.77	0.000	0.000	9.35	0.00	0.00
6	147.00	Commscope VV-65A-R1	3	8.345	9.180	0.55	0.75	11.49	502.93	0.000	0.000	105.52	0.00	0.00
7	147.00	Platform w/ Hand Rail	1	8.345	9.180	1.00	1.00	60.90	3890.03	0.000	0.000	559.04	0.00	0.00
8	147.00	Tie Back Kit (Commscope	1	8.345	9.180	1.00	1.00	9.40	230.89	0.000	0.000	86.28	0.00	0.00
9	147.00	Rreinforcement Kit	1	8.345	9.180	1.00	1.00	19.43	937.58	0.000	0.000	178.34	0.00	0.00
10	147.00	V-Brace Kit (Sitepro	1	8.345	9.180	1.00	1.00	12.88	2022.93	0.000	0.000	118.27	0.00	0.00
11	147.00	Ericsson 4460 B25 + B66	3	8.345	9.180	0.50	0.75	3.99	513.81	0.000	0.000	36.61	0.00	0.00
12	137.00	Rymsa MGD5-800T2	3	8.222	9.044	0.62	0.80	9.62	200.09	0.000	0.000	87.03	0.00	0.00
13	137.00	Antel BXA-70063/6CF	3	8.222	9.044	0.58	0.80	17.84	363.50	0.000	0.000	161.33	0.00	0.00
14	137.00	Antel LPA-80080/4CF	6	8.222	9.044	0.59	0.80	22.69	885.93	0.000	0.000	205.23	0.00	0.00
15	137.00	Cleargain 850/1900 TMA's	2	8.222	9.044	0.48	0.80	1.00	29.67	0.000	0.000	9.08	0.00	0.00
16	137.00	RFS FD9R6004/2C-3L	6	8.222	9.044	0.48	0.80	2.30	56.24	0.000	0.000	20.82	0.00	0.00
17	137.00	Low Profile Platform	1	8.222	9.044	1.00	1.00	39.50	2797.10	0.000	0.000	357.28	0.00	0.00
18	127.00	Platform w/HRK	1	8.092	8.901	1.00	1.00	84.04	3359.37	0.000	0.000	748.10	0.00	0.00
19	127.00	Raycap	1	8.092	8.901	0.50	0.75	1.29	65.72	0.000	0.000	11.49	0.00	0.00
20	127.00	Fujitsu TA08025-B604	3	8.092	8.901	0.50	0.75	3.79	343.39	0.000	0.000	33.70	0.00	0.00
21	127.00	JMA Wireless	3	8.092	8.901	0.55	0.75	23.19	888.81	0.000	0.000	206.46	0.00	0.00
22	127.00	Fujitsu TA08025-B605	3	8.092	8.901	0.50	0.75	3.79	386.09	0.000	0.000	33.70	0.00	0.00
23	117.00	Commscope	3	7.996	8.796	0.60	0.75	24.64	916.89	0.000	3.000	216.75	0.00	650.25
24	117.00	RFS APXVTM14-C-I20	3	7.954	8.749	0.58	0.75	12.86	669.42	0.000	0.000	112.53	0.00	0.00
25	117.00	Sitepro RMQP-496-HK	1	7.954	8.749	1.00	1.00	77.32	4650.29	0.000	0.000	676.50	0.00	0.00
26	117.00	ALU TD-RRH8x20-25	3	7.954	8.749	0.50	0.75	7.30	573.60	0.000	0.000	63.86	0.00	0.00
27	117.00	ALU 800 Mhz	6	7.954	8.749	0.50	0.75	10.87	687.87	0.000	0.000	95.11	0.00	0.00
28	117.00	ALU 1900 Mhz	3	7.954	8.749	0.50	0.75	6.04	388.46	0.000	0.000	52.85	0.00	0.00
29	107.00	Ericsson 8843 B2 B66A	3	7.805	8.586	0.50	0.75	3.27	484.90	0.000	0.000	28.06	0.00	0.00
30	107.00	Raycap	1	7.805	8.586	0.50	0.75	2.83	109.02	0.000	0.000	24.31	0.00	0.00
31	107.00	Site Pro HRK14	1	7.805	8.586	1.00	1.00	15.81	1012.10	0.000	0.000	135.76	0.00	0.00
32	107.00	Ericsson RRUS 4478 B14	3	7.805	8.586	0.50	0.75	3.54	316.86	0.000	0.000	30.41	0.00	0.00
33	107.00	Ericsson 4449 B5/B12	3	7.805	8.586	0.50	0.75	3.27	448.25	0.000	0.000	28.06	0.00	0.00
34	107.00	Low Profile Platform	1	7.805	8.586	1.00	1.00	39.07	2765.43	0.000	0.000	335.49	0.00	0.00
35	107.00	Cci DMP65R-BU8DA	6	7.805	8.586	0.75	0.75	163.66	1704.47	0.000	0.000	1405.18	0.00	0.00
36	107.00	Raycap DC6-48-60-18-8F	1	7.805	8.586	0.50	0.75	0.68	80.23	0.000	0.000	5.80	0.00	0.00
37	107.00	Powerwave 7770	3	7.805	8.586	0.55	0.75	10.72	515.09	0.000	0.000	92.05	0.00	0.00
38	107.00	Powerwave/LGP21401	6	7.805	8.586	0.45	0.75	1.77	74.09	0.000	0.000	15.17	0.00	0.00
							Totals:		**35,920.62**			**6,778.31**		

Total Applied Force Summary

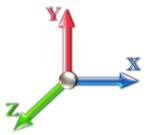
Structure:	CT01210-S-SBA		**Code:**	TIA-222-G	2/24/2022
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 21

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		150.66	2116.71	0.00	0.00
10.00		148.56	2295.18	0.00	0.00
15.00		146.26	2275.70	0.00	0.00
20.00		152.67	2251.08	0.00	0.00
25.00		157.31	2223.49	0.00	0.00
30.00		160.63	2193.94	0.00	0.00
35.00		162.97	2162.98	0.00	0.00
40.00		164.56	2130.96	0.00	0.00
45.00		165.54	2098.09	0.00	0.00
46.67		54.88	692.40	0.00	0.00
50.00		112.48	2171.72	0.00	0.00
53.00		101.23	1932.00	0.00	0.00
55.00		67.35	758.06	0.00	0.00
60.00		169.14	1871.98	0.00	0.00
65.00		168.57	1840.70	0.00	0.00
70.00		167.71	1809.04	0.00	0.00
75.00		166.60	1777.07	0.00	0.00
80.00		165.26	1744.80	0.00	0.00
85.00		163.71	1712.27	0.00	0.00
90.00		161.97	1679.51	0.00	0.00
94.25		136.06	1402.13	0.00	0.00
95.00		24.04	379.61	0.00	0.00
96.38		44.15	695.68	0.00	0.00
99.67		104.75	1641.93	0.00	0.00
100.00		10.54	103.89	0.00	0.00
102.13		67.24	661.17	0.00	0.00
105.00		90.02	884.73	0.00	0.00
107.00	(28) attachments	2162.52	8123.26	0.00	0.00
110.00		92.72	772.76	0.00	0.00
115.00		152.85	965.13	0.00	0.00
117.00	(19) attachments	1277.86	8267.70	0.00	650.25
120.00		89.67	551.21	0.00	0.00
125.00		147.55	841.41	0.00	0.00
127.00	(11) attachments	1091.54	5375.52	0.00	0.00
130.00		86.34	485.33	0.00	0.00
135.00		141.80	791.54	0.00	0.00
137.00	(21) attachments	896.51	4644.69	0.00	0.00
140.00		82.77	416.89	0.00	0.00
145.00		135.67	677.26	0.00	0.00
147.00	(22) attachments	1607.73	11349.74	0.00	0.00
150.00	(1) attachments	110.68	415.49	0.00	111.00
	Totals:	**11,461.09**	**87,184.73**	**0.00**	**761.25**

Linear Appurtenance Segment Forces (Factored)

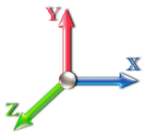
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
95.00	6"x1" Link Plate	Yes	0.75	0.000	1.00	0.27	0.00	0.029	0.000	7.612	0.00	60.79
96.38	6"x1" Link Plate	Yes	1.38	0.000	1.00	0.50	0.00	0.029	0.000	7.635	0.00	111.87
99.67	6"x1" Link Plate	Yes	3.29	0.000	1.00	1.19	0.00	0.030	0.000	7.690	0.00	266.55
100.00	6"x1" Link Plate	Yes	0.33	0.000	1.00	0.12	0.00	0.029	0.000	7.695	0.00	27.03
102.13	6"x1" Link Plate	Yes	2.13	0.000	1.00	0.77	0.00	0.030	0.000	7.729	0.00	172.80
105.00	6"x1" Link Plate	Yes	2.87	0.000	1.00	1.04	0.00	0.030	0.000	7.774	0.00	232.92
107.00	6"x1" Link Plate	Yes	2.00	0.000	1.00	0.73	0.00	0.030	0.000	7.805	0.00	162.35
110.00	6"x1" Link Plate	Yes	2.25	0.000	1.00	0.82	0.00	0.023	0.000	7.851	0.00	182.72
										Totals:	**0.0**	**1,217.0**

Calculated Forces

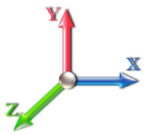
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

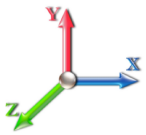
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-87.18	-11.52	0.00	-1318.3	0.00	1318.31	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.239
5.00	-85.05	-11.48	0.00	-1260.7	0.00	1260.72	5739.57	2869.78	11485.2	5701.74	0.04	-0.075	0.000	0.236
10.00	-82.74	-11.44	0.00	-1203.3	0.00	1203.33	5652.47	2826.24	11099.3	5510.17	0.16	-0.151	0.000	0.233
15.00	-80.44	-11.39	0.00	-1146.1	0.00	1146.15	5545.82	2772.91	10682.2	5303.14	0.36	-0.227	0.000	0.231
20.00	-78.18	-11.33	0.00	-1089.2	0.00	1089.20	5439.17	2719.58	10273.2	5100.07	0.64	-0.304	0.000	0.228
25.00	-75.94	-11.26	0.00	-1032.5	0.00	1032.55	5332.51	2666.26	9872.18	4900.97	1.00	-0.382	0.000	0.225
30.00	-73.73	-11.19	0.00	-976.23	0.00	976.23	5225.86	2612.93	9479.11	4705.83	1.44	-0.459	0.000	0.222
35.00	-71.56	-11.10	0.00	-920.29	0.00	920.29	5119.21	2559.60	9094.03	4514.66	1.96	-0.538	0.000	0.218
40.00	-69.41	-11.01	0.00	-864.78	0.00	864.78	5012.56	2506.28	8716.92	4327.45	2.57	-0.616	0.000	0.214
45.00	-67.31	-10.88	0.00	-809.72	0.00	809.72	4905.90	2452.95	8347.81	4144.20	3.25	-0.694	0.000	0.209
46.67	-66.61	-10.87	0.00	-791.58	0.00	791.58	4870.35	2435.18	8226.55	4084.00	3.50	-0.720	0.000	0.208
50.00	-64.43	-10.78	0.00	-755.36	0.00	755.36	4799.25	2399.63	7986.68	3964.92	4.02	-0.773	0.000	0.204
53.00	-62.49	-10.70	0.00	-723.01	0.00	723.01	4240.56	2120.28	7137.82	3543.51	4.52	-0.820	0.000	0.219
55.00	-61.72	-10.68	0.00	-701.62	0.00	701.62	4203.23	2101.62	7012.05	3481.07	4.87	-0.851	0.000	0.216
60.00	-59.84	-10.57	0.00	-648.23	0.00	648.23	4109.91	2054.96	6702.51	3327.41	5.81	-0.933	0.000	0.209
65.00	-57.99	-10.45	0.00	-595.40	0.00	595.40	4016.59	2008.29	6399.97	3177.21	6.83	-1.014	0.000	0.202
70.00	-56.17	-10.32	0.00	-543.17	0.00	543.17	3923.27	1961.63	6104.41	3030.48	7.93	-1.093	0.000	0.194
75.00	-54.38	-10.19	0.00	-491.56	0.00	491.56	3829.95	1914.97	5815.84	2887.23	9.12	-1.170	0.000	0.184
80.00	-52.63	-10.06	0.00	-440.59	0.00	440.59	3736.63	1868.31	5534.25	2747.44	10.39	-1.244	0.000	0.174
85.00	-50.91	-9.92	0.00	-390.31	0.00	390.31	3643.31	1821.65	5259.66	2611.12	11.73	-1.316	0.000	0.163
90.00	-49.22	-9.77	0.00	-340.72	0.00	340.72	3549.99	1774.99	4992.05	2478.26	13.14	-1.384	0.000	0.151
94.25	-47.82	-9.62	0.00	-299.20	0.00	299.20	3470.66	1735.33	4770.08	2368.07	14.40	-1.439	0.000	0.140
95.00	-47.44	-9.60	0.00	-291.98	0.00	291.98	3456.66	1728.33	4731.43	2348.88	14.63	-1.448	0.000	0.138
96.38	-46.74	-9.56	0.00	-278.73	0.00	278.73	3430.91	1715.45	4660.73	2313.78	15.05	-1.465	0.000	0.097
99.67	-45.10	-9.42	0.00	-247.31	0.00	247.31	1458.24	729.12	1997.89	991.83	16.07	-1.493	0.000	0.107
100.00	-44.99	-9.42	0.00	-244.17	0.00	244.17	1456.89	728.44	1992.39	989.11	16.17	-1.496	0.000	0.161
102.13	-44.33	-9.36	0.00	-224.10	0.00	224.10	1448.11	724.06	1957.30	971.68	16.85	-1.522	0.000	0.151
102.13	-44.33	-9.36	0.00	-224.10	0.00	224.10	1448.11	724.06	1957.30	971.68	16.85	-1.522	0.000	0.151
105.00	-43.44	-9.27	0.00	-197.24	0.00	197.24	1435.99	717.99	1910.05	948.23	17.77	-1.554	0.000	0.238
107.00	-35.37	-6.91	0.00	-178.70	0.00	178.70	1427.33	713.67	1877.17	931.90	18.43	-1.591	0.000	0.217
110.00	-34.60	-6.84	0.00	-157.95	0.00	157.95	1414.04	707.02	1827.92	907.46	19.45	-1.641	0.000	0.199
115.00	-33.63	-6.69	0.00	-123.76	0.00	123.76	1391.05	695.52	1746.12	866.85	21.21	-1.715	0.000	0.167
117.00	-25.40	-5.17	0.00	-109.74	0.00	109.74	1381.56	690.78	1713.52	850.66	21.93	-1.742	0.000	0.147
120.00	-24.85	-5.09	0.00	-94.22	0.00	94.22	1367.01	683.50	1664.77	826.46	23.04	-1.779	0.000	0.132
120.00	-24.85	-5.09	0.00	-94.22	0.00	94.22	1091.99	545.99	1332.66	661.59	23.04	-1.779	0.000	0.165
125.00	-24.01	-4.93	0.00	-68.79	0.00	68.79	1075.35	537.67	1272.10	631.52	24.93	-1.830	0.000	0.131
127.00	-18.67	-3.67	0.00	-58.94	0.00	58.94	1068.40	534.20	1247.88	619.50	25.70	-1.850	0.000	0.113
130.00	-18.19	-3.58	0.00	-47.92	0.00	47.92	1057.66	528.83	1211.58	601.48	26.87	-1.877	0.000	0.097
135.00	-17.40	-3.42	0.00	-30.03	0.00	30.03	1038.92	519.46	1151.22	571.51	28.86	-1.912	0.000	0.069
137.00	-12.79	-2.37	0.00	-23.20	0.00	23.20	1031.13	515.57	1127.15	559.57	29.66	-1.922	0.000	0.054
140.00	-12.37	-2.27	0.00	-16.09	0.00	16.09	1019.14	509.57	1091.15	541.69	30.87	-1.934	0.000	0.042
145.00	-11.70	-2.12	0.00	-4.72	0.00	4.72	998.31	499.16	1031.47	512.07	32.90	-1.945	0.000	0.021
147.00	-0.41	-0.12	0.00	-0.49	0.00	0.49	989.69	494.84	1007.74	500.29	33.72	-1.946	0.000	0.001
150.00	0.00	-0.11	0.00	-0.11	0.00	0.11	976.44	488.22	972.32	482.70	34.94	-1.947	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E					**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.11	**Ss**	0.16
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.04	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.30	**SA**	0.01	**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		1331.0	0.00	0.03	0.02	18.29	
10.00		1306.6	0.01	0.05	0.03	24.27	
15.00		1282.2	0.02	0.06	0.04	26.63	
20.00		1257.8	0.03	0.07	0.04	27.49	
25.00		1233.3	0.05	0.07	0.04	27.76	
30.00		1208.9	0.08	0.07	0.04	27.87	
35.00		1184.5	0.10	0.07	0.04	28.03	
40.00		1160.1	0.13	0.07	0.03	28.24	
45.00		1135.6	0.17	0.07	0.03	28.36	
46.67	Bot - Section 2	373.13	0.18	0.06	0.03	9.37	
50.00		1398.8	0.21	0.06	0.02	35.34	
53.00	Top - Section 1	1241.5	0.24	0.06	0.02	31.16	
55.00		386.73	0.25	0.05	0.02	9.58	
60.00		951.87	0.30	0.04	0.01	21.64	
65.00		930.50	0.35	0.03	0.01	16.96	
70.00		909.13	0.41	0.01	0.01	9.42	
75.00		887.76	0.47	-0.01	0.01	-0.46	
80.00		866.39	0.54	-0.03	0.01	-10.50	
85.00		845.02	0.61	-0.06	0.02	-18.17	
90.00		823.65	0.68	-0.08	0.03	-22.43	
94.25	Bot - Section 3	683.30	0.75	-0.10	0.04	-19.95	
95.00		179.64	0.76	-0.10	0.04	-5.26	
96.38	RB1	328.65	0.78	-0.11	0.05	-9.62	
99.67	Top - Section 2	772.89	0.83	-0.12	0.06	-21.88	
100.00		26.22	0.84	-0.12	0.07	-0.74	
102.13	RT1	166.41	0.88	-0.12	0.08	-4.45	
105.00		221.15	0.93	-0.12	0.10	-5.34	
107.00	Appurtenance(s)	2988.8	0.96	-0.12	0.11	-65.07	
110.00		224.84	1.02	-0.11	0.14	-3.92	
115.00		366.19	1.11	-0.06	0.19	-2.98	
117.00	Appurtenance(s)	3701.2	1.15	-0.04	0.22	-13.64	
120.00	Top - Section 3	212.02	1.21	0.01	0.26	0.80	
125.00		295.88	1.31	0.14	0.35	5.44	
127.00	Appurtenance(s)	2474.7	1.35	0.20	0.39	61.85	
130.00		170.93	1.42	0.32	0.45	6.11	
135.00		277.56	1.53	0.58	0.58	15.52	
137.00	Appurtenance(s)	1800.9	1.58	0.71	0.64	116.69	
140.00		159.94	1.65	0.93	0.73	12.64	
145.00		259.24	1.77	1.39	0.92	27.25	
147.00	Appurtenance(s)	4702.1	1.82	1.61	1.00	547.34	
150.00	Appurtenance(s)	183.95	1.89	1.98	1.14	24.70	
	Totals:	**40,911.8**				**984.3**	**Total Wind:** **47,501.6**

Calculated Forces

Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.11			**Ss**	0.16
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.04			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.30	**SA**	0.01	**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	-57.75	-1.19	0.00	-138.41	0.00	138.41	5817.07	2908.54	11858.0	5886.84		0.00	0.00	0.033
5.00	-56.03	-1.18	0.00	-132.46	0.00	132.46	5739.57	2869.78	11485.2	5701.74		0.00	-0.01	0.033
10.00	-54.15	-1.16	0.00	-126.55	0.00	126.55	5652.47	2826.24	11099.3	5510.17		0.02	-0.02	0.033
15.00	-52.30	-1.14	0.00	-120.73	0.00	120.73	5545.82	2772.91	10682.2	5303.14		0.04	-0.02	0.032
20.00	-50.48	-1.12	0.00	-115.02	0.00	115.02	5439.17	2719.58	10273.2	5100.07		0.07	-0.03	0.032
25.00	-48.69	-1.10	0.00	-109.40	0.00	109.40	5332.51	2666.26	9872.18	4900.97		0.10	-0.04	0.031
30.00	-46.93	-1.08	0.00	-103.90	0.00	103.90	5225.86	2612.93	9479.11	4705.83		0.15	-0.05	0.031
35.00	-45.20	-1.06	0.00	-98.51	0.00	98.51	5119.21	2559.60	9094.03	4514.66		0.21	-0.06	0.031
40.00	-43.50	-1.03	0.00	-93.23	0.00	93.23	5012.56	2506.28	8716.92	4327.45		0.27	-0.07	0.030
45.00	-41.82	-1.01	0.00	-88.07	0.00	88.07	4905.90	2452.95	8347.81	4144.20		0.34	-0.07	0.030
46.67	-41.27	-1.00	0.00	-86.40	0.00	86.40	4870.35	2435.18	8226.55	4084.00		0.37	-0.08	0.030
50.00	-39.39	-0.96	0.00	-83.07	0.00	83.07	4799.25	2399.63	7986.68	3964.92		0.43	-0.08	0.029
53.00	-37.71	-0.93	0.00	-80.18	0.00	80.18	4240.56	2120.28	7137.82	3543.51		0.48	-0.09	0.032
55.00	-37.12	-0.93	0.00	-78.31	0.00	78.31	4203.23	2101.62	7012.05	3481.07		0.52	-0.09	0.031
60.00	-35.67	-0.91	0.00	-73.67	0.00	73.67	4109.91	2054.96	6702.51	3327.41		0.62	-0.10	0.031
65.00	-34.24	-0.89	0.00	-69.13	0.00	69.13	4016.59	2008.29	6399.97	3177.21		0.73	-0.11	0.030
70.00	-32.84	-0.89	0.00	-64.66	0.00	64.66	3923.27	1961.63	6104.41	3030.48		0.85	-0.12	0.030
75.00	-31.46	-0.89	0.00	-60.22	0.00	60.22	3829.95	1914.97	5815.84	2887.23		0.97	-0.13	0.029
80.00	-30.11	-0.89	0.00	-55.77	0.00	55.77	3736.63	1868.31	5534.25	2747.44		1.11	-0.14	0.028
85.00	-28.79	-0.89	0.00	-51.31	0.00	51.31	3643.31	1821.65	5259.66	2611.12		1.26	-0.15	0.028
90.00	-27.49	-0.89	0.00	-46.84	0.00	46.84	3549.99	1774.99	4992.05	2478.26		1.42	-0.16	0.027
94.25	-26.41	-0.89	0.00	-43.04	0.00	43.04	3470.66	1735.33	4770.08	2368.07		1.56	-0.16	0.026
95.00	-26.09	-0.89	0.00	-42.37	0.00	42.37	3456.66	1728.33	4731.43	2348.88		1.59	-0.16	0.026
96.38	-25.51	-0.89	0.00	-41.14	0.00	41.14	3430.91	1715.45	4660.73	2313.78		1.64	-0.17	0.018
99.67	-24.14	-0.89	0.00	-38.21	0.00	38.21	1458.24	729.12	1997.89	991.83		1.75	-0.17	0.021
100.00	-24.06	-0.89	0.00	-37.91	0.00	37.91	1456.89	728.44	1992.39	989.11		1.77	-0.17	0.032
102.13	-23.57	-0.89	0.00	-36.01	0.00	36.01	1448.11	724.06	1957.30	971.68		1.84	-0.18	0.031
102.13	-23.57	-0.89	0.00	-36.01	0.00	36.01	1448.11	724.06	1957.30	971.68		1.84	-0.18	0.031
105.00	-22.92	-0.89	0.00	-33.46	0.00	33.46	1435.99	717.99	1910.05	948.23		1.95	-0.18	0.051
107.00	-19.06	-0.88	0.00	-31.67	0.00	31.67	1427.33	713.67	1877.17	931.90		2.03	-0.19	0.047
110.00	-18.51	-0.88	0.00	-29.03	0.00	29.03	1414.04	707.02	1827.92	907.46		2.15	-0.20	0.045
115.00	-17.90	-0.88	0.00	-24.61	0.00	24.61	1391.05	695.52	1746.12	866.85		2.36	-0.21	0.041
117.00	-13.38	-0.87	0.00	-22.84	0.00	22.84	1381.56	690.78	1713.52	850.66		2.45	-0.22	0.037
120.00	-13.04	-0.87	0.00	-20.24	0.00	20.24	1367.01	683.50	1664.77	826.46		2.59	-0.22	0.034
120.00	-13.04	-0.87	0.00	-20.24	0.00	20.24	1091.99	545.99	1332.66	661.59		2.59	-0.22	0.043
125.00	-12.52	-0.86	0.00	-15.89	0.00	15.89	1075.35	537.67	1272.10	631.52		2.83	-0.24	0.037
127.00	-9.49	-0.79	0.00	-14.16	0.00	14.16	1068.40	534.20	1247.88	619.50		2.93	-0.24	0.032
130.00	-9.20	-0.78	0.00	-11.79	0.00	11.79	1057.66	528.83	1211.58	601.48		3.08	-0.25	0.028
135.00	-8.72	-0.77	0.00	-7.87	0.00	7.87	1038.92	519.46	1151.22	571.51		3.35	-0.26	0.022
137.00	-6.50	-0.64	0.00	-6.34	0.00	6.34	1031.13	515.57	1127.15	559.57		3.46	-0.26	0.018
140.00	-6.27	-0.63	0.00	-4.41	0.00	4.41	1019.14	509.57	1091.15	541.69		3.62	-0.26	0.014
145.00	-5.89	-0.60	0.00	-1.28	0.00	1.28	998.31	499.16	1031.47	512.07		3.89	-0.26	0.008
147.00	-0.22	-0.03	0.00	-0.08	0.00	0.08	989.69	494.84	1007.74	500.29		4.01	-0.26	0.000
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	976.44	488.22	972.32	482.70		4.17	-0.26	0.000

Seismic Segment Forces (Factored)

Structure:	CT01210-S-SBA		**Code:**	TIA-222-G	2/24/2022
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 26

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.11		**Ss**	0.16
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.04		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.30		**SA**	0.01	**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		1331.0	0.00	0.03	0.02	18.29	
10.00		1306.6	0.01	0.05	0.03	24.27	
15.00		1282.2	0.02	0.06	0.04	26.63	
20.00		1257.8	0.03	0.07	0.04	27.49	
25.00		1233.3	0.05	0.07	0.04	27.76	
30.00		1208.9	0.08	0.07	0.04	27.87	
35.00		1184.5	0.10	0.07	0.04	28.03	
40.00		1160.1	0.13	0.07	0.03	28.24	
45.00		1135.6	0.17	0.07	0.03	28.36	
46.67	Bot - Section 2	373.13	0.18	0.06	0.03	9.37	
50.00		1398.8	0.21	0.06	0.02	35.34	
53.00	Top - Section 1	1241.5	0.24	0.06	0.02	31.16	
55.00		386.73	0.25	0.05	0.02	9.58	
60.00		951.87	0.30	0.04	0.01	21.64	
65.00		930.50	0.35	0.03	0.01	16.96	
70.00		909.13	0.41	0.01	0.01	9.42	
75.00		887.76	0.47	-0.01	0.01	-0.46	
80.00		866.39	0.54	-0.03	0.01	-10.50	
85.00		845.02	0.61	-0.06	0.02	-18.17	
90.00		823.65	0.68	-0.08	0.03	-22.43	
94.25	Bot - Section 3	683.30	0.75	-0.10	0.04	-19.95	
95.00		179.64	0.76	-0.10	0.04	-5.26	
96.38	RB1	328.65	0.78	-0.11	0.05	-9.62	
99.67	Top - Section 2	772.89	0.83	-0.12	0.06	-21.88	
100.00		26.22	0.84	-0.12	0.07	-0.74	
102.13	RT1	166.41	0.88	-0.12	0.08	-4.45	
105.00		221.15	0.93	-0.12	0.10	-5.34	
107.00	Appurtenance(s)	2988.8	0.96	-0.12	0.11	-65.07	
110.00		224.84	1.02	-0.11	0.14	-3.92	
115.00		366.19	1.11	-0.06	0.19	-2.98	
117.00	Appurtenance(s)	3701.2	1.15	-0.04	0.22	-13.64	
120.00	Top - Section 3	212.02	1.21	0.01	0.26	0.80	
125.00		295.88	1.31	0.14	0.35	5.44	
127.00	Appurtenance(s)	2474.7	1.35	0.20	0.39	61.85	
130.00		170.93	1.42	0.32	0.45	6.11	
135.00		277.56	1.53	0.58	0.58	15.52	
137.00	Appurtenance(s)	1800.9	1.58	0.71	0.64	116.69	
140.00		159.94	1.65	0.93	0.73	12.64	
145.00		259.24	1.77	1.39	0.92	27.25	
147.00	Appurtenance(s)	4702.1	1.82	1.61	1.00	547.34	
150.00	Appurtenance(s)	183.95	1.89	1.98	1.14	24.70	
	Totals:	**40,911.8**				**984.3**	**Total Wind:** **47,501.6**

Calculated Forces

Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.11			**Ss**	0.16
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.04			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.30	**SA**	0.01	**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	-43.31	-1.19	0.00	-136.45	0.00	136.45	5817.07	2908.54	11858.0	5886.84		0.00	0.00	0.031
5.00	-42.02	-1.18	0.00	-130.50	0.00	130.50	5739.57	2869.78	11485.2	5701.74		0.00	-0.01	0.030
10.00	-40.61	-1.16	0.00	-124.61	0.00	124.61	5652.47	2826.24	11099.3	5510.17		0.02	-0.02	0.030
15.00	-39.23	-1.14	0.00	-118.81	0.00	118.81	5545.82	2772.91	10682.2	5303.14		0.04	-0.02	0.029
20.00	-37.86	-1.11	0.00	-113.13	0.00	113.13	5439.17	2719.58	10273.2	5100.07		0.07	-0.03	0.029
25.00	-36.52	-1.09	0.00	-107.55	0.00	107.55	5332.51	2666.26	9872.18	4900.97		0.10	-0.04	0.029
30.00	-35.20	-1.07	0.00	-102.10	0.00	102.10	5225.86	2612.93	9479.11	4705.83		0.15	-0.05	0.028
35.00	-33.90	-1.04	0.00	-96.76	0.00	96.76	5119.21	2559.60	9094.03	4514.66		0.20	-0.06	0.028
40.00	-32.62	-1.02	0.00	-91.55	0.00	91.55	5012.56	2506.28	8716.92	4327.45		0.27	-0.06	0.028
45.00	-31.37	-0.99	0.00	-86.46	0.00	86.46	4905.90	2452.95	8347.81	4144.20		0.34	-0.07	0.027
46.67	-30.95	-0.98	0.00	-84.81	0.00	84.81	4870.35	2435.18	8226.55	4084.00		0.36	-0.08	0.027
50.00	-29.54	-0.95	0.00	-81.53	0.00	81.53	4799.25	2399.63	7986.68	3964.92		0.42	-0.08	0.027
53.00	-28.28	-0.92	0.00	-78.68	0.00	78.68	4240.56	2120.28	7137.82	3543.51		0.47	-0.09	0.029
55.00	-27.84	-0.91	0.00	-76.85	0.00	76.85	4203.23	2101.62	7012.05	3481.07		0.51	-0.09	0.029
60.00	-26.75	-0.89	0.00	-72.29	0.00	72.29	4109.91	2054.96	6702.51	3327.41		0.61	-0.10	0.028
65.00	-25.68	-0.88	0.00	-67.83	0.00	67.83	4016.59	2008.29	6399.97	3177.21		0.71	-0.11	0.028
70.00	-24.63	-0.87	0.00	-63.45	0.00	63.45	3923.27	1961.63	6104.41	3030.48		0.83	-0.12	0.027
75.00	-23.60	-0.87	0.00	-59.10	0.00	59.10	3829.95	1914.97	5815.84	2887.23		0.96	-0.13	0.027
80.00	-22.59	-0.87	0.00	-54.75	0.00	54.75	3736.63	1868.31	5534.25	2747.44		1.10	-0.13	0.026
85.00	-21.59	-0.87	0.00	-50.39	0.00	50.39	3643.31	1821.65	5259.66	2611.12		1.24	-0.14	0.025
90.00	-20.62	-0.87	0.00	-46.02	0.00	46.02	3549.99	1774.99	4992.05	2478.26		1.40	-0.15	0.024
94.25	-19.80	-0.87	0.00	-42.31	0.00	42.31	3470.66	1735.33	4770.08	2368.07		1.54	-0.16	0.024
95.00	-19.57	-0.87	0.00	-41.65	0.00	41.65	3456.66	1728.33	4731.43	2348.88		1.56	-0.16	0.023
96.38	-19.13	-0.87	0.00	-40.45	0.00	40.45	3430.91	1715.45	4660.73	2313.78		1.61	-0.16	0.017
99.67	-18.10	-0.87	0.00	-37.58	0.00	37.58	1458.24	729.12	1997.89	991.83		1.72	-0.17	0.019
100.00	-18.04	-0.87	0.00	-37.29	0.00	37.29	1456.89	728.44	1992.39	989.11		1.74	-0.17	0.029
102.13	-17.68	-0.87	0.00	-35.43	0.00	35.43	1448.11	724.06	1957.30	971.68		1.81	-0.17	0.028
102.13	-17.68	-0.87	0.00	-35.43	0.00	35.43	1448.11	724.06	1957.30	971.68		1.81	-0.17	0.028
105.00	-17.19	-0.87	0.00	-32.93	0.00	32.93	1435.99	717.99	1910.05	948.23		1.92	-0.18	0.047
107.00	-14.29	-0.86	0.00	-31.19	0.00	31.19	1427.33	713.67	1877.17	931.90		1.99	-0.18	0.043
110.00	-13.89	-0.87	0.00	-28.59	0.00	28.59	1414.04	707.02	1827.92	907.46		2.11	-0.19	0.041
115.00	-13.42	-0.87	0.00	-24.26	0.00	24.26	1391.05	695.52	1746.12	866.85		2.32	-0.21	0.038
117.00	-10.04	-0.86	0.00	-22.53	0.00	22.53	1381.56	690.78	1713.52	850.66		2.41	-0.21	0.034
120.00	-9.78	-0.86	0.00	-19.96	0.00	19.96	1367.01	683.50	1664.77	826.46		2.55	-0.22	0.031
120.00	-9.78	-0.86	0.00	-19.96	0.00	19.96	1091.99	545.99	1332.66	661.59		2.55	-0.22	0.039
125.00	-9.39	-0.85	0.00	-15.68	0.00	15.68	1075.35	537.67	1272.10	631.52		2.78	-0.23	0.034
127.00	-7.12	-0.78	0.00	-13.98	0.00	13.98	1068.40	534.20	1247.88	619.50		2.88	-0.24	0.029
130.00	-6.90	-0.77	0.00	-11.64	0.00	11.64	1057.66	528.83	1211.58	601.48		3.03	-0.24	0.026
135.00	-6.54	-0.76	0.00	-7.78	0.00	7.78	1038.92	519.46	1151.22	571.51		3.29	-0.25	0.020
137.00	-4.88	-0.63	0.00	-6.26	0.00	6.26	1031.13	515.57	1127.15	559.57		3.40	-0.25	0.016
140.00	-4.70	-0.62	0.00	-4.36	0.00	4.36	1019.14	509.57	1091.15	541.69		3.56	-0.26	0.013
145.00	-4.42	-0.59	0.00	-1.26	0.00	1.26	998.31	499.16	1031.47	512.07		3.83	-0.26	0.007
147.00	-0.17	-0.03	0.00	-0.08	0.00	0.08	989.69	494.84	1007.74	500.29		3.94	-0.26	0.000
150.00	0.00	-0.02	0.00	0.00	0.00	0.00	976.44	488.22	972.32	482.70		4.10	-0.26	0.000

Wind Loading - Shaft

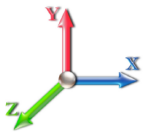
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	235.00	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	230.77	0.750	0.000	5.00	21.050	15.79	129.2	0.0	1331.1
10.00		1.00	0.85	7.442	8.19	226.54	0.750	0.000	5.00	20.668	15.50	126.9	0.0	1306.7
15.00		1.00	0.85	7.442	8.19	222.31	0.750	0.000	5.00	20.286	15.21	124.5	0.0	1282.2
20.00		1.00	0.90	7.896	8.69	224.64	0.750	0.000	5.00	19.903	14.93	129.7	0.0	1257.8
25.00		1.00	0.95	8.276	9.10	225.52	0.750	0.000	5.00	19.521	14.64	133.3	0.0	1233.4
30.00		1.00	0.98	8.600	9.46	225.34	0.750	0.000	5.00	19.139	14.35	135.8	0.0	1209.0
35.00		1.00	1.01	8.883	9.77	224.41	0.750	0.000	5.00	18.756	14.07	137.5	0.0	1184.5
40.00		1.00	1.04	9.137	10.05	222.90	0.750	0.000	5.00	18.374	13.78	138.5	0.0	1160.1
45.00		1.00	1.07	9.366	10.30	220.93	0.750	0.000	5.00	17.991	13.49	139.0	0.0	1135.7
46.67	Bot - Section 2	1.00	1.08	9.438	10.38	220.19	0.750	0.000	1.67	5.912	4.43	46.0	0.0	373.1
50.00		1.00	1.09	9.576	10.53	218.60	0.750	0.000	3.33	11.945	8.96	94.4	0.0	1398.8
53.00	Top - Section 1	1.00	1.11	9.694	10.66	217.04	0.750	0.000	3.00	10.605	7.95	84.8	0.0	1241.5
55.00		1.00	1.12	9.770	10.75	220.67	0.750	0.000	2.00	6.994	5.25	56.4	0.0	386.7
60.00		1.00	1.14	9.951	10.95	217.80	0.750	0.000	5.00	17.216	12.91	141.3	0.0	951.9
65.00		1.00	1.16	10.120	11.13	214.71	0.750	0.000	5.00	16.834	12.63	140.5	0.0	930.5
70.00		1.00	1.17	10.279	11.31	211.42	0.750	0.000	5.00	16.451	12.34	139.5	0.0	909.1
75.00		1.00	1.19	10.430	11.47	207.96	0.750	0.000	5.00	16.069	12.05	138.3	0.0	887.8
80.00		1.00	1.21	10.572	11.63	204.33	0.750	0.000	5.00	15.687	11.77	136.8	0.0	866.4
85.00		1.00	1.22	10.708	11.78	200.57	0.750	0.000	5.00	15.304	11.48	135.2	0.0	845.0
90.00		1.00	1.24	10.838	11.92	196.67	0.750	0.000	5.00	14.922	11.19	133.4	0.0	823.6
94.25	Bot - Section 3	1.00	1.25	10.943	12.04	193.27	0.750	0.000	4.25	12.383	9.29	111.8	0.0	683.3
95.00		1.00	1.25	10.962	12.06	192.66	0.750	0.000	0.75	2.184	1.64	19.8	0.0	179.6
96.38	RB1	1.00	1.26	10.995	12.09	191.53	0.750	0.000	1.38	3.997	3.00	36.3	0.0	328.6
99.67	Top - Section 2	1.00	1.26	11.073	12.18	188.82	0.750	0.000	3.29	9.402	7.05	85.9	0.0	772.9
100.00		1.00	1.27	11.081	12.19	191.05	0.750	0.000	0.33	0.944	0.71	8.6	0.0	26.2
102.13	RT1	1.00	1.27	11.130	12.24	189.27	0.750	0.000	2.13	5.994	4.50	55.0	0.0	166.4
105.00		1.00	1.28	11.195	12.31	186.85	0.750	0.000	2.87	7.967	5.98	73.6	0.0	221.2
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	185.14	0.750	0.000	2.00	5.477	4.11	50.8	0.0	152.0
110.00		1.00	1.29	11.305	12.44	182.55	0.750	0.000	3.00	8.101	6.08	75.6	0.0	224.8
115.00		1.00	1.30	11.412	12.55	178.17	0.750	0.000	5.00	13.196	9.90	124.2	0.0	366.2
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	176.39	0.750	0.000	2.00	5.171	3.88	48.9	0.0	143.5
120.00	Top - Section 3	1.00	1.32	11.514	12.67	173.71	0.750	0.000	3.00	7.642	5.73	72.6	0.0	212.0
125.00		1.00	1.33	11.614	12.78	169.17	0.750	0.000	5.00	12.431	9.32	119.1	0.0	295.9
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	167.34	0.750	0.000	2.00	4.866	3.65	46.8	0.0	115.8
130.00		1.00	1.34	11.710	12.88	164.56	0.750	0.000	3.00	7.184	5.39	69.4	0.0	170.9
135.00		1.00	1.35	11.803	12.98	159.89	0.750	0.000	5.00	11.667	8.75	113.6	0.0	277.6
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	158.00	0.750	0.000	2.00	4.560	3.42	44.5	0.0	108.5
140.00		1.00	1.36	11.894	13.08	155.16	0.750	0.000	3.00	6.725	5.04	66.0	0.0	159.9
145.00		1.00	1.37	11.982	13.18	150.36	0.750	0.000	5.00	10.902	8.18	107.8	0.0	259.2
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	148.43	0.750	0.000	2.00	4.254	3.19	42.2	0.0	101.1
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	145.51	0.750	0.000	3.00	6.266	4.70	62.4	0.0	148.9
								Totals:	**150.00**			**3,875.8**		**25,829.7**

Discrete Appurtenance Forces

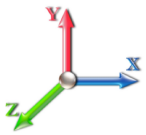
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	150.00	Lightning Rod	1	12.127	13.340	1.00	1.00	1.05	35.00	0.000	3.500	14.01	0.00	49.02
2	147.00	Ericsson 4449 B71 + B85	3	12.017	13.219	0.50	0.75	2.94	225.00	0.000	0.000	38.86	0.00	0.00
3	147.00	Ericsson AIR6449 B41	3	12.017	13.219	0.53	0.75	9.03	309.00	0.000	0.000	119.31	0.00	0.00
4	147.00	RFS	3	12.017	13.219	0.54	0.75	32.79	368.40	0.000	0.000	433.42	0.00	0.00
5	147.00	Ericsson KRY 112 144/1	3	12.017	13.219	0.45	0.75	0.47	33.06	0.000	0.000	6.25	0.00	0.00
6	147.00	Commscope VV-65A-R1	3	12.017	13.219	0.55	0.75	9.72	71.43	0.000	0.000	128.53	0.00	0.00
7	147.00	Platform w/ Hand Rail	1	12.017	13.219	1.00	1.00	40.00	2000.00	0.000	0.000	528.75	0.00	0.00
8	147.00	Tie Back Kit (Commscope	1	12.017	13.219	1.00	1.00	4.17	123.10	0.000	0.000	55.12	0.00	0.00
9	147.00	Rreinforcement Kit	1	12.017	13.219	1.00	1.00	9.50	517.00	0.000	0.000	125.58	0.00	0.00
10	147.00	V-Brace Kit (Sitepro	1	12.017	13.219	1.00	1.00	6.30	642.00	0.000	0.000	83.28	0.00	0.00
11	147.00	Ericsson 4460 B25 + B66	3	12.017	13.219	0.50	0.75	3.23	312.00	0.000	0.000	42.64	0.00	0.00
12	137.00	Rymsa MGD5-800T2	3	11.840	13.024	0.62	0.80	6.29	46.20	0.000	0.000	81.92	0.00	0.00
13	137.00	Antel BXA-70063/6CF	3	11.840	13.024	0.58	0.80	13.10	44.70	0.000	0.000	170.59	0.00	0.00
14	137.00	Antel LPA-80080/4CF	6	11.840	13.024	0.59	0.80	19.18	72.00	0.000	0.000	249.81	0.00	0.00
15	137.00	Cleargain 850/1900 TMA's	2	11.840	13.024	0.48	0.80	0.50	11.00	0.000	0.000	6.50	0.00	0.00
16	137.00	RFS FD9R6004/2C-3L	6	11.840	13.024	0.48	0.80	1.04	18.60	0.000	0.000	13.50	0.00	0.00
17	137.00	Low Profile Platform	1	11.840	13.024	1.00	1.00	22.00	1500.00	0.000	0.000	286.53	0.00	0.00
18	127.00	Platform w/HRK	1	11.653	12.818	1.00	1.00	37.59	1727.00	0.000	0.000	481.82	0.00	0.00
19	127.00	Raycap	1	11.653	12.818	0.50	0.75	1.01	21.85	0.000	0.000	12.95	0.00	0.00
20	127.00	Fujitsu TA08025-B604	3	11.653	12.818	0.50	0.75	2.95	191.79	0.000	0.000	37.87	0.00	0.00
21	127.00	JMA Wireless	3	11.653	12.818	0.55	0.75	20.80	193.50	0.000	0.000	266.56	0.00	0.00
22	127.00	Fujitsu TA08025-B605	3	11.653	12.818	0.50	0.75	2.95	224.85	0.000	0.000	37.87	0.00	0.00
23	117.00	Commscope	3	11.514	12.666	0.60	0.75	22.09	232.20	0.000	3.000	279.74	0.00	839.21
24	117.00	RFS APXVTM14-C-I20	3	11.453	12.598	0.58	0.75	10.98	168.60	0.000	0.000	138.38	0.00	0.00
25	117.00	Sitepro RMQP-496-HK	1	11.453	12.598	1.00	1.00	46.00	2449.00	0.000	0.000	579.53	0.00	0.00
26	117.00	ALU TD-RRH8x20-25	3	11.453	12.598	0.50	0.75	6.11	210.00	0.000	0.000	76.92	0.00	0.00
27	117.00	ALU 800 Mhz	6	11.453	12.598	0.50	0.75	7.51	318.00	0.000	0.000	94.58	0.00	0.00
28	117.00	ALU 1900 Mhz	3	11.453	12.598	0.50	0.75	4.18	180.00	0.000	0.000	52.61	0.00	0.00
29	107.00	Ericsson 8843 B2 B66A	3	11.240	12.364	0.50	0.75	2.49	225.00	0.000	0.000	30.75	0.00	0.00
30	107.00	Raycap	1	11.240	12.364	0.50	0.75	2.40	16.00	0.000	0.000	29.70	0.00	0.00
31	107.00	Site Pro HRK14	1	11.240	12.364	1.00	1.00	8.13	302.36	0.000	0.000	100.52	0.00	0.00
32	107.00	Ericsson RRUS 4478 B14	3	11.240	12.364	0.50	0.75	2.77	179.70	0.000	0.000	34.29	0.00	0.00
33	107.00	Ericsson 4449 B5/B12	3	11.240	12.364	0.50	0.75	2.49	210.00	0.000	0.000	30.75	0.00	0.00
34	107.00	Low Profile Platform	1	11.240	12.364	1.00	1.00	22.00	1500.00	0.000	0.000	272.00	0.00	0.00
35	107.00	Cci DMP65R-BU8DA	6	11.240	12.364	0.75	0.75	60.70	234.00	0.000	0.000	750.54	0.00	0.00
36	107.00	Raycap DC6-48-60-18-8F	1	11.240	12.364	0.50	0.75	0.46	31.80	0.000	0.000	5.72	0.00	0.00
37	107.00	Powerwave 7770	3	11.240	12.364	0.55	0.75	9.03	105.00	0.000	0.000	111.69	0.00	0.00
38	107.00	Powerwave/LGP21401	6	11.240	12.364	0.45	0.75	0.73	33.00	0.000	0.000	9.01	0.00	0.00
							Totals:		**15,082.14**			**5,818.39**		

Total Applied Force Summary

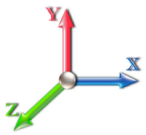
Structure:	CT01210-S-SBA		**Code:**	TIA-222-G	2/24/2022
Site Name:	North Stonington		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	B - Competent Rock	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 30

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		129.24	1434.55	0.00	0.00
10.00		126.89	1565.33	0.00	0.00
15.00		124.55	1540.91	0.00	0.00
20.00		129.66	1516.49	0.00	0.00
25.00		133.28	1492.06	0.00	0.00
30.00		135.79	1467.64	0.00	0.00
35.00		137.46	1443.21	0.00	0.00
40.00		138.50	1418.79	0.00	0.00
45.00		139.02	1394.37	0.00	0.00
46.67		46.04	459.36	0.00	0.00
50.00		94.37	1571.28	0.00	0.00
53.00		84.82	1396.75	0.00	0.00
55.00		56.37	490.21	0.00	0.00
60.00		141.34	1210.55	0.00	0.00
65.00		140.55	1189.18	0.00	0.00
70.00		139.51	1167.81	0.00	0.00
75.00		138.26	1146.44	0.00	0.00
80.00		136.82	1125.07	0.00	0.00
85.00		135.20	1103.70	0.00	0.00
90.00		133.42	1082.33	0.00	0.00
94.25		111.80	903.18	0.00	0.00
95.00		19.75	264.38	0.00	0.00
96.38		36.26	484.58	0.00	0.00
99.67		85.89	1144.27	0.00	0.00
100.00		8.63	63.88	0.00	0.00
102.13		55.04	407.09	0.00	0.00
105.00		73.58	545.45	0.00	0.00
107.00	(28) attachments	1425.76	3214.88	0.00	0.00
110.00		75.56	452.06	0.00	0.00
115.00		124.24	515.17	0.00	0.00
117.00	(19) attachments	1270.62	3760.88	0.00	839.21
120.00		72.60	289.96	0.00	0.00
125.00		119.11	425.78	0.00	0.00
127.00	(11) attachments	883.85	2526.74	0.00	0.00
130.00		69.40	243.41	0.00	0.00
135.00		113.61	398.36	0.00	0.00
137.00	(21) attachments	853.39	1849.28	0.00	0.00
140.00		65.99	194.98	0.00	0.00
145.00		107.77	317.64	0.00	0.00
147.00	(22) attachments	1603.91	4725.48	0.00	0.00
150.00	(1) attachments	76.39	183.95	0.00	49.02
	Totals:	**9,694.21**	**48,127.43**	**0.00**	**888.23**

Linear Appurtenance Segment Forces (Factored)

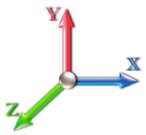
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
95.00	6"x1" Link Plate	Yes	0.75	0.000	1.00	0.06	0.00	0.029	0.000	10.962	0.00	45.95
96.38	6"x1" Link Plate	Yes	1.38	0.000	1.00	0.11	0.00	0.029	0.000	10.995	0.00	84.54
99.67	6"x1" Link Plate	Yes	3.29	0.000	1.00	0.27	0.00	0.030	0.000	11.073	0.00	201.34
100.00	6"x1" Link Plate	Yes	0.33	0.000	1.00	0.03	0.00	0.029	0.000	11.081	0.00	20.42
102.13	6"x1" Link Plate	Yes	2.13	0.000	1.00	0.18	0.00	0.030	0.000	11.130	0.00	130.48
105.00	6"x1" Link Plate	Yes	2.87	0.000	1.00	0.24	0.00	0.030	0.000	11.195	0.00	175.82
107.00	6"x1" Link Plate	Yes	2.00	0.000	1.00	0.17	0.00	0.030	0.000	11.240	0.00	122.52
110.00	6"x1" Link Plate	Yes	2.25	0.000	1.00	0.19	0.00	0.023	0.000	11.305	0.00	137.84
										Totals:	**0.0**	**918.9**

Calculated Forces

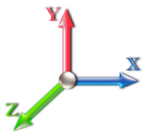
Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-48.12	-9.72	0.00	-1074.3	0.00	1074.38	5817.07	2908.54	11858.0	5886.84	0.00	0.000	0.000	0.191
5.00	-46.68	-9.64	0.00	-1025.7	0.00	1025.78	5739.57	2869.78	11485.2	5701.74	0.03	-0.061	0.000	0.188
10.00	-45.10	-9.56	0.00	-977.58	0.00	977.58	5652.47	2826.24	11099.3	5510.17	0.13	-0.123	0.000	0.185
15.00	-43.55	-9.48	0.00	-929.79	0.00	929.79	5545.82	2772.91	10682.2	5303.14	0.29	-0.185	0.000	0.183
20.00	-42.02	-9.39	0.00	-882.40	0.00	882.40	5439.17	2719.58	10273.2	5100.07	0.52	-0.247	0.000	0.181
25.00	-40.52	-9.29	0.00	-835.46	0.00	835.46	5332.51	2666.26	9872.18	4900.97	0.81	-0.310	0.000	0.178
30.00	-39.05	-9.19	0.00	-789.01	0.00	789.01	5225.86	2612.93	9479.11	4705.83	1.17	-0.373	0.000	0.175
35.00	-37.59	-9.08	0.00	-743.05	0.00	743.05	5119.21	2559.60	9094.03	4514.66	1.59	-0.436	0.000	0.172
40.00	-36.17	-8.97	0.00	-697.64	0.00	697.64	5012.56	2506.28	8716.92	4327.45	2.08	-0.499	0.000	0.168
45.00	-34.77	-8.85	0.00	-652.77	0.00	652.77	4905.90	2452.95	8347.81	4144.20	2.64	-0.562	0.000	0.165
46.67	-34.30	-8.82	0.00	-638.02	0.00	638.02	4870.35	2435.18	8226.55	4084.00	2.84	-0.583	0.000	0.163
50.00	-32.73	-8.73	0.00	-608.64	0.00	608.64	4799.25	2399.63	7986.68	3964.92	3.26	-0.626	0.000	0.160
53.00	-31.33	-8.64	0.00	-582.45	0.00	582.45	4240.56	2120.28	7137.82	3543.51	3.67	-0.664	0.000	0.172
55.00	-30.83	-8.61	0.00	-565.17	0.00	565.17	4203.23	2101.62	7012.05	3481.07	3.95	-0.689	0.000	0.170
60.00	-29.61	-8.48	0.00	-522.13	0.00	522.13	4109.91	2054.96	6702.51	3327.41	4.71	-0.755	0.000	0.164
65.00	-28.42	-8.36	0.00	-479.71	0.00	479.71	4016.59	2008.29	6399.97	3177.21	5.53	-0.820	0.000	0.158
70.00	-27.24	-8.23	0.00	-437.91	0.00	437.91	3923.27	1961.63	6104.41	3030.48	6.43	-0.883	0.000	0.151
75.00	-26.09	-8.10	0.00	-396.75	0.00	396.75	3829.95	1914.97	5815.84	2887.23	7.39	-0.946	0.000	0.144
80.00	-24.96	-7.97	0.00	-356.24	0.00	356.24	3736.63	1868.31	5534.25	2747.44	8.41	-1.006	0.000	0.136
85.00	-23.85	-7.84	0.00	-316.37	0.00	316.37	3643.31	1821.65	5259.66	2611.12	9.49	-1.064	0.000	0.128
90.00	-22.76	-7.71	0.00	-277.16	0.00	277.16	3549.99	1774.99	4992.05	2478.26	10.64	-1.119	0.000	0.118
94.25	-21.86	-7.59	0.00	-244.40	0.00	244.40	3470.66	1735.33	4770.08	2368.07	11.65	-1.164	0.000	0.110
95.00	-21.59	-7.57	0.00	-238.71	0.00	238.71	3456.66	1728.33	4731.43	2348.88	11.84	-1.171	0.000	0.108
96.38	-21.11	-7.53	0.00	-228.27	0.00	228.27	3430.91	1715.45	4660.73	2313.78	12.18	-1.185	0.000	0.076
99.67	-19.96	-7.42	0.00	-203.53	0.00	203.53	1458.24	729.12	1997.89	991.83	13.00	-1.208	0.000	0.084
100.00	-19.90	-7.42	0.00	-201.06	0.00	201.06	1456.89	728.44	1992.39	989.11	13.09	-1.211	0.000	0.126
102.13	-19.49	-7.36	0.00	-185.26	0.00	185.26	1448.11	724.06	1957.30	971.68	13.63	-1.232	0.000	0.118
102.13	-19.49	-7.36	0.00	-185.26	0.00	185.26	1448.11	724.06	1957.30	971.68	13.63	-1.232	0.000	0.118
105.00	-18.94	-7.29	0.00	-164.13	0.00	164.13	1435.99	717.99	1910.05	948.23	14.38	-1.259	0.000	0.186
107.00	-15.76	-5.80	0.00	-149.56	0.00	149.56	1427.33	713.67	1877.17	931.90	14.92	-1.289	0.000	0.172
110.00	-15.30	-5.73	0.00	-132.17	0.00	132.17	1414.04	707.02	1827.92	907.46	15.74	-1.331	0.000	0.157
115.00	-14.78	-5.60	0.00	-103.54	0.00	103.54	1391.05	695.52	1746.12	866.85	17.17	-1.393	0.000	0.130
117.00	-11.05	-4.24	0.00	-91.50	0.00	91.50	1381.56	690.78	1713.52	850.66	17.76	-1.416	0.000	0.116
120.00	-10.76	-4.17	0.00	-78.77	0.00	78.77	1367.01	683.50	1664.77	826.46	18.66	-1.446	0.000	0.103
120.00	-10.76	-4.17	0.00	-78.77	0.00	78.77	1091.99	545.99	1332.66	661.59	18.66	-1.446	0.000	0.129
125.00	-10.34	-4.05	0.00	-57.92	0.00	57.92	1075.35	537.67	1272.10	631.52	20.20	-1.489	0.000	0.101
127.00	-7.83	-3.10	0.00	-49.83	0.00	49.83	1068.40	534.20	1247.88	619.50	20.82	-1.507	0.000	0.088
130.00	-7.59	-3.03	0.00	-40.53	0.00	40.53	1057.66	528.83	1211.58	601.48	21.78	-1.529	0.000	0.075
135.00	-7.19	-2.90	0.00	-25.40	0.00	25.40	1038.92	519.46	1151.22	571.51	23.40	-1.558	0.000	0.051
137.00	-5.37	-2.00	0.00	-19.59	0.00	19.59	1031.13	515.57	1127.15	559.57	24.05	-1.567	0.000	0.040
140.00	-5.18	-1.93	0.00	-13.58	0.00	13.58	1019.14	509.57	1091.15	541.69	25.04	-1.577	0.000	0.030
145.00	-4.86	-1.82	0.00	-3.92	0.00	3.92	998.31	499.16	1031.47	512.07	26.70	-1.587	0.000	0.013
147.00	-0.18	-0.08	0.00	-0.29	0.00	0.29	989.69	494.84	1007.74	500.29	27.36	-1.588	0.000	0.001
150.00	0.00	-0.08	0.00	-0.05	0.00	0.05	976.44	488.22	972.32	482.70	28.36	-1.588	0.000	0.000

Final Analysis Summary

Structure:	CT01210-S-SBA	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 33	

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 105 mph Wind	47.7	0.00	57.62	0.00	0.00	5296.92
0.9D + 1.6W 105 mph Wind	47.6	0.00	43.19	0.00	0.00	5227.70
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.5	0.00	87.18	0.00	0.00	1318.31
1.2D + 1.0E	1.2	0.00	57.75	0.00	0.00	138.41
0.9D + 1.0E	1.2	0.00	43.31	0.00	0.00	136.45
1.0D + 1.0W 60 mph Wind	9.7	0.00	48.12	0.00	0.00	1074.38

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 105 mph Wind	-57.62	-47.66	0.00	-5296.9	0.00	-5296.9	5817.07	2908.5	11858.0	5886.84	0.00	0.910
0.9D + 1.6W 105 mph Wind	-43.19	-47.62	0.00	-5227.7	0.00	-5227.7	5817.07	2908.5	11858.0	5886.84	0.00	0.896
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-87.18	-11.52	0.00	-1318.3	0.00	-1318.3	5817.07	2908.5	11858.0	5886.84	0.00	0.239
1.2D + 1.0E	-22.92	-0.89	0.00	-33.46	0.00	-33.46	1435.99	717.99	1910.05	948.23	105.00	0.051
0.9D + 1.0E	-17.19	-0.87	0.00	-32.93	0.00	-32.93	1435.99	717.99	1910.05	948.23	105.00	0.047
1.0D + 1.0W 60 mph Wind	-48.12	-9.72	0.00	-1074.3	0.00	-1074.3	5817.07	2908.5	11858.0	5886.84	0.00	0.191

Additional Steel Summary

			Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
96.4	102.1	(3) LNP-LP6X100-G-10TT	668.9	16.05	25.3	157.9	25.3	7	9	202.0	25.3	8	9	215.30	297.8	288.75	0.746

Base Plate Summary

Structure:	CT01210-S-SB	**Code:**	TIA-222-G	2/24/2022	
Site Name:	North Stonington	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	B - Competent Rock		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Reactions

Original Design

Moment (kip-ft):	4272.00
Axial (kip):	55.10
Shear (kip):	28.10

Analysis (1.2D + 1.6W)

Moment (kip-ft):	5296.92
Axial (kip):	57.62
Shear (kip):	47.66

Base Plate

Yield (ksi):	60.00
Width (in):	64.26
Style:	Polygon
Polygon Sides:	16.00
Clip Length (in):	0.00
Effective Len (in):	12.35
Moment (kip-in):	919.19
Allow Stress (ksi):	81.00
Applied Stress (ksi):	59.13
Stress Ratio:	0.73

Anchor Bolts

Bolt Circle:	58.26
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):	222.56
Allowable (kip):	260.00
Ratio:	0.87

Tension

Force (kip):	213.85
Allowable (kip):	260.00
Ratio:	0.84

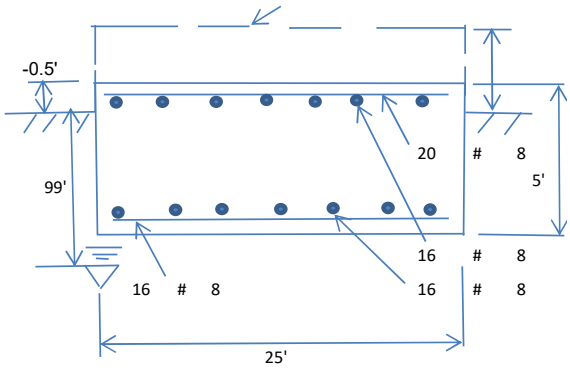
Monopole Mat Foundation Design

				Date
				2/4/2022
Customer Name:	SBA Comumunication Corp	**EIA/TIA Standard:**	EIA-222-G
Site Name:	North Stonington	**Structure Height (Ft.):**	150
Site Number:	CT01210-S-SBA	**Engineer Name:**	W. Velez
Engr. Number:	123611	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

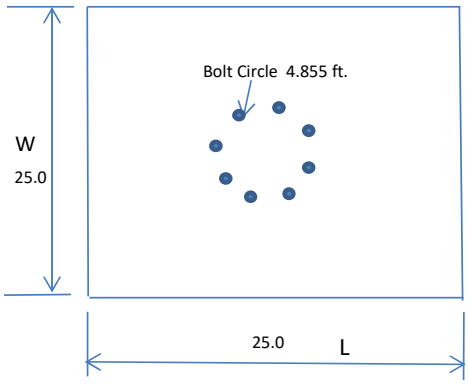


Base Reactions (Factored):

Axial Load (Kips):	57.6	Shear Force (Kips):	47.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5296.9
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Anchor Bolt Circle (ft.):	4.86	Depth of Base BG (ft.):	5.50
Thickness of Pad (ft):	5.00		
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0



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):	20	Qty. of Rebar in Pad (W):	20	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	16	Qty. of Rebar in Pad (W):	16	
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):	18000	Ultimate Skin Friction:		Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	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.):	301.24	Total Dry Soil Weight (Kips):	30.12
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	30.12	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3125.00	Total Dry Concrete Weight (Kips):	468.75
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	468.75	Total Vertical Load on Base (Kips):	556.49

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	4426	<	Allowable Factored Soil Bearing (psf): 13500	0.33	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6332.6	>	Design Factored Momont (kips-ft): 5429	0.86	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.17	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):	1392.6	>	One-Way Factored Shear (L-D. Kips):	305.0	0.22	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1392.6	>	One-Way Factored Shear (W-D., Kips):	305.0	0.22	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1671.1	>	One-Way Factored Shear (C-C, Kips):	743.1	0.44	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0009	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0009		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3973.1	>	Moment at Bottom (L-Direct. K-Ft):	780.0	0.20	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3973.1	>	Moment at Bottom (W-Direct. K-Ft):	780.0	0.20	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	5607.7	>	Moment at Bottom (C-C Dir. K-Ft):	1103.1	0.20	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):	3185.5	>	Moment at the top (L-Dir Kips-Ft):	316.3	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3185.5	>	Moment at the top (W-Dir Kips-Ft):	316.3	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4497.9	>	Moment at the top (C-C Direc. K-Ft):	771.7	0.17	OK!

Exhibit E

Mount Analysis

Mount Structural Analysis

SBA Site:	**N. Stonington / RT. 2**
T-Mobile Site Number:	**CT11312A**
Project:	Anchor
Prepared For:	T-Mobile
Mount Description:	Modified Platform w/ Handrails
Site Location:	267 Norwich Westerly Road North Stonington, CT 06359 New London County 41.437114°, -71.881467°
Design Codes:	ANSI/TIA-222-G 2015 IBC w/ 2018 Connecticut State Building Code
Analysis Load Case:	T-Mobile Final Configuration
Analysis Result:	**adequate @ 78.9% Capacity** **See Conclusion & Recommendations for installation requirements.**

Date Signed:
1/17/2022

Revision 0
January 17, 2022

GeoStructural ▪ P.O. Box 2621, Boise, ID 83701 ▪ Office: (530) 539-4787
Professional Engineers | Tower Technicians | Climbers | sUAS Mapping

1.0 Introduction

GeoStructural LLC has completed a structural analysis for the existing T-Mobile mount assembly with previously specified modification located at the *CT11312A communications site* in New London County, CT considering the final appurtenance loading configurations listed in Section 3.0.

2.0 Analysis Procedure & Design Criteria

An elastic three-dimensional model of the structure has been analyzed pursuant to the following criteria:

- Connecticut State Building Code
- 2015 IBC – International Building Code w/ 2018 CSBC
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- ASCE 7-10 – Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 135 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 105 mph (3-sec gust Equivalent per TIA-222-G Code) Wind w/ ice = 50 mph (3-sec gust Basic) with 1" Design Ice (Escalated with Height) [1]
Topographic Category 1; Exposure Category C Structure Class (Risk Category) II; Ground Elevation = 174 ft (NAVD 88) Gust Effect Factor = 1.0; Directionality Factor = 0.95;
Seismic Design Parameters: Site Class D "Stiff Soil"; S_s = 0.162, S_1 = 0.058, S_{DS} = 0.173
Maintenance Loads[2]: L_m = 500 lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed) L_v = 250 lb @ Worst Case Member Location (Center Span or Cantilever)
1. Ice loading has been ignored with Design Ice Thickness ≤ 0.25". *2. The face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading unless noted otherwise.*

GeoStructural has not conducted a site visit or independent study to verify existing structural conditions and the results of this analysis are based solely on the information provided. The following documents were obtained and/or provided:

- CDs Site #: CT11312A, Chappell Engineering Ass., Rev 0 Dated 05/13/19
- Previous MA Site #: CT11312A, GeoStructural Site.# CT11312A, Dated 06/13/2019
- RFDS Site #: CT11312A, ID:CT11312A Rev. 6,Dated 11/12/21
- Photos Site #: CT11312A, SBA Site Photos

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not accurately represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 - Final T-Mobile Appurtenance Configuration[1]

COR	(Quantity) Appurtenance Make/Model	Mount Description
147'±	(3) ERICSSON AIR6449 B41	*Modified Platform w/ Handrails*
	(3) RFS APXVAALL24_43-U-NA20	
	(3) Commscope VV-65A-R1	
	(3) RRH 4449 B71+B85	
	(3) RRH 4460 B25+B66	

1. *Refer to antenna installation Construction Drawings (when applicable) for additional information regarding final antenna and equipment orientations.*
2. *All RRH units must be installed on the back-to-back pipe mount assemblies installed on the platform standoff members in order for this analysis to be valid.*

4.0 Structural Analysis Results

Table 4.1 – Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final T-Mobile Configuration	Horizontal Boom	78.9%	adequate
	Handrail	37.6%	
	Standoff	39.6%	
	Mount Pipe	58.3%	
	Connection	59.8%	

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.2. 105% is an acceptable allowable stress percentage for mount components. Refer to Section 7.0 for additional member usage capacities.*

Table 4.2 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material[1]
Pipe	F_y = 35 ksi (A53, Gr. B)
Tube	F_y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate & Bar	F_y = 36 ksi (A36)
Uni-Strut (P1000, etc.)	F_y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F_y = 57 ksi (Yield) & F_u = 74 ksi (Tension)
	SAE J429 Grade 5 (¼" to 1" Nominal ϕ) F_y = 92 ksi (Yield) & F_u = 120 ksi (Tension)
Welds	E70XX Electrodes

1. *Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.*

5.0 Conclusion & Recommendations

Based on T-Mobile's final equipment loading configuration, the mount assembly will have sufficient capacity to support the loading considered with the modification already successfully installed per GeoStructurals Mount Modification design, dated 06/19/2019.

Antennas shall be installed centered vertically on the mount main front boom rial (limit vertical installation eccentricity). All RRH units must be installed on the back-to-back pipe mount assemblies installed on the platform standoff members for this analysis to be valid. If this assumption is incorrect, the results of this analysis will be inaccurate and may result in a failing mount condition.

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

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Reviewed and Approved by:

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6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.

- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.

- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.

- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.

- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.

- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.

- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.

- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Attachments, Calculations & Software Output

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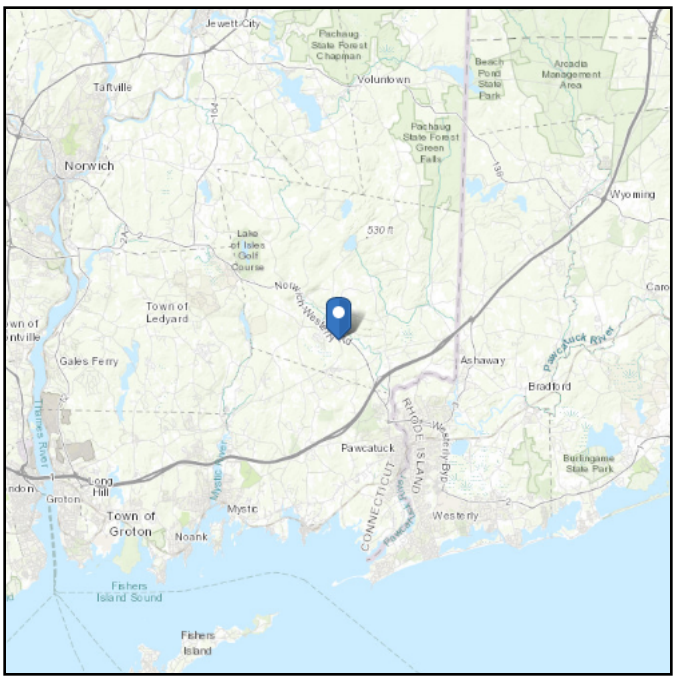
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 174.73 ft (NAVD 88)
Latitude: 41.437114
Longitude: -71.881467



Wind

Results:

Wind Speed	135 Vmph
10-year MRI	80 Vmph
25-year MRI	90 Vmph
50-year MRI	100 Vmph
100-year MRI	110 Vmph

Data Accessed: Mon Jan 17 2022

Date Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

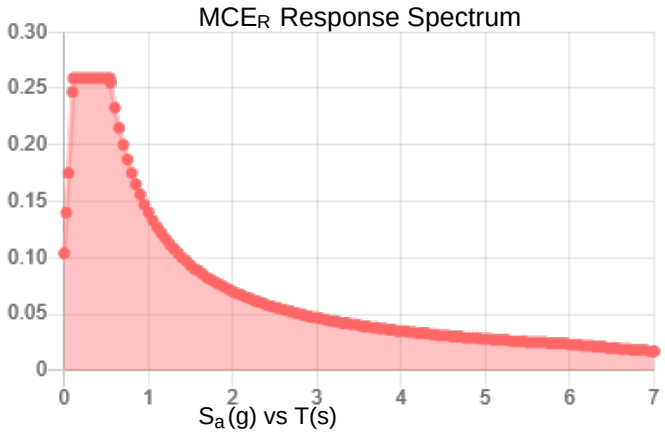
Seismic

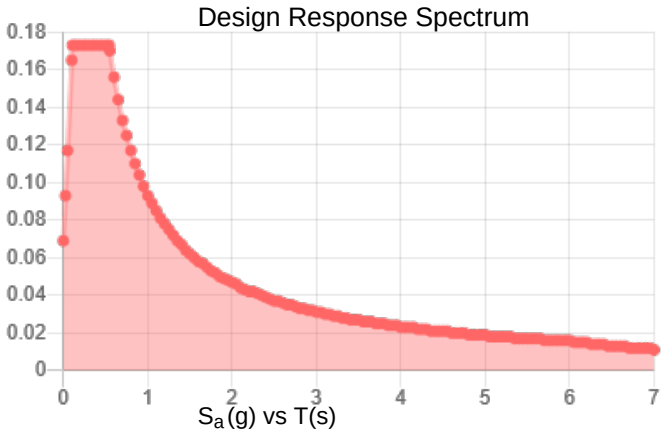
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.162	S_{DS} :	0.173
S_1 :	0.058	S_{D1} :	0.093
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.081
S_{MS} :	0.259	PGA_M :	0.129
S_{M1} :	0.14	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: **Mon Jan 17 2022**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Mon Jan 17 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Design Wind Force on Appurtenances

ANSI/TIA-222-G & IBC 2015

Wind Design Parmeters:

V_{basic} =	105	mph	*Basic Ult Wind (§2.6.4)*	C	*Exposure Category (§2.6.5.1.2)*		
V_{ice} =	50	mph	*Basic Wind w/ ice (§2.6.4)*	1	*Topographic Category (§2.6.6.2.1)*		
t_{ice} =	1	inch	*Ice Thickness (§2.6.10)*	II	*Risk Category (§2, Table 2-1)*		
K_a =	0.9			30	*mph*	Service Wind Speed	
K_d =	0.95						
G_h =	1						

q_z =	37	psf	*Wind Load without Ice*	t_{ice} =	0	inch
q_z =	8	psf	*Wind Load with Ice*	t_{ice} =	2.32	inch

z =	147.0	ft	*COR (Height above ground level at the base of structure)*
H =	0	ft	*Height of crest above surrounding terrain (Topo Categories 2, 3 & 4)*
z_s =	174	ft	*Mean elevation of base of structure above sea level*

Seismic Design Parmeters:

Site Class:	D	**Occupancy Cat:**	II	**Seismic Design Cat:**	B	z =	147
						h =	147

Amp. Factor, ap: 1 Response Factor, Rp: 2.5

S_{DS} = 0.1728 S_{D1} = 0.093

(ASCE 7-05 13.3-3)	$F_{p,\min} = 0.3 S_{DS} I_p W_p$	= 0.05184	w_p	
(ASCE 7-05 13.3-1)	$F_p = \frac{0.4 a_p S_{DS} W_p}{\left(\frac{R_p}{I_p}\right)}\left(1+2\frac{z}{h}\right)$	= 0.082944	w_p	Use F_p = 0.083 Wp
(ASCE 7-05 13.3-2)	$F_{p,\max} = 1.6 S_{DS} I_p W_p$	= 0.27648	w_p	

Importance Factor (§2, Table 2-3):

I =	1.00	*Wind Load without Ice*
I =	1.00	*Wind Load with Ice*
I =	1.00	*Ice Thickness*
I =	1.00	*Earthquake*

Appurtenances

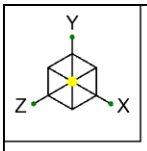
Ericsson	AIR6449 B41			
	FFRONT	FSIDE	WT	E
No Ice	187.0	79.5	103.0	8.5
2.32 inch Ice	59.3	32.1	169.7	

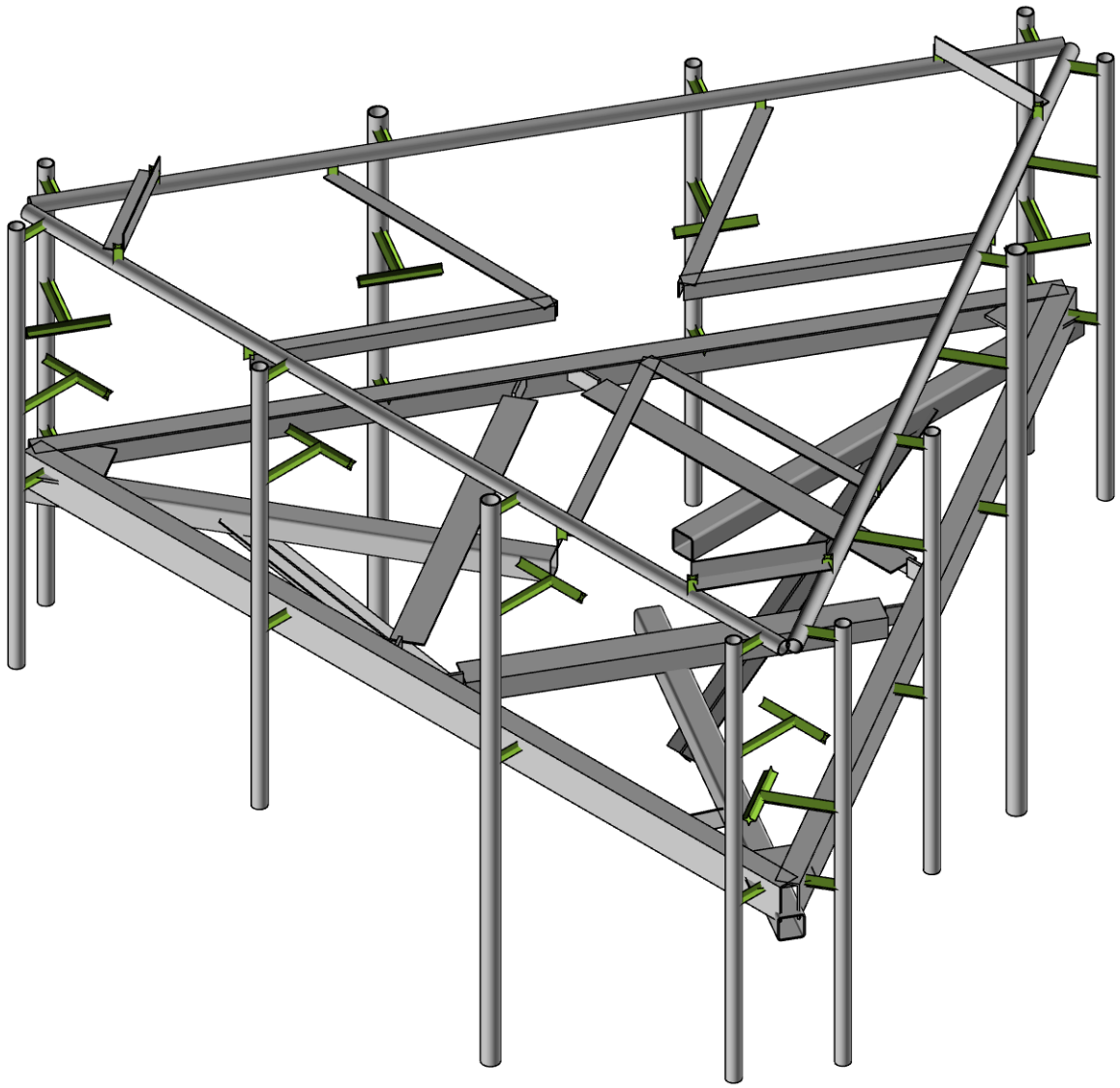
RFS	APXVAALL24_43-U-NA20			
	FFRONT	FSIDE	WT	E
No Ice	666.3	292.6	128.0	10.6
2.32 inch Ice	189.0	106.7	503.4	

ANDREW/COMMSCOPE	VV-65A-R1			
	FFRONT	FSIDE	WT	E
No Ice	195.1	89.9	27.0	2.2
2.32 inch Ice	66.4	44.4	145.9	

RRH	ERICSSON 4449 B71 B85			
	FFRONT	FSIDE	WT	E
No Ice	64.8	46.4	75.0	6.2
2.32 inch Ice	25.0	19.8	79.8	

RRH	Ericsson 4460 B25+B66			
	FFRONT	FSIDE	WT	E
No Ice	84.4	65.0	110.0	9.1
2.32 inch Ice	30.7	25.2	110.6	





Envelope Only Solution

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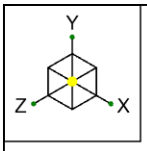
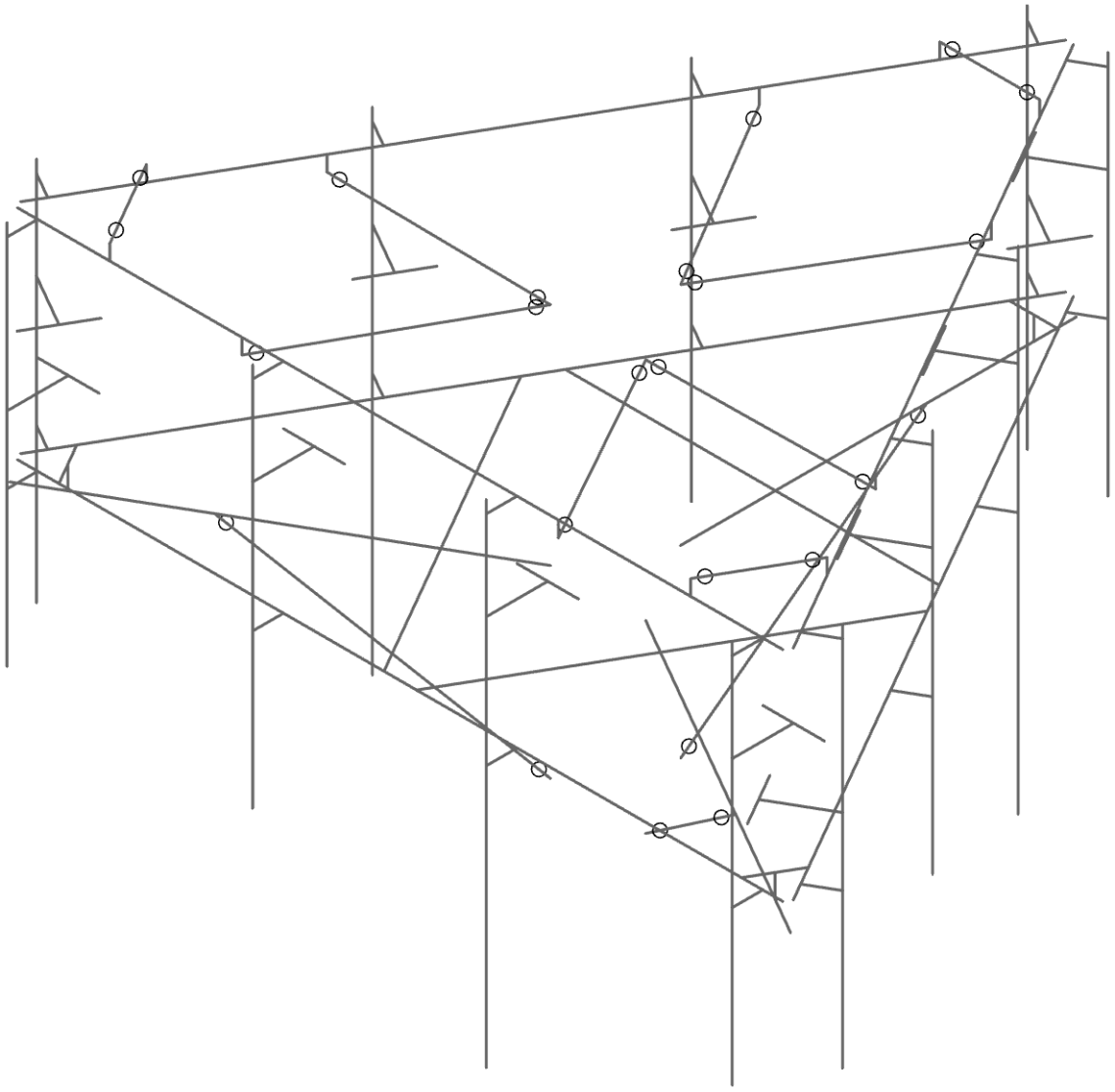
Fathullah Zamani		Jan 17, 2022
CT11312A		CT11312A_Mount Analysis_R0 22…





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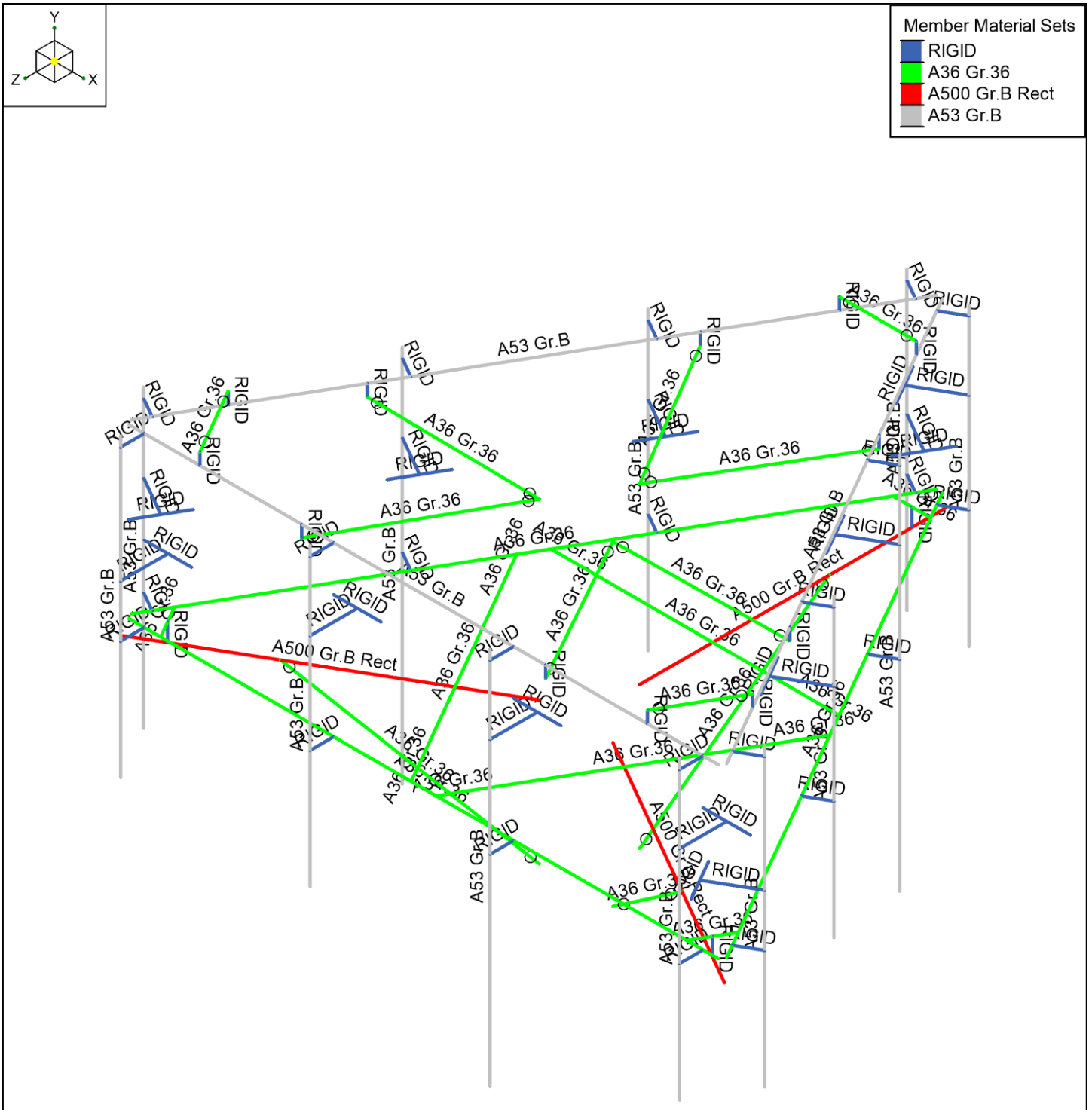

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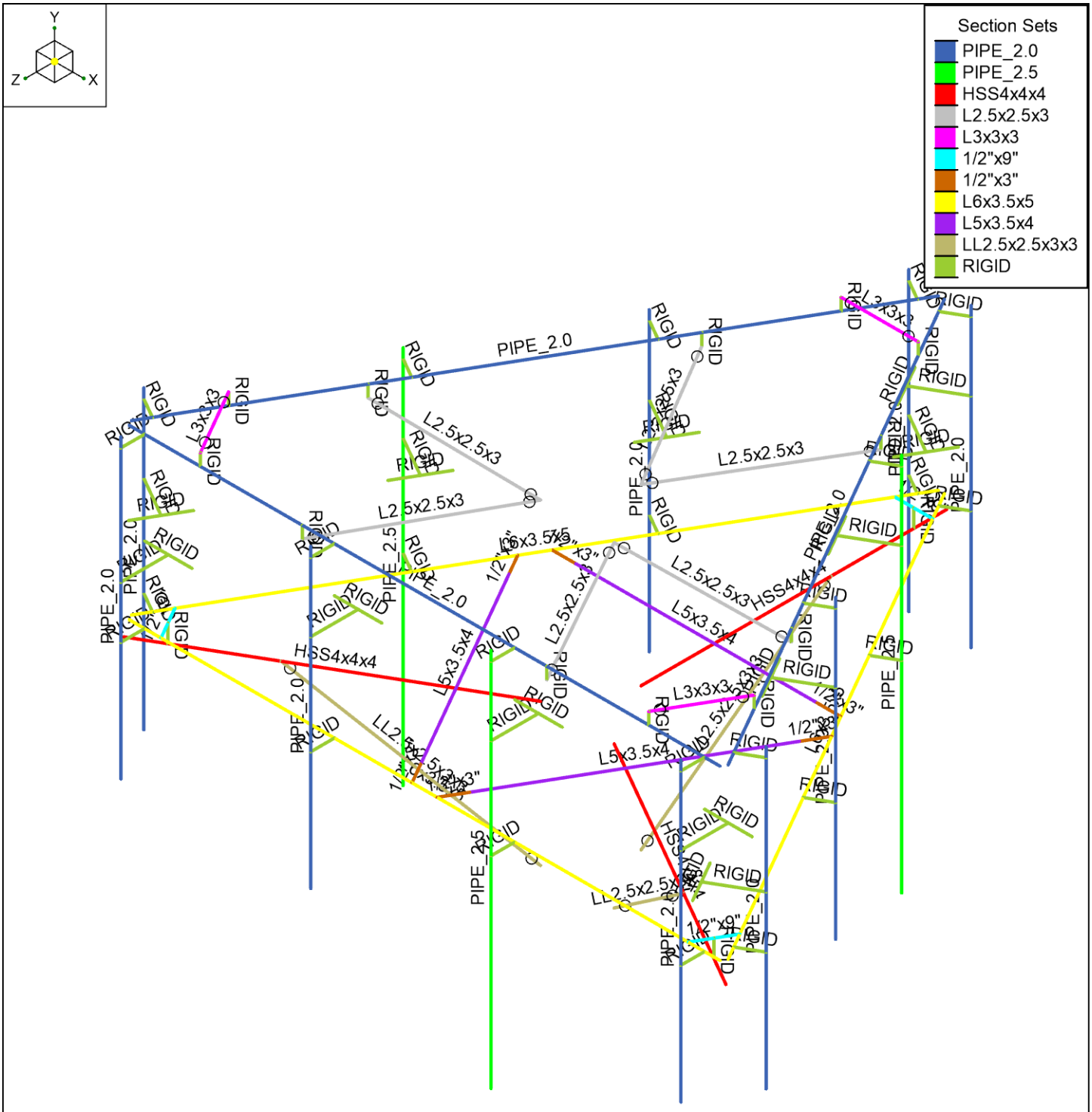

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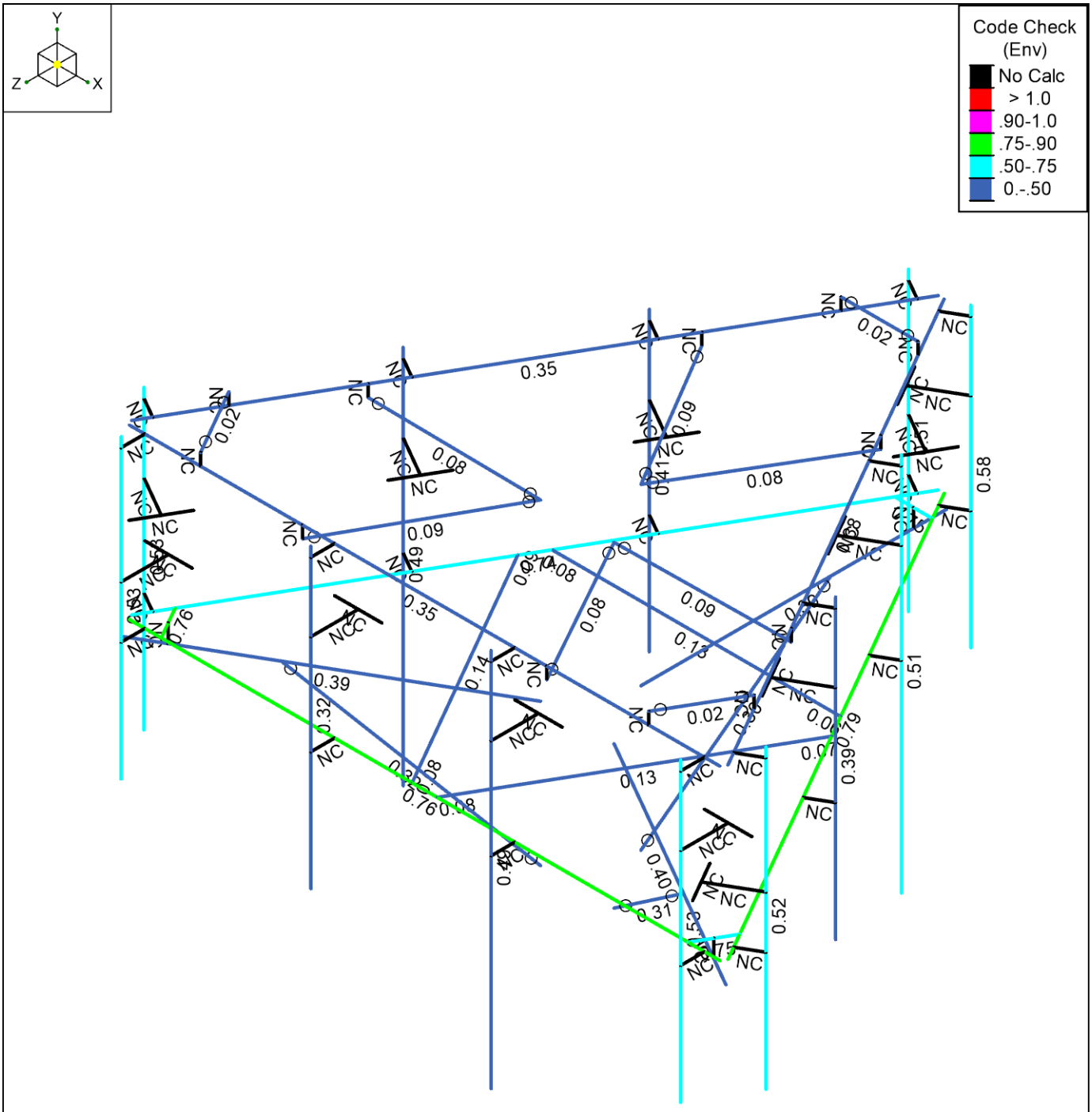

Member Code Checks Displayed (Enveloped)
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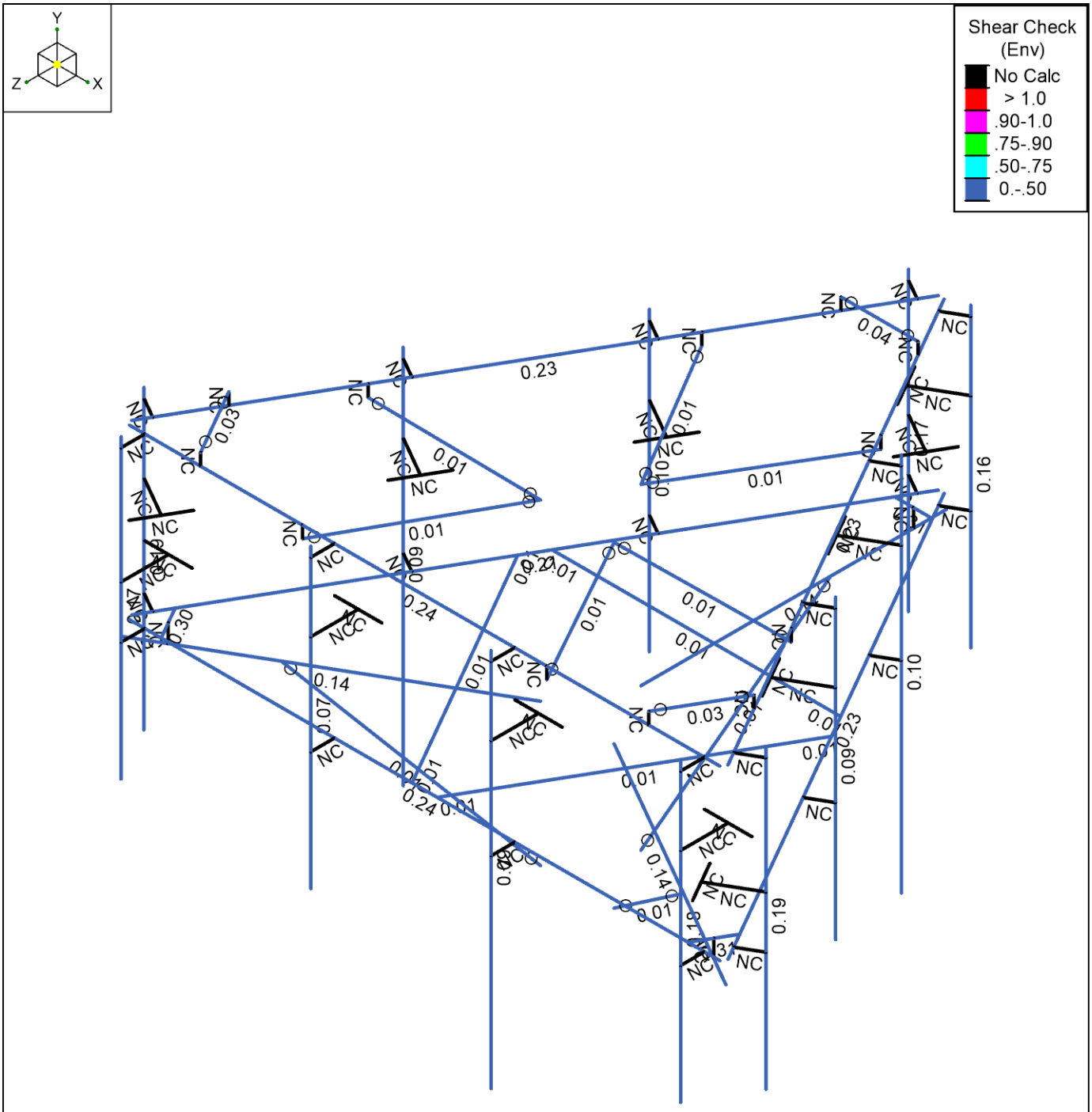

Member Shear Checks Displayed (Enveloped)
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CT11312A		CT11312A_Mount Analysis_R0 …

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Distributed	Area(Member)
1	Self Weight	DL		-1.1		24		
2	Wind Load AZI 000	WLZ				24	45	
3	Wind Load AZI 090	WLX				24	45	
4	Ice Weight	OL1				24	46	3
5	Wind + Ice Load AZI 000	OL2				24	45	
6	Wind + Ice Load AZI 090	OL3				24	45	
7	Service Lm1	LL				3		
8	Service Lm2	OL4				3		
9	Service Lm3	OL5				3		
10	Service Lm4	OL6				3		
11	Service Lv 1	OL8				3		
12	Service Lv 2	OL9				3		
13	Service Lv 3	OL10				3		
14	Seismic Load AZI 000	ELZ			-0.08	24		
15	Seismic Load AZI 090	ELX	-0.08			24		
16	BLC 4 Transient Area Loads	None					66	

Load Combination Design

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1.0D		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1.6SLL		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1.6RLL		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	0.6W AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	0.6W AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	0.6W AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	0.6W AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	0.6W AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	0.6W AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	0.6W AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	0.6W AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	0.6W AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	0.6W AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	0.6W AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	0.6W AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	0.7E AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	0.7E AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	0.7E AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	0.7E AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	0.7E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	0.7E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	0.7E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	0.7E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	0.7E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	0.7E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	0.7E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	0.7E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	1D + 0.6W AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	1D + 0.6W AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	1D + 0.6W AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	1D + 0.6W AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	1D + 0.6W AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	1D + 0.6W AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	1D + 0.6W AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	1D + 0.6W AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
36	1D + 0.6W AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	1D + 0.6W AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	1D + 0.6W AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	1D + 0.6W AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	0.6D + 0.6W AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	0.6D + 0.6W AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	0.6D + 0.6W AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	0.6D + 0.6W AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	0.6D + 0.6W AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	0.6D + 0.6W AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	0.6D + 0.6W AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	0.6D + 0.6W AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	0.6D + 0.6W AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	0.6D + 0.6W AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	0.6D + 0.6W AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	0.6D + 0.6W AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	1D + 1Di		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	1D + 1Di + 1Wi AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	1D + 1Di + 1Wi AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	1D + 1Di + 1Wi AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	1D + 1Di + 1Wi AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	1D + 1Di + 1Wi AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	1D + 1Di + 1Wi AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	1D + 1Di + 1Wi AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	1D + 1Di + 1Wi AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	1D + 1Di + 1Wi AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	1D + 1Di + 1Wi AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	1D + 1Di + 1Wi AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	1D + 1Di + 1Wi AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	1D + 1.5LM1 + 0.082WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	1D + 1.5LM1 + 0.082WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	1D + 1.5LM1 + 0.082WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	1D + 1.5LM1 + 0.082WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	1D + 1.5LM1 + 0.082WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	1D + 1.5LM1 + 0.082WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	1D + 1.5LM1 + 0.082WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	1D + 1.5LM1 + 0.082WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	1D + 1.5LM1 + 0.082WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	1D + 1.5LM1 + 0.082WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
75	1D + 1.5LM1 + 0.082WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
76	1D + 1.5LM1 + 0.082WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
77	1D + 1.5LM2 + 0.082WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
78	1D + 1.5LM2 + 0.082WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
79	1D + 1.5LM2 + 0.082WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
80	1D + 1.5LM2 + 0.082WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
81	1D + 1.5LM2 + 0.082WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
82	1D + 1.5LM2 + 0.082WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
83	1D + 1.5LM2 + 0.082WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
84	1D + 1.5LM2 + 0.082WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
85	1D + 1.5LM2 + 0.082WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
86	1D + 1.5LM2 + 0.082WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
87	1D + 1.5LM2 + 0.082WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
88	1D + 1.5LM2 + 0.082WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
89	1D + 1.5LM3 + 0.082WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
90	1D + 1.5LM3 + 0.082WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
91	1D + 1.5LM3 + 0.082WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
92	1D + 1.5LM3 + 0.082WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
93	1D + 1.5LM3 + 0.082WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
94	1D + 1.5LM3 + 0.082WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
95	1D + 1.5LM3 + 0.082WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
96	1D + 1.5LM3 + 0.082WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
97	1D + 1.5LM3 + 0.082WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
98	1D + 1.5LM3 + 0.082WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
99	1D + 1.5LM3 + 0.082WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
100	1D + 1.5LM3 + 0.082WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
101	1D + 1.5LM4 + 0.082WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
102	1D + 1.5LM4 + 0.082WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
103	1D + 1.5LM4 + 0.082WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
104	1D + 1.5LM4 + 0.082WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
105	1D + 1.5LM4 + 0.082WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
106	1D + 1.5LM4 + 0.082WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
107	1D + 1.5LM4 + 0.082WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
108	1D + 1.5LM4 + 0.082WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
109	1D + 1.5LM4 + 0.082WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
110	1D + 1.5LM4 + 0.082WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
111	1D + 1.5LM4 + 0.082WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
112	1D + 1.5LM4 + 0.082WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
113	1D + 1.5Lv1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
114	1D + 1.5Lv2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
115	1D + 1.5Lv3		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
116	(1.0+0.14Sds)D + 0.7E AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
117	(1.0+0.14Sds)D + 0.7E AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
118	(1.0+0.14Sds)D + 0.7E AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
119	(1.0+0.14Sds)D + 0.7E AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
120	(1.0+0.14Sds)D + 0.7E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
121	(1.0+0.14Sds)D + 0.7E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
122	(1.0+0.14Sds)D + 0.7E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
123	(1.0+0.14Sds)D + 0.7E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
124	(1.0+0.14Sds)D + 0.7E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
125	(1.0+0.14Sds)D + 0.7E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
126	(1.0+0.14Sds)D + 0.7E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
127	(1.0+0.14Sds)D + 0.7E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
128	(0.6-0.14Sds)D + 0.7E AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
129	(0.6-0.14Sds)D + 0.7E AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
130	(0.6-0.14Sds)D + 0.7E AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
131	(0.6-0.14Sds)D + 0.7E AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
132	(0.6-0.14Sds)D + 0.7E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
133	(0.6-0.14Sds)D + 0.7E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
134	(0.6-0.14Sds)D + 0.7E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
135	(0.6-0.14Sds)D + 0.7E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
136	(0.6-0.14Sds)D + 0.7E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
137	(0.6-0.14Sds)D + 0.7E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
138	(0.6-0.14Sds)D + 0.7E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
139	(0.6-0.14Sds)D + 0.7E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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

Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	PIPE_1.5	PIPE_1.5	Beam	None	A53 Gr.B	Typical	0.749	0.293	0.293	0.586
2	PIPE_2.0	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	PIPE_2.5	PIPE_2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE_3.0	PIPE_3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE_3.5	PIPE_3.5	Beam	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE_4.0	PIPE_4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE_2.0X	PIPE_2.0X	Beam	None	A53 Gr.B	Typical	1.4	0.827	0.827	1.65
8	HSS2x2x3	HSS2X2X3	Beam	None	A500 Gr.B Rect	Typical	1.19	0.641	0.641	1.09
9	HSS3x3x3	HSS3X3X3	Beam	None	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03
10	HSS4x4x3	HSS4X4X3	Beam	None	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4X4X4	Beam	None	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5X5X4	Beam	None	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3X3.5	Beam	None	A36 Gr.36	Typical	1.09	0.169	1.57	0.023
14	C4x4.5	C4X4.5_HRA	Beam	None	A36 Gr.36	Typical	1.38	0.289	3.65	0.032
15	C5x6.7	C5X6.7	Beam	None	A36 Gr.36	Typical	1.97	0.47	7.48	0.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	0.901	0.535	0.535	0.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
18	L3x3x3	L3X3X3	Beam	None	A36 Gr.36	Typical	1.09	0.948	0.948	0.014
19	L3x3x4	L3X3X4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
20	L3x3x6	L3X3X6	Beam	None	A36 Gr.36	Typical	2.11	1.75	1.75	0.101
21	L4x4x4	L4X4X4	Beam	None	A36 Gr.36	Typical	1.93	3	3	0.044
22	LL3x3x4x0	LL3x3x4x0	Beam	None	A36 Gr.36	Typical	2.88	4.5	2.46	0.063
23	1/2"x6"	1/2"x6"	Beam	None	A36 Gr.36	Typical	3	0.063	9	0.237
24	1/2"x9"	1/2"x9"	Beam	None	A36 Gr.36	Typical	4.5	0.094	30.375	0.362
25	1/2"x3"	1/2"x3"	Beam	None	A36 Gr.36	Typical	1.5	0.031	1.125	0.112
26	L6x3.5x5	L6X3.5X5	Beam	None	A36 Gr.36	Typical	2.89	2.84	10.9	0.099
27	L5x3.5x4	L5X3.5X4	Beam	None	A36 Gr.36	Typical	2.07	2.2	5.36	0.046
28	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	0.023

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M54	N117	N118		RIGID	None	None	RIGID	DR1
2	M37	N74	N73		RIGID	None	None	RIGID	DR1
3	M83	N169	N163		RIGID	None	None	RIGID	DR1
4	M39	N79	N80		RIGID	None	None	RIGID	DR1
5	M40	N81	N82		RIGID	None	None	RIGID	DR1
6	M41	N84	N83		RIGID	None	None	RIGID	DR1
7	M82	N168	N162		RIGID	None	None	RIGID	DR1
8	M43	N89	N90		RIGID	None	None	RIGID	DR1
9	M44	N91	N92		RIGID	None	None	RIGID	DR1
10	M45	N94	N93		RIGID	None	None	RIGID	DR1
11	M81	N167	N161		RIGID	None	None	RIGID	DR1
12	M47	N99	N100		RIGID	None	None	RIGID	DR1
13	M48	N101	N102		RIGID	None	None	RIGID	DR1
14	M49	N104	N103		RIGID	None	None	RIGID	DR1
15	M80	N166	N160		RIGID	None	None	RIGID	DR1
16	M36	N71	N72		RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
17	M51	N109	N110		RIGID	None	None	RIGID	DR1
18	M53	N114	N113		RIGID	None	None	RIGID	DR1
19	M79	N165	N159		RIGID	None	None	RIGID	DR1
20	M78	N164	N158		RIGID	None	None	RIGID	DR1
21	M77	N142	N152		RIGID	None	None	RIGID	DR1
22	M76	N143	N153		RIGID	None	None	RIGID	DR1
23	M58	N125	N126		RIGID	None	None	RIGID	DR1
24	M59	N127	N128		RIGID	None	None	RIGID	DR1
25	M60	N129	N130		RIGID	None	None	RIGID	DR1
26	M61	N131	N132		RIGID	None	None	RIGID	DR1
27	M62	N133	N134		RIGID	None	None	RIGID	DR1
28	M63	N135	N136		RIGID	None	None	RIGID	DR1
29	M64	N137	N138		RIGID	None	None	RIGID	DR1
30	M75	N140	N150		RIGID	None	None	RIGID	DR1
31	M74	N141	N151		RIGID	None	None	RIGID	DR1
32	M52	N111	N112		RIGID	None	None	RIGID	DR1
33	M35	N69	N70		RIGID	None	None	RIGID	DR1
34	M72	N139	N149		RIGID	None	None	RIGID	DR1
35	M33	N64	N63		RIGID	None	None	RIGID	DR1
36	M7	N17	N18		RIGID	None	None	RIGID	DR1
37	M8	N20	N19		RIGID	None	None	RIGID	DR1
38	M102	N206	N207		RIGID	None	None	RIGID	DR1
39	M10	N23	N24		RIGID	None	None	RIGID	DR1
40	M105	N214	N215		RIGID	None	None	RIGID	DR1
41	M12	N27	N28		RIGID	None	None	RIGID	DR1
42	M100	N201	N200		RIGID	None	None	RIGID	DR1
43	M14	N31	N32		RIGID	None	None	RIGID	DR1
44	M99	N198	N199		RIGID	None	None	RIGID	DR1
45	M98	N196	N197		RIGID	None	None	RIGID	DR1
46	M73	N144	N154		RIGID	None	None	RIGID	DR1
47	M96	N192	N193		RIGID	None	None	RIGID	DR1
48	M103	N208	N209		RIGID	None	None	RIGID	DR1
49	M95	N190	N191		RIGID	None	None	RIGID	DR1
50	M93	N184	N185		RIGID	None	None	RIGID	DR1
51	M92	N182	N183		RIGID	None	None	RIGID	DR1
52	M106	N216	N217		RIGID	None	None	RIGID	DR1
53	M90	N177	N176		RIGID	None	None	RIGID	DR1
54	M89	N174	N175		RIGID	None	None	RIGID	DR1
55	M2	N3	N4		RIGID	None	None	RIGID	DR1
56	M27	N49	N50		RIGID	None	None	RIGID	DR1
57	M28	N51	N52		RIGID	None	None	RIGID	DR1
58	M29	N54	N53		RIGID	None	None	RIGID	DR1
59	M88	N172	N173		RIGID	None	None	RIGID	DR1
60	M31	N59	N60		RIGID	None	None	RIGID	DR1
61	M32	N61	N62		RIGID	None	None	RIGID	DR1
62	M94	N187	N186		RIGID	None	None	RIGID	DR1
63	M104	N211	N210		RIGID	None	None	RIGID	DR1
64	M97	N194	N195	180	PIPE_2.5	Beam	None	A53 Gr.B	Typical
65	M26	N47	N48	180	PIPE_2.5	Beam	None	A53 Gr.B	Typical
66	M87	N170	N171	180	PIPE_2.5	Beam	None	A53 Gr.B	Typical
67	M91	N180	N181	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
68	M101	N204	N205	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
69	M1	N1	N2	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
70	M30	N57	N58	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
71	M34	N67	N68	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
72	M57	N122	N124	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
73	M56	N121	N123	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
74	M55	N120	N119	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
75	M50	N107	N108	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
76	M46	N97	N98	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
77	M42	N87	N88	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
78	M38	N77	N78	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
79	M108	N219	N148		LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
80	M65	N146	N145		LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
81	M107	N218	N147		LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
82	M23	N40	N39	180	L6x3.5x5	Beam	None	A36 Gr.36	Typical
83	M24	N41	N43	180	L6x3.5x5	Beam	None	A36 Gr.36	Typical
84	M25	N42	N44	180	L6x3.5x5	Beam	None	A36 Gr.36	Typical
85	M5	N33	N34	90	L5x3.5x4	Beam	None	A36 Gr.36	Typical
86	M17	N35	N36	90	L5x3.5x4	Beam	None	A36 Gr.36	Typical
87	M20	N37	N38	90	L5x3.5x4	Beam	None	A36 Gr.36	Typical
88	M85	N165	N166		L3x3x3	Beam	None	A36 Gr.36	Typical
89	M86	N167	N168		L3x3x3	Beam	None	A36 Gr.36	Typical
90	M84	N169	N164		L3x3x3	Beam	None	A36 Gr.36	Typical
91	M70	N152	N155	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
92	M68	N150	N157	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
93	M69	N151	N157	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
94	M67	N149	N156	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
95	M66	N154	N156	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
96	M71	N153	N155	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
97	M3	N7	N8	90	HSS4x4x4	Beam	None	A500 Gr.B Rect	Typical
98	M4	N11	N12	90	HSS4x4x4	Beam	None	A500 Gr.B Rect	Typical
99	M6	N15	N16	90	HSS4x4x4	Beam	None	A500 Gr.B Rect	Typical
100	M13	N29	N30	90	1/2"x9"	Beam	None	A36 Gr.36	Typical
101	M11	N25	N26	90	1/2"x9"	Beam	None	A36 Gr.36	Typical
102	M9	N21	N22	90	1/2"x9"	Beam	None	A36 Gr.36	Typical
103	M22	N10	N37		1/2"x3"	Beam	None	A36 Gr.36	Typical
104	M16	N13	N33		1/2"x3"	Beam	None	A36 Gr.36	Typical
105	M19	N5	N35		1/2"x3"	Beam	None	A36 Gr.36	Typical
106	M21	N9	N38		1/2"x3"	Beam	None	A36 Gr.36	Typical
107	M15	N14	N34		1/2"x3"	Beam	None	A36 Gr.36	Typical
108	M18	N6	N36		1/2"x3"	Beam	None	A36 Gr.36	Typical

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	N7	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N11	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N15	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N145	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N146						
6	N147	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N148	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N155	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
9	N156	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
10	N157	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
11	N218						
12	N219						

Node Loads and Enforced Displacements (BLC 1 : Self Weight)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	Y	-0.052
2	N46	L	Y	-0.052
3	N55	L	Y	-0.064
4	N56	L	Y	-0.064
5	N65	L	Y	-0.014
6	N66	L	Y	-0.014
7	N53	L	Y	-0.075
8	N64	L	Y	-0.11
9	N105	L	Y	-0.052
10	N106	L	Y	-0.052
11	N202	L	Y	-0.064
12	N203	L	Y	-0.064
13	N115	L	Y	-0.014
14	N116	L	Y	-0.014
15	N200	L	Y	-0.075
16	N152	L	Y	-0.11
17	N85	L	Y	-0.015
18	N86	L	Y	-0.015
19	N178	L	Y	0
20	N179	L	Y	0
21	N95	L	Y	0
22	N96	L	Y	0
23	N176	L	Y	-0.064
24	N94	L	Y	0

Node Loads and Enforced Displacements (BLC 2 : Wind Load AZI 000)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	Z	-0.094
2	N46	L	Z	-0.094
3	N55	L	Z	-0.333
4	N56	L	Z	-0.333
5	N65	L	Z	-0.098
6	N66	L	Z	-0.098
7	N53	L	Z	-0.065
8	N64	L	Z	-0.084
9	N105	L	Z	-0.04
10	N106	L	Z	-0.04
11	N202	L	Z	-0.146
12	N203	L	Z	-0.146
13	N115	L	Z	-0.045
14	N116	L	Z	-0.045
15	N200	L	Z	-0.046
16	N152	L	Z	-0.065
17	N85	L	Z	-0.04
18	N86	L	Z	-0.04
19	N178	L	Z	-0.146
20	N179	L	Z	-0.146
21	N95	L	Z	-0.045
22	N96	L	Z	-0.045
23	N176	L	Z	-0.046
24	N94	L	Z	-0.065

Node Loads and Enforced Displacements (BLC 3 : Wind Load AZI 090)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	X	-0.04
2	N46	L	X	-0.04
3	N55	L	X	-0.146
4	N56	L	X	-0.146
5	N65	L	X	-0.045
6	N66	L	X	-0.045
7	N53	L	X	-0.046
8	N64	L	X	-0.065
9	N105	L	X	-0.094
10	N106	L	X	-0.094
11	N202	L	X	-0.333
12	N203	L	X	-0.333
13	N115	L	X	-0.098
14	N116	L	X	-0.098
15	N200	L	X	-0.065
16	N152	L	X	-0.084
17	N85	L	X	-0.094
18	N86	L	X	-0.094
19	N178	L	X	-0.333
20	N179	L	X	-0.333
21	N95	L	X	-0.098
22	N96	L	X	-0.098
23	N176	L	X	-0.065
24	N94	L	X	-0.084

Node Loads and Enforced Displacements (BLC 4 : Ice Weight)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	Y	-0.085
2	N46	L	Y	-0.085
3	N55	L	Y	-0.252
4	N56	L	Y	-0.252
5	N65	L	Y	-0.073
6	N66	L	Y	-0.073
7	N53	L	Y	-0.08
8	N64	L	Y	-0.111
9	N105	L	Y	-0.085
10	N106	L	Y	-0.085
11	N202	L	Y	-0.252
12	N203	L	Y	-0.252
13	N115	L	Y	-0.073
14	N116	L	Y	-0.073
15	N200	L	Y	-0.08
16	N152	L	Y	-0.111
17	N85	L	Y	-0.085
18	N86	L	Y	-0.085
19	N178	L	Y	-0.252
20	N179	L	Y	-0.252
21	N95	L	Y	-0.073
22	N96	L	Y	-0.073
23	N176	L	Y	-0.08
24	N94	L	Y	-0.111

Node Loads and Enforced Displacements (BLC 5 : Wind + Ice Load AZI 000)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	Z	-0.03
2	N46	L	Z	-0.03
3	N55	L	Z	-0.095
4	N56	L	Z	-0.095
5	N65	L	Z	-0.033
6	N66	L	Z	-0.033
7	N53	L	Z	-0.025
8	N64	L	Z	-0.031
9	N105	L	Z	-0.016
10	N106	L	Z	-0.016
11	N202	L	Z	-0.053
12	N203	L	Z	-0.053
13	N115	L	Z	-0.022
14	N116	L	Z	-0.022
15	N200	L	Z	-0.02
16	N152	L	Z	-0.025
17	N85	L	Z	-0.016
18	N86	L	Z	-0.016
19	N178	L	Z	-0.053
20	N179	L	Z	-0.053
21	N95	L	Z	-0.022
22	N96	L	Z	-0.022
23	N176	L	Z	-0.02
24	N94	L	Z	-0.025

Node Loads and Enforced Displacements (BLC 6 : Wind + Ice Load AZI 090)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	X	-0.016
2	N46	L	X	-0.016
3	N55	L	X	-0.053
4	N56	L	X	-0.053
5	N65	L	X	-0.022
6	N66	L	X	-0.022
7	N53	L	X	-0.02
8	N64	L	X	-0.025
9	N105	L	X	-0.03
10	N106	L	X	-0.03
11	N202	L	X	-0.095
12	N203	L	X	-0.095
13	N115	L	X	-0.033
14	N116	L	X	-0.033
15	N200	L	X	-0.025
16	N152	L	X	-0.031
17	N85	L	X	-0.03
18	N86	L	X	-0.03
19	N178	L	X	-0.095
20	N179	L	X	-0.095
21	N95	L	X	-0.033
22	N96	L	X	-0.033
23	N176	L	X	-0.025
24	N94	L	X	-0.031

Node Loads and Enforced Displacements (BLC 7 : Service Lm1)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N118	L	Y	-0.5
2	N136	L	Y	-0.5
3	N132	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 8 : Service Lm2)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N126	L	Y	-0.5
2	N215	L	Y	-0.5
3	N191	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 9 : Service Lm3)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N130	L	Y	-0.5
2	N217	L	Y	-0.5
3	N193	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 10 : Service Lm4)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N128	L	Y	-0.5
2	N138	L	Y	-0.5
3	N134	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 11 : Service Lv 1)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N39	L	Y	-0.25
2	N44	L	Y	-0.25
3	N43	L	Y	-0.25

Node Loads and Enforced Displacements (BLC 12 : Service Lv 2)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N5	L	Y	-0.25
2	N13	L	Y	-0.25
3	N10	L	Y	-0.25

Node Loads and Enforced Displacements (BLC 13 : Service Lv 3)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N40	L	Y	-0.25
2	N42	L	Y	-0.25
3	N41	L	Y	-0.25

Node Loads and Enforced Displacements (BLC 14 : Seismic Load AZI 000)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	Z	-0.004
2	N46	L	Z	-0.004
3	N55	L	Z	-0.005

Node Loads and Enforced Displacements (BLC 14 : Seismic Load AZI 000) (Continued)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
4	N56	L	Z	-0.005
5	N65	L	Z	-0.001
6	N66	L	Z	-0.001
7	N53	L	Z	-0.006
8	N64	L	Z	-0.009
9	N105	L	Z	-0.004
10	N106	L	Z	-0.004
11	N202	L	Z	-0.005
12	N203	L	Z	-0.005
13	N115	L	Z	-0.001
14	N116	L	Z	-0.001
15	N200	L	Z	-0.006
16	N152	L	Z	-0.009
17	N85	L	Z	-0.004
18	N86	L	Z	-0.004
19	N178	L	Z	-0.005
20	N179	L	Z	-0.005
21	N95	L	Z	-0.001
22	N96	L	Z	-0.001
23	N176	L	Z	-0.006
24	N94	L	Z	-0.009

Node Loads and Enforced Displacements (BLC 15 : Seismic Load AZI 090)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	N45	L	X	-0.004
2	N46	L	X	-0.004
3	N55	L	X	-0.005
4	N56	L	X	-0.005
5	N65	L	X	-0.001
6	N66	L	X	-0.001
7	N53	L	X	-0.006
8	N64	L	X	-0.009
9	N105	L	X	-0.004
10	N106	L	X	-0.004
11	N202	L	X	-0.005
12	N203	L	X	-0.005
13	N115	L	X	-0.001
14	N116	L	X	-0.001
15	N200	L	X	-0.006
16	N152	L	X	-0.009
17	N85	L	X	-0.004
18	N86	L	X	-0.004
19	N178	L	X	-0.005
20	N179	L	X	-0.005
21	N95	L	X	-0.001
22	N96	L	X	-0.001
23	N176	L	X	-0.006
24	N94	L	X	-0.009

Member Distributed Loads (BLC 2 : Wind Load AZI 000)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M97	SZ	-0.351	-0.351	0	%100
2	M26	SZ	-0.351	-0.351	0	%100

Member Distributed Loads (BLC 2 : Wind Load AZI 000) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
3	M87	SZ	-0.351	-0.351	0	%100
4	M91	SZ	-0.274	-0.274	0	%100
5	M101	SZ	-0.274	-0.274	0	%100
6	M1	SZ	-0.274	-0.274	0	%100
7	M30	SZ	-0.274	-0.274	0	%100
8	M34	SZ	-0.274	-0.274	0	%100
9	M57	SZ	-0.546	-0.546	0	%100
10	M56	SZ	-0.546	-0.546	0	%100
11	M55	SZ	-0.546	-0.546	0	%100
12	M50	SZ	-0.274	-0.274	0	%100
13	M46	SZ	-0.274	-0.274	0	%100
14	M42	SZ	-0.274	-0.274	0	%100
15	M38	SZ	-0.274	-0.274	0	%100
16	M108	SZ	-0.000366	-0.000366	0	%100
17	M65	SZ	-0.000366	-0.000366	0	%100
18	M107	SZ	-0.000366	-0.000366	0	%100
19	M23	SZ	-0.00091	-0.00091	0	%100
20	M24	SZ	-0.00091	-0.00091	0	%100
21	M25	SZ	-0.00091	-0.00091	0	%100
22	M5	SZ	-0.000372	-0.000372	0	%100
23	M17	SZ	-0.000372	-0.000372	0	%100
24	M20	SZ	-0.000372	-0.000372	0	%100
25	M85	SZ	-0.000119	-0.000119	0	%100
26	M86	SZ	-0.000119	-0.000119	0	%100
27	M84	SZ	-0.000119	-0.000119	0	%100
28	M70	SZ	-0.00027	-0.00027	0	%100
29	M68	SZ	-0.00027	-0.00027	0	%100
30	M69	SZ	-0.00027	-0.00027	0	%100
31	M67	SZ	-0.00027	-0.00027	0	%100
32	M66	SZ	-0.00027	-0.00027	0	%100
33	M71	SZ	-0.00027	-0.00027	0	%100
34	M3	SZ	-0.000471	-0.000471	0	%100
35	M4	SZ	-0.000471	-0.000471	0	%100
36	M6	SZ	-0.000471	-0.000471	0	%100
37	M13	SZ	-5.8e-05	-5.8e-05	0	%100
38	M11	SZ	-5.8e-05	-5.8e-05	0	%100
39	M9	SZ	-5.8e-05	-5.8e-05	0	%100
40	M22	SZ	-3.7e-05	-3.7e-05	0	%100
41	M16	SZ	-3.7e-05	-3.7e-05	0	%100
42	M19	SZ	-3.7e-05	-3.7e-05	0	%100
43	M21	SZ	-3.7e-05	-3.7e-05	0	%100
44	M15	SZ	-3.7e-05	-3.7e-05	0	%100
45	M18	SZ	-3.7e-05	-3.7e-05	0	%100

Member Distributed Loads (BLC 3 : Wind Load AZI 090)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M97	SX	-0.351	-0.351	0	%100
2	M26	SX	-0.351	-0.351	0	%100
3	M87	SX	-0.351	-0.351	0	%100
4	M91	SX	-0.274	-0.274	0	%100
5	M101	SX	-0.274	-0.274	0	%100
6	M1	SX	-0.274	-0.274	0	%100
7	M30	SX	-0.274	-0.274	0	%100
8	M34	SX	-0.274	-0.274	0	%100
9	M57	SX	-0.546	-0.546	0	%100

Member Distributed Loads (BLC 3 : Wind Load AZI 090) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
10	M56	SX	-0.546	-0.546	0	%100
11	M55	SX	-0.546	-0.546	0	%100
12	M50	SX	-0.274	-0.274	0	%100
13	M46	SX	-0.274	-0.274	0	%100
14	M42	SX	-0.274	-0.274	0	%100
15	M38	SX	-0.274	-0.274	0	%100
16	M108	SX	-0.000366	-0.000366	0	%100
17	M65	SX	-0.000366	-0.000366	0	%100
18	M107	SX	-0.000366	-0.000366	0	%100
19	M23	SX	-0.00091	-0.00091	0	%100
20	M24	SX	-0.00091	-0.00091	0	%100
21	M25	SX	-0.00091	-0.00091	0	%100
22	M5	SX	-0.000372	-0.000372	0	%100
23	M17	SX	-0.000372	-0.000372	0	%100
24	M20	SX	-0.000372	-0.000372	0	%100
25	M85	SX	-0.000119	-0.000119	0	%100
26	M86	SX	-0.000119	-0.000119	0	%100
27	M84	SX	-0.000119	-0.000119	0	%100
28	M70	SX	-0.00027	-0.00027	0	%100
29	M68	SX	-0.00027	-0.00027	0	%100
30	M69	SX	-0.00027	-0.00027	0	%100
31	M67	SX	-0.00027	-0.00027	0	%100
32	M66	SX	-0.00027	-0.00027	0	%100
33	M71	SX	-0.00027	-0.00027	0	%100
34	M3	SX	-0.000471	-0.000471	0	%100
35	M4	SX	-0.000471	-0.000471	0	%100
36	M6	SX	-0.000471	-0.000471	0	%100
37	M13	SX	-5.8e-05	-5.8e-05	0	%100
38	M11	SX	-5.8e-05	-5.8e-05	0	%100
39	M9	SX	-5.8e-05	-5.8e-05	0	%100
40	M22	SX	-3.7e-05	-3.7e-05	0	%100
41	M16	SX	-3.7e-05	-3.7e-05	0	%100
42	M19	SX	-3.7e-05	-3.7e-05	0	%100
43	M21	SX	-3.7e-05	-3.7e-05	0	%100
44	M15	SX	-3.7e-05	-3.7e-05	0	%100
45	M18	SX	-3.7e-05	-3.7e-05	0	%100

Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M97	Y	-0.015	-0.015	0	%100
2	M26	Y	-0.015	-0.015	0	%100
3	M87	Y	-0.015	-0.015	0	%100
4	M91	Y	-0.013	-0.013	0	%100
5	M101	Y	-0.013	-0.013	0	%100
6	M1	Y	-0.013	-0.013	0	%100
7	M30	Y	-0.013	-0.013	0	%100
8	M34	Y	-0.013	-0.013	0	%100
9	M57	Y	-0.013	-0.013	0	%100
10	M56	Y	-0.013	-0.013	0	%100
11	M55	Y	-0.013	-0.013	0	%100
12	M50	Y	-0.013	-0.013	0	%100
13	M46	Y	-0.013	-0.013	0	%100
14	M42	Y	-0.013	-0.013	0	%100
15	M38	Y	-0.013	-0.013	0	%100
16	M108	Y	-0.026	-0.026	0	%100

Member Distributed Loads (BLC 4 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
17	M65	Y	-0.026	-0.026	0	%100
18	M107	Y	-0.026	-0.026	0	%100
19	M23	Y	-0.03	-0.03	0	%100
20	M24	Y	-0.03	-0.03	0	%100
21	M25	Y	-0.03	-0.03	0	%100
22	M5	Y	-0.026	-0.026	0	%100
23	M17	Y	-0.026	-0.026	0	%100
24	M20	Y	-0.026	-0.026	0	%100
25	M85	Y	-0.026	-0.026	0	%100
26	M86	Y	-0.026	-0.026	0	%100
27	M84	Y	-0.026	-0.026	0	%100
28	M70	Y	-0.017	-0.017	0	%100
29	M68	Y	-0.017	-0.017	0	%100
30	M69	Y	-0.017	-0.017	0	%100
31	M67	Y	-0.017	-0.017	0	%100
32	M66	Y	-0.017	-0.017	0	%100
33	M71	Y	-0.017	-0.017	0	%100
34	M3	Y	-0.023	-0.023	0	%100
35	M4	Y	-0.023	-0.023	0	%100
36	M6	Y	-0.023	-0.023	0	%100
37	M13	Y	-0.041	-0.041	0	%100
38	M11	Y	-0.041	-0.041	0	%100
39	M9	Y	-0.041	-0.041	0	%100
40	M22	Y	-0.019	-0.019	0	%100
41	M16	Y	-0.019	-0.019	0	%100
42	M19	Y	-0.019	-0.019	0	%100
43	M21	Y	-0.019	-0.019	0	%100
44	M15	Y	-0.019	-0.019	0	%100
45	M18	Y	-0.019	-0.019	0	%100
46	M54	Y	-0.013	-0.013	0	%100

Member Distributed Loads (BLC 5 : Wind + Ice Load AZI 000)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M97	SZ	-0.08	-0.08	0	%100
2	M26	SZ	-0.08	-0.08	0	%100
3	M87	SZ	-0.08	-0.08	0	%100
4	M91	SZ	-0.062	-0.062	0	%100
5	M101	SZ	-0.062	-0.062	0	%100
6	M1	SZ	-0.062	-0.062	0	%100
7	M30	SZ	-0.062	-0.062	0	%100
8	M34	SZ	-0.062	-0.062	0	%100
9	M57	SZ	-0.124	-0.124	0	%100
10	M56	SZ	-0.124	-0.124	0	%100
11	M55	SZ	-0.124	-0.124	0	%100
12	M50	SZ	-0.062	-0.062	0	%100
13	M46	SZ	-0.062	-0.062	0	%100
14	M42	SZ	-0.062	-0.062	0	%100
15	M38	SZ	-0.062	-0.062	0	%100
16	M108	SZ	-8.3e-05	-8.3e-05	0	%100
17	M65	SZ	-8.3e-05	-8.3e-05	0	%100
18	M107	SZ	-8.3e-05	-8.3e-05	0	%100
19	M23	SZ	-0.000206	-0.000206	0	%100
20	M24	SZ	-0.000206	-0.000206	0	%100
21	M25	SZ	-0.000206	-0.000206	0	%100
22	M5	SZ	-8.4e-05	-8.4e-05	0	%100

Member Distributed Loads (BLC 5 : Wind + Ice Load AZI 000) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
23	M17	SZ	-8.4e-05	-8.4e-05	0	%100
24	M20	SZ	-8.4e-05	-8.4e-05	0	%100
25	M85	SZ	-2.7e-05	-2.7e-05	0	%100
26	M86	SZ	-2.7e-05	-2.7e-05	0	%100
27	M84	SZ	-2.7e-05	-2.7e-05	0	%100
28	M70	SZ	-6.1e-05	-6.1e-05	0	%100
29	M68	SZ	-6.1e-05	-6.1e-05	0	%100
30	M69	SZ	-6.1e-05	-6.1e-05	0	%100
31	M67	SZ	-6.1e-05	-6.1e-05	0	%100
32	M66	SZ	-6.1e-05	-6.1e-05	0	%100
33	M71	SZ	-6.1e-05	-6.1e-05	0	%100
34	M3	SZ	-0.000107	-0.000107	0	%100
35	M4	SZ	-0.000107	-0.000107	0	%100
36	M6	SZ	-0.000107	-0.000107	0	%100
37	M13	SZ	-1.3e-05	-1.3e-05	0	%100
38	M11	SZ	-1.3e-05	-1.3e-05	0	%100
39	M9	SZ	-1.3e-05	-1.3e-05	0	%100
40	M22	SZ	-8e-06	-8e-06	0	%100
41	M16	SZ	-8e-06	-8e-06	0	%100
42	M19	SZ	-8e-06	-8e-06	0	%100
43	M21	SZ	-8e-06	-8e-06	0	%100
44	M15	SZ	-8e-06	-8e-06	0	%100
45	M18	SZ	-8e-06	-8e-06	0	%100

Member Distributed Loads (BLC 6 : Wind + Ice Load AZI 090)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M97	SX	-0.08	-0.08	0	%100
2	M26	SX	-0.08	-0.08	0	%100
3	M87	SX	-0.08	-0.08	0	%100
4	M91	SX	-0.062	-0.062	0	%100
5	M101	SX	-0.062	-0.062	0	%100
6	M1	SX	-0.062	-0.062	0	%100
7	M30	SX	-0.062	-0.062	0	%100
8	M34	SX	-0.062	-0.062	0	%100
9	M57	SX	-0.124	-0.124	0	%100
10	M56	SX	-0.124	-0.124	0	%100
11	M55	SX	-0.124	-0.124	0	%100
12	M50	SX	-0.062	-0.062	0	%100
13	M46	SX	-0.062	-0.062	0	%100
14	M42	SX	-0.062	-0.062	0	%100
15	M38	SX	-0.062	-0.062	0	%100
16	M108	SX	-8.3e-05	-8.3e-05	0	%100
17	M65	SX	-8.3e-05	-8.3e-05	0	%100
18	M107	SX	-8.3e-05	-8.3e-05	0	%100
19	M23	SX	-0.000206	-0.000206	0	%100
20	M24	SX	-0.000206	-0.000206	0	%100
21	M25	SX	-0.000206	-0.000206	0	%100
22	M5	SX	-8.4e-05	-8.4e-05	0	%100
23	M17	SX	-8.4e-05	-8.4e-05	0	%100
24	M20	SX	-8.4e-05	-8.4e-05	0	%100
25	M85	SX	-2.7e-05	-2.7e-05	0	%100
26	M86	SX	-2.7e-05	-2.7e-05	0	%100
27	M84	SX	-2.7e-05	-2.7e-05	0	%100
28	M70	SX	-6.1e-05	-6.1e-05	0	%100
29	M68	SX	-6.1e-05	-6.1e-05	0	%100

Member Distributed Loads (BLC 6 : Wind + Ice Load AZI 090) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
30	M69	SX	-6.1e-05	-6.1e-05	0	%100
31	M67	SX	-6.1e-05	-6.1e-05	0	%100
32	M66	SX	-6.1e-05	-6.1e-05	0	%100
33	M71	SX	-6.1e-05	-6.1e-05	0	%100
34	M3	SX	-0.000107	-0.000107	0	%100
35	M4	SX	-0.000107	-0.000107	0	%100
36	M6	SX	-0.000107	-0.000107	0	%100
37	M13	SX	-1.3e-05	-1.3e-05	0	%100
38	M11	SX	-1.3e-05	-1.3e-05	0	%100
39	M9	SX	-1.3e-05	-1.3e-05	0	%100
40	M22	SX	-8e-06	-8e-06	0	%100
41	M16	SX	-8e-06	-8e-06	0	%100
42	M19	SX	-8e-06	-8e-06	0	%100
43	M21	SX	-8e-06	-8e-06	0	%100
44	M15	SX	-8e-06	-8e-06	0	%100
45	M18	SX	-8e-06	-8e-06	0	%100

Member Distributed Loads (BLC 16 : BLC 4 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M24	Y	-0.01	-0.0005018	11.203	12.447
2	M25	Y	-0.0004831	-0.008	0	1.245
3	M25	Y	-0.008	-0.014	1.245	2.489
4	M25	Y	-0.014	-0.015	2.489	3.734
5	M25	Y	-0.015	-0.008	3.734	4.979
6	M25	Y	-0.008	-0.0004831	4.979	6.224
7	M5	Y	-0.002	-0.009	0	1.017
8	M5	Y	-0.009	-0.014	1.017	2.034
9	M5	Y	-0.014	-0.013	2.034	3.051
10	M5	Y	-0.013	-0.009	3.051	4.068
11	M5	Y	-0.009	-0.005	4.068	5.085
12	M9	Y	-0.002	-0.009	0	0.159
13	M9	Y	-0.009	-0.008	0.159	0.319
14	M9	Y	-0.008	-0.007	0.319	0.478
15	M9	Y	-0.007	-0.006	0.478	0.637
16	M9	Y	-0.006	-0.0005052	0.637	0.796
17	M16	Y	-0.002	-0.002	0.062	0.443
18	M15	Y	-0.002	-0.002	0.061	0.439
19	M23	Y	-0.0004862	-0.008	0	1.245
20	M23	Y	-0.008	-0.014	1.245	2.489
21	M23	Y	-0.014	-0.015	2.489	3.734
22	M23	Y	-0.015	-0.008	3.734	4.979
23	M23	Y	-0.008	-0.0004862	4.979	6.224
24	M25	Y	-0.0004983	-0.007	6.224	7.468
25	M25	Y	-0.007	-0.016	7.468	8.713
26	M25	Y	-0.016	-0.017	8.713	9.958
27	M25	Y	-0.017	-0.01	9.958	11.203
28	M25	Y	-0.01	-0.0004983	11.203	12.447
29	M17	Y	-0.002	-0.009	0	1.017
30	M17	Y	-0.009	-0.014	1.017	2.034
31	M17	Y	-0.014	-0.013	2.034	3.051
32	M17	Y	-0.013	-0.009	3.051	4.068
33	M17	Y	-0.009	-0.005	4.068	5.085
34	M11	Y	-0.002	-0.009	0	0.159
35	M11	Y	-0.009	-0.008	0.159	0.319
36	M11	Y	-0.008	-0.007	0.319	0.478

Member Distributed Loads (BLC 16 : BLC 4 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
37	M11	Y	-0.007	-0.006	0.478	0.637
38	M11	Y	-0.006	-0.0005035	0.637	0.796
39	M19	Y	-0.002	-0.002	0.062	0.443
40	M18	Y	-0.002	-0.002	0.061	0.439
41	M23	Y	-0.0005019	-0.007	6.224	7.468
42	M23	Y	-0.007	-0.016	7.468	8.713
43	M23	Y	-0.016	-0.017	8.713	9.958
44	M23	Y	-0.017	-0.01	9.958	11.203
45	M23	Y	-0.01	-0.0005019	11.203	12.447
46	M24	Y	-0.0004832	-0.008	0	1.245
47	M24	Y	-0.008	-0.014	1.245	2.489
48	M24	Y	-0.014	-0.015	2.489	3.734
49	M24	Y	-0.015	-0.008	3.734	4.979
50	M24	Y	-0.008	-0.0004832	4.979	6.224
51	M20	Y	-0.002	-0.009	0	1.017
52	M20	Y	-0.009	-0.014	1.017	2.034
53	M20	Y	-0.014	-0.013	2.034	3.051
54	M20	Y	-0.013	-0.009	3.051	4.068
55	M20	Y	-0.009	-0.005	4.068	5.085
56	M13	Y	-0.002	-0.009	0	0.159
57	M13	Y	-0.009	-0.008	0.159	0.319
58	M13	Y	-0.008	-0.007	0.319	0.478
59	M13	Y	-0.007	-0.006	0.478	0.637
60	M13	Y	-0.006	-0.0005049	0.637	0.796
61	M22	Y	-0.002	-0.002	0.062	0.443
62	M21	Y	-0.002	-0.002	0.061	0.439
63	M24	Y	-0.0005018	-0.007	6.224	7.468
64	M24	Y	-0.007	-0.016	7.468	8.713
65	M24	Y	-0.016	-0.017	8.713	9.958
66	M24	Y	-0.017	-0.01	9.958	11.203

Member Area Loads (BLC 4 : Ice Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N40	N44	N6	N5	Y	Two Way	-0.011
2	N9	N10	N41	N39	Y	Two Way	-0.011
3	N13	N42	N43	N14	Y	Two Way	-0.011

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	2.99	8	0.403	14	1.972	38	0.593	56	0.861	13	0.926	57
2		min	-3.203	38	-0.992	57	-1.877	8	-0.214	13	-0.883	31	-0.406	14
3	N11	max	3.361	30	0.407	6	2.263	30	0.428	62	1.187	36	0.428	6
4		min	-2.932	12	-0.934	61	-2.026	12	-0.193	7	-1.192	30	-0.949	61
5	N15	max	0.371	31	0.413	10	3.498	4	0.467	10	1.503	13	0.234	74
6		min	-0.368	13	-0.876	53	-4.062	34	-0.967	53	-1.508	31	-0.205	104
7	N145	max	0.006	62	4.331	53	0.781	10	0	139	0	13	0	31
8		min	-0.005	56	-0.586	10	-5.668	53	0	1	0	31	0	13
9	N147	max	0.624	14	4.639	57	3.042	57	0	31	0	13	0	13
10		min	-5.263	57	-0.54	14	-0.359	14	0	13	0	31	0	31
11	N148	max	5.079	61	4.48	61	2.938	61	0	13	0	13	0	13
12		min	-0.639	6	-0.553	6	-0.367	6	0	31	0	31	0	31
13	N155	max	0.409	31	0.08	53	0.744	4	0	4	0	139	0.001	13
14		min	-0.407	13	0	13	-0.778	34	0	59	0	1	-0.001	31

Envelope Node Reactions (Continued)

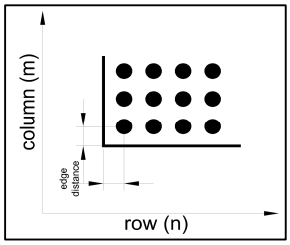
	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
15	N156	max	0.702	32	0.08	57	0.563	28	0	28	0	139	0	60
16		min	-0.689	14	0	6	-0.542	10	0	10	0	1	0	5
17	N157	max	0.754	30	0.08	61	0.519	4	0	39	0	139	0	14
18		min	-0.729	12	0	10	-0.529	34	0	9	0	1	0	57
19	Totals:	max	6.232	31	10.699	64	6.075	4						
20		min	-6.232	13	0	9	-6.075	34						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1	M24	L6X3.5X5	0.789	8.169	56	0.228	11.799	y	56	38.183	62.299	2.26	6.321	1.36	H2-1
2	M11	1/2"x9"	0.762	0.398	56	0.304	0.398	y	55	73.756	97.006	1.01	18.189	1.388	H1-1b
3	M23	L6X3.5X5	0.759	8.169	53	0.245	0.648	y	54	38.183	62.299	2.26	6.321	1.36	H2-1
4	M13	1/2"x9"	0.752	0.398	59	0.31	0.398	y	59	73.756	97.006	1.01	18.189	1.388	H1-1b
5	M9	1/2"x9"	0.747	0.398	54	0.307	0.398	y	64	73.756	97.006	1.01	18.189	1.367	H1-1b
6	M25	L6X3.5X5	0.745	8.169	60	0.212	0.648	z	37	38.183	62.299	2.26	6.284	1.335	H2-1
7	M38	PIPE_2.0	0.583	2.539	55	0.162	2.539		38	13.383	21.377	1.245	1.245	1.952	H1-1b
8	M1	PIPE_2.0	0.533	2.539	64	0.18	2.539		34	13.383	21.377	1.245	1.245	2.228	H1-1b
9	M30	PIPE_2.0	0.531	2.539	54	0.174	3.646		34	13.383	21.377	1.245	1.245	2.437	H1-1b
10	M46	PIPE_2.0	0.528	2.539	59	0.19	2.539		31	13.383	21.377	1.245	1.245	1.841	H1-1b
11	M42	PIPE_2.0	0.518	2.539	59	0.19	2.539		37	13.383	21.377	1.245	1.245	1.931	H1-1b
12	M87	PIPE_2.5	0.51	4.25	31	0.104	4.25		37	19.986	33.743	2.393	2.393	1.552	H1-1b
13	M50	PIPE_2.0	0.509	2.539	63	0.166	2.539		30	13.383	21.377	1.245	1.245	1.966	H1-1b
14	M26	PIPE_2.5	0.492	4.25	28	0.088	4.25		34	19.986	33.743	2.393	2.393	3	H1-1b
15	M97	PIPE_2.5	0.49	4.25	31	0.089	4.25		29	19.986	33.743	2.393	2.393	1.563	H1-1b
16	M101	PIPE_2.0	0.406	2.539	63	0.099	2.539		37	13.383	21.377	1.245	1.245	2.166	H1-1b
17	M4	HSS4X4X4	0.396	5.699	55	0.143	4.023	z	59	78.05	92.826	10.765	10.765	2.261	H1-1b
18	M91	PIPE_2.0	0.394	2.539	60	0.087	2.539		34	13.383	21.377	1.245	1.245	2.182	H1-1b
19	M6	HSS4X4X4	0.386	5.699	58	0.141	4.023	z	63	78.05	92.826	10.765	10.765	1.943	H1-1b
20	M3	HSS4X4X4	0.386	5.699	63	0.141	4.023	z	55	78.05	92.826	10.765	10.765	1.064	H1-1b
21	M56	PIPE_2.0	0.376	3.63	31	0.235	8.687		32	15.265	21.377	1.245	1.245	1	H1-1b
22	M57	PIPE_2.0	0.354	8.817	31	0.233	3.76		36	15.265	21.377	1.245	1.245	2.832	H1-1b
23	M55	PIPE_2.0	0.354	3.63	39	0.238	8.687		28	15.265	21.377	1.245	1.245	1	H1-1b
24	M34	PIPE_2.0	0.318	2.539	55	0.067	2.539		29	13.383	21.377	1.245	1.245	2.18	H1-1b
25	M107	LL2.5x2.5x3x3	0.316	2.552	57	0.007	5	y	56	27.88	38.802	2.631	1.696	1.136	H1-1a
26	M108	LL2.5x2.5x3x3	0.307	2.552	61	0.007	5	y	56	27.88	38.802	2.631	1.696	1.136	H1-1a
27	M65	LL2.5x2.5x3x3	0.298	2.552	53	0.007	5	y	56	27.88	38.802	2.631	1.696	1	H1-1a
28	M17	L5X3.5X4	0.136	2.595	63	0.015	0	z	64	27.34	44.623	1.749	3.682	1.105	H2-1
29	M20	L5X3.5X4	0.133	2.648	56	0.014	0	z	58	27.34	44.623	1.749	3.676	1.101	H2-1
30	M5	L5X3.5X4	0.133	2.648	60	0.015	0	z	61	27.34	44.623	1.749	3.676	1.101	H2-1
31	M69	L2.5x2.5x3	0.092	1.844	56	0.012	3.687	y	53	12.351	19.423	0.581	1.187	1.136	H2-1
32	M67	L2.5x2.5x3	0.09	1.844	53	0.011	3.687	y	60	12.351	19.423	0.581	1.187	1.136	H2-1
33	M18	1/2"x3"	0.09	0	36	0.014	0	y	62	29.523	32.335	0.337	2.021	1.195	H1-1b
34	M71	L2.5x2.5x3	0.088	1.844	60	0.012	3.687	y	56	12.351	19.423	0.581	1.187	1.136	H2-1
35	M70	L2.5x2.5x3	0.085	1.843	58	0.012	3.687	z	61	12.353	19.423	0.581	1.187	1.136	H2-1
36	M68	L2.5x2.5x3	0.081	1.843	53	0.012	3.687	z	57	12.353	19.423	0.581	1.187	1.136	H2-1
37	M66	L2.5x2.5x3	0.081	1.843	62	0.013	3.687	z	64	12.353	19.423	0.581	1.187	1.136	H2-1
38	M21	1/2"x3"	0.08	0	39	0.014	0	y	53	29.523	32.335	0.337	2.021	1.229	H1-1b
39	M19	1/2"x3"	0.08	0	63	0.014	0	y	64	29.524	32.335	0.337	2.021	2.219	H1-1b
40	M16	1/2"x3"	0.076	0	60	0.015	0	y	61	29.524	32.335	0.337	2.021	2.25	H1-1b
41	M22	1/2"x3"	0.071	0	56	0.014	0	y	57	29.524	32.335	0.337	2.021	2.257	H1-1b
42	M15	1/2"x3"	0.061	0	32	0.014	0	y	59	29.523	32.335	0.337	2.021	1.19	H1-1b
43	M86	L3X3X3	0.02	0.813	59	0.039	1.626	y	31	20.334	23.497	0.878	1.885	1.136	H2-1
44	M85	L3X3X3	0.018	0.813	55	0.032	1.626	y	39	20.334	23.497	0.878	1.885	1.136	H2-1
45	M84	L3X3X3	0.018	0.813	61	0.03	1.626	y	35	20.334	23.497	0.878	1.885	1.136	H2-1

Bolt Calculator

Capacity Input:	N	4/3 Increase N
Analysis/Design:	Analysis	
ASD/LRFD:	ASD	
Data	Auto Calc Capacity	



Bolt Properties		
Nominal Diameter (d)	5/8	inches
Steel Grade	A307	
Threads Excluded?	N	
Yield Strength (Fyb)	36	ksi
Ultimate Strength (Fub)	60	ksi
Threads/in (n)	11	
Gross Area (Agb)	0.307	in^2
Net Area (Anb)	0.226	in^2

Bolt Group Properties		
No. of Column	2	
No. of Rows	3	
Bolt Spacing per Row	3	inches
Bolt Spacing per Column	6	inches
Edge Distance	1	inches
Parallel along	Y-Axis	

Pu_x	5079.0	lbs
Pu_y	4639.0	lbs
Pu_z	3498.0	lbs

Mu_x	593.0	lbs-ft
Mu_y	1503.0	lbs-ft
Mu_z	926.0	lbs-ft

Bolt Capacity (0.625 A307 Bolts)				
	Ult Load/ Bolt	Capacity	# of Bolts	Factor Joint Capacity
Shear	3129.3	3129.3	6	18775.9
Axial	6074.6	6074.6	6	36447.4

Interaction Check	
V /ϕVn	59.8%
T /ϕTn	28.2%
≤1.0	43.7%
	Pass

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11312A

N. Stonington/ RT 2
267 Norwich Westerly Road
North Stonington, Connecticut 06359

April 27, 2022

EBI Project Number: 6222002873

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**26.85%**

April 27, 2022

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

Emissions Analysis for Site: CT11312A - N. Stonington/ RT 2

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **267 Norwich Westerly Road** in **North Stonington, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 267 Norwich Westerly Road in North Stonington, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

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

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

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

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

5) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

8) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

9) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

10) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

11) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

12) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

13) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

14) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 600 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 600 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 600 MHz channel(s), the Commscope VV-65A-R1 for the 1900

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

15) The antenna mounting height centerline of the proposed antennas is 147 feet above ground level (AGL).

16) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.35 dBd / 17.3 dBd / 22.35 dBd / 17.3 dBd	Gain:	22.35 dBd / 17.3 dBd / 22.35 dBd / 17.3 dBd	Gain:	22.35 dBd / 17.3 dBd / 22.35 dBd / 17.3 dBd
Height (AGL):	147 feet	Height (AGL):	147 feet	Height (AGL):	147 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	34,144.54	ERP (W):	34,144.54	ERP (W):	34,144.54
Antenna A1 MPE %:	**6.17%**	Antenna B1 MPE %:	**6.17%**	Antenna C1 MPE %:	**6.17%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 600 MHz	Frequency Bands:	600 MHz / 600 MHz / 600 MHz	Frequency Bands:	600 MHz / 600 MHz / 600 MHz
Gain:	12.95 dBd / 12.95 dBd / 12.95 dBd	Gain:	12.95 dBd / 12.95 dBd / 12.95 dBd	Gain:	12.95 dBd / 12.95 dBd / 12.95 dBd
Height (AGL):	147 feet	Height (AGL):	147 feet	Height (AGL):	147 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	180.00 Watts	Total TX Power (W):	180.00 Watts	Total TX Power (W):	180.00 Watts
ERP (W):	3,550.36	ERP (W):	3,550.36	ERP (W):	3,550.36
Antenna A2 MPE %:	**1.61%**	Antenna B2 MPE %:	**1.61%**	Antenna C2 MPE %:	**1.61%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1
Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.55 dBd / 15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 15.55 dBd / 16.05 dBd
Height (AGL):	147 feet	Height (AGL):	147 feet	Height (AGL):	147 feet
Channel Count:	10	Channel Count:	10	Channel Count:	10
Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts
ERP (W):	15,600.26	ERP (W):	15,600.26	ERP (W):	15,600.26
Antenna A3 MPE %:	**2.82%**	Antenna B3 MPE %:	**2.82%**	Antenna C3 MPE %:	**2.82%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	10.60%
Dish	1.62%
Sprint	4.22%
AT&T	8.18%
Verizon	2.23%
Site Total MPE % :	26.85%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	10.60%
T-Mobile Sector B Total:	10.60%
T-Mobile Sector C Total:	10.60%
Site Total MPE % :	26.85%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	10307.45	147.0	18.64	2500 MHz LTE 1C & 2C Traffic	1000	1.86%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	1074.06	147.0	1.94	2500 MHz LTE 1C & 2C Broadcast	1000	0.19%
T-Mobile 2500 MHz NR Traffic	1	20614.90	147.0	37.28	2500 MHz NR Traffic	1000	3.73%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	147.0	3.88	2500 MHz NR Broadcast	1000	0.39%
T-Mobile 600 MHz LTE	2	591.73	147.0	2.14	600 MHz LTE	400	0.54%
T-Mobile 600 MHz LTE	2	591.73	147.0	2.14	600 MHz LTE	400	0.54%
T-Mobile 600 MHz LTE	2	591.73	147.0	2.14	600 MHz LTE	400	0.54%
T-Mobile 1900 MHz GSM	4	1076.77	147.0	7.79	1900 MHz GSM	1000	0.78%
T-Mobile 1900 MHz UMTS	2	1076.77	147.0	3.89	1900 MHz UMTS	1000	0.39%
T-Mobile 1900 MHz LTE	2	2153.53	147.0	7.79	1900 MHz LTE	1000	0.78%
T-Mobile 2100 MHz LTE	2	2416.30	147.0	8.74	2100 MHz LTE	1000	0.87%
						Total:	**10.60%**

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

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

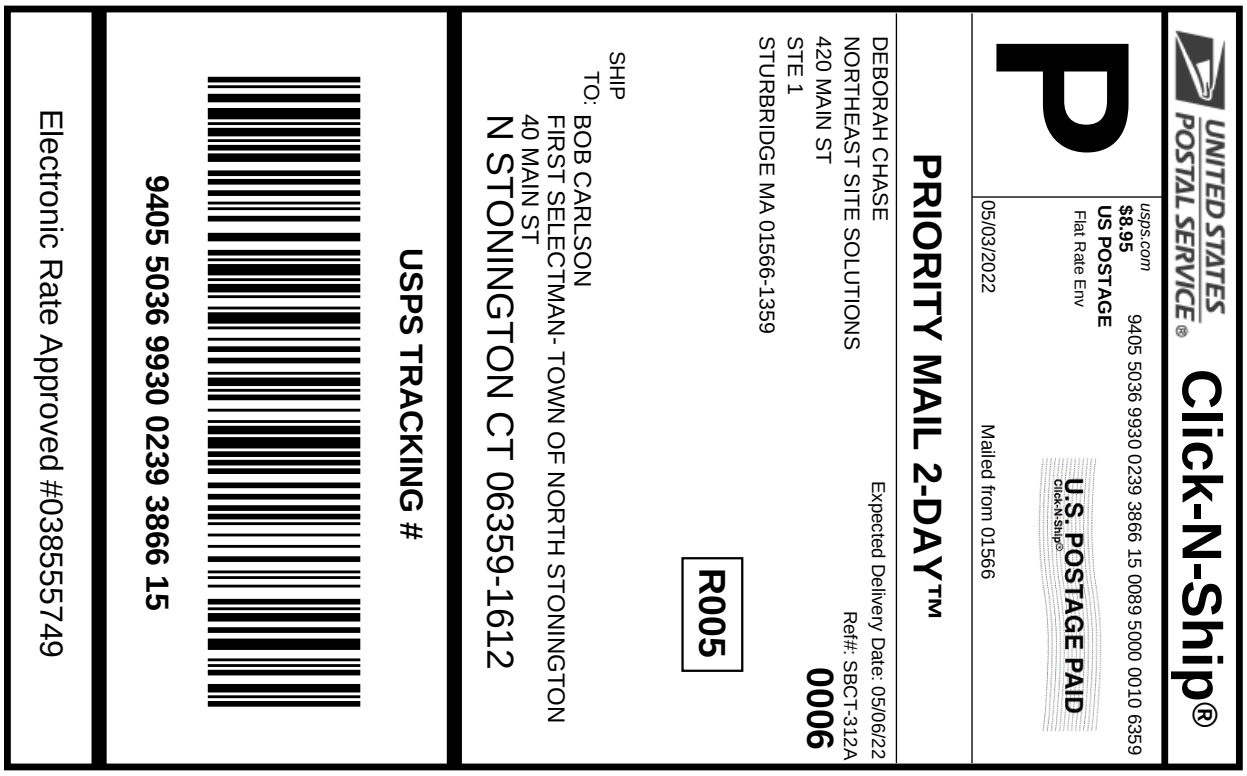
T-Mobile Sector	Power Density Value (%)
Sector A:	10.60%
Sector B:	10.60%
Sector C:	10.60%
T-Mobile Maximum MPE % (Sector A):	10.60%
Site Total:	26.85%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **26.85%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Exhibit G

Recipient Mailings



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0239 3866 15

Trans. #:	562691824
Print Date:	05/03/2022
Ship Date:	05/03/2022
Expected Delivery Date:	05/06/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

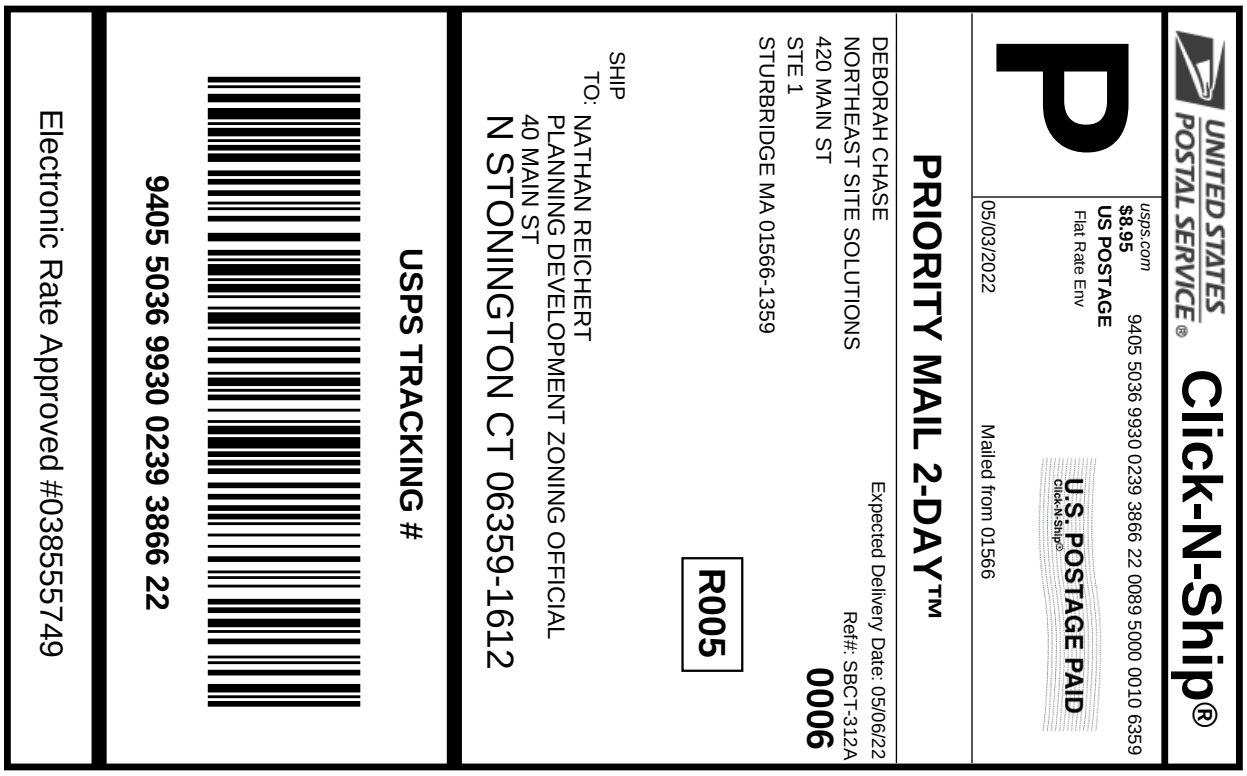
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: SBCT-312A

To: BOB CARLSON
FIRST SELECTMAN- TOWN OF NORTH STONINGTON
40 MAIN ST
N STONINGTON CT 06359-1612

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0239 3866 22

Trans. #:	562691824
Print Date:	05/03/2022
Ship Date:	05/03/2022
Expected Delivery Date:	05/06/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: SBCT-312A

To: NATHAN REICHERT
PLANNING DEVELOPMENT ZONING OFFICIAL
40 MAIN ST
N STONINGTON CT 06359-1612

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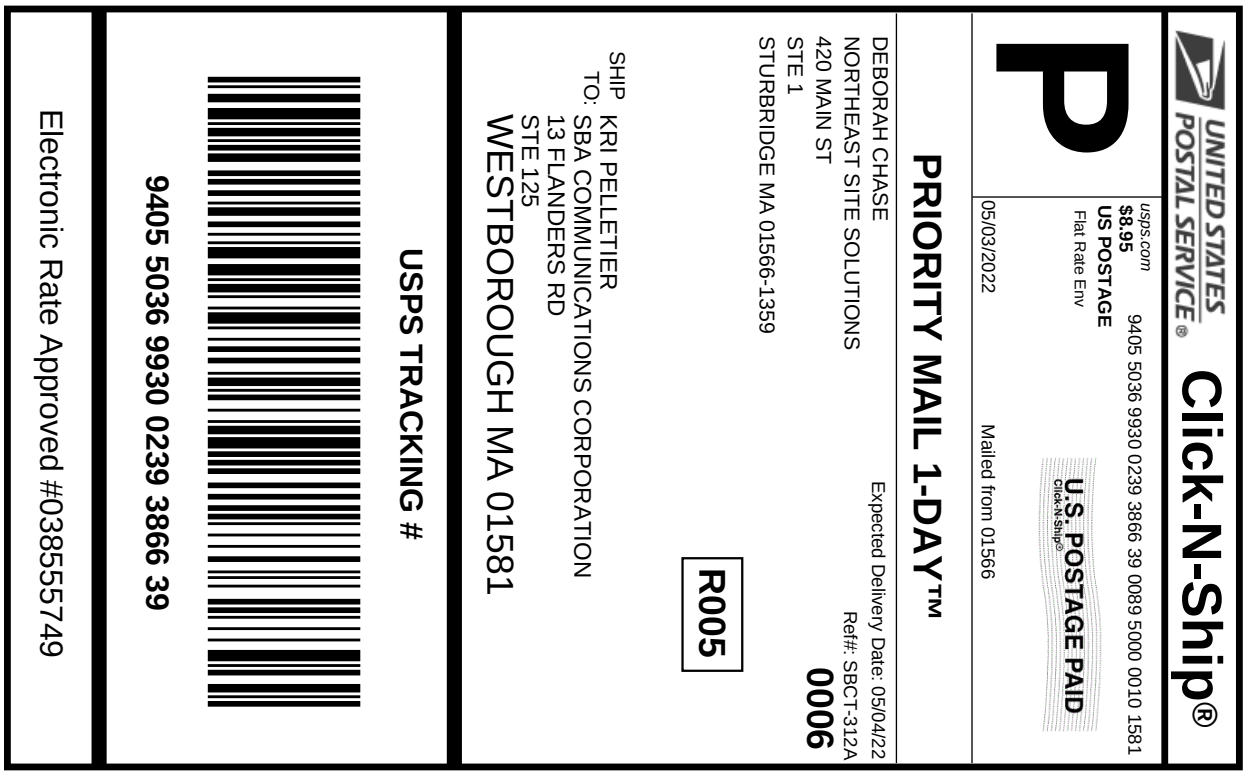

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0239 3866 39

Trans. #:	562691824
Print Date:	05/03/2022
Ship Date:	05/03/2022
Expected Delivery Date:	05/04/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

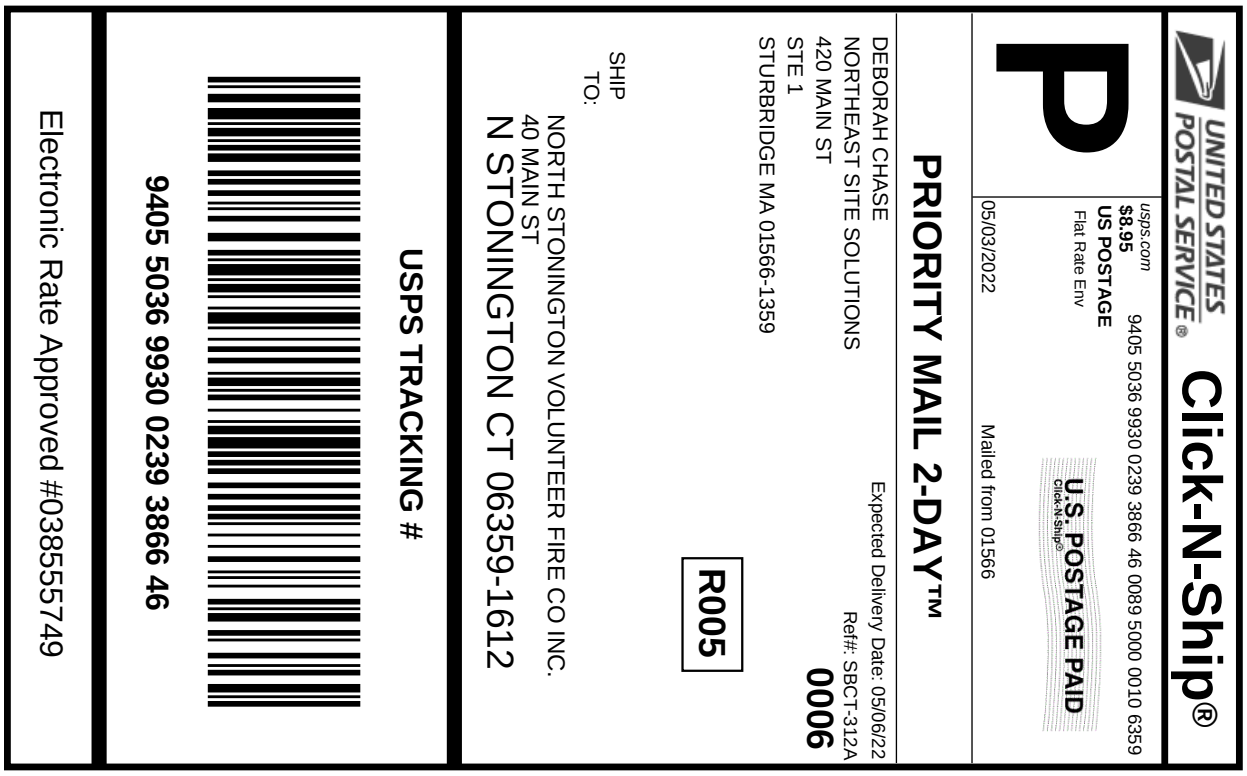
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: SBCT-312A

To: KRI PELLETIER
SBA COMMUNICATIONS CORPORATION
13 FLANDERS RD
STE 125
WESTBOROUGH MA 01581

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0239 3866 46

Trans. #:	562691824
Print Date:	05/03/2022
Ship Date:	05/03/2022
Expected Delivery Date:	05/06/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: SBCT-312A

To: NORTH STONINGTON VOLUNTEER FIRE CO INC.
40 MAIN ST
N STONINGTON CT 06359-1612

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

CT11312A SSA-TMS

UNITED STATES POSTAL SERVICE.

FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

05/03/2022 03:06 PM

Product	Qty	Unit Price	Price
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 1.90 oz Acceptance Date: Tue 05/03/2022 Tracking #: 9405 5036 9930 0239 3866 39	1		$0.00
Prepaid Mail North Stonington, CT 06359 Weight: 0 lb 6.70 oz Acceptance Date: Tue 05/03/2022 Tracking #: 9405 5036 9930 0239 3866 46	1		$0.00
Prepaid Mail North Stonington, CT 06359 Weight: 0 lb 6.80 oz Acceptance Date: Tue 05/03/2022 Tracking #: 9405 5036 9930 0239 3866 15	1		$0.00
Prepaid Mail North Stonington, CT 06359 Weight: 0 lb 6.80 oz Acceptance Date: Tue 05/03/2022 Tracking #: 9405 5036 9930 0239 3866 22	1		$0.00
Grand Total:			$0.00

****
Every household in the U.S. is now
eligible to receive a second set
of 4 free test kits.
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****

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