



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

August 25, 2022

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

RE: Exempt Modification Application
350 Burr Mountain Road, Torrington, CT 06790
Latitude: 41.873250
Longitude: -73.088416
Site #: CT46138-A_CTNH402A_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 350 Burr Mountain Road (a/k/a 3345 Winsted Rd), Torrington, CT 06790. T-Mobile currently maintains nine (9) antennas at the 155-foot level of the existing 196-foot monopole tower. The property is owned by O & G Industries Inc., and the tower is owned by SBA. T-Mobile now intends to replace six (6) antennas. The new antennas would be installed at the 155-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove:

(1) Coax 1-5/8"

Remove and Replace:

(3) ERICSSON AIR21 B2A B4P Antennas (REMOVE) – (3) COMMSCOPE VV-65A-R1 Antennas (REPLACE)

(3) ERICSSON AIR21 B4A B2P Antennas (REMOVE) - (3) ERICSSON AIR6419 B41 Antennas (REPLACE)

Install New:

(3) ERICSSON 4460 B25+B66 RRU

(1) Hybrid Line – 1.9"

Existing to Remain:

(3) RFS APXVAARR24 43-U-NA20

(3) ERICSSON 4449 B71+B85 RRU

(3) ERICSSON KRY 112 144/1 TMAs *

(3) Hybrid Line – 1-5/8"

(8) Coax 1-5/8" *

*Equipment shown for entitlement purposes only



The facility was approved by the Connecticut Siting Council, Docket No. 277 on April 26, 2004. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mayor Elinor Carbone and Jeremy Leifert, City Planner for the City of Torrington, 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



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Mayor Elinor Carbone
City of Torrington
140 Main Street
Torrington, CT 06790

Jeremy Leifert, City Planner
140 Main Street - Room 324
Torrington, CT 06790

O & G Industries Inc. - Property Owner
112 Wall Street
Torrington, CT 06790

SBA - Tower Owner

Exhibit A

Original Facility Approval

Connecticut Siting Council ^(/CSC)

[CT.gov Home](#) [\(/\)](#) [Connecticut Siting Council](#) [\(/CSC\)](#) DO 277 Torrington Decision and Order

DOCKET NO. 277 – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility in Torrington, Connecticut.	}	Connecticut
	}	Siting
	}	Council
		April 26, 2004

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum, L.P. d/b/a Sprint PCS for the construction, maintenance and operation of a wireless telecommunications facility at Candidate A, located off Burr Mountain Road, Torrington, Connecticut. The Council denies certification of Candidate B located at Jordan Lane and Laurelton Drive, Torrington, Connecticut.

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

1. The tower shall be constructed no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower, including all appurtenances attached thereto, shall not exceed a height of 198 feet above ground level and shall be designed with a yield point to reduce the area of the setback radius so that it shall be contained within the property of O&G Industries.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
 - b. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the [2002 Connecticut Guidelines for Soil Erosion and Sediment Control](#), as amended.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

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

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.

7. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Waterbury Republican American and the Torrington Register Citizen.

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

The parties and intervenors to this proceeding are:

<p><u>Applicant</u></p> <p>Sprint Spectrum, L.P. d/b/a Sprint PCS</p>	<p><u>Its Representative</u></p> <p>Thomas J. Regan, Esq. Brown Rudnick Berlack Israels CityPlace 1 185 Asylum Street Hartford, CT 06103</p>
<p><u>Intervenor</u></p> <p>Cellco Partnership d/b/a Verizon Wireless</p>	<p><u>Its Representative</u></p> <p>Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200</p>

Exhibit B

Property Card

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2019.



Information on the Property Records for the Municipality of Torrington was last updated on 8/24/2022.



Parcel Information

Location:	3345 WINSTED RD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	8172	Map Block Lot:	242/001/005	Acres:	193.6100
490 Acres:	132.98	Zone:	I	Volume / Page:	0444/0497
Developers Map / Lot:	5417/5554	Census:	3107-0N		

Value Information

	Appraised Value	Assessed Value
Land	4,598,238	1,019,140
Buildings	0	0
Detached Outbuildings	0	0

	Appraised Value	Assessed Value
Total	4,598,238	1,019,140

Owner's Information

Owner's Data
O & G INDUSTRIES INC 112 WALL ST TORRINGTON, CT 06790

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
O & G INDUSTRIES INC	0444	0497	09/23/1988		\$2,104,500

Building Permits

Permit Number	Permit Type	Date Opened	Reason
19-530	Building	04/01/2019	REM & REPL 6 NEW ANTENNAS/RADIO UNITS
19-439	Building	03/19/2019	MODIFY AT&T FACILITY/REPL 6 ANTENNAS & RADIO UNITS
19-401 Z	Commercial	03/14/2019	CELL TOWER UPGRADE
19-337	Certificate of Completion	03/04/2019	CERT OF COMPL- GENERATOR
18-974	Electrical	06/13/2018	GENERATOR INSTALLED
17-1669	Certificate of Completion	09/06/2017	CERT OF COMPL- 3 NEWER CELL ANTENNAS & ASSOCIATED EQUIP= PP
17-1081	Certificate of Completion	06/14/2017	CERT OF COMPL- MODIFY AT&T ANTENNA & REPL RADIO HEADS
17-679	Building	05/02/2017	UPGRADES TO EXISTING CELL SITE/3 ANTENNAS & EQUIP
17-544 Z	Commercial	04/17/2017	UPGARDE 3 CELL ANTENNAS & EQUIP

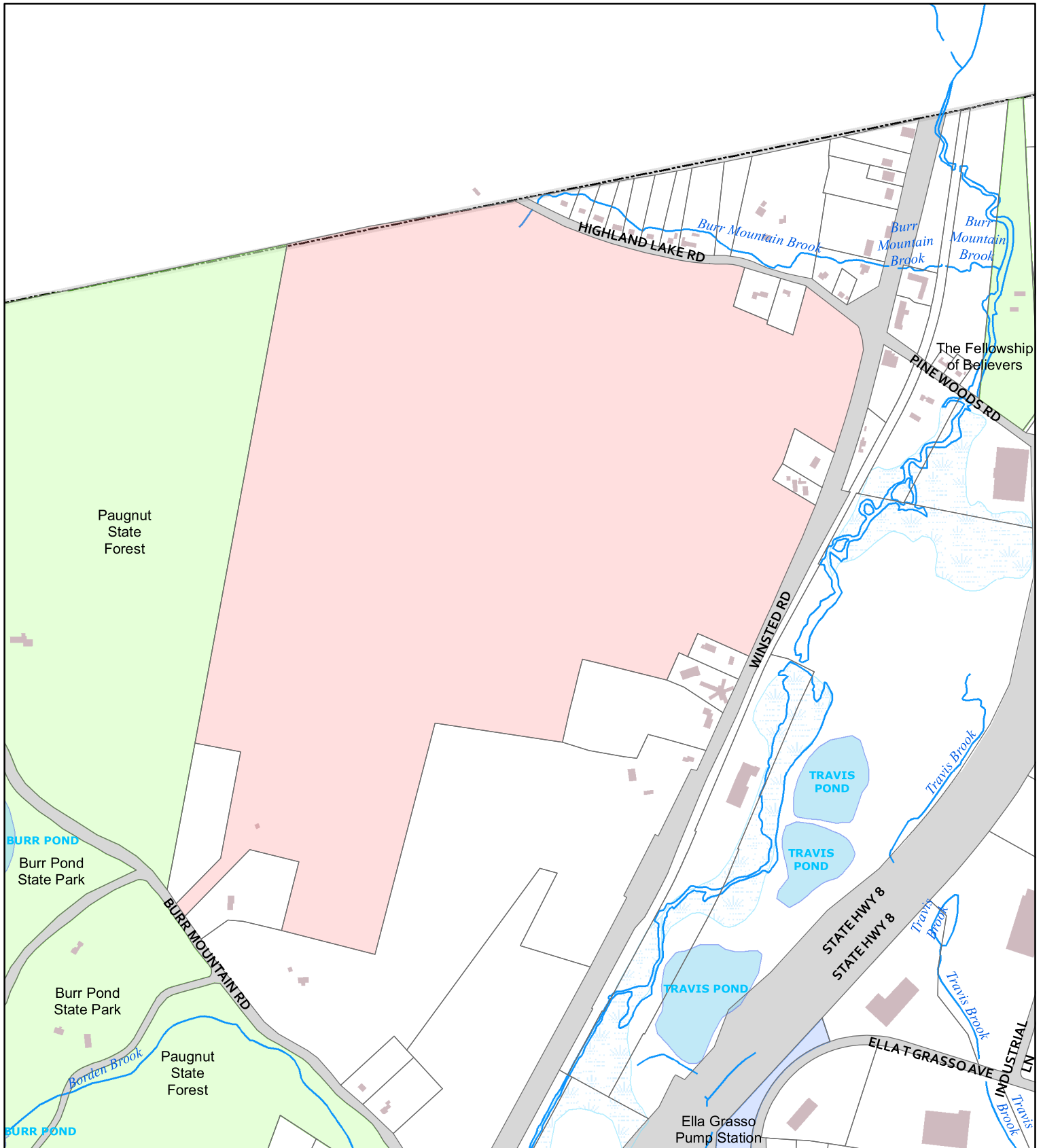
Permit Number	Permit Type	Date Opened	Reason
17-323	Building	03/08/2017	MODIFY AT&T ANTENNA SITE/3 REMOTE RADIO UNITS
17-263 Z	Commercial	02/27/2017	CELL TOWER- AT& T ANTENNA MODIFICATION
14-1368	Building	07/11/2014	ADD 3 CELL ANTENNAS & ASSOC EQUIP = PP
14-711	Building	04/24/2014	CABINET/8 KW GENERATOR/MICO DISH FOR PD = PP
14-397	Building	03/06/2014	TELECOMMUNICATION SITE ALTERATION=PP
13-5987	Certificate of Completion	10/10/2013	CERT OF COMPL- 3 MEW ANTENNAD W/SUPPORT EQUIP
13-5813	Building	09/11/2013	MODIFICATIONS TO CELL SITE= PP
12-3424	Building	01/24/2013	ADD 3 NEW ANTENNAS & CABINET TO EXISTING PLATFORM
12-2303	Building	09/20/2012	REPL 6 ANTENNA
11-199	Certificate of Completion	03/17/2011	CERT OF COMPL/PANEL ANTENNAS/COAX & RELATED EQUIP
10-1852	Commercial	10/21/2010	INSTALL PANEL ANTENNAS/PP
08-2511	Commercial	12/08/2008	ADDING ANTENNAS TO EXISTING STRUCTURE AND RELATED GROUND EQUIPMENT. NO CHANGE IN FOOTPRINT.
08-1729	Commercial New	09/09/2008	DOOR CANOPY
08-1545	Commercial New	08/13/2008	DOOR CANOPY
08-533	Commercial New	04/11/2008	NEW TRUCK SCALE
05-192	Commercial New	05/25/2005	CELL ANTENNAE & PRE-FAB SHELTER
04-591	Commercial New	12/08/2004	12'X30' EQUIP SHELTER&ANT
04-541	Commercial New	11/05/2004	EQUIP BLDG & CELLULAR ANTENNAS
04-437	Commercial New	09/07/2004	NEW 195' CELL TOWER

Information Published With Permission From The Assessor

City of Torrington, Connecticut - Assessment Parcel Map

Map/Block/Lot 242/001/005

Address: 242/001/005



Approximate Scale: 1 inch = 699 feet

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

Map Produced: August 2022

Exhibit C

Construction Drawings

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

LITCHFIELD SSUSA

350 BURR MOUNTAIN ROAD
 TORRINGTON, CT 06790
 LITCHFIELD COUNTY

SITE NO.: CTNH402A

SITE TYPE: 196'± MONOPOLE

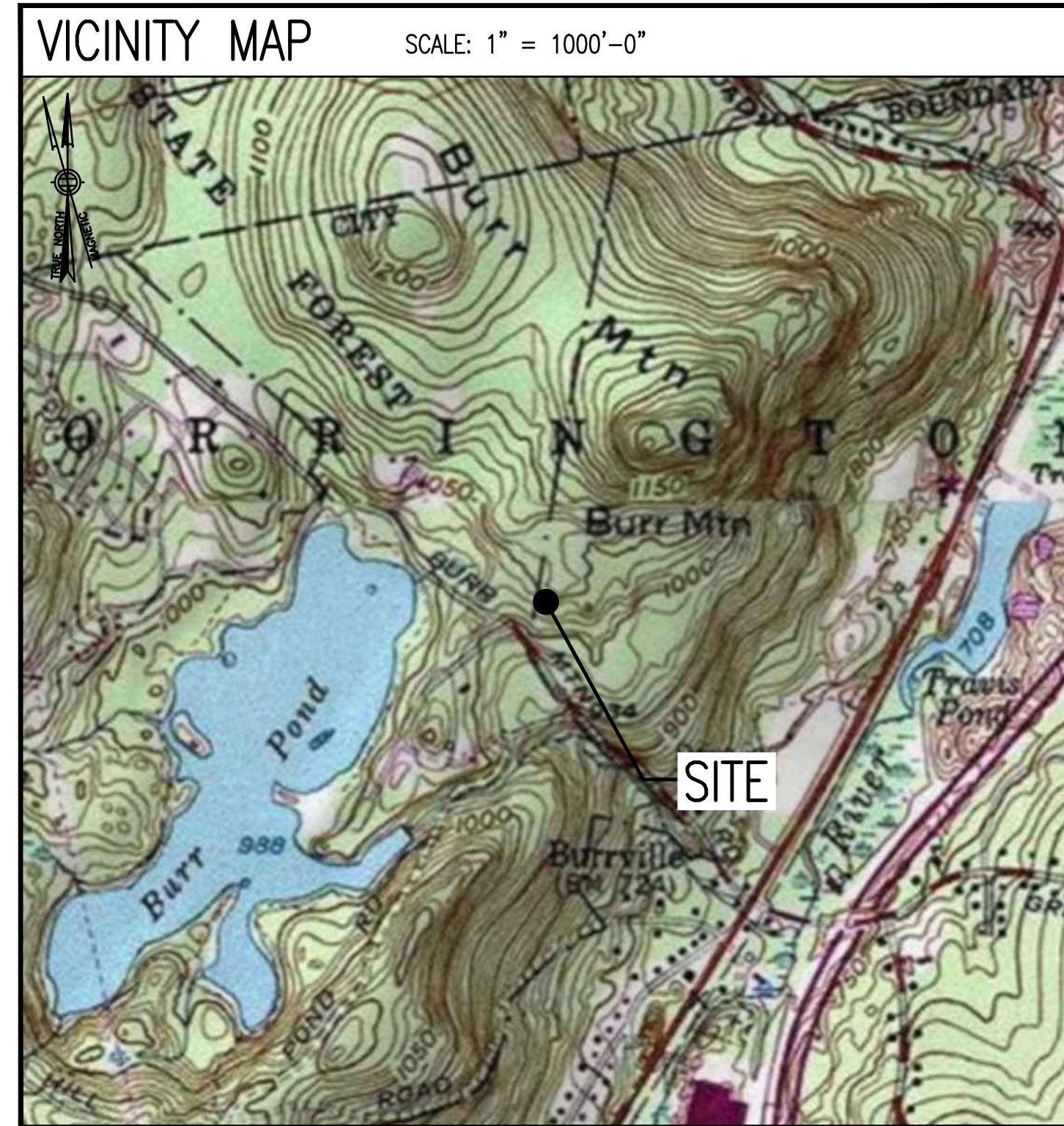
RF DESIGN GUIDELINE: 67D5D998E 6160

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

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

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.	SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
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.	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.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ONPOINT 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.	14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
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.	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.
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.	16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
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.	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.
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	

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



DIRECTIONS

MERGE ONTO I-495 N TOWARD MANSFIELD/MARLBORO. TAKE EXIT 58 TOWARD I-90 W. KEEP LEFT AT FORK & FOLLOW SIGNS FOR I-90 W/SPRINGFIELD/ALBANY. MERGE ONTO I-90 W. TAKE EXIT 51 FOR I-291 TOWARD SPRINGFIELD/HARTFORD. USE LEFT 3 LANES TO CONTINUE TOWARD I-291 W. USE LEFT 2 LANES TO TURN LEFT ONTO I-291 W. USE RIGHT 2 LANES TO TAKE EXIT 1A-2A FOR I-91 S. USE RIGHT 2 LANES TO TAKE EXIT 40 FOR CT-20 TOWARD BRADLEY INTERNATIONAL AIRPORT. CONTINUE ONTO CT-20 W. TAKE THE CT-20 W EXIT TOWARD E GRANBY/GRANBY. CONTINUE ONTO CT-20 W. TAKE SLIGHT LEFT ONTO CT-20 W/W GRANBY ROAD. TURN LEFT ONTO CT-219 S. TURN LEFT ONTO CT-179 S/CT-219 S. CONTINUE STRAIGHT ONTO CT-318 W. TURN LEFT ONTO CT-181 S/CT-318 W. TURN RIGHT ONTO US-44 W/NEW HARTFORD ROAD. TURN LEFT ONTO CT-8 S. TAKE EXIT 46 FOR PINWOODS ROAD TOWARD BURRVILLE. TURN RIGHT ONTO PINWOODS ROAD. TURN LEFT ONTO WINSTED ROAD. TURN RIGHT ONTO BURR MOUNTAIN ROAD. SITE IS LOCATED ON THE RIGHT SIDE.

SHEET INDEX		
SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLANS	0
A-2	TOWER ELEVATIONS & ANTENNA PLANS	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.

SCOPE OF WORK	
REMOVE:	INSTALL:
<ul style="list-style-type: none"> 6 ANTENNAS 3 TMAS 1 HYBRID CABLE ALL COAX CABLES 	<ul style="list-style-type: none"> 6 ANTENNAS 3 RADIOS 1 6160 CABINET 1 B160 CABINET 1 RAC24 FIBER CABINET 1 SLACKBOX 1 HYBRID CABLE 1 150A-2P BREAKER 1 25A-1P BREAKER

- SITE NOTES**
- 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.
 - 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.
 - 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.

PROJECT SUMMARY	
SITE NUMBER:	CTNH402A
SITE NAME:	LITCHFIELD SSUSA
SBA SITE NUMBER:	CT46138-A
SBA SITE NAME:	TORRINGTON/OANDG IND INC
SITE ADDRESS:	350 BURR MOUNTAIN ROAD TORRINGTON, CT 06790
PROPERTY OWNER:	O & G INDUSTRIES INC 112 WALL STREET TORRINGTON, CT 06790
TOWER OWNER:	SBA 2012 TC ASSETS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	LITCHFIELD
ZONING DISTRICT:	R-60 (RESIDENTIAL ZONE)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	196'±
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: 41.873255° N41°52'23.72" LONGITUDE: -73.088405° W73°05'18.26"

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

T-MOBILE NORTHEAST LLC

15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700

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

CHAPPELL ENGINEERING ASSOCIATES, LLC
 Civil Structural-Land Surveying

R.K. EXECUTIVE CENTRE
 201 BOSTON POST ROAD WEST, SUITE 101
 MARLBOROUGH, MA 01752
 (508) 481-7400
 www.chappellengineering.com

STATE OF CONNECTICUT
 JAMES M. FITZGERALD
 No. 25997
 LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	07/11/22	ISSUED FOR CONSTRUCTION CMC	

SITE NUMBER:
CTNH402A

SITE ADDRESS:
 350 BURR MOUNTAIN ROAD
 TORRINGTON, CT 06790

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

- 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
- 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.
- 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.
- 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.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- 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.
- 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.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
- 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.
- 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.
- CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.
- 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.
- 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.
- 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:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- 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.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 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.
- 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.
- 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.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- 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.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- 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, UNDO.
- 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 LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
- A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- 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.
- 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.
- 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.
- 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:

- 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".
- 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.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- 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.
- 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.
- 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:

- HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

- FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
- COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- 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:

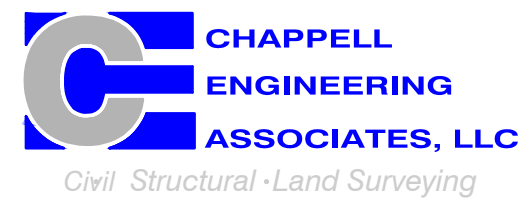
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- 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.
- 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.
- 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).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- 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.
- 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.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- 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.
- 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).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- 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.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- 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.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- 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.
- 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.
- 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.
- 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.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- 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.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

**T-MOBILE
NORTHEAST LLC**

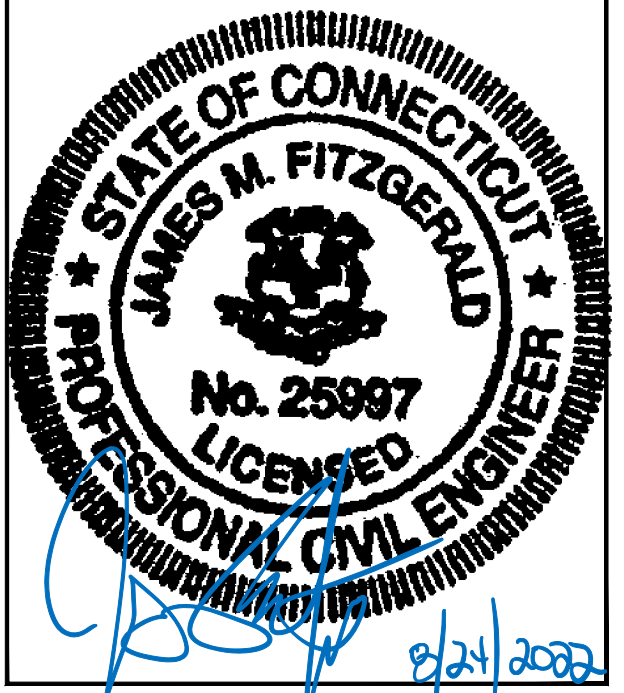
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	07/11/22	ISSUED FOR CONSTRUCTION	CMC

SITE NUMBER:
CTNH402A

SITE ADDRESS:
350 BURR MOUNTAIN ROAD
TORRINGTON, CT 06790

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

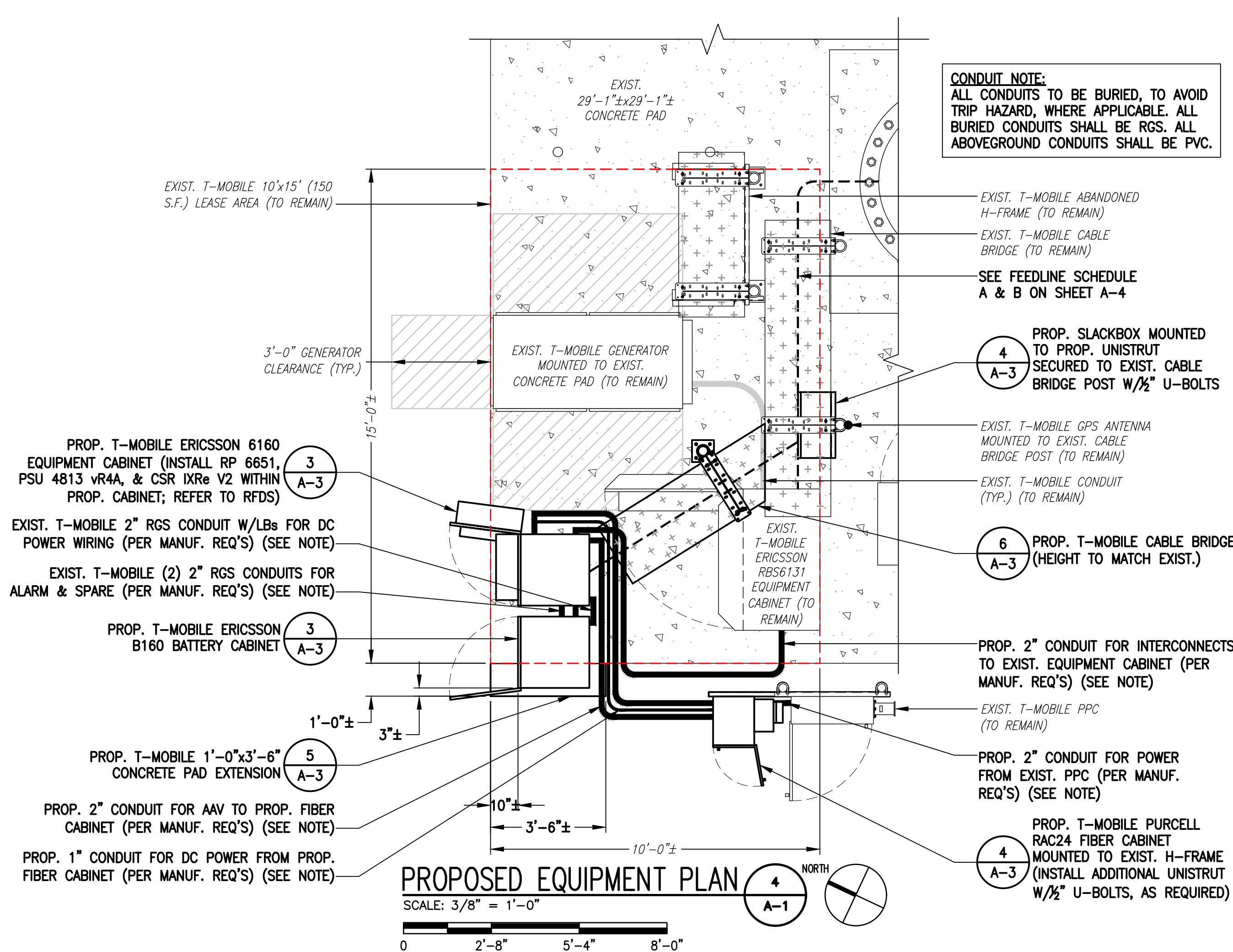
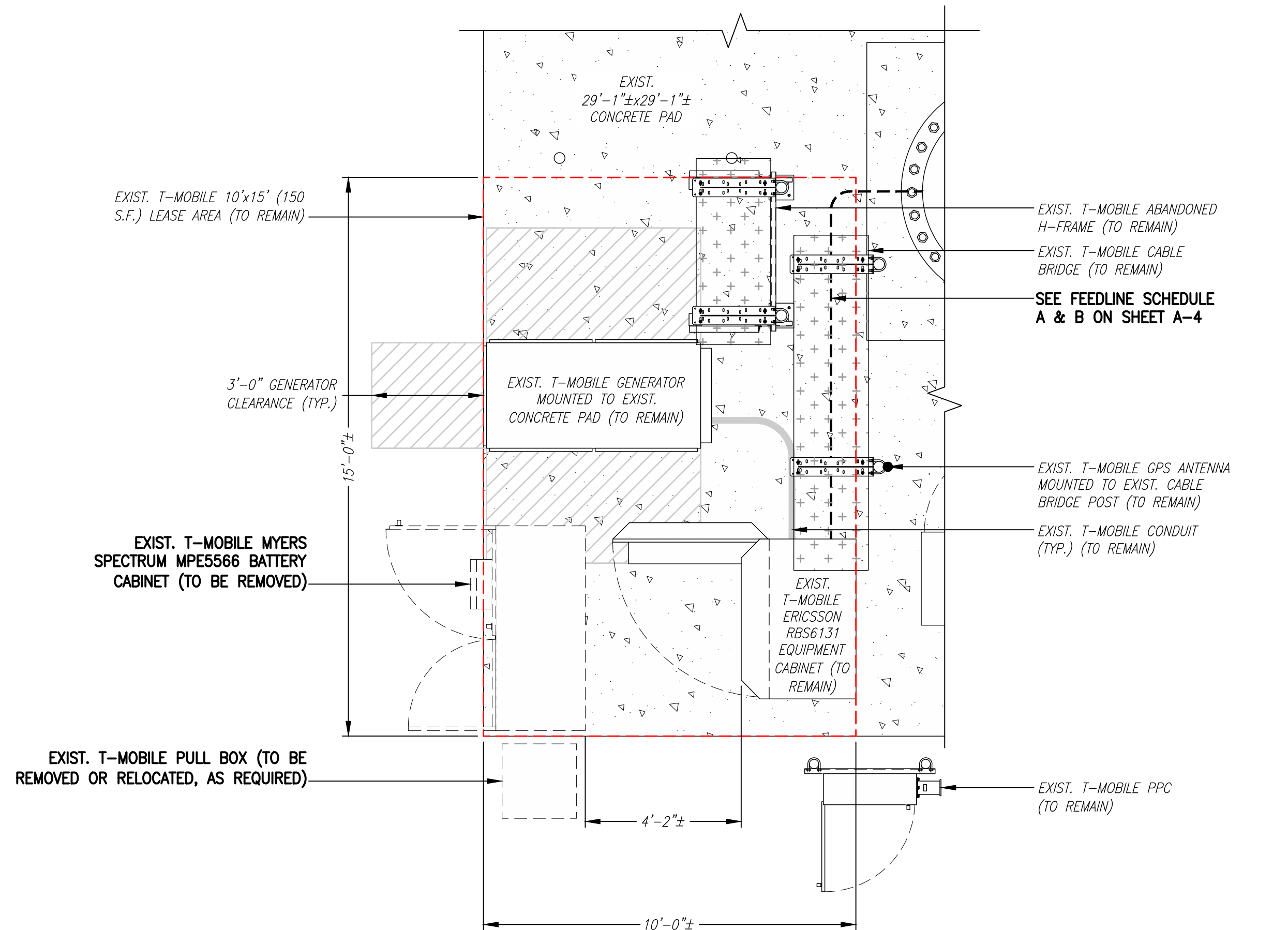
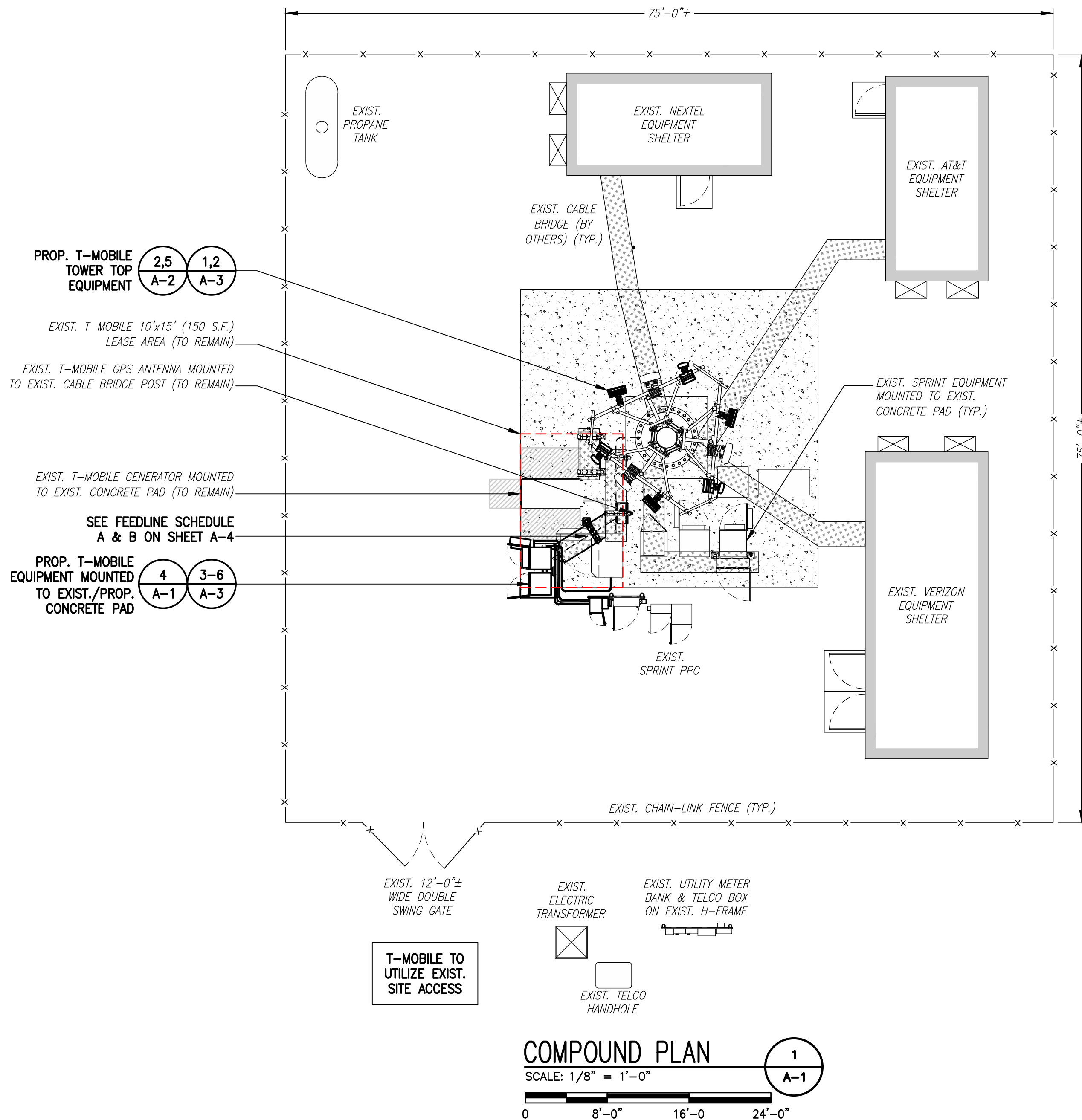
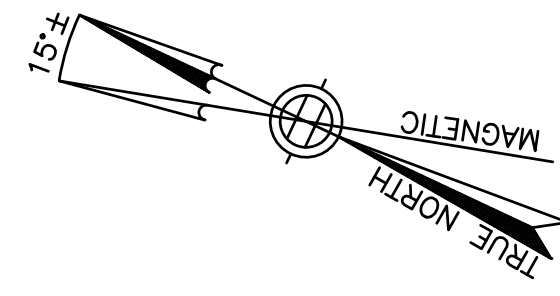
GN-1

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).



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



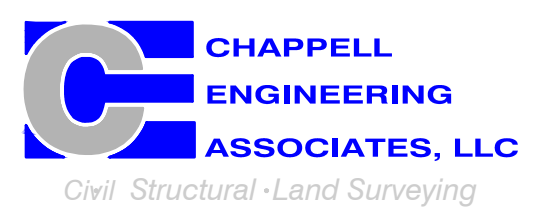
CONDUIT NOTE:
 ALL CONDUITS TO BE BURIED, TO AVOID TRIP HAZARD, WHERE APPLICABLE. ALL BURIED CONDUITS SHALL BE RGS. ALL ABOVEGROUND CONDUITS SHALL BE PVC.

T-MOBILE NORTHEAST LLC

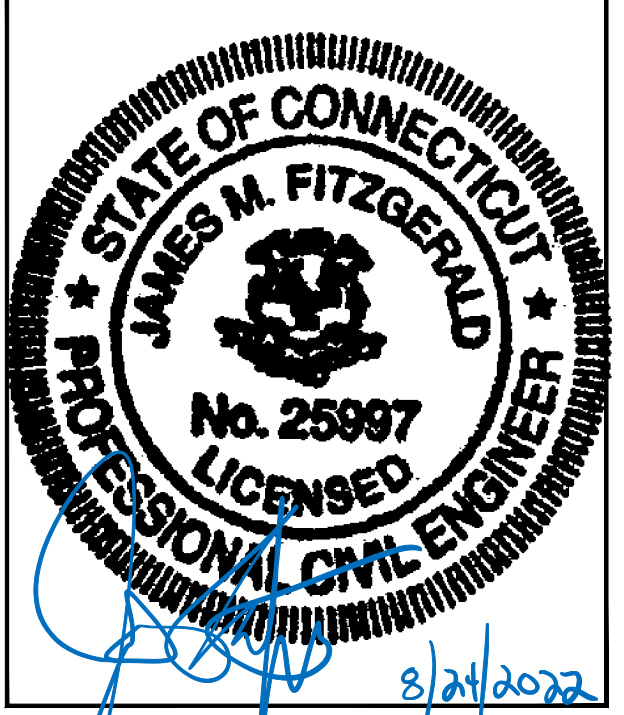
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
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 APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	07/11/22	ISSUED FOR CONSTRUCTION CMC	

SITE NUMBER:
CTNH402A

SITE ADDRESS:
 350 BURR MOUNTAIN ROAD
 TORRINGTON, CT 06790

SHEET TITLE
COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
A-1

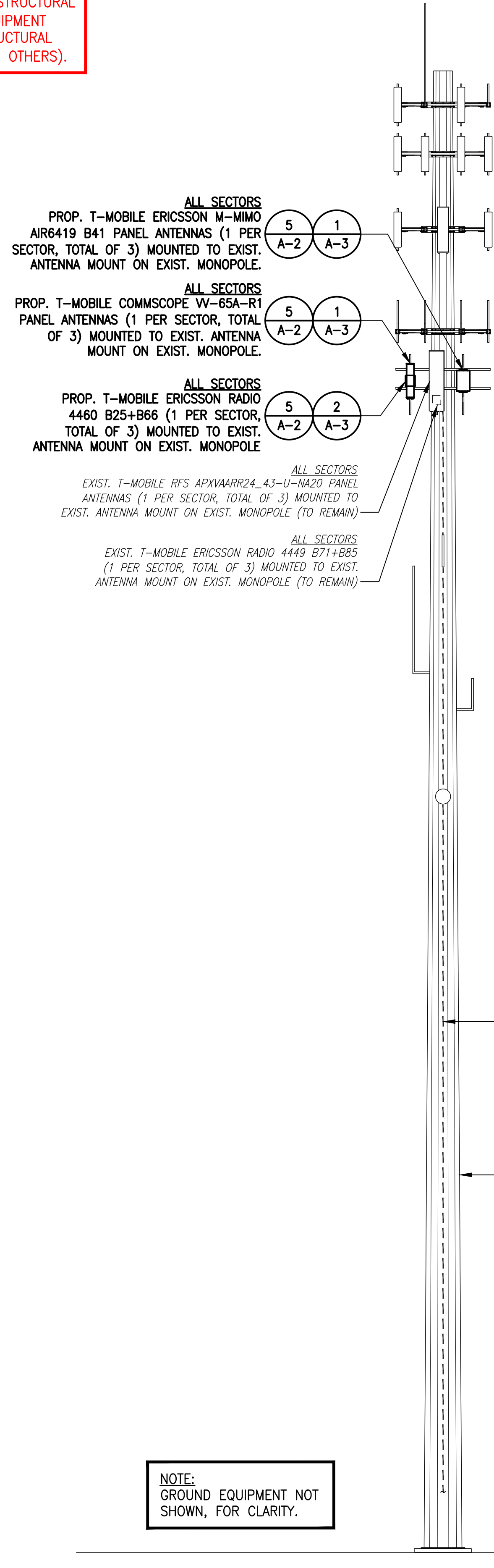
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SPECIAL CONSTRUCTION NOTE:
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS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

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.



EXISTING TOWER PHOTO
 SCALE: N.T.S.



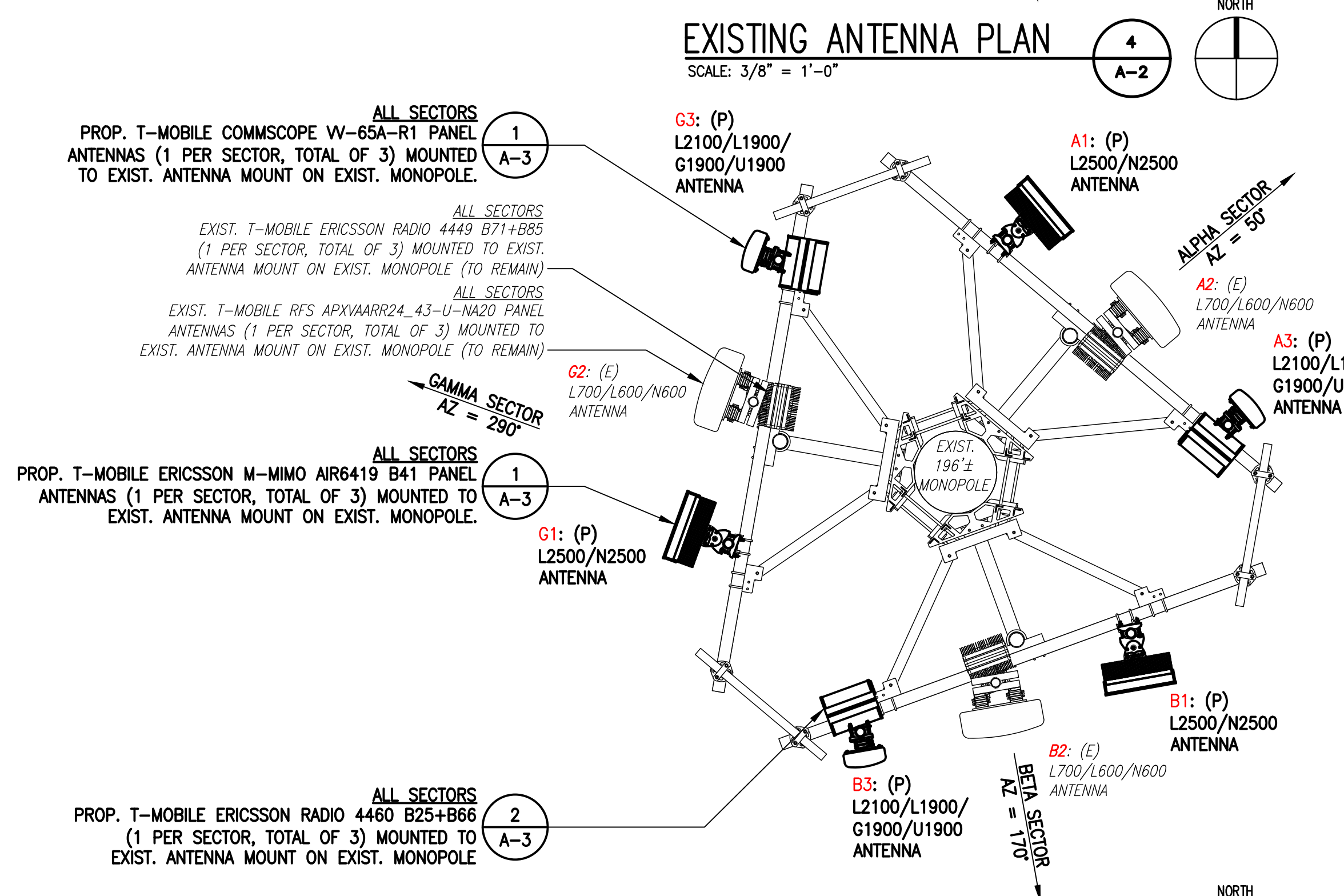
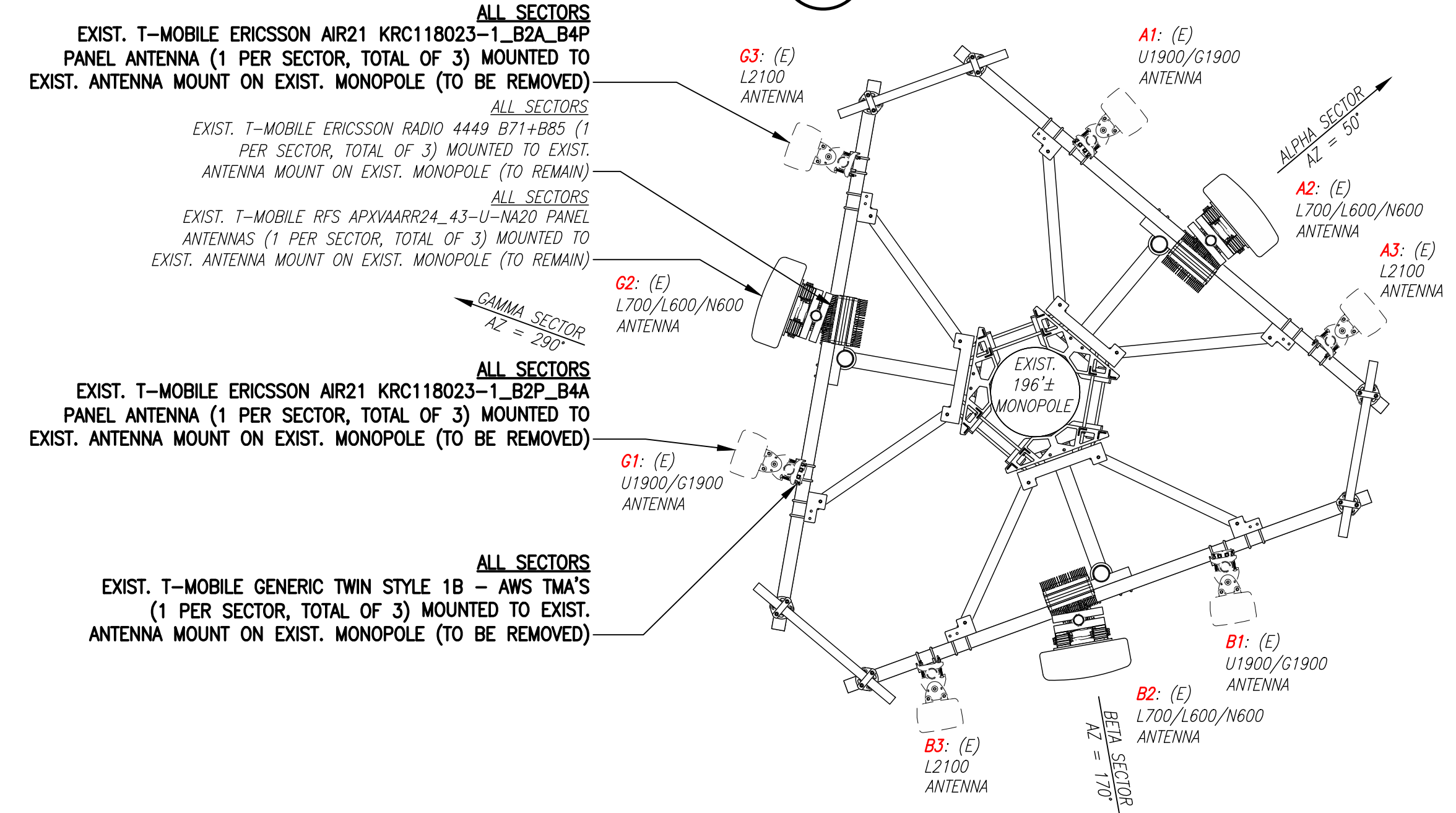
TOWER ELEVATION
 SCALE: 3/32" = 1'-0"

- EXIST. TOWN OF TORRINGTON P.D. ANTENNAS EL. = 198'± AGL
- TOP OF EXIST. MONOPOLE EL. = 196'± AGL
- EXIST. (6) SPRINT ANTENNAS EL. = 192'± AGL
- EXIST. (12) VERIZON ANTENNAS EL. = 185'± AGL
- EXIST. (9) AT&T ANTENNAS EL. = 175'± AGL
- EXIST. VACANT ANTENNA MOUNT EL. = 162'± AGL
- TOP OF EXIST. (3) T-MOBILE ANTENNAS EL. = 159'± AGL
- PROP. (6) T-MOBILE ANTENNAS EL. = 155'± AGL
- EXIST. (3) T-MOBILE ANTENNAS EL. = 155'± AGL
- EXIST. TOWN OF TORRINGTON P.D. ANTENNAS EL. = 133'± AGL
- EXIST. TOWN OF TORRINGTON P.D. ANTENNAS EL. = 117'± AGL
- EXIST. TOWN OF TORRINGTON P.D. ANTENNAS EL. = 112'± AGL
- EXIST. TOWN OF TORRINGTON P.D. ANTENNAS EL. = 100'± AGL

- ALL SECTORS**
 PROP. T-MOBILE ERICSSON M-MIMO AIR6419 B41 PANEL ANTENNAS (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT ON EXIST. MONOPOLE.
- ALL SECTORS**
 PROP. T-MOBILE COMMSCOPE WV-65A-R1 PANEL ANTENNAS (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT ON EXIST. MONOPOLE.
- ALL SECTORS**
 PROP. T-MOBILE ERICSSON RADIO 4460 B25+B66 (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT ON EXIST. MONOPOLE.
- ALL SECTORS**
 EXIST. T-MOBILE RFS APXVAARR24_43-U-NA20 PANEL ANTENNAS (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT ON EXIST. MONOPOLE (TO REMAIN)
- ALL SECTORS**
 EXIST. T-MOBILE ERICSSON RADIO 4449 B71+B85 (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT ON EXIST. MONOPOLE (TO REMAIN)



EXISTING ANTENNA PHOTO
 SCALE: N.T.S.



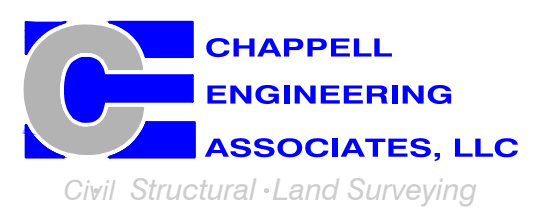
PROPOSED ANTENNA PLAN
 SCALE: 3/8" = 1'-0"

T-MOBILE NORTHEAST LLC

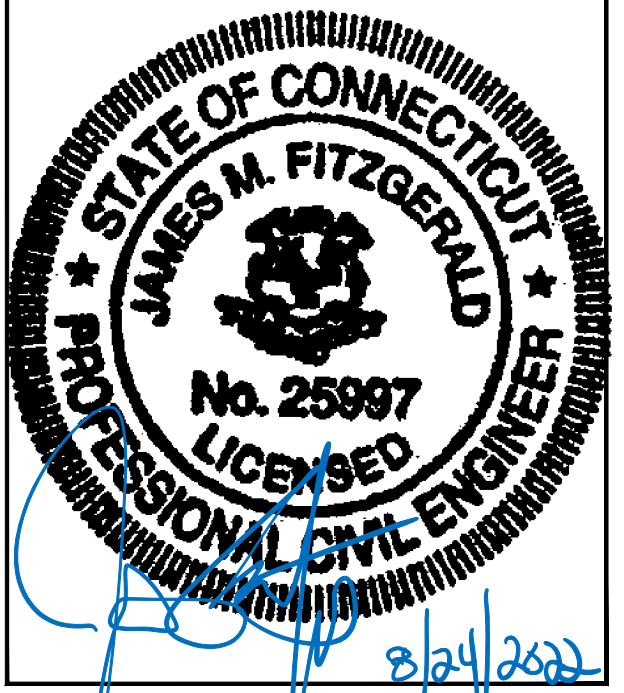
15 COMMERCE WAY, SUITE B
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 (508) 251-0720



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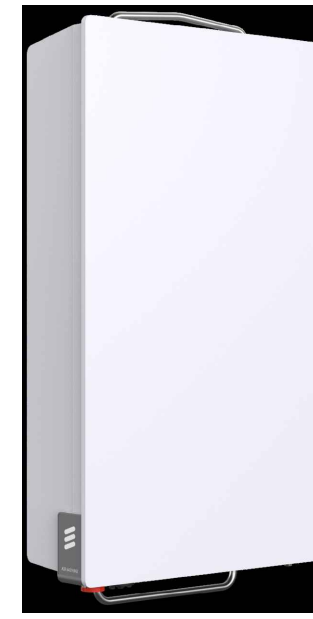
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REV.	DATE	DESCRIPTION	BY
0	07/11/22	ISSUED FOR CONSTRUCTION CMC	

SITE NUMBER:
CTNH402A

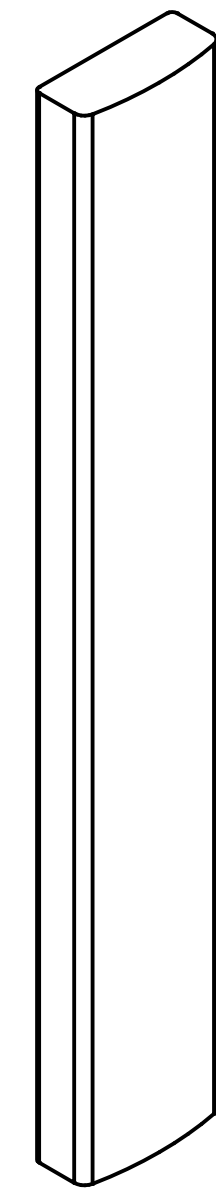
SITE ADDRESS:
 350 BURR MOUNTAIN ROAD
 TORRINGTON, CT 06790

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLANS

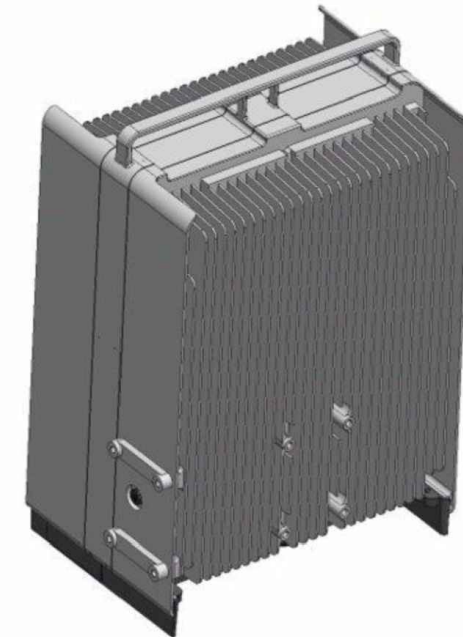
SHEET NUMBER
A-2



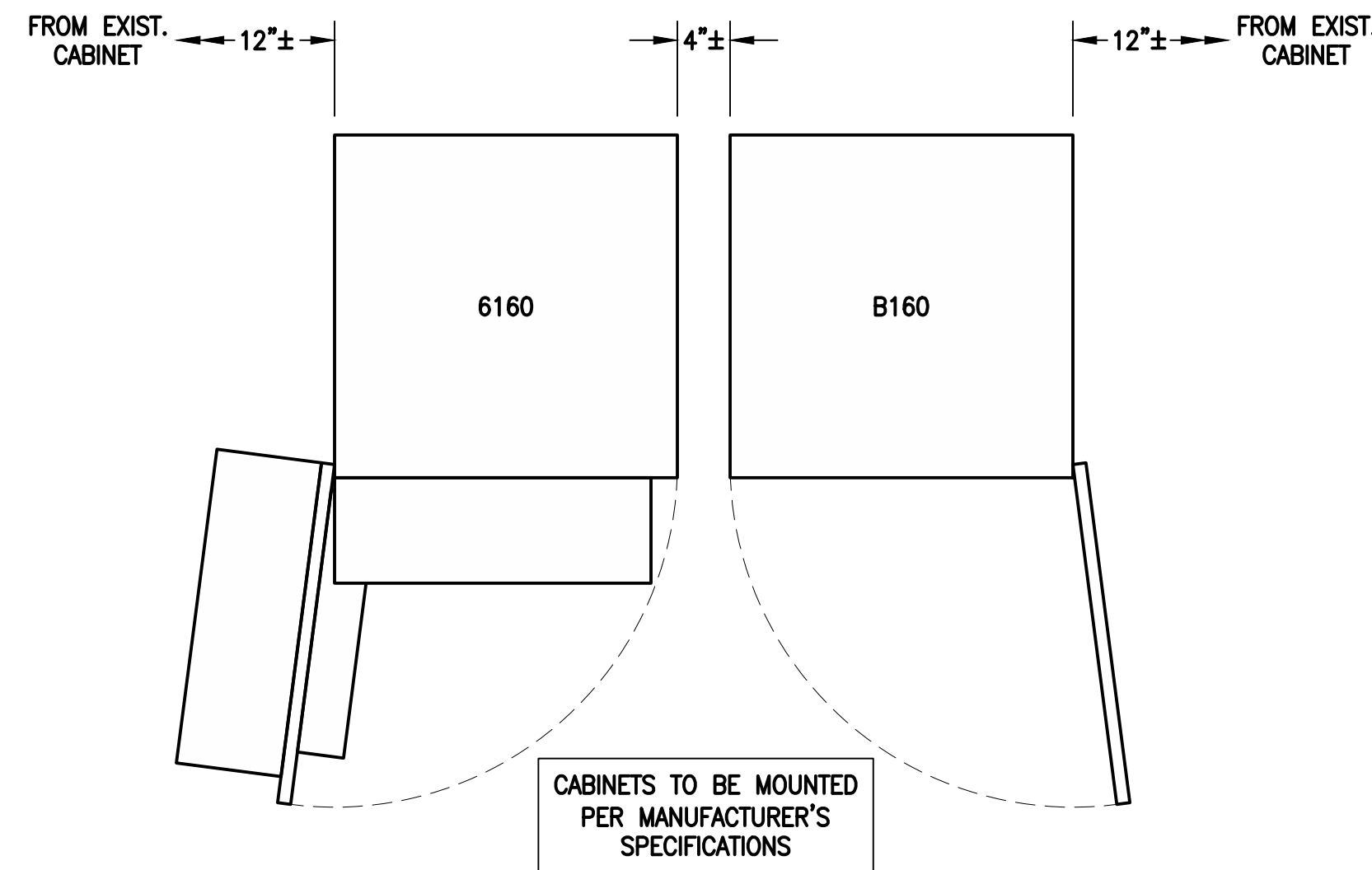
ERICSSON M-MIMO AIR6419 B41 ANTENNA
 DIMENSIONS: 36.3"H x 20.9"W x 9.0"D
 WEIGHT: 83.3 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3



COMMSCOPE W-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 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



ERICSSON 6160 SITE SUPPORT CABINET
 DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
 WEIGHT: 680.0 lbs
 QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET
 DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
 WEIGHT: 1771.0 lbs
 QUANTITY: TOTAL OF 1

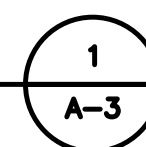


PURCELL SITE SUPPORT CABINET RAC24
 DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
 QUANTITY: TOTAL OF 1

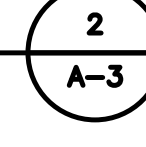


SLACKBOX - HOFFMAN 32FH91 NEMA 3R ENCLOSURE
 DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
 QUANTITY: TOTAL OF 1

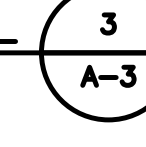
ANTENNA DETAILS
 SCALE: N.T.S.



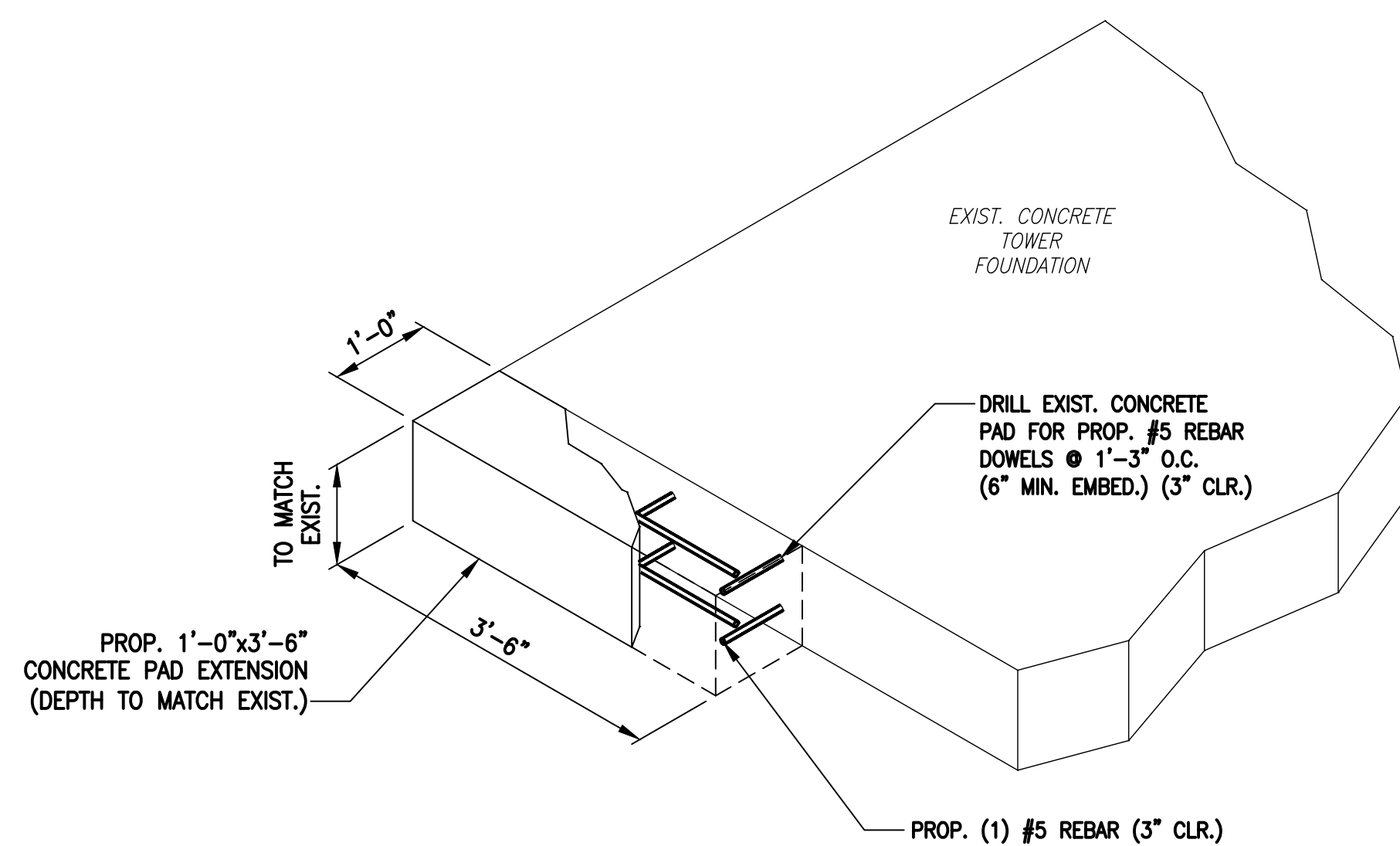
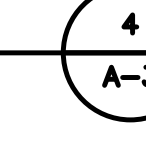
RADIO DETAILS
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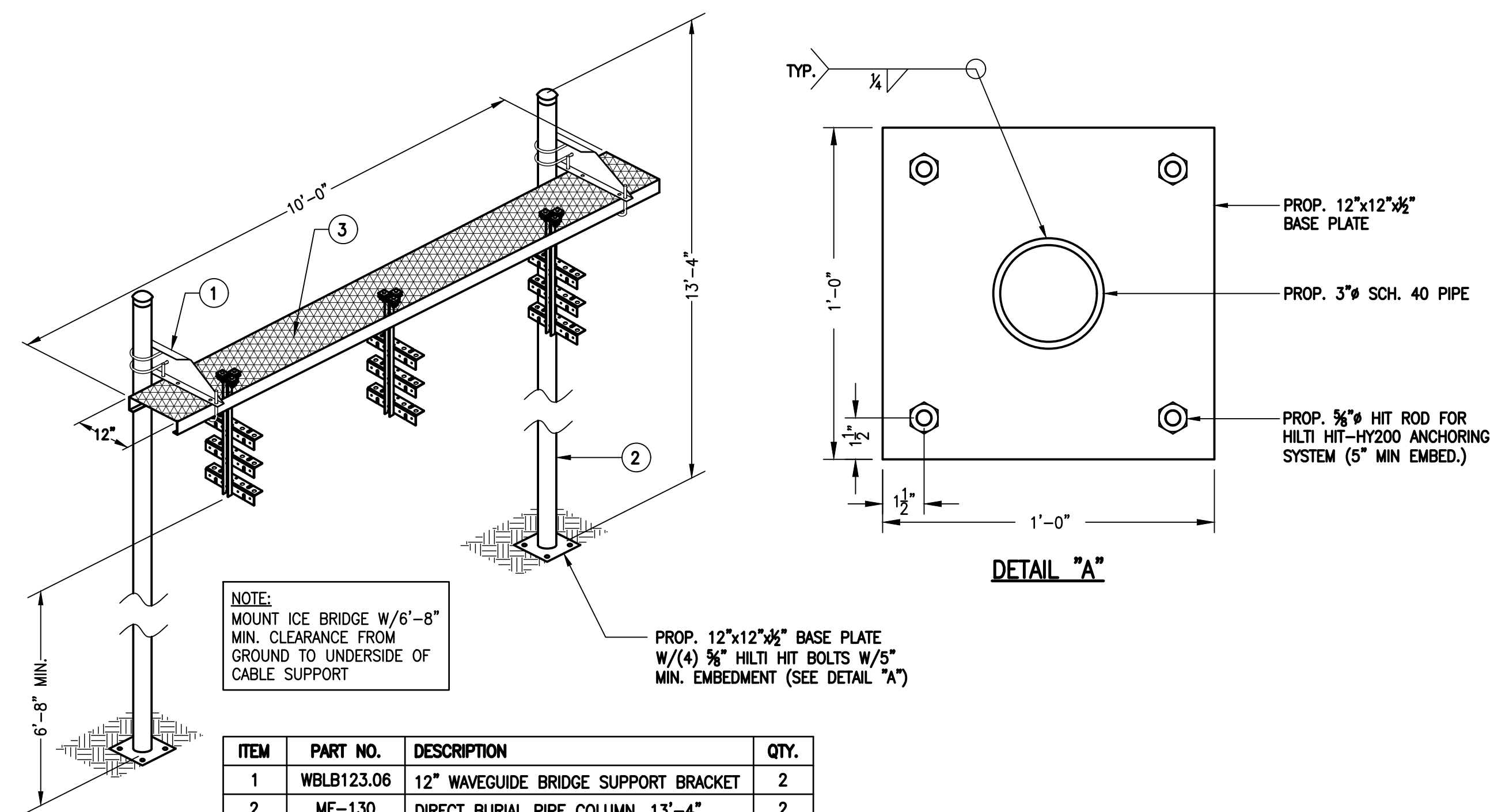
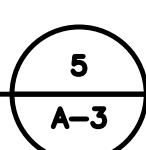
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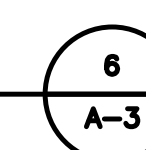
SSC DETAILS
 SCALE: N.T.S.



CONCRETE PAD EXTENSION
 SCALE: N.T.S.



CABLE BRIDGE DETAIL
 SCALE: N.T.S.

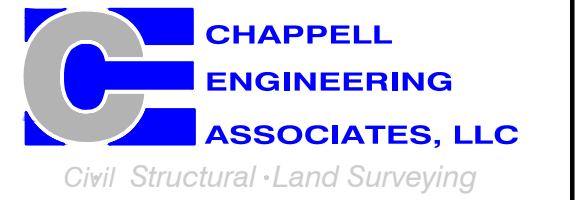


T-MOBILE NORTHEAST LLC

15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



SBA COMMUNICATIONS CORP.
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 WESTBOROUGH, MA 01581
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SUBMITTALS			
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0	07/11/22	ISSUED FOR CONSTRUCTION CMC	

SITE NUMBER:
CTNH402A

SITE ADDRESS:
 350 BURR MOUNTAIN ROAD
 TORRINGTON, CT 06790

SHEET TITLE
SITE DETAILS

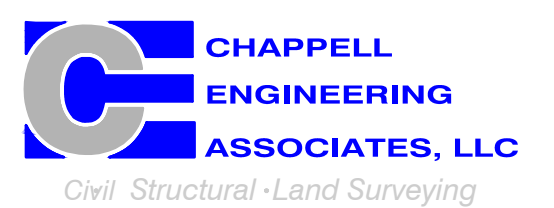
SHEET NUMBER
A-3

**T-MOBILE
NORTHEAST LLC**

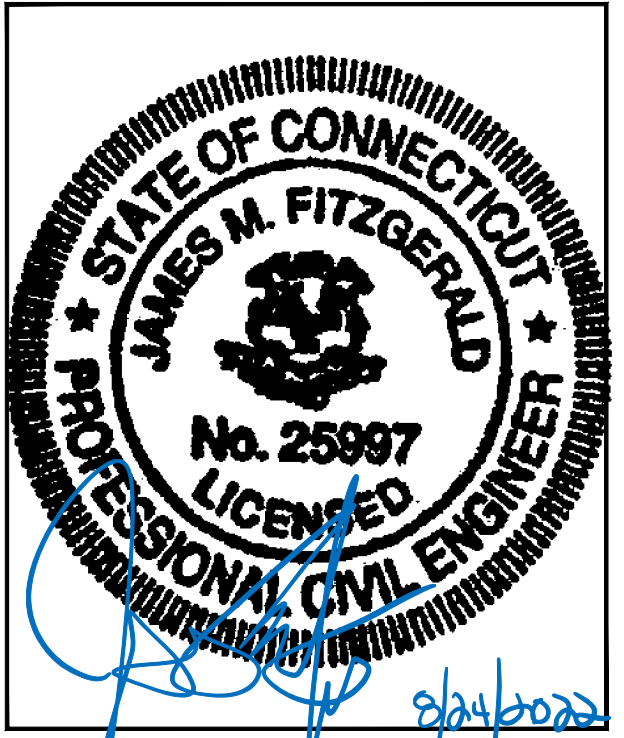
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SITE NUMBER:
CTNH402A

SITE ADDRESS:
350 BURR MOUNTAIN ROAD
TORRINGTON, CT 06790

SHEET TITLE
**ANTENNA &
FEEDLINE CHARTS**

SHEET NUMBER
A-4

FINAL ANTENNA CONFIGURATION							
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS
ALPHA	A1 ERICSSON M-MIMO AIR6419 B41	155'± AGL	50°	0°	0°	L2500/N2500	-
	A2 RFS APXVAARR24_43-U-NA20	155'± AGL	50°	0°	0°	L700/L600/N600	RADIO 4449 B71+BB5
	A3 COMMSCOPE VV-65A-R1	155'± AGL	50°	0°	0°	L2100/L1900/G1900/U1900	RADIO 4460 B25+B66
BETA	B1 ERICSSON M-MIMO AIR6419 B41	155'± AGL	170°	0°	0°	L2500/N2500	-
	B2 RFS APXVAARR24_43-U-NA20	155'± AGL	170°	0°	0°	L700/L600/N600	RADIO 4449 B71+BB5
	B3 COMMSCOPE VV-65A-R1	155'± AGL	170°	0°	0°	L2100/L1900/G1900/U1900	RADIO 4460 B25+B66
GAMMA	G1 ERICSSON M-MIMO AIR6419 B41	155'± AGL	290°	0°	0°	L2500/N2500	-
	G2 RFS APXVAARR24_43-U-NA20	155'± AGL	290°	0°	0°	L700/L600/N600	RADIO 4449 B71+BB5
	G3 COMMSCOPE VV-65A-R1	155'± AGL	290°	0°	0°	L2100/L1900/G1900/U1900	RADIO 4460 B25+B66

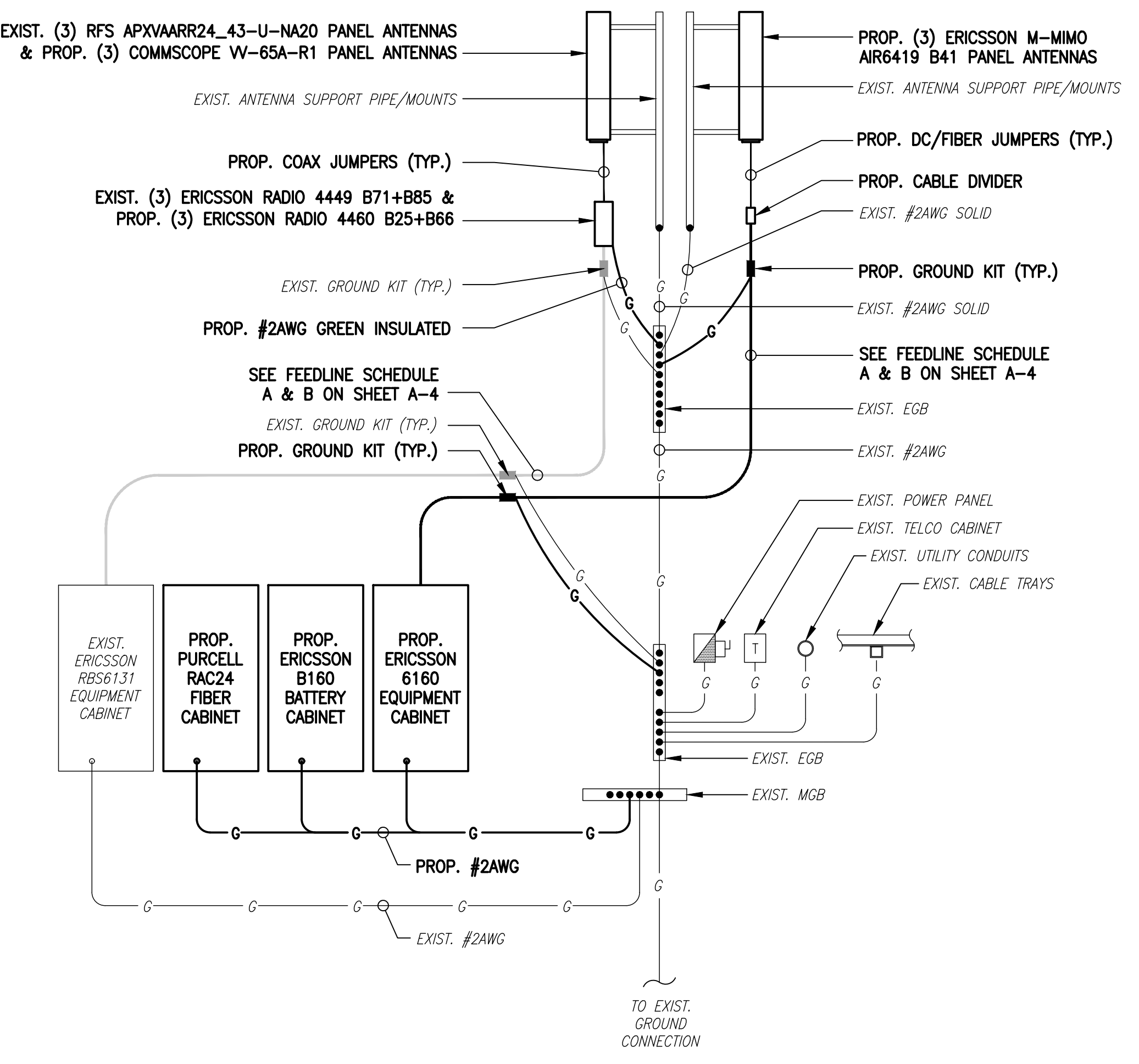
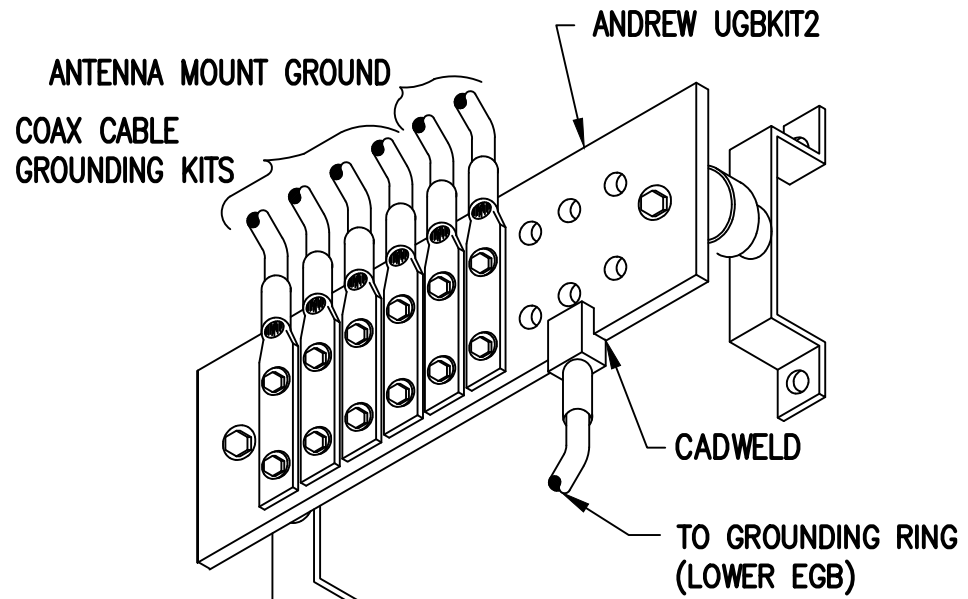
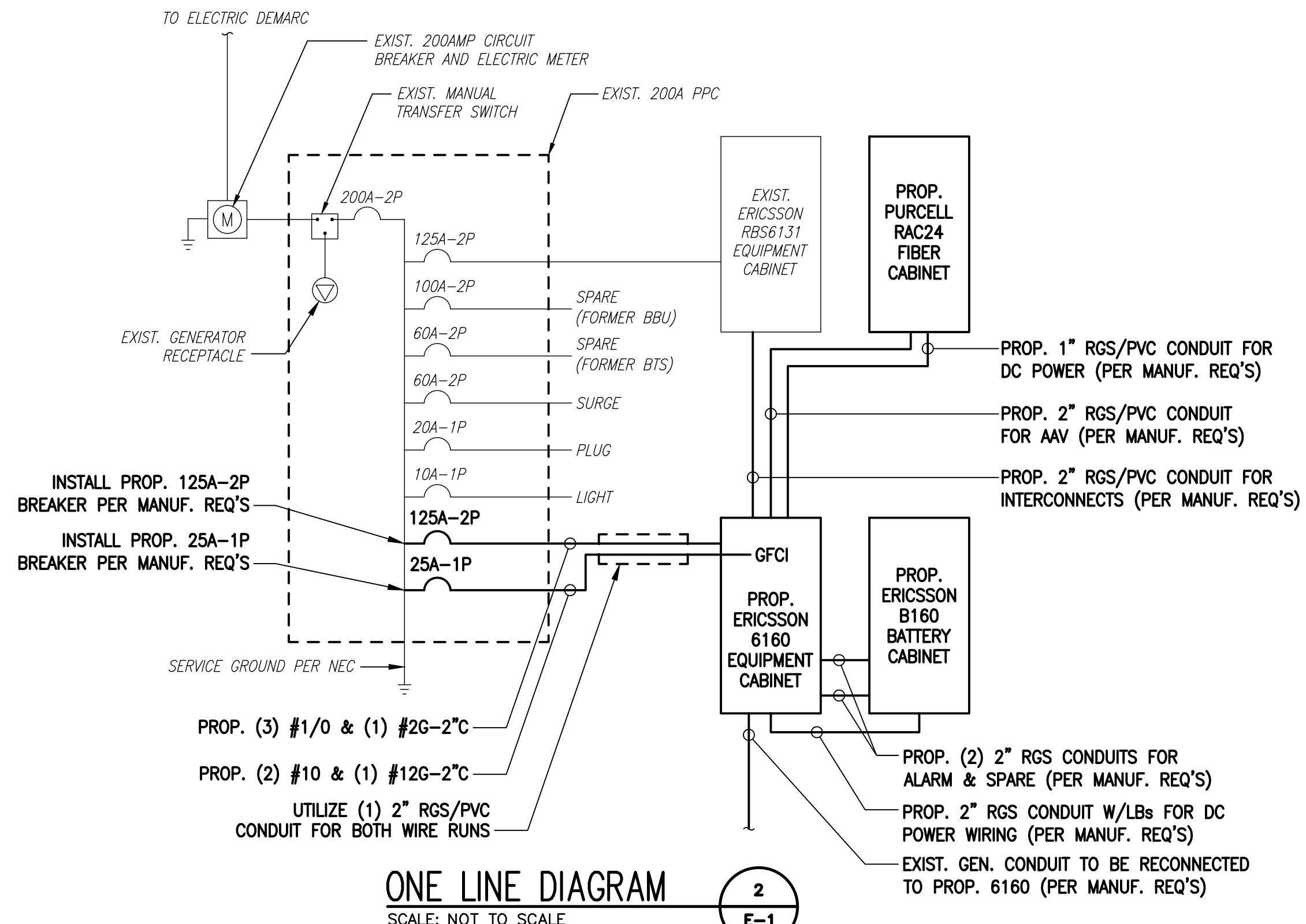
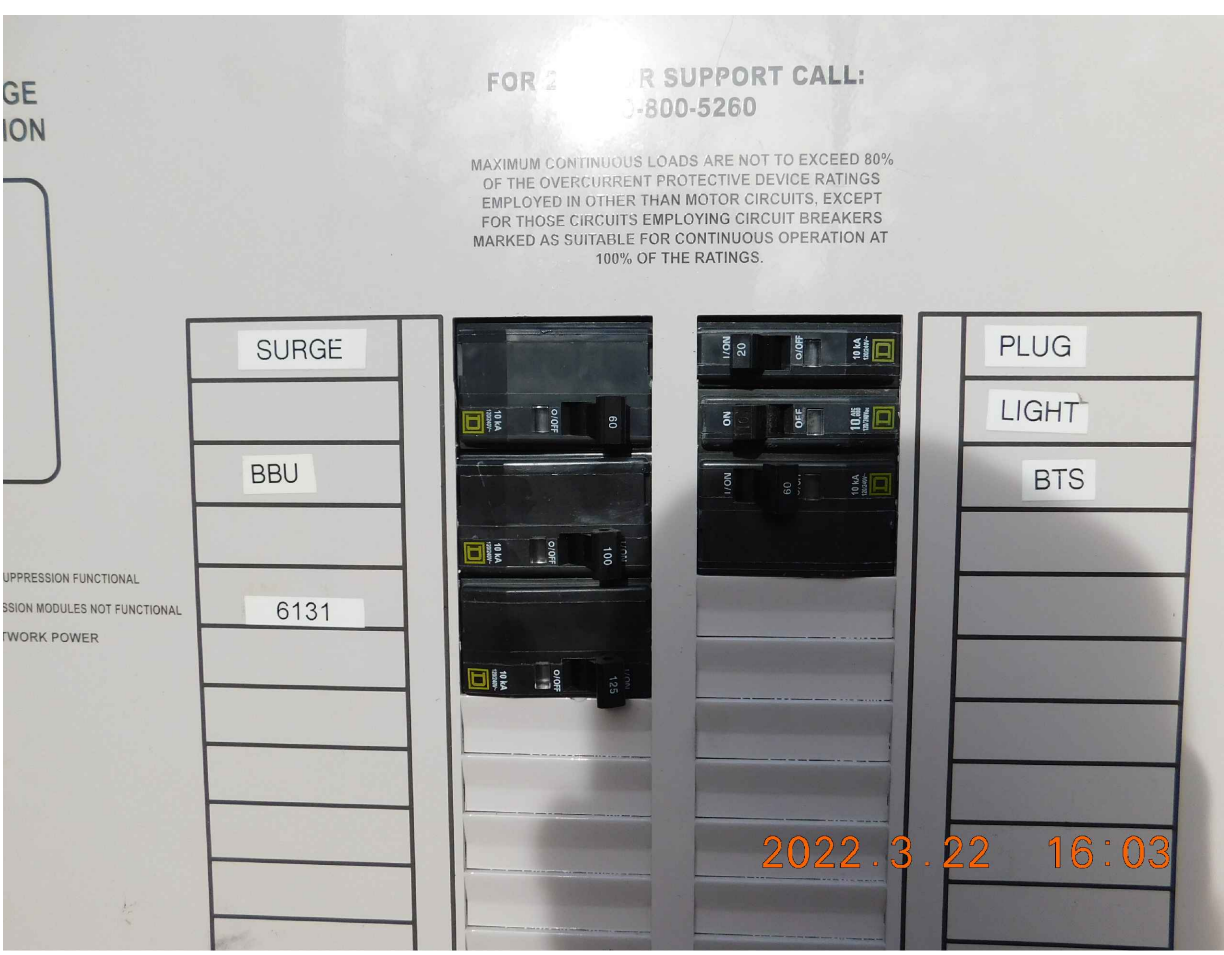
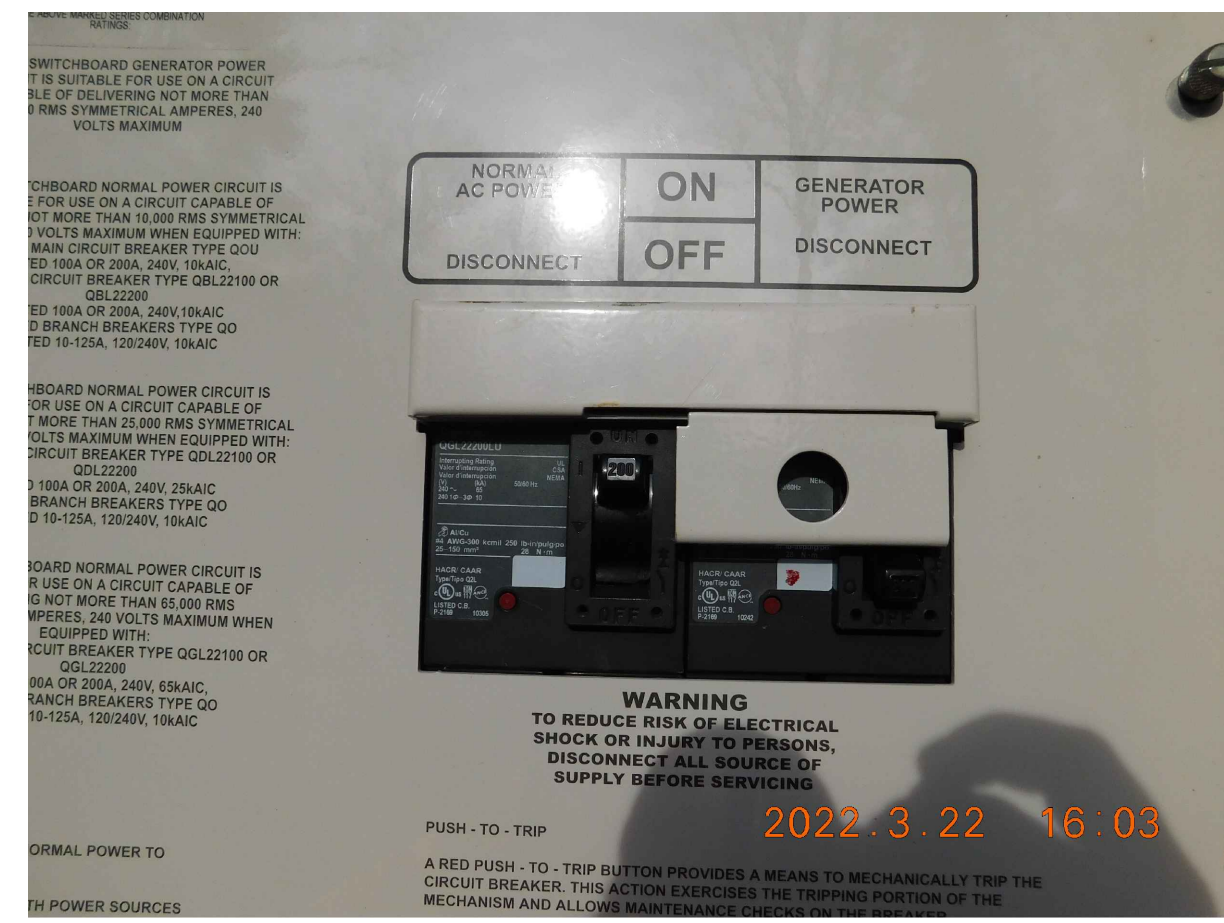
(3) 1-5/8" (6x12) HCS FIBER CABLES
(1) 2" (6x24) HCS FIBER CABLE

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

NOTE: RFDS REV4 - 03/07/22

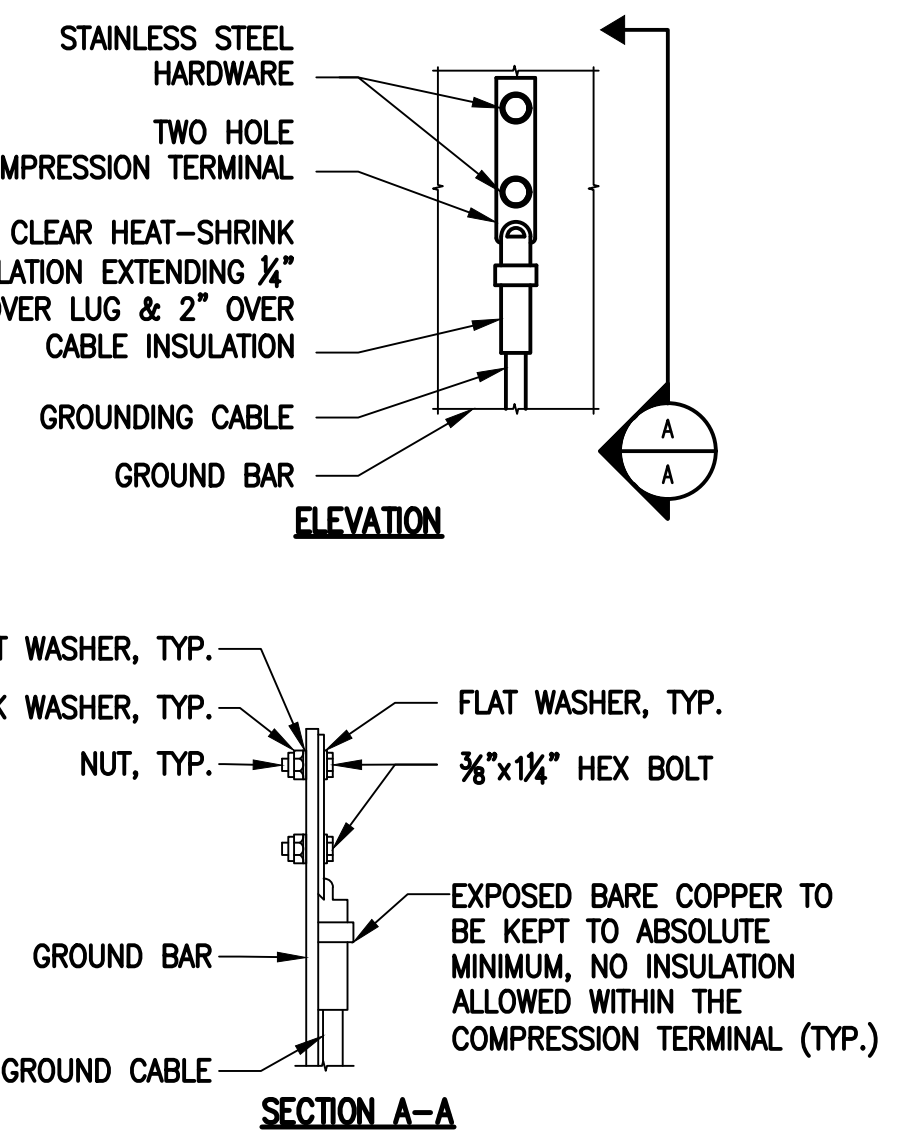
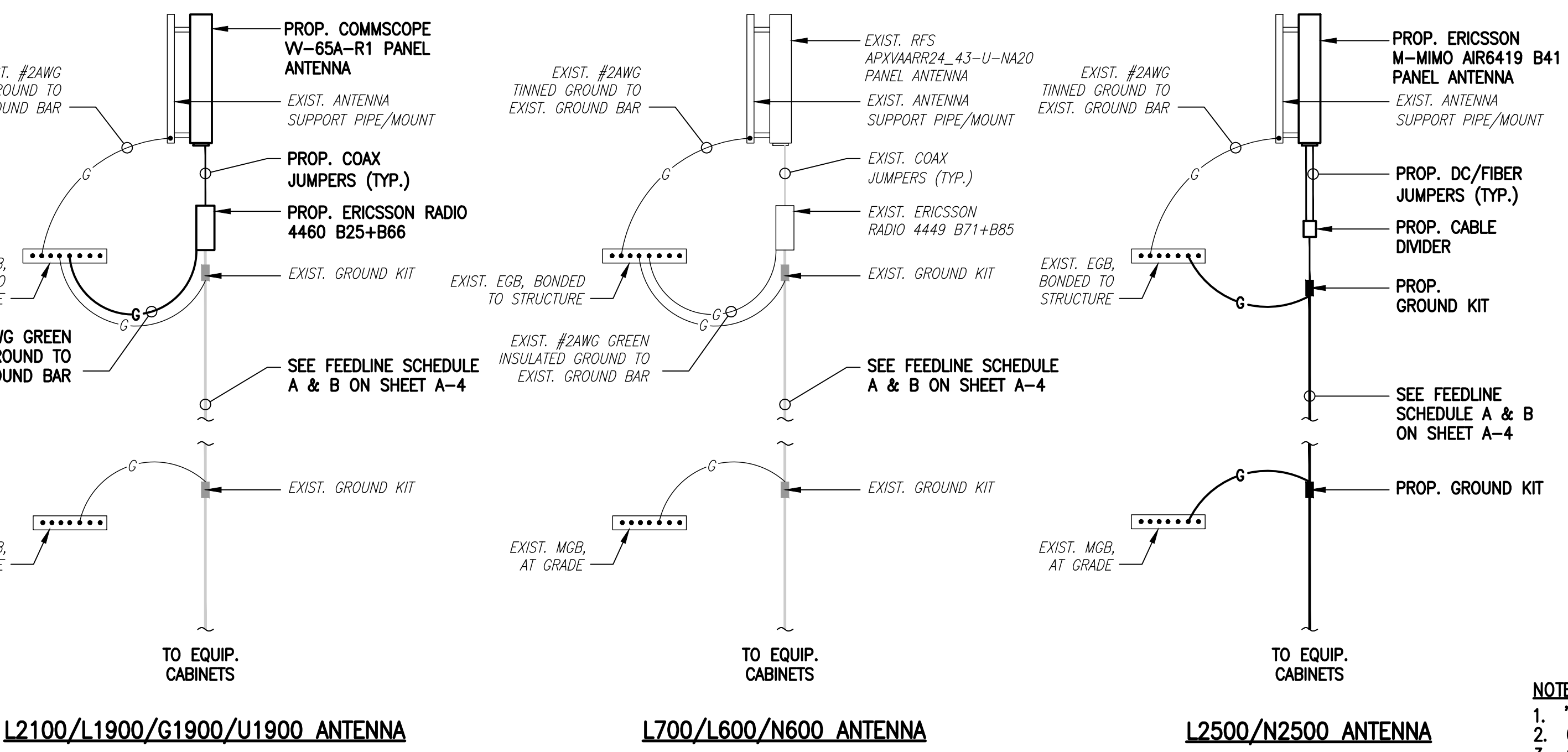
FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	<p>EXISTING TO REMAIN: (3) 1-5/8" (6x12) HCS FIBER CABLES (1) 1/2" COAX CABLE FOR GPS</p> <p>EXISTING TO BE REMOVED: (1) 1-1/4" (9x18) HCS FIBER CABLE ALL COAX CABLES</p>	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 2" (6x24) HCS FIBER CABLE	

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



EXISTING POWER PANEL PHOTOS
SCALE: NOT TO SCALE

1
E-1



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

ELECTRICAL AND GROUNDING NOTES

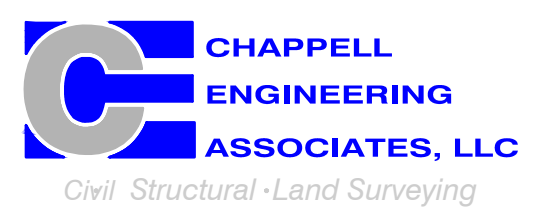
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- 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.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
- 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.
- 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.
- 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.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- 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".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- 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.
- ALL GROUND CONNECTIONS TO BE BURNED HYDROGEN COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- 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.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- 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.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- 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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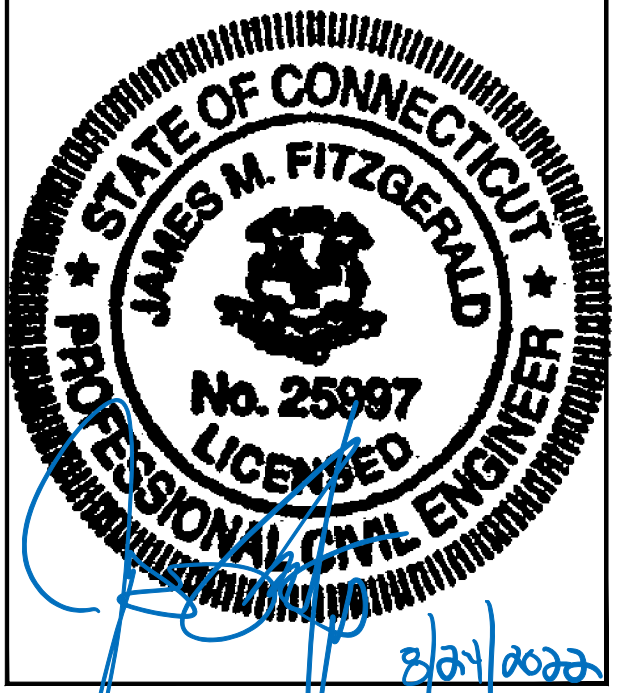
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SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	07/11/22	ISSUED FOR CONSTRUCTION	CMC

SITE NUMBER:
CTNH402A

SITE ADDRESS:
350 BURR MOUNTAIN ROAD
TORRINGTON, CT 06790

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

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

Structural Analysis Report

Existing 196 ft Valmont Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT46138-A
Customer Site Name: Torrington/Oandg Ind Inc
Carrier Name: T-Mobile (App#: 194679-1)
Carrier Site ID / Name: CTNH402A / Litchfield SSUSA
Site Location: LOT 5 Burr Mountain Road
Torrington, Connecticut
Litchfield County
Latitude: 41.873255
Longitude: -73.088405

Analysis Result:

Max Structural Usage: 91.3% [Pass]
Max Foundation Usage: 78.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A



Report Prepared By: Kevin Azisllari



Tower Engineering Solutions

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1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

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Analysis Result:

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Max Foundation Usage: 78.0% [Pass]

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

Report Prepared By: Kevin Azisllari

Introduction

The purpose of this report is to summarize the analysis results on the 196 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Valmont, Order # 17566-64 Dated 08/03/2004
Foundation Drawing	Valmont, Eng File # A-402723 Dated 07/16/2004
Geotechnical Report	Geotechnical Report by Dr. Clarence Welti, P.E, P.C, Tower- CT33XC079 Dated 06/18/2004
Modification Drawings	Vertical Solutions, Project # 130499 Dated 06/28/2013
Mount Analysis	TES 128320, dated 04/26/2022

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 $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.179, S_1 = 0.065$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	198.0	1	RFI - BA80-41-DIN - Omni	(1) Pipe mount	(1) 7/8"	Torrington P.D.
2	191.5	3	RFS - APXVTM14-C-120 - Panel	Low Profile Platform	(6) 1 5/8" (4) 1-1/4" Fiber	Sprint
3		3	RFS - APXVSP18-C-A20 - Panel			
4		3	ALU - 800MHz - RRU			
5		3	ALU - 1900MHz - RRU			
6		3	ALU - RRH8x20-25 - RRU			
7		3	ALU - 800MHz Filter - RRU Filter			
8		4	RFS - ACU-A20-N - RET			
9		185.0	3			
10	6		Andrew JAHH-65C-R3B-V2 - Panel			
11	3		Samsung MT6407-77A - Panel			
12	3		Commscope CBC78T-DS-43-2X			
13	3		Samsung Telecommunications RFV01U-D2A			
14	3		Samsung RFV01U-1A			
15	1		RFS DB-C1-12C-24AB-OZ			
16	175.0	6	Kathrein 800-10965- Panel	Low Profile Platform SitePro1 HRK12 (Handrail Kit)	(12) 1 5/8" (2) 2" Conduit (Housing (4) 3/4" & (2) 7/16" Fiber lines) (1) 3" Conduit (Housing (2) 3/4" & (1) 7/16" Fiber lines)	AT&T
17		2	Raycap DC6-48-60-18-8C-EV			
18		3	Ericsson RRUS 32 B30			
19		3	Ericsson RRUS 4478 B14			
20		3	Ericsson RRUS 4449 B5/B12			
21		12	Powerwave LGP13519 Diplexer			
22		12	Powerwave LGP21401 TMA			
23		3	Powerwave 7770- Panel			
24		3	Ericsson RRUS 12			
25		1	Raycap DC6-48-60-18-8F			
-	155.0	3	RFS APXVAARR24_43-U-NA20	(3) T-Arms w/ Handrail kit & v-brace kit	(9) 1 5/8" Coax (4) 1 5/8" Fiber	T-Mobile
-		3	Ericsson AIR 21 B4A/B2P			
-		3	Ericsson AIR 21 B2A/B4P			
-		3	Ericsson KRY 112 144/1			
-		3	Ericsson Radio 4449 B71 + B12			
32	145.0	3	JMA Wireless MX08FRO665-21 - Panel	(1) Commscope MC-PK8-DSH (Platform w/ Handrails)	(1) 1.6" Hybrid	Dish Wireless
33		3	Fujitsu TA08025-B605 - RRU			
34		3	Fujitsu TA08025-B604 - RRU			
35		1	Raycap RDIDC-9181-PF-48 - OVP			
36	132.5	1	Telewave - ANT150F2 - Omni	(1) Standoff	(1) 7/8"	Torrington P.D.
37	116.5	5	14' Omni	(6) Standoff	(6) 1/2"	
38	111.5	1	4' Omni			
39	100.0	1	Maxrad - MPRD - Dish	(1) Standoff	(2) CAT5e	

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
26	155.0	3	Commscope VV-65A-R1 - Panel	(3) T-Arms w/ Handrail kit & v-brace kit	(8) 1 5/8" (3) 1 5/8" Fiber (1) 1.9" Fiber	T-Mobile
27		3	Ericsson AIR6419 B41 - Panel			
28		3	RFS APXVAARR24_43-U-NA20 - Panel			
29		3	Ericsson KRY 112 144/1			
30		3	Ericsson 4449 B71 + B85			
31		3	Ericsson 4460 B25 + B66			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	91.3%	72.7%	71.6%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	7146.5	50.4	83.0

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 1.8244 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 79.10% at 115.0ft

Structure: CT46138-A-SBA
Site Name: Torrington/Oandg Ind Inc
Height: 196.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

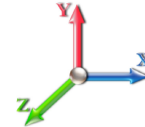
4/29/2022



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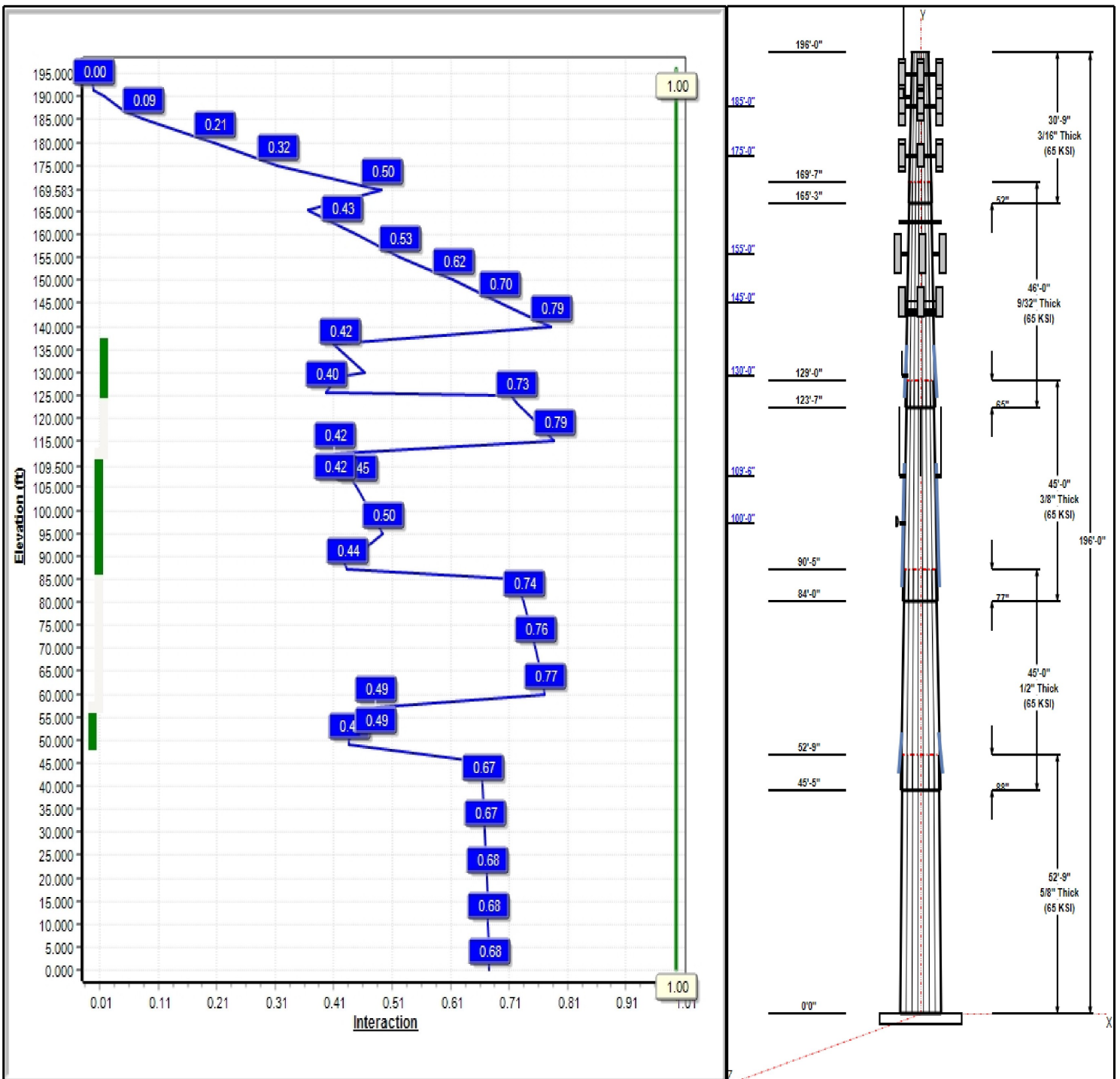
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 27

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Structure: CT46138-A-SBA

Type: Tapered
Site Name: Torrington/Oandg Ind Inc
Height: 196.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.21000

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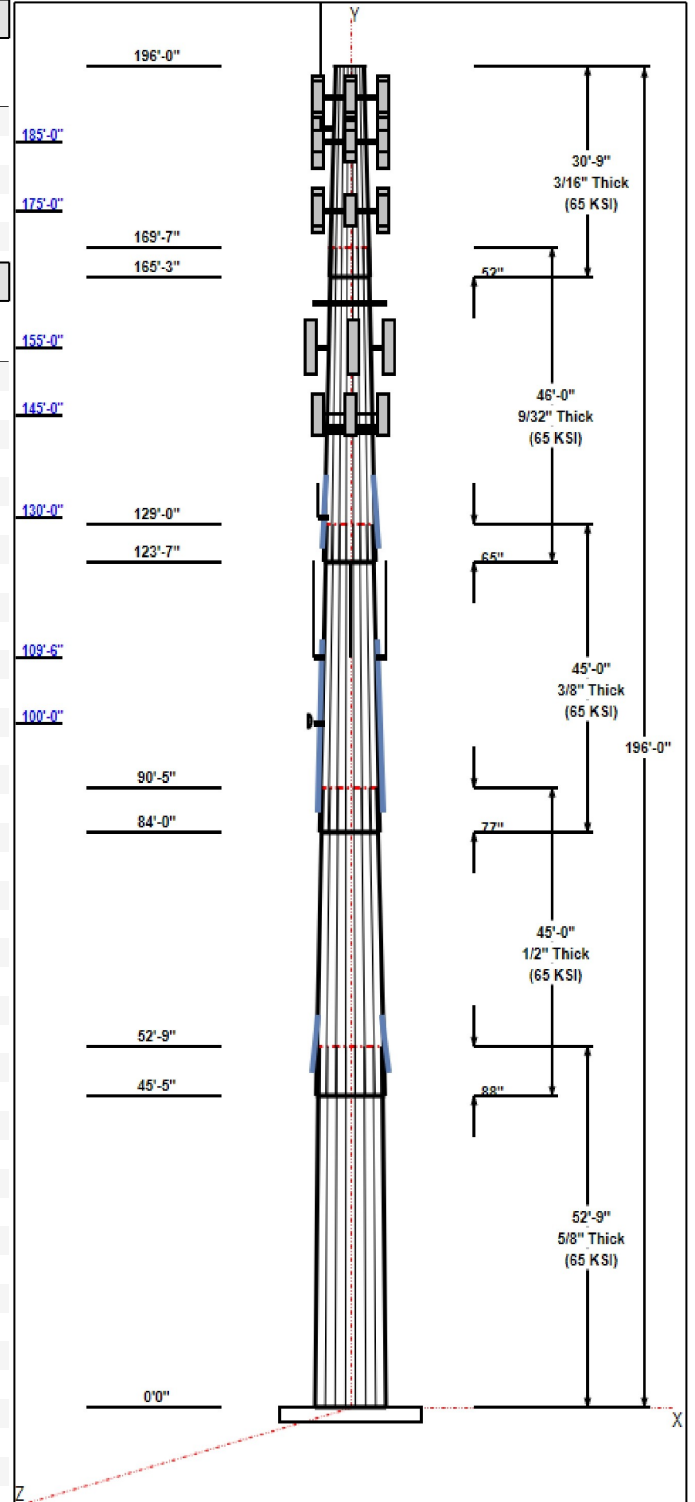


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	52.75	48.92	60.00	0.625		0.21000	65
2	45.00	42.01	51.46	0.500	Slip	0.21000	65
3	45.00	34.66	44.11	0.375	Slip	0.21000	65
4	46.00	26.70	36.36	0.281	Slip	0.21000	65
5	30.75	21.53	27.98	0.188	Slip	0.21000	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
196.00	196.00	1	6' Lightning rod	Torrington P.D.
191.50	191.50	3	APXVTM14-C-120	Sprint
191.50	191.50	3	APXVSP18-C-A20	Sprint
191.50	191.50	3	800MHz - RRU	Sprint
191.50	191.50	3	1900MHz - RRU	Sprint
191.50	191.50	3	RRH8x20-25 - RRU	Sprint
191.50	191.50	3	800MHz Filter	Sprint
191.50	191.50	4	ACU-A20-N - RET	Sprint
191.50	191.50	1	Low Profile Platform	Sprint
187.00	187.00	1	Pipe mount	Torrington P.D.
187.00	197.33	1	BA80-41-DIN	Torrington P.D.
185.00	185.00	6	JAHH-65C-R3B-V2	Verizon
185.00	185.00	3	MT6407-77A	Verizon
185.00	185.00	3	CBC23SR-43	Verizon
185.00	185.00	3	BXA-70063 6CF_2	Verizon
185.00	185.00	1	Low Profile	Verizon
185.00	185.00	3	RFV01U-D2A	Verizon
185.00	185.00	3	RFV01U-D1A	Verizon
185.00	185.00	1	DB-C1-12C-24AB-0Z	Verizon
185.00	185.00	1	HRK12-HD	Verizon
175.00	175.00	6	Kathrein 800-10965	AT&T
175.00	175.00	1	HRK12 (Handrail Kit)	AT&T
175.00	175.00	2	Raycap	AT&T
175.00	175.00	3	Ericsson RRUS 32 B30	AT&T
175.00	175.00	3	Ericsson RRUS 4478 B14	AT&T
175.00	175.00	3	Ericsson RRUS 4449	AT&T
175.00	175.00	12	Powerwave LGP13519	AT&T
175.00	175.00	12	Powerwave LGP21401	AT&T
175.00	175.00	3	Powerwave 7770	AT&T
175.00	175.00	3	RRUS-12	AT&T
175.00	175.00	1	DC6-48-60-18-8F	AT&T
175.00	175.00	1	Low Profile Platform	AT&T
161.50	161.50	1	Low Profile Platform	Vacant
155.00	155.00	3	Commscope VV-65A-R1	T-Mobile
155.00	155.00	3	Ericsson AIR6419 B41	T-Mobile
155.00	155.00	3	RFS	T-Mobile
155.00	155.00	3	Ericsson KRY 112 144/1	T-Mobile
155.00	155.00	3	Ericsson 4449 B71 + B85	T-Mobile
155.00	155.00	3	Ericsson 4460 B25 + B66	T-Mobile
155.00	155.00	3	T-Arms w/ Handrail kit &	T-Mobile
145.00	145.00	3	MX08FRO665-21	Dish Wireless
145.00	145.00	1	MC-PK8-DSH	Dish Wireless
145.00	145.00	3	TA08025-B605	Dish Wireless
145.00	145.00	3	TA08025-B604	Dish Wireless



Structure: CT46138-A-SBA

Type: Tapered	Base Shape: 16 Sided	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Taper: 0.21000	
Height: 196.00 (ft)		
Base Elev: 0.00 (ft)		Page: 3



145.00	145.00	1	RDIDC-9181-PF-48	Dish Wireless
130.00	132.50	1	ANT150F2	Torrington P.D.
130.00	130.00	1	Standoff	Torrington P.D.
109.50	116.50	5	14' Omni	Torrington P.D.
109.50	111.50	1	4' Omni	Torrington P.D.
109.50	109.50	5	Standoff	Torrington P.D.
109.50	109.50	1	Standoff	Torrington P.D.
100.00	100.00	1	MPRD	Torrington P.D.
100.00	100.00	1	Standoff	Torrington P.D.

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	191.50	Inside	1 5/8" Coax	Sprint
0.00	191.50	Inside	1-1/4" Fiber	Sprint
0.00	187.00	Inside	7/8" Coax	Torrington P.D.
0.00	185.00	Inside	1 5/8" Coax	Verizon
0.00	185.00	Inside	1 5/8" Hybrid	Verizon
0.00	175.00	Inside	1 5/8" Coax	AT&T
0.00	175.00	Outside	2" Conduit	AT&T
0.00	175.00	Outside	3" Conduit	AT&T
0.00	175.00	Inside	3/4" DC	AT&T
0.00	175.00	Inside	7/16" Fiber	AT&T
0.00	155.00	Inside	1 5/8" Coax	T-Mobile
0.00	155.00	Inside	1 5/8" Fiber	T-Mobile
0.00	155.00	Inside	1.9" Fiber	T-Mobile
0.00	145.00	Inside	1.6" Hybrid	Dish Wireless
0.00	130.00	Outside	7/8" Coax	Torrington P.D.
0.00	109.50	Inside	1/2" Coax	Torrington P.D.
0.00	100.00	Inside	CAT5e	Torrington P.D.

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
28	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	73.7	45.0	Polygon

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	7146.5	50.4	83.0
0.9D + 1.6W 93 mph Wind	7044.4	50.3	62.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	2197.0	15.0	124.1
1.2D + 1.0E	371.5	2.7	83.1
0.9D + 1.0E	365.8	2.7	62.3
1.0D + 1.0W 60 mph Wind	1845.7	13.1	69.2

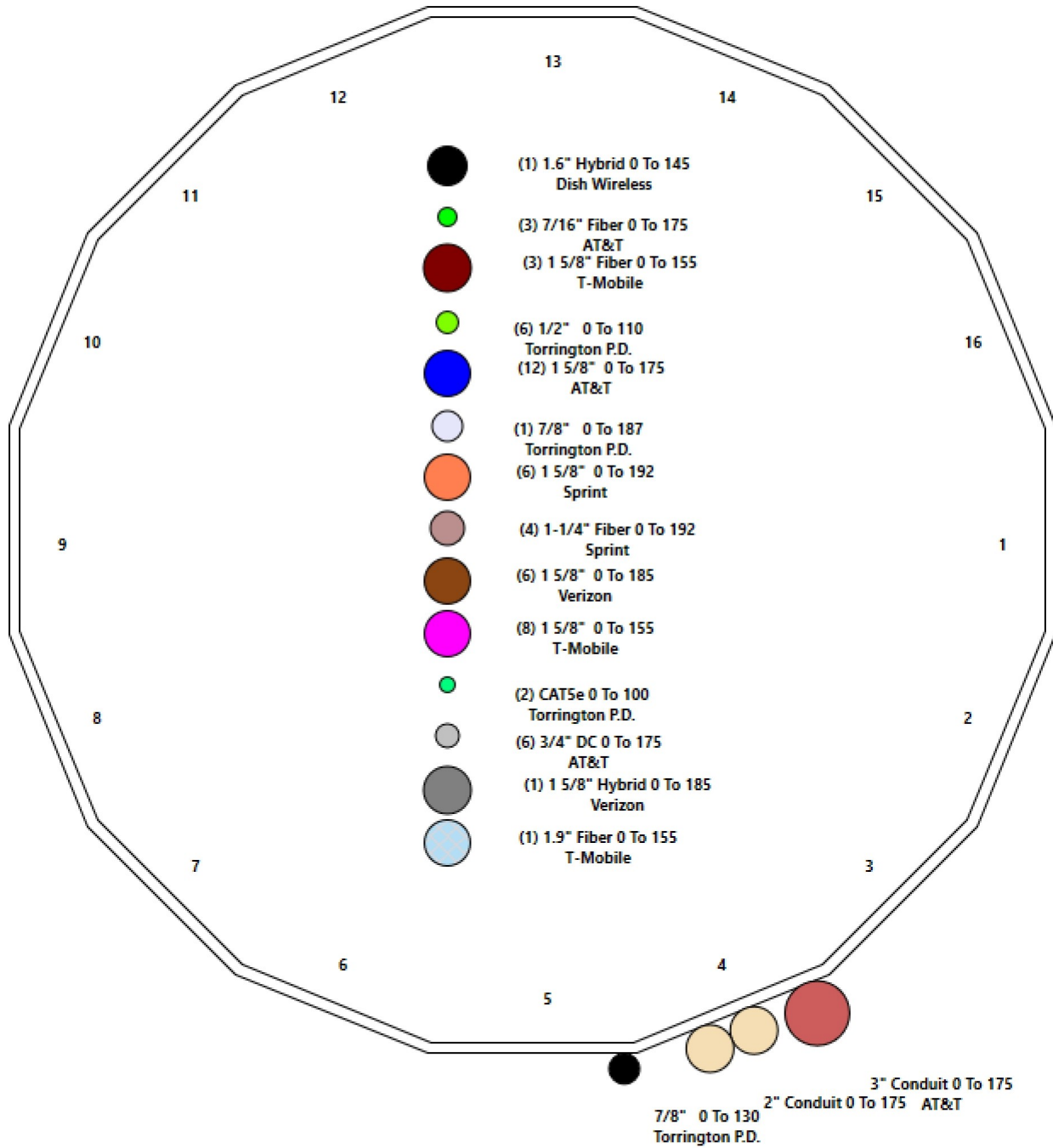
Structure: CT46138-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Torrington/Oandg Ind Inc
Height: 196.00 (ft)

4/29/2022



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Shaft Properties

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	52.750	0.6250	65		0.00	19,266
2	16	45.000	0.5000	65	Slip	88.00	11,293
3	16	45.000	0.3750	65	Slip	77.00	7,146
4	16	46.000	0.2813	65	Slip	65.00	4,388
5	16	30.750	0.1875	65	Slip	52.00	1,538
Total Shaft Weight:							43,631

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	60.00	0.00	118.3	52722.49	17.50	96.00	48.92	52.75	96.29	28376.2	13.98	78.28	0.210003
2	51.46	45.42	81.29	26670.08	18.88	102.92	42.01	90.42	66.21	14414.6	15.12	84.02	0.210003
3	44.11	84.00	52.32	12642.04	21.81	117.63	34.66	129.00	41.01	6090.27	16.79	92.43	0.210003
4	36.36	123.5	32.37	5322.81	24.12	129.28	26.70	169.58	23.70	2089.84	17.29	94.93	0.210003
5	27.98	165.2	16.63	1622.94	28.10	149.25	21.53	196.00	12.76	734.28	21.25	114.8	0.210003

Additional Steel

Elev From (ft)		Elev To (ft)		Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors		
		Spacing (in)	Description						Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
48.90	57.15	4	PLT 7.25x1.5(31mm Hole)		50	65	0.00	AJM20&sleeve	0.00	AJM20&sleeve	3.00	14	13
87.00	112.2	4	PLT 6.5x1.5(31mm Hole)		50	65	0.00	AJM20&sleeve	0.00	AJM20&sleeve	3.00	12	11
125.6	136.2	4	PLT 4.75x1.5(31mm Hole)		50	65	0.00	AJM20&sleeve	24.00	AJM20&sleeve	3.00	8	7

Load Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	196.00	6' Lightning rod	1	6.50	0.38	1.00	43.78	1.497	1.00	0.00	0.00
2	191.50	APXVTM14-C-120	3	56.00	6.34	0.85	221.20	7.483	0.88	0.00	0.00
3	191.50	APXVSP18-C-A20	3	57.00	8.02	0.83	234.13	10.883	0.85	0.00	0.00
4	191.50	800MHz - RRU	3	53.00	2.49	0.67	128.79	3.662	0.70	0.00	0.00
5	191.50	1900MHz - RRU	3	44.00	3.80	0.67	155.86	5.224	0.70	0.00	0.00
6	191.50	RRH8x20-25 - RRU	3	70.00	4.05	0.67	183.78	4.885	0.70	0.00	0.00
7	191.50	800MHz Filter	3	8.80	0.78	0.67	26.88	1.443	0.70	0.00	0.00
8	191.50	ACU-A20-N - RET	4	1.00	0.14	0.75	5.40	0.444	0.78	0.00	0.00
9	191.50	Low Profile Platform	1	1500.00	22.00	1.00	2841.28	40.098	1.00	0.00	0.00
10	187.00	Pipe mount	1	40.00	2.63	0.75	122.07	8.732	0.75	0.00	0.00
11	187.00	BA80-41-DIN	1	68.00	9.40	1.00	334.66	28.572	1.00	0.00	10.33
12	185.00	JAHH-65C-R3B-V2	6	80.20	12.81	0.83	386.40	14.476	0.83	0.00	0.00
13	185.00	MT6407-77A	3	79.40	4.69	0.70	202.02	5.658	0.70	0.00	0.00
14	185.00	CBC23SR-43	3	4.90	0.42	0.70	16.28	0.709	0.70	0.00	0.00
15	185.00	BXA-70063 6CF_2	3	17.00	7.57	0.82	168.44	10.392	0.85	0.00	0.00
16	185.00	Low Profile Platform-Round	1	1500.00	22.00	0.00	2836.65	40.036	0.00	0.00	0.00
17	185.00	RFV01U-D2A	3	70.30	1.88	0.78	119.96	2.443	0.78	0.00	0.00
18	185.00	RFV01U-D1A	3	84.40	1.88	0.83	136.75	2.443	0.83	0.00	0.00
19	185.00	DB-C1-12C-24AB-0Z	1	32.00	4.06	1.00	148.34	4.899	1.00	0.00	0.00
20	185.00	HRK12-HD	1	406.61	12.00	0.75	899.38	23.976	0.75	0.00	0.00
21	175.00	Kathrein 800-10965	6	108.60	13.81	0.71	412.08	15.416	0.71	0.00	0.00
22	175.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	577.14	13.449	1.00	0.00	0.00
23	175.00	Raycap DC6-48-60-18-8C-EV	2	16.00	4.78	1.00	141.66	5.678	1.00	0.00	0.00
24	175.00	Ericsson RRUS 32 B30	3	60.00	2.74	0.67	149.70	3.481	0.67	0.00	0.00
25	175.00	Ericsson RRUS 4478 B14	3	59.40	1.65	0.67	101.51	2.176	0.67	0.00	0.00
26	175.00	Ericsson RRUS 4449 B5/B12	3	71.00	1.97	0.67	125.21	2.526	0.67	0.00	0.00
27	175.00	Powerwave LGP13519 Diplexer	12	5.30	0.34	1.00	14.95	0.801	1.00	0.00	0.00
28	175.00	Powerwave LGP21401 TMA	12	14.10	1.29	1.00	39.49	2.139	1.00	0.00	0.00
29	175.00	Powerwave 7770	3	35.00	5.50	0.85	172.76	6.583	0.88	0.00	0.00
30	175.00	RRUS-12	3	50.00	2.70	0.67	112.88	3.793	0.70	0.00	0.00
31	175.00	DC6-48-60-18-8F	1	32.80	0.92	1.00	97.56	1.365	1.00	0.00	0.00
32	175.00	Low Profile Platform	1	1500.00	22.00	1.00	2829.24	39.936	1.00	0.00	0.00
33	161.50	Low Profile Platform	1	1500.00	22.00	1.00	2818.62	39.792	1.00	0.00	0.00
34	155.00	Commscope VV-65A-R1	3	29.50	7.90	0.74	204.13	9.184	0.74	0.00	0.00
35	155.00	Ericsson AIR6419 B41	3	66.10	3.80	0.76	162.63	4.598	0.76	0.00	0.00
36	155.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	547.48	22.147	0.70	0.00	0.00
37	155.00	Ericsson KRY 112 144/1	3	15.20	0.90	0.67	38.33	1.633	0.67	0.00	0.00
38	155.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	131.13	2.541	0.67	0.00	0.00
39	155.00	Ericsson 4460 B25 + B66	3	109.00	2.85	0.67	181.14	3.527	0.67	0.00	0.00
40	155.00	T-Arms w/ Handrail kit & v-brace kit	3	500.00	17.50	0.75	1200.38	31.473	0.75	0.00	0.00
41	145.00	MX08FRO665-21	3	64.50	12.49	0.74	354.39	13.950	0.74	0.00	0.00
42	145.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3409.12	84.664	1.00	0.00	0.00
43	145.00	TA08025-B605	3	75.00	1.96	0.67	127.13	2.519	0.67	0.00	0.00
44	145.00	TA08025-B604	3	63.90	1.96	0.67	114.36	2.519	0.67	0.00	0.00
45	145.00	RDIDC-9181-PF-48	1	21.90	2.01	1.00	74.97	2.576	1.00	0.00	0.00
46	130.00	ANT150F2	1	13.00	1.23	1.00	45.60	2.275	1.00	0.00	2.50
47	130.00	Standoff	1	40.00	2.63	0.75	119.14	8.514	0.75	0.00	0.00
48	109.50	14' Omni	5	40.00	4.20	1.00	142.61	9.047	1.00	0.00	7.00
49	109.50	4' Omni	1	10.00	1.00	1.00	40.31	1.837	1.00	0.00	2.00
50	109.50	Standoff	5	40.00	2.63	0.75	117.79	8.414	0.75	0.00	0.00

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
51	109.50	Standoff	1	40.00	2.63	0.75	117.79	8.414	0.75	0.00	0.00
52	100.00	MPRD	1	36.00	6.10	1.00	278.56	7.253	1.00	0.00	0.00
53	100.00	Standoff	1	40.00	2.63	0.75	117.09	8.361	0.75	0.00	0.00
Totals:			149	16,410.93			40,754.07				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	191.50	(6) 1 5/8" Coax	0.00	Inside
0.00	191.50	(4) 1-1/4" Fiber	0.00	Inside
0.00	187.00	(1) 7/8" Coax	0.00	Inside
0.00	185.00	(6) 1 5/8" Coax	0.00	Inside
0.00	185.00	(1) 1 5/8" Hybrid	0.00	Inside
0.00	175.00	(12) 1 5/8" Coax	0.00	Inside
0.00	175.00	(2) 2" Conduit	0.00	Outside
0.00	175.00	(1) 3" Conduit	3.00	Outside
0.00	175.00	(6) 3/4" DC	0.00	Inside
0.00	175.00	(3) 7/16" Fiber	0.00	Inside
0.00	155.00	(8) 1 5/8" Coax	0.00	Inside
0.00	155.00	(3) 1 5/8" Fiber	0.00	Inside
0.00	155.00	(1) 1.9" Fiber	0.00	Inside
0.00	145.00	(1) 1.6" Hybrid	0.00	Inside
0.00	130.00	(1) 7/8" Coax	0.52	Outside
0.00	109.50	(6) 1/2" Coax	0.00	Inside
0.00	100.00	(2) CAT5e	0.00	Inside

Shaft Section Properties

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00		0.6250	60.000	118.379	52722.5	17.50	96.00	65	83	0.0				
5.00		0.6250	58.950	116.285	49974.6	17.17	94.32	65	83	1996.3				
10.00		0.6250	57.900	114.192	47323.8	16.84	92.64	65	83	1960.7				
15.00		0.6250	56.850	112.099	44768.5	16.50	90.96	65	83	1925.0				
20.00		0.6250	55.800	110.005	42306.9	16.17	89.28	65	83	1889.4				
25.00		0.6250	54.750	107.912	39937.2	15.83	87.60	65	83	1853.8				
30.00		0.6250	53.700	105.818	37657.6	15.50	85.92	65	83	1818.2				
35.00		0.6250	52.650	103.725	35466.6	15.17	84.24	65	83	1782.6				
40.00		0.6250	51.600	101.631	33362.2	14.83	82.56	65	83	1747.0				
45.00		0.6250	50.550	99.538	31342.7	14.50	80.88	65	83	1711.3				
45.42	Bot - Section 2	0.6250	50.462	99.363	31178.2	14.47	80.74	65	83	141.0				
48.90	RB1	0.6250	49.731	97.905	29825.3	14.24	79.57	65	83	2125.7	43.50	14933.2	14933.2	487.8
50.00		0.6250	49.500	97.444	29406.4	14.16	79.20	65	83	664.8	43.50	14802.3	14802.3	154.0
52.75	Top - Section 1	0.5000	49.922	78.829	24324.6	18.27	99.84	65	82	1648.4	43.50	14477.5	14477.5	385.1
55.00		0.5000	49.450	78.075	23633.6	18.08	98.90	65	82	600.6	43.50	14214.5	14214.5	315.1
57.15	RT1	0.5000	48.998	77.355	22985.6	17.90	98.00	65	82	568.6	43.50	13965.4	13965.4	301.1
60.00		0.5000	48.400	76.400	22145.1	17.66	96.80	65	83	745.6				
65.00		0.5000	47.350	74.725	20720.5	17.25	94.70	65	83	1285.6				
70.00		0.5000	46.300	73.051	19358.3	16.83	92.60	65	83	1257.1				
75.00		0.5000	45.250	71.376	18057.1	16.41	90.50	65	83	1228.6				
80.00		0.5000	44.200	69.701	16815.6	15.99	88.40	65	83	1200.1				
84.00	Bot - Section 3	0.5000	43.360	68.361	15864.5	15.66	86.72	65	83	939.6				
85.00		0.5000	43.150	68.026	15632.4	15.57	86.30	65	83	409.6				
87.00	RB2	0.5000	42.730	67.356	15175.1	15.41	85.46	65	83	813.3	39.00	9935.3	9935.3	265.4
90.00		0.5000	42.100	66.352	14506.0	15.16	84.20	65	83	1205.0	39.00	9661.0	9661.0	398.2
90.42	Top - Section 2	0.3750	42.762	50.706	11509.1	21.09	114.03	65	79	165.9	39.00	9623.2	9623.2	55.3
95.00		0.3750	41.800	49.554	10742.8	20.58	111.47	65	79	781.8	39.00	9212.3	9212.3	608.3
100.00		0.3750	40.750	48.298	9946.4	20.02	108.67	65	80	832.4	39.00	8774.4	8774.4	663.6
105.00		0.3750	39.700	47.042	9190.4	19.47	105.87	65	81	811.1	39.00	8347.2	8347.2	663.6
109.50		0.3750	38.755	45.912	8543.6	18.97	103.35	65	81	711.7	39.00	7972.0	7972.0	597.2
110.00		0.3750	38.650	45.786	8473.7	18.91	103.07	65	81	78.0	39.00	7930.8	7930.8	66.4
112.25	RT2	0.3750	38.177	45.221	8163.7	18.66	101.81	65	81	348.4	39.00	7746.9	7746.9	298.6
115.00		0.3750	37.600	44.530	7795.3	18.35	100.27	65	82	419.9				
120.00		0.3750	36.550	43.274	7154.0	17.80	97.47	65	82	746.9				
123.58	Bot - Section 4	0.3750	35.797	42.374	6716.8	17.40	95.46	65	83	522.2				
125.00		0.3750	35.500	42.018	6549.0	17.24	94.67	65	83	358.8				
125.60	RB3	0.3750	35.374	41.867	6478.8	17.17	94.33	65	83	151.1	28.50	5022.2	5022.2	58.2
129.00	Top - Section 3	0.2813	35.222	31.349	4835.0	23.32	125.23	65	76	845.8	28.50	4833.6	4833.6	329.7
130.00		0.2813	35.012	31.160	4748.4	23.17	124.49	65	76	106.4	28.50	4778.8	4778.8	97.0
135.00		0.2813	33.962	30.218	4330.6	22.43	120.75	65	77	522.1	28.50	4509.5	4509.5	484.9
136.26	RT3	0.2813	33.698	29.981	4229.3	22.24	119.81	65	77	129.1	28.50	4442.9	4442.9	122.2
140.00		0.2813	32.912	29.276	3938.1	21.69	117.02	65	78	377.1				
145.00		0.2813	31.862	28.334	3570.0	20.94	113.29	65	79	490.1				
150.00		0.2813	30.812	27.392	3225.6	20.20	109.55	65	80	474.1				
155.00		0.2813	29.762	26.450	2904.1	19.46	105.82	65	81	458.0				
160.00		0.2813	28.712	25.508	2604.8	18.72	102.09	65	81	442.0				
161.50		0.2813	28.397	25.225	2519.1	18.49	100.97	65	82	129.5				
165.00		0.2813	27.662	24.566	2326.7	17.97	98.35	65	82	296.5				
165.25	Bot - Section 5	0.2813	27.610	24.519	2313.3	17.94	98.17	65	82	20.9				
169.58	Top - Section 4	0.1875	27.075	16.082	1468.7	27.13	144.40	65	72	596.7				

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
170.00		0.1875	26.987	16.029	1454.4	27.04	143.93	65	72	22.8				
175.00		0.1875	25.937	15.401	1290.1	25.92	138.33	65	73	267.4				
180.00		0.1875	24.887	14.773	1138.6	24.81	132.73	65	74	256.7				
185.00		0.1875	23.837	14.145	999.5	23.70	127.13	65	76	246.0				
187.00		0.1875	23.417	13.894	947.2	23.25	124.89	65	76	95.4				
190.00		0.1875	22.787	13.517	872.2	22.58	121.53	65	77	139.9				
191.50		0.1875	22.472	13.329	836.2	22.25	119.85	65	77	68.5				
195.00		0.1875	21.737	12.889	756.2	21.47	115.93	65	78	156.1				
196.00		0.1875	21.527	12.764	734.3	21.25	114.81	65	79	43.6				
Total Weight										43630.8	6351.7			

Wind Loading - Shaft

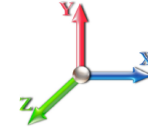
Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	437.11	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	429.46	0.750	0.000	5.00	25.267	18.95	596.3	0.0	2395.5
10.00		1.00	0.85	17.879	19.67	421.81	0.750	0.000	5.00	24.821	18.62	585.8	0.0	2352.8
15.00		1.00	0.85	17.879	19.67	414.16	0.750	0.000	5.00	24.375	18.28	575.3	0.0	2310.0
20.00		1.00	0.90	18.971	20.87	418.73	0.750	0.000	5.00	23.929	17.95	599.2	0.0	2267.3
25.00		1.00	0.95	19.883	21.87	420.62	0.750	0.000	5.00	23.482	17.61	616.3	0.0	2224.6
30.00		1.00	0.98	20.661	22.73	420.55	0.750	0.000	5.00	23.036	17.28	628.3	0.0	2181.8
35.00		1.00	1.01	21.343	23.48	419.07	0.750	0.000	5.00	22.590	16.94	636.4	0.0	2139.1
40.00		1.00	1.04	21.951	24.15	416.52	0.750	0.000	5.00	22.144	16.61	641.6	0.0	2096.3
45.00		1.00	1.07	22.502	24.75	413.14	0.750	0.000	5.00	21.698	16.27	644.5	0.0	2053.6
45.42	Bot - Section 2	1.00	1.07	22.546	24.80	412.82	0.750	0.000	0.42	1.788	1.34	53.2	0.0	169.2
48.90	RB1	1.00	1.09	22.899	25.19	410.02	0.750	0.000	3.48	15.123	11.34	457.1	0.0	2550.8
50.00		1.00	1.09	23.007	25.31	409.07	0.750	0.000	1.10	4.731	3.55	143.7	0.0	797.8
52.75	Top - Section 1	1.00	1.11	23.268	25.59	406.58	0.750	0.000	2.75	11.732	8.80	360.3	0.0	1978.1
55.00		1.00	1.12	23.473	25.82	412.78	0.750	0.000	2.25	9.499	7.12	294.3	0.0	720.8
57.15	RT1	1.00	1.12	23.663	26.03	410.66	0.750	0.000	2.15	8.992	6.74	280.9	0.0	682.3
60.00		1.00	1.14	23.907	26.30	407.73	0.750	0.000	2.85	11.793	8.84	372.1	0.0	894.7
65.00		1.00	1.16	24.313	26.74	402.26	0.750	0.000	5.00	20.339	15.25	652.7	0.0	1542.7
70.00		1.00	1.17	24.696	27.17	396.42	0.750	0.000	5.00	19.893	14.92	648.5	0.0	1508.5
75.00		1.00	1.19	25.057	27.56	390.25	0.750	0.000	5.00	19.446	14.58	643.2	0.0	1474.4
80.00		1.00	1.21	25.400	27.94	383.79	0.750	0.000	5.00	19.000	14.25	637.0	0.0	1440.2
84.00	Bot - Section 3	1.00	1.22	25.662	28.23	378.44	0.750	0.000	4.00	14.879	11.16	504.0	0.0	1127.5
85.00		1.00	1.22	25.726	28.30	377.08	0.750	0.000	1.00	3.739	2.80	127.0	0.0	491.6
87.00	RB2	1.00	1.23	25.852	28.44	374.32	0.750	0.000	2.00	7.424	5.57	253.4	0.0	976.0
90.00		1.00	1.24	26.037	28.64	370.12	0.750	0.000	3.00	11.003	8.25	378.2	0.0	1446.0
90.42	Top - Section 2	1.00	1.24	26.063	28.67	369.53	0.750	0.000	0.42	1.515	1.14	52.1	0.0	199.1
95.00		1.00	1.25	26.336	28.97	369.58	0.750	0.000	4.58	16.465	12.35	572.4	0.0	938.2
100.00	Appurtenance(s)	1.00	1.27	26.621	29.28	362.25	0.750	0.000	5.00	17.535	13.15	616.2	0.0	998.9
105.00		1.00	1.28	26.896	29.59	354.73	0.750	0.000	5.00	17.089	12.82	606.7	0.0	973.3
109.50	Appurtenance(s)	1.00	1.29	27.135	29.85	347.82	0.750	0.000	4.50	14.998	11.25	537.2	0.0	854.0
110.00		1.00	1.29	27.161	29.88	347.04	0.750	0.000	0.50	1.644	1.23	58.9	0.0	93.6
112.25	RT2	1.00	1.30	27.277	30.00	343.53	0.750	0.000	2.25	7.344	5.51	264.4	0.0	418.1
115.00		1.00	1.30	27.416	30.16	339.20	0.750	0.000	2.75	8.853	6.64	320.4	0.0	503.9
120.00		1.00	1.32	27.663	30.43	331.21	0.750	0.000	5.00	15.750	11.81	575.1	0.0	896.3
123.58	Bot - Section 4	1.00	1.32	27.835	30.62	325.39	0.750	0.000	3.58	11.013	8.26	404.7	0.0	626.6
125.00		1.00	1.33	27.902	30.69	323.08	0.750	0.000	1.42	4.359	3.27	160.5	0.0	430.6
125.60	RB3	1.00	1.33	27.930	30.72	322.09	0.750	0.000	0.60	1.835	1.38	67.7	0.0	181.3
129.00	Top - Section 3	1.00	1.34	28.088	30.90	316.48	0.750	0.000	3.40	10.278	7.71	381.1	0.0	1015.0
130.00	Appurtenance(s)	1.00	1.34	28.133	30.95	319.96	0.750	0.000	1.00	2.984	2.24	110.8	0.0	127.6
135.00		1.00	1.35	28.358	31.19	311.60	0.750	0.000	5.00	14.651	10.99	548.4	0.0	626.6
136.26	RT3	1.00	1.35	28.413	31.25	309.47	0.750	0.000	1.26	3.622	2.72	135.8	0.0	154.9
140.00		1.00	1.36	28.576	31.43	303.12	0.750	0.000	3.74	10.583	7.94	399.2	0.0	452.5
145.00	Appurtenance(s)	1.00	1.37	28.788	31.67	294.54	0.750	0.000	5.00	13.759	10.32	522.8	0.0	588.1
150.00		1.00	1.38	28.994	31.89	285.85	0.750	0.000	5.00	13.313	9.98	509.5	0.0	568.9
155.00	Appurtenance(s)	1.00	1.39	29.195	32.11	277.06	0.750	0.000	5.00	12.867	9.65	495.8	0.0	549.6
160.00		1.00	1.40	29.390	32.33	268.18	0.751 *	0.000	5.00	12.421	9.33	482.8	0.0	530.4
161.50	Appurtenance(s)	1.00	1.40	29.448	32.39	265.50	0.757 *	0.000	1.50	3.639	2.75	142.8	0.0	155.4

Wind Loading - Shaft

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 11
	Struct Class: II	



165.00	1.00	1.41	29.581	32.54	259.21	0.761 *	0.000	3.50	8.335	6.34	330.3	0.0	355.8
165.25 Bot - Section 5	1.00	1.41	29.591	32.55	258.76	0.765 *	0.000	0.25	0.587	0.45	23.4	0.0	25.1
169.58 Top - Section 4	1.00	1.41	29.753	32.73	250.92	0.769 *	0.000	4.33	10.136	7.79	408.1	0.0	716.0
170.00	1.00	1.42	29.768	32.74	253.68	0.770 *	0.000	0.42	0.957	0.74	38.6	0.0	27.3
175.00 Appurtenance(s)	1.00	1.42	29.950	32.95	244.56	0.775 *	0.000	5.00	11.242	8.71	459.4	0.0	320.9
180.00	1.00	1.43	30.128	33.14	235.35	0.750	0.000	5.00	10.796	8.10	429.3	0.0	308.0
185.00 Appurtenance(s)	1.00	1.44	30.303	33.33	226.08	0.750	0.000	5.00	10.350	7.76	414.0	0.0	295.2
187.00 Appurtenance(s)	1.00	1.44	30.371	33.41	222.34	0.750	0.000	2.00	4.015	3.01	161.0	0.0	114.5
190.00	1.00	1.45	30.473	33.52	216.73	0.750	0.000	3.00	5.889	4.42	236.9	0.0	167.9
191.50 Appurtenance(s)	1.00	1.45	30.524	33.58	213.91	0.750	0.000	1.50	2.884	2.16	116.2	0.0	82.2
195.00	1.00	1.46	30.640	33.70	207.30	0.750	0.000	3.50	6.573	4.93	265.9	0.0	187.4
196.00 Appurtenance(s)	1.00	1.46	30.673	33.74	205.41	0.750	0.000	1.00	1.838	1.38	74.4	0.0	52.4
								Totals:	196.00		22,252.0		52,356.9

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

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	196.00	6' Lightning rod	1	30.673	33.741	1.00	1.00	0.38	7.80	0.000	0.000	20.51	0.00	0.00	
2	191.50	1900MHz - RRU	3	30.524	33.576	0.54	0.80	6.11	158.40	0.000	0.000	328.26	0.00	0.00	
3	191.50	APXVTM14-C-120	3	30.524	33.576	0.68	0.80	12.93	201.60	0.000	0.000	694.81	0.00	0.00	
4	191.50	APXVSP18-C-A20	3	30.524	33.576	0.66	0.80	15.98	205.20	0.000	0.000	858.25	0.00	0.00	
5	191.50	800MHz - RRU	3	30.524	33.576	0.54	0.80	4.00	190.80	0.000	0.000	215.10	0.00	0.00	
6	191.50	RRH8x20-25 - RRU	3	30.524	33.576	0.54	0.80	6.51	252.00	0.000	0.000	349.86	0.00	0.00	
7	191.50	800MHz Filter	3	30.524	33.576	0.54	0.80	1.25	31.68	0.000	0.000	67.38	0.00	0.00	
8	191.50	ACU-A20-N - RET	4	30.524	33.576	0.60	0.80	0.34	4.80	0.000	0.000	18.05	0.00	0.00	
9	191.50	Low Profile Platform	1	30.524	33.576	1.00	1.00	22.00	1800.00	0.000	0.000	1181.88	0.00	0.00	
10	187.00	BA80-41-DIN	1	30.717	33.789	1.00	1.00	9.40	81.60	0.000	10.333	508.18	0.00	5251.23	
11	187.00	Pipe mount	1	30.371	33.408	0.56	0.75	1.48	48.00	0.000	0.000	79.08	0.00	0.00	
12	185.00	CBC23SR-43	3	30.303	33.333	0.52	0.75	0.66	17.64	0.000	0.000	35.28	0.00	0.00	
13	185.00	MT6407-77A	3	30.303	33.333	0.52	0.75	7.39	285.84	0.000	0.000	393.95	0.00	0.00	
14	185.00	BXA-70063 6CF_2	3	30.303	33.333	0.61	0.75	13.97	61.20	0.000	0.000	744.88	0.00	0.00	
15	185.00	JAHH-65C-R3B-V2	6	30.303	33.333	0.62	0.75	47.85	577.44	0.000	0.000	2551.71	0.00	0.00	
16	185.00	DB-C1-12C-24AB-OZ	1	30.303	33.333	0.75	0.75	3.04	38.40	0.000	0.000	162.40	0.00	0.00	
17	185.00	Low Profile	1	30.303	33.333	0.00	1.00	22.00	1800.00	0.000	0.000	1173.31	0.00	0.00	
18	185.00	RFV01U-D2A	3	30.303	33.333	0.58	0.75	3.30	253.08	0.000	0.000	175.97	0.00	0.00	
19	185.00	RFV01U-D1A	3	30.303	33.333	0.62	0.75	3.51	303.84	0.000	0.000	187.24	0.00	0.00	
20	185.00	HRK12-HD	1	30.303	33.333	0.75	1.00	9.00	487.93	0.000	0.000	479.99	0.00	0.00	
21	175.00	Low Profile Platform	1	29.950	32.945	1.00	1.00	22.00	1800.00	0.000	0.000	1159.67	0.00	0.00	
22	175.00	DC6-48-60-18-8F	1	29.950	32.945	0.80	0.80	0.74	39.36	0.000	0.000	38.80	0.00	0.00	
23	175.00	RRUS-12	3	29.950	32.945	0.54	0.80	4.34	180.00	0.000	0.000	228.86	0.00	0.00	
24	175.00	Powerwave 7770	3	29.950	32.945	0.68	0.80	11.22	126.00	0.000	0.000	591.43	0.00	0.00	
25	175.00	Powerwave LGP21401	12	29.950	32.945	0.75	0.75	11.61	203.04	0.000	0.000	611.99	0.00	0.00	
26	175.00	Powerwave LGP13519	12	29.950	32.945	0.75	0.75	3.06	76.32	0.000	0.000	161.30	0.00	0.00	
27	175.00	Ericsson RRUS 4449	3	29.950	32.945	0.50	0.75	2.97	255.60	0.000	0.000	156.54	0.00	0.00	
28	175.00	Ericsson RRUS 32 B30	3	29.950	32.945	0.50	0.75	4.13	216.00	0.000	0.000	217.73	0.00	0.00	
29	175.00	Raycap	2	29.950	32.945	1.00	1.00	9.56	38.40	0.000	0.000	503.93	0.00	0.00	
30	175.00	HRK12 (Handrail Kit)	1	29.950	32.945	1.00	1.00	6.75	314.06	0.000	0.000	355.81	0.00	0.00	
31	175.00	Kathrein 800-10965	6	29.950	32.945	0.53	0.75	44.12	781.92	0.000	0.000	2325.82	0.00	0.00	
32	175.00	Ericsson RRUS 4478 B14	3	29.950	32.945	0.50	0.75	2.49	213.84	0.000	0.000	131.11	0.00	0.00	
33	161.50	Low Profile Platform	1	29.448	32.393	1.00	1.00	22.00	1800.00	0.000	0.000	1140.23	0.00	0.00	
34	155.00	Ericsson KRY 112 144/1	3	29.195	32.114	0.54	0.80	1.45	54.72	0.000	0.000	74.36	0.00	0.00	
35	155.00	Ericsson AIR6419 B41	3	29.195	32.114	0.61	0.80	6.93	237.96	0.000	0.000	356.14	0.00	0.00	
36	155.00	RFS	3	29.195	32.114	0.56	0.80	34.00	460.80	0.000	0.000	1747.17	0.00	0.00	
37	155.00	Commscope VV-65A-R1	3	29.195	32.114	0.59	0.80	14.03	106.20	0.000	0.000	720.92	0.00	0.00	
38	155.00	Ericsson 4460 B25 + B66	3	29.195	32.114	0.54	0.80	4.58	392.40	0.000	0.000	235.48	0.00	0.00	
39	155.00	T-Arms w/ Handrail kit &	3	29.195	32.114	0.56	0.75	29.53	1800.00	0.000	0.000	1517.39	0.00	0.00	
40	155.00	Ericsson 4449 B71 + B85	3	29.195	32.114	0.54	0.80	3.17	263.52	0.000	0.000	162.77	0.00	0.00	
41	145.00	TA08025-B605	3	28.788	31.666	0.50	0.75	2.95	270.00	0.000	0.000	149.70	0.00	0.00	
42	145.00	MC-PK8-DSH	1	28.788	31.666	1.00	1.00	37.59	2072.40	0.000	0.000	1904.54	0.00	0.00	
43	145.00	MX08FRO665-21	3	28.788	31.666	0.55	0.75	20.80	232.20	0.000	0.000	1053.64	0.00	0.00	
44	145.00	TA08025-B604	3	28.788	31.666	0.50	0.75	2.95	230.04	0.000	0.000	149.70	0.00	0.00	
45	145.00	RDIDC-9181-PF-48	1	28.788	31.666	0.75	0.75	1.51	26.28	0.000	0.000	76.38	0.00	0.00	
46	130.00	Standoff	1	28.133	30.947	0.56	0.75	1.48	48.00	0.000	0.000	73.25	0.00	0.00	
47	130.00	ANT150F2	1	28.246	31.071	1.00	1.00	1.23	15.60	0.000	2.500	61.15	0.00	152.87	

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 13
	Struct Class: II	



48	109.50	Standoff	1	27.135	29.849	0.56	0.75	1.48	48.00	0.000	0.000	70.65	0.00	0.00
49	109.50	Standoff	5	27.135	29.849	0.56	0.75	7.40	240.00	0.000	0.000	353.26	0.00	0.00
50	109.50	4' Omni	1	27.239	29.962	1.00	1.00	1.00	12.00	0.000	2.000	47.94	0.00	95.88
51	109.50	14' Omni	5	27.491	30.240	1.00	1.00	21.00	240.00	0.000	7.000	1016.08	0.00	7112.56
52	100.00	Standoff	1	26.621	29.284	0.56	0.75	1.48	48.00	0.000	0.000	69.31	0.00	0.00
53	100.00	MPRD	1	26.621	29.284	1.00	1.00	6.10	43.20	0.000	0.000	285.81	0.00	0.00

Totals:	19,693.12	27,974.94
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Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 27

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		596.31	2715.49	0.00	0.00
10.00		585.78	2672.75	0.00	0.00
15.00		575.25	2630.00	0.00	0.00
20.00		599.20	2587.26	0.00	0.00
25.00		616.31	2544.52	0.00	0.00
30.00		628.26	2501.78	0.00	0.00
35.00		636.42	2459.04	0.00	0.00
40.00		641.64	2416.30	0.00	0.00
45.00		644.50	2373.56	0.00	0.00
45.42		53.21	195.87	0.00	0.00
48.90		457.12	2773.70	0.00	0.00
50.00		143.67	868.15	0.00	0.00
52.75		360.33	2154.08	0.00	0.00
55.00		294.31	864.76	0.00	0.00
57.15		280.87	819.85	0.00	0.00
60.00		372.14	1077.04	0.00	0.00
65.00		652.74	1862.70	0.00	0.00
70.00		648.46	1828.50	0.00	0.00
75.00		643.20	1794.31	0.00	0.00
80.00		637.04	1760.12	0.00	0.00
84.00		504.02	1383.48	0.00	0.00
85.00		126.97	555.57	0.00	0.00
87.00		253.35	1103.95	0.00	0.00
90.00		378.15	1637.98	0.00	0.00
90.42		52.14	225.79	0.00	0.00
95.00		572.38	1231.49	0.00	0.00
100.00	(2) attachments	971.30	1410.07	0.00	0.00
105.00		606.70	1292.98	0.00	0.00
109.50	(12) attachments	2025.14	1681.76	0.00	7208.44
110.00		58.95	125.00	0.00	0.00
112.25		264.41	559.34	0.00	0.00
115.00		320.38	676.59	0.00	0.00
120.00		575.13	1210.29	0.00	0.00
123.58		404.66	851.60	0.00	0.00
125.00		160.53	519.52	0.00	0.00
125.60		67.66	218.95	0.00	0.00
129.00		381.07	1228.49	0.00	0.00
130.00	(2) attachments	245.20	254.01	0.00	152.87
135.00		548.43	937.41	0.00	0.00
136.26		135.83	233.19	0.00	0.00
140.00		399.20	684.98	0.00	0.00
145.00	(11) attachments	3856.80	3729.86	0.00	0.00
150.00		509.51	868.78	0.00	0.00
155.00	(21) attachments	5310.07	4165.15	0.00	0.00
160.00		482.79	757.60	0.00	0.00
161.50	(1) attachments	1282.99	2023.53	0.00	0.00

Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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165.00	330.33	514.83	0.00	0.00
165.25	23.37	36.41	0.00	0.00
169.58	408.05	912.90	0.00	0.00
170.00	38.60	46.25	0.00	0.00
175.00	(50) attachments	6942.34	4792.60	0.00
180.00		429.34	415.53	0.00
185.00	(24) attachments	6318.72	4228.08	0.00
187.00	(2) attachments	748.22	269.48	0.00
190.00		236.87	204.10	0.00
191.50	(23) attachments	3829.79	2944.80	0.00
195.00		265.86	187.35	0.00
196.00	(1) attachments	94.93	60.17	0.00
Totals:		50,226.98	83,079.64	0.00
				12,612.53

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



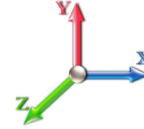
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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.058	0.000	17.879	0.00	19.32
5.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.058	0.000	17.879	0.00	9.66
5.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.058	0.000	17.879	0.00	3.12
10.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	17.879	0.00	19.32
10.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.059	0.000	17.879	0.00	9.66
10.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.059	0.000	17.879	0.00	3.12
15.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.060	0.000	17.879	0.00	19.32
15.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.060	0.000	17.879	0.00	9.66
15.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.060	0.000	17.879	0.00	3.12
20.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.061	0.000	18.971	0.00	19.32
20.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.061	0.000	18.971	0.00	9.66
20.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.061	0.000	18.971	0.00	3.12
25.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	19.883	0.00	19.32
25.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.062	0.000	19.883	0.00	9.66
25.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.062	0.000	19.883	0.00	3.12
30.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.064	0.000	20.661	0.00	19.32
30.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.064	0.000	20.661	0.00	9.66
30.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.064	0.000	20.661	0.00	3.12
35.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.065	0.000	21.343	0.00	19.32
35.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.065	0.000	21.343	0.00	9.66
35.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.065	0.000	21.343	0.00	3.12
40.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	21.951	0.00	19.32
40.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.066	0.000	21.951	0.00	9.66
40.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.066	0.000	21.951	0.00	3.12
45.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	22.502	0.00	19.32
45.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.068	0.000	22.502	0.00	9.66
45.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.068	0.000	22.502	0.00	3.12
45.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.068	0.000	22.546	0.00	1.61
45.42	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.068	0.000	22.546	0.00	0.81
45.42	7/8" Coax	Yes	0.42	0.000	0.52	0.02	0.00	0.068	0.000	22.546	0.00	0.26
48.90	2" Conduit	Yes	3.48	0.000	0.00	0.00	0.00	0.069	0.000	22.899	0.00	13.46
48.90	3" Conduit	Yes	3.48	0.000	3.00	0.87	0.00	0.069	0.000	22.899	0.00	6.73
48.90	7/8" Coax	Yes	3.48	0.000	0.52	0.15	0.00	0.069	0.000	22.899	0.00	2.17
50.00	2" Conduit	Yes	1.10	0.000	0.00	0.00	0.00	0.070	0.000	23.007	0.00	4.25
50.00	3" Conduit	Yes	1.10	0.000	3.00	0.28	0.00	0.070	0.000	23.007	0.00	2.13
50.00	7/8" Coax	Yes	1.10	0.000	0.52	0.05	0.00	0.070	0.000	23.007	0.00	0.69
52.75	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.070	0.000	23.268	0.00	10.63
52.75	3" Conduit	Yes	2.75	0.000	3.00	0.69	0.00	0.070	0.000	23.268	0.00	5.31
52.75	7/8" Coax	Yes	2.75	0.000	0.52	0.12	0.00	0.070	0.000	23.268	0.00	1.72
55.00	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.069	0.000	23.473	0.00	8.69
55.00	3" Conduit	Yes	2.25	0.000	3.00	0.56	0.00	0.069	0.000	23.473	0.00	4.35
55.00	7/8" Coax	Yes	2.25	0.000	0.52	0.10	0.00	0.069	0.000	23.473	0.00	1.40
57.15	2" Conduit	Yes	2.15	0.000	0.00	0.00	0.00	0.070	0.000	23.663	0.00	8.31
57.15	3" Conduit	Yes	2.15	0.000	3.00	0.54	0.00	0.070	0.000	23.663	0.00	4.15
57.15	7/8" Coax	Yes	2.15	0.000	0.52	0.09	0.00	0.070	0.000	23.663	0.00	1.34
60.00	2" Conduit	Yes	2.85	0.000	0.00	0.00	0.00	0.071	0.000	23.907	0.00	11.01
60.00	3" Conduit	Yes	2.85	0.000	3.00	0.71	0.00	0.071	0.000	23.907	0.00	5.51

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



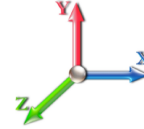
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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.60



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)
60.00	7/8" Coax	Yes	2.85	0.000	0.52	0.12	0.00	0.071	0.000	23.907	0.00	1.78
65.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	24.313	0.00	19.32
65.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.072	0.000	24.313	0.00	9.66
65.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.072	0.000	24.313	0.00	3.12
70.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	24.696	0.00	19.32
70.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.074	0.000	24.696	0.00	9.66
70.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.074	0.000	24.696	0.00	3.12
75.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.075	0.000	25.057	0.00	19.32
75.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.075	0.000	25.057	0.00	9.66
75.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.075	0.000	25.057	0.00	3.12
80.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.077	0.000	25.400	0.00	19.32
80.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.077	0.000	25.400	0.00	9.66
80.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.077	0.000	25.400	0.00	3.12
84.00	2" Conduit	Yes	4.00	0.000	0.00	0.00	0.00	0.079	0.000	25.662	0.00	15.46
84.00	3" Conduit	Yes	4.00	0.000	3.00	1.00	0.00	0.079	0.000	25.662	0.00	7.73
84.00	7/8" Coax	Yes	4.00	0.000	0.52	0.17	0.00	0.079	0.000	25.662	0.00	2.50
85.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.080	0.000	25.726	0.00	3.86
85.00	3" Conduit	Yes	1.00	0.000	3.00	0.25	0.00	0.080	0.000	25.726	0.00	1.93
85.00	7/8" Coax	Yes	1.00	0.000	0.52	0.04	0.00	0.080	0.000	25.726	0.00	0.62
87.00	2" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.852	0.00	7.73
87.00	3" Conduit	Yes	2.00	0.000	3.00	0.50	0.00	0.080	0.000	25.852	0.00	3.86
87.00	7/8" Coax	Yes	2.00	0.000	0.52	0.09	0.00	0.080	0.000	25.852	0.00	1.25
90.00	2" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.081	0.000	26.037	0.00	11.59
90.00	3" Conduit	Yes	3.00	0.000	3.00	0.75	0.00	0.081	0.000	26.037	0.00	5.80
90.00	7/8" Coax	Yes	3.00	0.000	0.52	0.13	0.00	0.081	0.000	26.037	0.00	1.87
90.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.082	0.000	26.063	0.00	1.61
90.42	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.082	0.000	26.063	0.00	0.81
90.42	7/8" Coax	Yes	0.42	0.000	0.52	0.02	0.00	0.082	0.000	26.063	0.00	0.26
95.00	2" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.082	0.000	26.336	0.00	17.71
95.00	3" Conduit	Yes	4.58	0.000	3.00	1.15	0.00	0.082	0.000	26.336	0.00	8.85
95.00	7/8" Coax	Yes	4.58	0.000	0.52	0.20	0.00	0.082	0.000	26.336	0.00	2.86
100.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.084	0.000	26.621	0.00	19.32
100.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.084	0.000	26.621	0.00	9.66
100.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.084	0.000	26.621	0.00	3.12
105.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	26.896	0.00	19.32
105.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.086	0.000	26.896	0.00	9.66
105.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.086	0.000	26.896	0.00	3.12
109.50	2" Conduit	Yes	4.50	0.000	0.00	0.00	0.00	0.088	0.000	27.135	0.00	17.39
109.50	3" Conduit	Yes	4.50	0.000	3.00	1.13	0.00	0.088	0.000	27.135	0.00	8.69
109.50	7/8" Coax	Yes	4.50	0.000	0.52	0.20	0.00	0.088	0.000	27.135	0.00	2.81
110.00	2" Conduit	Yes	0.50	0.000	0.00	0.00	0.00	0.089	0.000	27.161	0.00	1.93
110.00	3" Conduit	Yes	0.50	0.000	3.00	0.13	0.00	0.089	0.000	27.161	0.00	0.97
110.00	7/8" Coax	Yes	0.50	0.000	0.52	0.02	0.00	0.089	0.000	27.161	0.00	0.31
112.25	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.090	0.000	27.277	0.00	8.69
112.25	3" Conduit	Yes	2.25	0.000	3.00	0.56	0.00	0.090	0.000	27.277	0.00	4.35
112.25	7/8" Coax	Yes	2.25	0.000	0.52	0.10	0.00	0.090	0.000	27.277	0.00	1.40
115.00	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.091	0.000	27.416	0.00	10.63

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

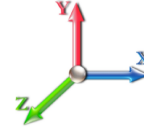


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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 27

Dead Load Factor 1.20
Wind Load Factor 1.60



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)
115.00	3" Conduit	Yes	2.75	0.000	3.00	0.69	0.00	0.091	0.000	27.416	0.00	5.31
115.00	7/8" Coax	Yes	2.75	0.000	0.52	0.12	0.00	0.091	0.000	27.416	0.00	1.72
120.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	27.663	0.00	19.32
120.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.093	0.000	27.663	0.00	9.66
120.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.093	0.000	27.663	0.00	3.12
123.58	2" Conduit	Yes	3.58	0.000	0.00	0.00	0.00	0.095	0.000	27.835	0.00	13.85
123.58	3" Conduit	Yes	3.58	0.000	3.00	0.90	0.00	0.095	0.000	27.835	0.00	6.92
123.58	7/8" Coax	Yes	3.58	0.000	0.52	0.16	0.00	0.095	0.000	27.835	0.00	2.24
125.00	2" Conduit	Yes	1.42	0.000	0.00	0.00	0.00	0.097	0.000	27.902	0.00	5.47
125.00	3" Conduit	Yes	1.42	0.000	3.00	0.35	0.00	0.097	0.000	27.902	0.00	2.74
125.00	7/8" Coax	Yes	1.42	0.000	0.52	0.06	0.00	0.097	0.000	27.902	0.00	0.88
125.60	2" Conduit	Yes	0.60	0.000	0.00	0.00	0.00	0.097	0.000	27.930	0.00	2.32
125.60	3" Conduit	Yes	0.60	0.000	3.00	0.15	0.00	0.097	0.000	27.930	0.00	1.16
125.60	7/8" Coax	Yes	0.60	0.000	0.52	0.03	0.00	0.097	0.000	27.930	0.00	0.37
129.00	2" Conduit	Yes	3.40	0.000	0.00	0.00	0.00	0.099	0.000	28.088	0.00	13.14
129.00	3" Conduit	Yes	3.40	0.000	3.00	0.85	0.00	0.099	0.000	28.088	0.00	6.57
129.00	7/8" Coax	Yes	3.40	0.000	0.52	0.15	0.00	0.099	0.000	28.088	0.00	2.12
130.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.098	0.000	28.133	0.00	3.86
130.00	3" Conduit	Yes	1.00	0.000	3.00	0.25	0.00	0.098	0.000	28.133	0.00	1.93
130.00	7/8" Coax	Yes	1.00	0.000	0.52	0.04	0.00	0.098	0.000	28.133	0.00	0.62
135.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.085	0.000	28.358	0.00	19.32
135.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.085	0.000	28.358	0.00	9.66
136.26	2" Conduit	Yes	1.26	0.000	0.00	0.00	0.00	0.087	0.000	28.413	0.00	4.87
136.26	3" Conduit	Yes	1.26	0.000	3.00	0.31	0.00	0.087	0.000	28.413	0.00	2.43
140.00	2" Conduit	Yes	3.74	0.000	0.00	0.00	0.00	0.088	0.000	28.576	0.00	14.45
140.00	3" Conduit	Yes	3.74	0.000	3.00	0.94	0.00	0.088	0.000	28.576	0.00	7.23
145.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	28.788	0.00	19.32
145.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.091	0.000	28.788	0.00	9.66
150.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	28.994	0.00	19.32
150.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.094	0.000	28.994	0.00	9.66
155.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	29.195	0.00	19.32
155.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.097	0.000	29.195	0.00	9.66
160.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.002	29.390	0.00	19.32
160.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.101	1.002	29.390	0.00	9.66
161.50	2" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.103	1.009	29.448	0.00	5.80
161.50	3" Conduit	Yes	1.50	0.000	3.00	0.38	0.00	0.103	1.009	29.448	0.00	2.90
165.00	2" Conduit	Yes	3.50	0.000	0.00	0.00	0.00	0.105	1.015	29.581	0.00	13.52
165.00	3" Conduit	Yes	3.50	0.000	3.00	0.88	0.00	0.105	1.015	29.581	0.00	6.76
165.25	2" Conduit	Yes	0.25	0.000	0.00	0.00	0.00	0.106	1.019	29.591	0.00	0.97
165.25	3" Conduit	Yes	0.25	0.000	3.00	0.06	0.00	0.106	1.019	29.591	0.00	0.48
169.58	2" Conduit	Yes	4.33	0.000	0.00	0.00	0.00	0.108	1.025	29.753	0.00	16.74
169.58	3" Conduit	Yes	4.33	0.000	3.00	1.08	0.00	0.108	1.025	29.753	0.00	8.37
170.00	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.109	1.027	29.768	0.00	1.61
170.00	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.109	1.027	29.768	0.00	0.81
175.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.034	29.950	0.00	19.32
175.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.111	1.034	29.950	0.00	9.66

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

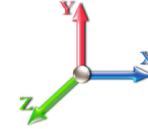


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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

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)
Totals:											0.0	1,095.4

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind	Iterations 27
Dead Load Factor 1.20	
Wind Load Factor 1.60	

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-82.99	-50.37	0.00	-7146.4	0.00	7146.48	8794.96	4397.48	21496.0	10671.5	0.00	0.000	0.000	0.679
5.00	-80.11	-50.03	0.00	-6894.6	0.00	6894.65	8639.43	4319.71	20738.5	10295.5	0.10	-0.189	0.000	0.679
10.00	-77.28	-49.70	0.00	-6644.4	0.00	6644.49	8483.89	4241.95	19994.7	9926.22	0.40	-0.382	0.000	0.679
15.00	-74.48	-49.36	0.00	-6396.0	0.00	6396.01	8328.36	4164.18	19264.4	9563.67	0.91	-0.578	0.000	0.678
20.00	-71.73	-48.98	0.00	-6149.2	0.00	6149.24	8172.83	4086.41	18547.7	9207.87	1.62	-0.777	0.000	0.677
25.00	-69.02	-48.57	0.00	-5904.3	0.00	5904.35	8017.29	4008.65	17844.6	8858.82	2.54	-0.980	0.000	0.675
30.00	-66.36	-48.13	0.00	-5661.5	0.00	5661.51	7861.76	3930.88	17155.1	8516.51	3.68	-1.186	0.000	0.673
35.00	-63.74	-47.68	0.00	-5420.8	0.00	5420.84	7706.22	3853.11	16479.1	8180.95	5.03	-1.395	0.000	0.671
40.00	-61.16	-47.20	0.00	-5182.4	0.00	5182.45	7550.69	3775.35	15816.8	7852.13	6.61	-1.608	0.000	0.668
45.00	-58.72	-46.61	0.00	-4946.4	0.00	4946.44	7395.16	3697.58	15168.0	7530.06	8.41	-1.824	0.000	0.665
45.42	-58.45	-46.64	0.00	-4927.0	0.00	4927.02	7382.20	3691.10	15114.6	7503.52	8.57	-1.843	0.000	0.665
48.90	-55.62	-46.18	0.00	-4764.5	0.00	4764.58	7273.84	3636.92	14671.4	7283.52	9.97	-1.997	0.000	0.441
50.00	-54.71	-46.06	0.00	-4713.7	0.00	4713.79	7239.62	3619.81	14532.8	7214.73	10.43	-2.030	0.000	0.440
52.75	-52.51	-45.69	0.00	-4587.1	0.00	4587.13	5810.43	2905.21	11825.7	5870.80	11.63	-2.112	0.000	0.449
55.00	-51.60	-45.42	0.00	-4484.3	0.00	4484.34	5769.82	2884.91	11629.7	5773.48	12.64	-2.180	0.000	0.491
57.15	-50.73	-45.19	0.00	-4386.6	0.00	4386.68	5730.75	2865.38	11443.3	5680.95	13.64	-2.252	0.000	0.486
57.15	-50.73	-45.19	0.00	-4386.6	0.00	4386.68	5730.75	2865.38	11443.3	5680.95	13.64	-2.252	0.000	0.486
60.00	-49.53	-44.93	0.00	-4257.9	0.00	4257.90	5678.55	2839.28	11197.7	5559.03	15.01	-2.346	0.000	0.775
65.00	-47.49	-44.42	0.00	-4033.2	0.00	4033.26	5551.73	2775.86	10705.1	5314.51	17.61	-2.613	0.000	0.768
70.00	-45.48	-43.90	0.00	-3811.1	0.00	3811.17	5427.30	2713.65	10228.2	5077.73	20.49	-2.882	0.000	0.759
75.00	-43.52	-43.37	0.00	-3591.6	0.00	3591.69	5302.88	2651.44	9762.15	4846.34	23.65	-3.154	0.000	0.750
80.00	-41.61	-42.81	0.00	-3374.8	0.00	3374.84	5178.45	2589.22	9306.93	4620.35	27.10	-3.428	0.000	0.739
84.00	-40.16	-42.32	0.00	-3203.6	0.00	3203.60	5078.91	2539.45	8950.59	4443.45	30.07	-3.651	0.000	0.729
85.00	-39.55	-42.22	0.00	-3161.2	0.00	3161.28	5054.02	2527.01	8862.59	4399.76	30.84	-3.708	0.000	0.727
87.00	-38.39	-41.97	0.00	-3076.8	0.00	3076.84	5004.25	2502.13	8687.89	4313.04	32.41	-3.822	0.000	0.436
90.00	-36.74	-41.51	0.00	-2950.9	0.00	2950.95	4929.59	2464.80	8429.11	4184.57	34.85	-3.924	0.000	0.428
90.42	-36.45	-41.50	0.00	-2933.6	0.00	2933.65	3591.78	1795.89	6277.53	3116.43	35.19	-3.938	0.000	0.456
95.00	-35.14	-40.95	0.00	-2743.4	0.00	2743.44	3535.98	1767.99	6038.44	2997.74	39.04	-4.092	0.000	0.499
100.00	-33.68	-39.99	0.00	-2538.6	0.00	2538.69	3473.75	1736.87	5780.45	2869.66	43.43	-4.281	0.000	0.476
105.00	-32.32	-39.38	0.00	-2338.7	0.00	2338.76	3410.09	1705.04	5525.58	2743.13	48.01	-4.466	0.000	0.453
109.50	-30.74	-37.28	0.00	-2154.3	0.00	2154.33	3351.58	1675.79	5299.03	2630.66	52.29	-4.630	0.000	0.429
110.00	-30.59	-37.24	0.00	-2135.6	0.00	2135.69	3345.00	1672.50	5274.03	2618.25	52.78	-4.649	0.000	0.427
112.25	-29.99	-36.98	0.00	-2051.9	0.00	2051.91	3315.25	1657.63	5161.96	2562.62	54.98	-4.730	0.000	0.416
112.25	-29.99	-36.98	0.00	-2051.9	0.00	2051.91	3315.25	1657.63	5161.96	2562.62	54.98	-4.730	0.000	0.416
115.00	-29.20	-36.71	0.00	-1950.2	0.00	1950.23	3278.49	1639.25	5025.98	2495.11	57.74	-4.829	0.000	0.791
120.00	-27.87	-36.18	0.00	-1766.6	0.00	1766.67	3210.56	1605.28	4781.62	2373.80	62.97	-5.168	0.000	0.753
123.58	-26.95	-35.77	0.00	-1637.0	0.00	1637.04	3148.16	1574.08	4590.15	2278.75	66.94	-5.410	0.000	0.727
125.00	-26.41	-35.60	0.00	-1586.3	0.00	1586.36	3121.72	1560.86	4512.97	2240.43	68.55	-5.507	0.000	0.717
125.60	-26.14	-35.55	0.00	-1565.0	0.00	1565.00	3110.52	1555.26	4480.48	2224.30	69.25	-5.548	0.000	0.402
129.00	-24.91	-35.08	0.00	-1444.1	0.00	1444.15	2149.47	1074.74	3099.22	1538.58	73.24	-5.675	0.000	0.422
130.00	-24.61	-34.86	0.00	-1408.9	0.00	1408.92	2141.27	1070.63	3068.69	1523.43	74.43	-5.712	0.000	0.468
135.00	-23.66	-34.27	0.00	-1234.6	0.00	1234.60	2099.38	1049.69	2916.97	1448.11	80.51	-5.909	0.000	0.425
136.26	-23.38	-34.15	0.00	-1191.4	0.00	1191.41	2088.60	1044.30	2879.00	1429.26	82.07	-5.959	0.000	0.413
136.26	-23.38	-34.15	0.00	-1191.4	0.00	1191.41	2088.60	1044.30	2879.00	1429.26	82.07	-5.959	0.000	0.413
140.00	-22.60	-33.78	0.00	-1063.6	0.00	1063.68	2056.07	1028.04	2766.99	1373.65	86.79	-6.097	0.000	0.786
145.00	-19.13	-29.66	0.00	-894.77	0.00	894.77	2011.34	1005.67	2618.95	1300.16	93.36	-6.451	0.000	0.699
150.00	-18.17	-29.15	0.00	-746.49	0.00	746.49	1965.18	982.59	2473.01	1227.71	100.28	-6.778	0.000	0.618
155.00	-14.56	-23.45	0.00	-600.75	0.00	600.75	1917.59	958.80	2329.38	1156.40	107.52	-7.075	0.000	0.528

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 21
	Struct Class: II	



160.00	-13.81	-22.91	0.00	-483.51	0.00	483.51	1868.58	934.29	2188.24	1086.34	115.06	-7.340	0.000	0.453
161.50	-11.92	-21.41	0.00	-449.15	0.00	449.15	1853.60	926.80	2146.41	1065.57	117.37	-7.417	0.000	0.428
165.00	-11.42	-21.03	0.00	-374.23	0.00	374.23	1818.15	909.07	2049.77	1017.59	122.85	-7.579	0.000	0.375
165.25	-11.35	-21.02	0.00	-368.97	0.00	368.97	1815.59	907.79	2042.92	1014.19	123.25	-7.591	0.000	0.371
169.58	-10.47	-20.51	0.00	-277.89	0.00	277.89	1040.26	520.13	1155.41	573.59	130.20	-7.763	0.000	0.496
170.00	-10.39	-20.49	0.00	-269.34	0.00	269.34	1038.39	519.19	1149.55	570.68	130.88	-7.779	0.000	0.484
175.00	-6.55	-12.97	0.00	-166.91	0.00	166.91	1015.17	507.59	1079.51	535.91	139.13	-7.992	0.000	0.319
180.00	-6.18	-12.50	0.00	-102.05	0.00	102.05	990.53	495.27	1010.05	501.43	147.55	-8.140	0.000	0.210
185.00	-2.89	-5.65	0.00	-39.54	0.00	39.54	964.47	482.24	941.35	467.32	156.11	-8.229	0.000	0.088
187.00	-2.73	-4.87	0.00	-22.99	0.00	22.99	953.65	476.82	914.12	453.81	159.55	-8.248	0.000	0.054
190.00	-2.56	-4.61	0.00	-8.39	0.00	8.39	936.98	468.49	873.60	433.69	164.72	-8.262	0.000	0.022
191.50	-0.19	-0.39	0.00	-1.48	0.00	1.48	928.46	464.23	853.48	423.70	167.30	-8.264	0.000	0.004
195.00	-0.05	-0.10	0.00	-0.10	0.00	0.10	908.07	454.03	806.98	400.62	173.34	-8.265	0.000	0.000
196.00	0.00	-0.09	0.00	0.00	0.00	0.00	902.11	451.06	793.81	394.08	175.07	-8.265	0.000	0.000

Wind Loading - Shaft

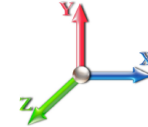
Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	437.11	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	429.46	0.750	0.000	5.00	25.267	18.95	596.3	0.0	1796.6
10.00		1.00	0.85	17.879	19.67	421.81	0.750	0.000	5.00	24.821	18.62	585.8	0.0	1764.6
15.00		1.00	0.85	17.879	19.67	414.16	0.750	0.000	5.00	24.375	18.28	575.3	0.0	1732.5
20.00		1.00	0.90	18.971	20.87	418.73	0.750	0.000	5.00	23.929	17.95	599.2	0.0	1700.5
25.00		1.00	0.95	19.883	21.87	420.62	0.750	0.000	5.00	23.482	17.61	616.3	0.0	1668.4
30.00		1.00	0.98	20.661	22.73	420.55	0.750	0.000	5.00	23.036	17.28	628.3	0.0	1636.4
35.00		1.00	1.01	21.343	23.48	419.07	0.750	0.000	5.00	22.590	16.94	636.4	0.0	1604.3
40.00		1.00	1.04	21.951	24.15	416.52	0.750	0.000	5.00	22.144	16.61	641.6	0.0	1572.3
45.00		1.00	1.07	22.502	24.75	413.14	0.750	0.000	5.00	21.698	16.27	644.5	0.0	1540.2
45.42	Bot - Section 2	1.00	1.07	22.546	24.80	412.82	0.750	0.000	0.42	1.788	1.34	53.2	0.0	126.9
48.90	RB1	1.00	1.09	22.899	25.19	410.02	0.750	0.000	3.48	15.123	11.34	457.1	0.0	1913.1
50.00		1.00	1.09	23.007	25.31	409.07	0.750	0.000	1.10	4.731	3.55	143.7	0.0	598.3
52.75	Top - Section 1	1.00	1.11	23.268	25.59	406.58	0.750	0.000	2.75	11.732	8.80	360.3	0.0	1483.6
55.00		1.00	1.12	23.473	25.82	412.78	0.750	0.000	2.25	9.499	7.12	294.3	0.0	540.6
57.15	RT1	1.00	1.12	23.663	26.03	410.66	0.750	0.000	2.15	8.992	6.74	280.9	0.0	511.7
60.00		1.00	1.14	23.907	26.30	407.73	0.750	0.000	2.85	11.793	8.84	372.1	0.0	671.0
65.00		1.00	1.16	24.313	26.74	402.26	0.750	0.000	5.00	20.339	15.25	652.7	0.0	1157.1
70.00		1.00	1.17	24.696	27.17	396.42	0.750	0.000	5.00	19.893	14.92	648.5	0.0	1131.4
75.00		1.00	1.19	25.057	27.56	390.25	0.750	0.000	5.00	19.446	14.58	643.2	0.0	1105.8
80.00		1.00	1.21	25.400	27.94	383.79	0.750	0.000	5.00	19.000	14.25	637.0	0.0	1080.1
84.00	Bot - Section 3	1.00	1.22	25.662	28.23	378.44	0.750	0.000	4.00	14.879	11.16	504.0	0.0	845.6
85.00		1.00	1.22	25.726	28.30	377.08	0.750	0.000	1.00	3.739	2.80	127.0	0.0	368.7
87.00	RB2	1.00	1.23	25.852	28.44	374.32	0.750	0.000	2.00	7.424	5.57	253.4	0.0	732.0
90.00		1.00	1.24	26.037	28.64	370.12	0.750	0.000	3.00	11.003	8.25	378.2	0.0	1084.5
90.42	Top - Section 2	1.00	1.24	26.063	28.67	369.53	0.750	0.000	0.42	1.515	1.14	52.1	0.0	149.3
95.00		1.00	1.25	26.336	28.97	369.58	0.750	0.000	4.58	16.465	12.35	572.4	0.0	703.6
100.00	Appurtenance(s)	1.00	1.27	26.621	29.28	362.25	0.750	0.000	5.00	17.535	13.15	616.2	0.0	749.2
105.00		1.00	1.28	26.896	29.59	354.73	0.750	0.000	5.00	17.089	12.82	606.7	0.0	730.0
109.50	Appurtenance(s)	1.00	1.29	27.135	29.85	347.82	0.750	0.000	4.50	14.998	11.25	537.2	0.0	640.5
110.00		1.00	1.29	27.161	29.88	347.04	0.750	0.000	0.50	1.644	1.23	58.9	0.0	70.2
112.25	RT2	1.00	1.30	27.277	30.00	343.53	0.750	0.000	2.25	7.344	5.51	264.4	0.0	313.5
115.00		1.00	1.30	27.416	30.16	339.20	0.750	0.000	2.75	8.853	6.64	320.4	0.0	377.9
120.00		1.00	1.32	27.663	30.43	331.21	0.750	0.000	5.00	15.750	11.81	575.1	0.0	672.2
123.58	Bot - Section 4	1.00	1.32	27.835	30.62	325.39	0.750	0.000	3.58	11.013	8.26	404.7	0.0	469.9
125.00		1.00	1.33	27.902	30.69	323.08	0.750	0.000	1.42	4.359	3.27	160.5	0.0	322.9
125.60	RB3	1.00	1.33	27.930	30.72	322.09	0.750	0.000	0.60	1.835	1.38	67.7	0.0	136.0
129.00	Top - Section 3	1.00	1.34	28.088	30.90	316.48	0.750	0.000	3.40	10.278	7.71	381.1	0.0	761.2
130.00	Appurtenance(s)	1.00	1.34	28.133	30.95	319.96	0.750	0.000	1.00	2.984	2.24	110.8	0.0	95.7
135.00		1.00	1.35	28.358	31.19	311.60	0.750	0.000	5.00	14.651	10.99	548.4	0.0	469.9
136.26	RT3	1.00	1.35	28.413	31.25	309.47	0.750	0.000	1.26	3.622	2.72	135.8	0.0	116.1
140.00		1.00	1.36	28.576	31.43	303.12	0.750	0.000	3.74	10.583	7.94	399.2	0.0	339.4
145.00	Appurtenance(s)	1.00	1.37	28.788	31.67	294.54	0.750	0.000	5.00	13.759	10.32	522.8	0.0	441.1
150.00		1.00	1.38	28.994	31.89	285.85	0.750	0.000	5.00	13.313	9.98	509.5	0.0	426.7
155.00	Appurtenance(s)	1.00	1.39	29.195	32.11	277.06	0.750	0.000	5.00	12.867	9.65	495.8	0.0	412.2
160.00		1.00	1.40	29.390	32.33	268.18	0.751 *	0.000	5.00	12.421	9.33	482.8	0.0	397.8
161.50	Appurtenance(s)	1.00	1.40	29.448	32.39	265.50	0.757 *	0.000	1.50	3.639	2.75	142.8	0.0	116.5

Wind Loading - Shaft

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 23
	Struct Class: II	



165.00	1.00	1.41	29.581	32.54	259.21	0.761 *	0.000	3.50	8.335	6.34	330.3	0.0	266.8
165.25 Bot - Section 5	1.00	1.41	29.591	32.55	258.76	0.765 *	0.000	0.25	0.587	0.45	23.4	0.0	18.8
169.58 Top - Section 4	1.00	1.41	29.753	32.73	250.92	0.769 *	0.000	4.33	10.136	7.79	408.1	0.0	537.0
170.00	1.00	1.42	29.768	32.74	253.68	0.770 *	0.000	0.42	0.957	0.74	38.6	0.0	20.5
175.00 Appurtenance(s)	1.00	1.42	29.950	32.95	244.56	0.775 *	0.000	5.00	11.242	8.71	459.4	0.0	240.6
180.00	1.00	1.43	30.128	33.14	235.35	0.750	0.000	5.00	10.796	8.10	429.3	0.0	231.0
185.00 Appurtenance(s)	1.00	1.44	30.303	33.33	226.08	0.750	0.000	5.00	10.350	7.76	414.0	0.0	221.4
187.00 Appurtenance(s)	1.00	1.44	30.371	33.41	222.34	0.750	0.000	2.00	4.015	3.01	161.0	0.0	85.9
190.00	1.00	1.45	30.473	33.52	216.73	0.750	0.000	3.00	5.889	4.42	236.9	0.0	125.9
191.50 Appurtenance(s)	1.00	1.45	30.524	33.58	213.91	0.750	0.000	1.50	2.884	2.16	116.2	0.0	61.7
195.00	1.00	1.46	30.640	33.70	207.30	0.750	0.000	3.50	6.573	4.93	265.9	0.0	140.5
196.00 Appurtenance(s)	1.00	1.46	30.673	33.74	205.41	0.750	0.000	1.00	1.838	1.38	74.4	0.0	39.3
								Totals:	196.00		22,252.0		39,267.7

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

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	196.00	6' Lightning rod	1	30.673	33.741	1.00	1.00	0.38	5.85	0.000	0.000	20.51	0.00	0.00
2	191.50	1900MHz - RRU	3	30.524	33.576	0.54	0.80	6.11	118.80	0.000	0.000	328.26	0.00	0.00
3	191.50	APXVTM14-C-120	3	30.524	33.576	0.68	0.80	12.93	151.20	0.000	0.000	694.81	0.00	0.00
4	191.50	APXVSP18-C-A20	3	30.524	33.576	0.66	0.80	15.98	153.90	0.000	0.000	858.25	0.00	0.00
5	191.50	800MHz - RRU	3	30.524	33.576	0.54	0.80	4.00	143.10	0.000	0.000	215.10	0.00	0.00
6	191.50	RRH8x20-25 - RRU	3	30.524	33.576	0.54	0.80	6.51	189.00	0.000	0.000	349.86	0.00	0.00
7	191.50	800MHz Filter	3	30.524	33.576	0.54	0.80	1.25	23.76	0.000	0.000	67.38	0.00	0.00
8	191.50	ACU-A20-N - RET	4	30.524	33.576	0.60	0.80	0.34	3.60	0.000	0.000	18.05	0.00	0.00
9	191.50	Low Profile Platform	1	30.524	33.576	1.00	1.00	22.00	1350.00	0.000	0.000	1181.88	0.00	0.00
10	187.00	BA80-41-DIN	1	30.717	33.789	1.00	1.00	9.40	61.20	0.000	10.333	508.18	0.00	5251.23
11	187.00	Pipe mount	1	30.371	33.408	0.56	0.75	1.48	36.00	0.000	0.000	79.08	0.00	0.00
12	185.00	CBC23SR-43	3	30.303	33.333	0.52	0.75	0.66	13.23	0.000	0.000	35.28	0.00	0.00
13	185.00	MT6407-77A	3	30.303	33.333	0.52	0.75	7.39	214.38	0.000	0.000	393.95	0.00	0.00
14	185.00	BXA-70063 6CF_2	3	30.303	33.333	0.61	0.75	13.97	45.90	0.000	0.000	744.88	0.00	0.00
15	185.00	JAHH-65C-R3B-V2	6	30.303	33.333	0.62	0.75	47.85	433.08	0.000	0.000	2551.71	0.00	0.00
16	185.00	DB-C1-12C-24AB-OZ	1	30.303	33.333	0.75	0.75	3.04	28.80	0.000	0.000	162.40	0.00	0.00
17	185.00	Low Profile	1	30.303	33.333	0.00	1.00	22.00	1350.00	0.000	0.000	1173.31	0.00	0.00
18	185.00	RFV01U-D2A	3	30.303	33.333	0.58	0.75	3.30	189.81	0.000	0.000	175.97	0.00	0.00
19	185.00	RFV01U-D1A	3	30.303	33.333	0.62	0.75	3.51	227.88	0.000	0.000	187.24	0.00	0.00
20	185.00	HRK12-HD	1	30.303	33.333	0.75	1.00	9.00	365.95	0.000	0.000	479.99	0.00	0.00
21	175.00	Low Profile Platform	1	29.950	32.945	1.00	1.00	22.00	1350.00	0.000	0.000	1159.67	0.00	0.00
22	175.00	DC6-48-60-18-8F	1	29.950	32.945	0.80	0.80	0.74	29.52	0.000	0.000	38.80	0.00	0.00
23	175.00	RRUS-12	3	29.950	32.945	0.54	0.80	4.34	135.00	0.000	0.000	228.86	0.00	0.00
24	175.00	Powerwave 7770	3	29.950	32.945	0.68	0.80	11.22	94.50	0.000	0.000	591.43	0.00	0.00
25	175.00	Powerwave LGP21401	12	29.950	32.945	0.75	0.75	11.61	152.28	0.000	0.000	611.99	0.00	0.00
26	175.00	Powerwave LGP13519	12	29.950	32.945	0.75	0.75	3.06	57.24	0.000	0.000	161.30	0.00	0.00
27	175.00	Ericsson RRUS 4449	3	29.950	32.945	0.50	0.75	2.97	191.70	0.000	0.000	156.54	0.00	0.00
28	175.00	Ericsson RRUS 32 B30	3	29.950	32.945	0.50	0.75	4.13	162.00	0.000	0.000	217.73	0.00	0.00
29	175.00	Raycap	2	29.950	32.945	1.00	1.00	9.56	28.80	0.000	0.000	503.93	0.00	0.00
30	175.00	HRK12 (Handrail Kit)	1	29.950	32.945	1.00	1.00	6.75	235.55	0.000	0.000	355.81	0.00	0.00
31	175.00	Kathrein 800-10965	6	29.950	32.945	0.53	0.75	44.12	586.44	0.000	0.000	2325.82	0.00	0.00
32	175.00	Ericsson RRUS 4478 B14	3	29.950	32.945	0.50	0.75	2.49	160.38	0.000	0.000	131.11	0.00	0.00
33	161.50	Low Profile Platform	1	29.448	32.393	1.00	1.00	22.00	1350.00	0.000	0.000	1140.23	0.00	0.00
34	155.00	Ericsson KRY 112 144/1	3	29.195	32.114	0.54	0.80	1.45	41.04	0.000	0.000	74.36	0.00	0.00
35	155.00	Ericsson AIR6419 B41	3	29.195	32.114	0.61	0.80	6.93	178.47	0.000	0.000	356.14	0.00	0.00
36	155.00	RFS	3	29.195	32.114	0.56	0.80	34.00	345.60	0.000	0.000	1747.17	0.00	0.00
37	155.00	Commscope VV-65A-R1	3	29.195	32.114	0.59	0.80	14.03	79.65	0.000	0.000	720.92	0.00	0.00
38	155.00	Ericsson 4460 B25 + B66	3	29.195	32.114	0.54	0.80	4.58	294.30	0.000	0.000	235.48	0.00	0.00
39	155.00	T-Arms w/ Handrail kit &	3	29.195	32.114	0.56	0.75	29.53	1350.00	0.000	0.000	1517.39	0.00	0.00
40	155.00	Ericsson 4449 B71 + B85	3	29.195	32.114	0.54	0.80	3.17	197.64	0.000	0.000	162.77	0.00	0.00
41	145.00	TA08025-B605	3	28.788	31.666	0.50	0.75	2.95	202.50	0.000	0.000	149.70	0.00	0.00
42	145.00	MC-PK8-DSH	1	28.788	31.666	1.00	1.00	37.59	1554.30	0.000	0.000	1904.54	0.00	0.00
43	145.00	MX08FRO665-21	3	28.788	31.666	0.55	0.75	20.80	174.15	0.000	0.000	1053.64	0.00	0.00
44	145.00	TA08025-B604	3	28.788	31.666	0.50	0.75	2.95	172.53	0.000	0.000	149.70	0.00	0.00
45	145.00	RDIDC-9181-PF-48	1	28.788	31.666	0.75	0.75	1.51	19.71	0.000	0.000	76.38	0.00	0.00
46	130.00	Standoff	1	28.133	30.947	0.56	0.75	1.48	36.00	0.000	0.000	73.25	0.00	0.00
47	130.00	ANT150F2	1	28.246	31.071	1.00	1.00	1.23	11.70	0.000	2.500	61.15	0.00	152.87

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



48	109.50	Standoff	1	27.135	29.849	0.56	0.75	1.48	36.00	0.000	0.000	70.65	0.00	0.00
49	109.50	Standoff	5	27.135	29.849	0.56	0.75	7.40	180.00	0.000	0.000	353.26	0.00	0.00
50	109.50	4' Omni	1	27.239	29.962	1.00	1.00	1.00	9.00	0.000	2.000	47.94	0.00	95.88
51	109.50	14' Omni	5	27.491	30.240	1.00	1.00	21.00	180.00	0.000	7.000	1016.08	0.00	7112.56
52	100.00	Standoff	1	26.621	29.284	0.56	0.75	1.48	36.00	0.000	0.000	69.31	0.00	0.00
53	100.00	MPRD	1	26.621	29.284	1.00	1.00	6.10	32.40	0.000	0.000	285.81	0.00	0.00

Totals:	14,769.84	27,974.94
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Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

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		596.31	2036.62	0.00	0.00
10.00		585.78	2004.56	0.00	0.00
15.00		575.25	1972.50	0.00	0.00
20.00		599.20	1940.45	0.00	0.00
25.00		616.31	1908.39	0.00	0.00
30.00		628.26	1876.34	0.00	0.00
35.00		636.42	1844.28	0.00	0.00
40.00		641.64	1812.22	0.00	0.00
45.00		644.50	1780.17	0.00	0.00
45.42		53.21	146.90	0.00	0.00
48.90		457.12	2080.28	0.00	0.00
50.00		143.67	651.11	0.00	0.00
52.75		360.33	1615.56	0.00	0.00
55.00		294.31	648.57	0.00	0.00
57.15		280.87	614.89	0.00	0.00
60.00		372.14	807.78	0.00	0.00
65.00		652.74	1397.02	0.00	0.00
70.00		648.46	1371.38	0.00	0.00
75.00		643.20	1345.73	0.00	0.00
80.00		637.04	1320.09	0.00	0.00
84.00		504.02	1037.61	0.00	0.00
85.00		126.97	416.68	0.00	0.00
87.00		253.35	827.97	0.00	0.00
90.00		378.15	1228.48	0.00	0.00
90.42		52.14	169.35	0.00	0.00
95.00		572.38	923.62	0.00	0.00
100.00	(2) attachments	971.30	1057.55	0.00	0.00
105.00		606.70	969.74	0.00	0.00
109.50	(12) attachments	2025.14	1261.32	0.00	7208.44
110.00		58.95	93.75	0.00	0.00
112.25		264.41	419.51	0.00	0.00
115.00		320.38	507.44	0.00	0.00
120.00		575.13	907.72	0.00	0.00
123.58		404.66	638.70	0.00	0.00
125.00		160.53	389.64	0.00	0.00
125.60		67.66	164.21	0.00	0.00
129.00		381.07	921.36	0.00	0.00
130.00	(2) attachments	245.20	190.51	0.00	152.87
135.00		548.43	703.05	0.00	0.00
136.26		135.83	174.89	0.00	0.00
140.00		399.20	513.73	0.00	0.00
145.00	(11) attachments	3856.80	2797.39	0.00	0.00
150.00		509.51	651.59	0.00	0.00
155.00	(21) attachments	5310.07	3123.86	0.00	0.00
160.00		482.79	568.20	0.00	0.00
161.50	(1) attachments	1282.99	1517.65	0.00	0.00

Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 27



165.00	330.33	386.13	0.00	0.00
165.25	23.37	27.31	0.00	0.00
169.58	408.05	684.67	0.00	0.00
170.00	38.60	34.69	0.00	0.00
175.00	(50) attachments	6942.34	3594.45	0.00
180.00		429.34	311.65	0.00
185.00	(24) attachments	6318.72	3171.06	0.00
187.00	(2) attachments	748.22	202.11	0.00
190.00		236.87	153.07	5251.23
191.50	(23) attachments	3829.79	2208.60	0.00
195.00		265.86	140.51	0.00
196.00	(1) attachments	94.93	45.13	0.00
	Totals:	50,226.98	62,309.73	0.00
				12,612.53

Linear Appurtenance Segment Forces (Factored)

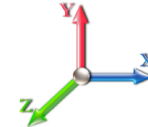
Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.058	0.000	17.879	0.00	14.49
5.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.058	0.000	17.879	0.00	7.25
5.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.058	0.000	17.879	0.00	2.34
10.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	17.879	0.00	14.49
10.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.059	0.000	17.879	0.00	7.25
10.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.059	0.000	17.879	0.00	2.34
15.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.060	0.000	17.879	0.00	14.49
15.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.060	0.000	17.879	0.00	7.25
15.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.060	0.000	17.879	0.00	2.34
20.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.061	0.000	18.971	0.00	14.49
20.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.061	0.000	18.971	0.00	7.25
20.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.061	0.000	18.971	0.00	2.34
25.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	19.883	0.00	14.49
25.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.062	0.000	19.883	0.00	7.25
25.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.062	0.000	19.883	0.00	2.34
30.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.064	0.000	20.661	0.00	14.49
30.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.064	0.000	20.661	0.00	7.25
30.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.064	0.000	20.661	0.00	2.34
35.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.065	0.000	21.343	0.00	14.49
35.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.065	0.000	21.343	0.00	7.25
35.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.065	0.000	21.343	0.00	2.34
40.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	21.951	0.00	14.49
40.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.066	0.000	21.951	0.00	7.25
40.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.066	0.000	21.951	0.00	2.34
45.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	22.502	0.00	14.49
45.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.068	0.000	22.502	0.00	7.25
45.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.068	0.000	22.502	0.00	2.34
45.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.068	0.000	22.546	0.00	1.21
45.42	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.068	0.000	22.546	0.00	0.60
45.42	7/8" Coax	Yes	0.42	0.000	0.52	0.02	0.00	0.068	0.000	22.546	0.00	0.20
48.90	2" Conduit	Yes	3.48	0.000	0.00	0.00	0.00	0.069	0.000	22.899	0.00	10.09
48.90	3" Conduit	Yes	3.48	0.000	3.00	0.87	0.00	0.069	0.000	22.899	0.00	5.05
48.90	7/8" Coax	Yes	3.48	0.000	0.52	0.15	0.00	0.069	0.000	22.899	0.00	1.63
50.00	2" Conduit	Yes	1.10	0.000	0.00	0.00	0.00	0.070	0.000	23.007	0.00	3.19
50.00	3" Conduit	Yes	1.10	0.000	3.00	0.28	0.00	0.070	0.000	23.007	0.00	1.59
50.00	7/8" Coax	Yes	1.10	0.000	0.52	0.05	0.00	0.070	0.000	23.007	0.00	0.51
52.75	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.070	0.000	23.268	0.00	7.97
52.75	3" Conduit	Yes	2.75	0.000	3.00	0.69	0.00	0.070	0.000	23.268	0.00	3.98
52.75	7/8" Coax	Yes	2.75	0.000	0.52	0.12	0.00	0.070	0.000	23.268	0.00	1.29
55.00	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.069	0.000	23.473	0.00	6.52
55.00	3" Conduit	Yes	2.25	0.000	3.00	0.56	0.00	0.069	0.000	23.473	0.00	3.26
55.00	7/8" Coax	Yes	2.25	0.000	0.52	0.10	0.00	0.069	0.000	23.473	0.00	1.05
57.15	2" Conduit	Yes	2.15	0.000	0.00	0.00	0.00	0.070	0.000	23.663	0.00	6.23
57.15	3" Conduit	Yes	2.15	0.000	3.00	0.54	0.00	0.070	0.000	23.663	0.00	3.12
57.15	7/8" Coax	Yes	2.15	0.000	0.52	0.09	0.00	0.070	0.000	23.663	0.00	1.01
60.00	2" Conduit	Yes	2.85	0.000	0.00	0.00	0.00	0.071	0.000	23.907	0.00	8.26
60.00	3" Conduit	Yes	2.85	0.000	3.00	0.71	0.00	0.071	0.000	23.907	0.00	4.13

Linear Appurtenance Segment Forces (Factored)

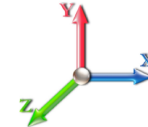
Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

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)
60.00	7/8" Coax	Yes	2.85	0.000	0.52	0.12	0.00	0.071	0.000	23.907	0.00	1.33
65.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	24.313	0.00	14.49
65.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.072	0.000	24.313	0.00	7.25
65.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.072	0.000	24.313	0.00	2.34
70.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	24.696	0.00	14.49
70.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.074	0.000	24.696	0.00	7.25
70.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.074	0.000	24.696	0.00	2.34
75.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.075	0.000	25.057	0.00	14.49
75.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.075	0.000	25.057	0.00	7.25
75.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.075	0.000	25.057	0.00	2.34
80.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.077	0.000	25.400	0.00	14.49
80.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.077	0.000	25.400	0.00	7.25
80.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.077	0.000	25.400	0.00	2.34
84.00	2" Conduit	Yes	4.00	0.000	0.00	0.00	0.00	0.079	0.000	25.662	0.00	11.59
84.00	3" Conduit	Yes	4.00	0.000	3.00	1.00	0.00	0.079	0.000	25.662	0.00	5.80
84.00	7/8" Coax	Yes	4.00	0.000	0.52	0.17	0.00	0.079	0.000	25.662	0.00	1.87
85.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.080	0.000	25.726	0.00	2.90
85.00	3" Conduit	Yes	1.00	0.000	3.00	0.25	0.00	0.080	0.000	25.726	0.00	1.45
85.00	7/8" Coax	Yes	1.00	0.000	0.52	0.04	0.00	0.080	0.000	25.726	0.00	0.47
87.00	2" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.852	0.00	5.80
87.00	3" Conduit	Yes	2.00	0.000	3.00	0.50	0.00	0.080	0.000	25.852	0.00	2.90
87.00	7/8" Coax	Yes	2.00	0.000	0.52	0.09	0.00	0.080	0.000	25.852	0.00	0.94
90.00	2" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.081	0.000	26.037	0.00	8.69
90.00	3" Conduit	Yes	3.00	0.000	3.00	0.75	0.00	0.081	0.000	26.037	0.00	4.35
90.00	7/8" Coax	Yes	3.00	0.000	0.52	0.13	0.00	0.081	0.000	26.037	0.00	1.40
90.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.082	0.000	26.063	0.00	1.21
90.42	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.082	0.000	26.063	0.00	0.60
90.42	7/8" Coax	Yes	0.42	0.000	0.52	0.02	0.00	0.082	0.000	26.063	0.00	0.20
95.00	2" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.082	0.000	26.336	0.00	13.28
95.00	3" Conduit	Yes	4.58	0.000	3.00	1.15	0.00	0.082	0.000	26.336	0.00	6.64
95.00	7/8" Coax	Yes	4.58	0.000	0.52	0.20	0.00	0.082	0.000	26.336	0.00	2.14
100.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.084	0.000	26.621	0.00	14.49
100.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.084	0.000	26.621	0.00	7.25
100.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.084	0.000	26.621	0.00	2.34
105.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	26.896	0.00	14.49
105.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.086	0.000	26.896	0.00	7.25
105.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.086	0.000	26.896	0.00	2.34
109.50	2" Conduit	Yes	4.50	0.000	0.00	0.00	0.00	0.088	0.000	27.135	0.00	13.04
109.50	3" Conduit	Yes	4.50	0.000	3.00	1.13	0.00	0.088	0.000	27.135	0.00	6.52
109.50	7/8" Coax	Yes	4.50	0.000	0.52	0.20	0.00	0.088	0.000	27.135	0.00	2.11
110.00	2" Conduit	Yes	0.50	0.000	0.00	0.00	0.00	0.089	0.000	27.161	0.00	1.45
110.00	3" Conduit	Yes	0.50	0.000	3.00	0.13	0.00	0.089	0.000	27.161	0.00	0.72
110.00	7/8" Coax	Yes	0.50	0.000	0.52	0.02	0.00	0.089	0.000	27.161	0.00	0.23
112.25	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.090	0.000	27.277	0.00	6.52
112.25	3" Conduit	Yes	2.25	0.000	3.00	0.56	0.00	0.090	0.000	27.277	0.00	3.26
112.25	7/8" Coax	Yes	2.25	0.000	0.52	0.10	0.00	0.090	0.000	27.277	0.00	1.05
115.00	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.091	0.000	27.416	0.00	7.97

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 27

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)
115.00	3" Conduit	Yes	2.75	0.000	3.00	0.69	0.00	0.091	0.000	27.416	0.00	3.98
115.00	7/8" Coax	Yes	2.75	0.000	0.52	0.12	0.00	0.091	0.000	27.416	0.00	1.29
120.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	27.663	0.00	14.49
120.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.093	0.000	27.663	0.00	7.25
120.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.093	0.000	27.663	0.00	2.34
123.58	2" Conduit	Yes	3.58	0.000	0.00	0.00	0.00	0.095	0.000	27.835	0.00	10.38
123.58	3" Conduit	Yes	3.58	0.000	3.00	0.90	0.00	0.095	0.000	27.835	0.00	5.19
123.58	7/8" Coax	Yes	3.58	0.000	0.52	0.16	0.00	0.095	0.000	27.835	0.00	1.68
125.00	2" Conduit	Yes	1.42	0.000	0.00	0.00	0.00	0.097	0.000	27.902	0.00	4.11
125.00	3" Conduit	Yes	1.42	0.000	3.00	0.35	0.00	0.097	0.000	27.902	0.00	2.05
125.00	7/8" Coax	Yes	1.42	0.000	0.52	0.06	0.00	0.097	0.000	27.902	0.00	0.66
125.60	2" Conduit	Yes	0.60	0.000	0.00	0.00	0.00	0.097	0.000	27.930	0.00	1.74
125.60	3" Conduit	Yes	0.60	0.000	3.00	0.15	0.00	0.097	0.000	27.930	0.00	0.87
125.60	7/8" Coax	Yes	0.60	0.000	0.52	0.03	0.00	0.097	0.000	27.930	0.00	0.28
129.00	2" Conduit	Yes	3.40	0.000	0.00	0.00	0.00	0.099	0.000	28.088	0.00	9.85
129.00	3" Conduit	Yes	3.40	0.000	3.00	0.85	0.00	0.099	0.000	28.088	0.00	4.93
129.00	7/8" Coax	Yes	3.40	0.000	0.52	0.15	0.00	0.099	0.000	28.088	0.00	1.59
130.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.098	0.000	28.133	0.00	2.90
130.00	3" Conduit	Yes	1.00	0.000	3.00	0.25	0.00	0.098	0.000	28.133	0.00	1.45
130.00	7/8" Coax	Yes	1.00	0.000	0.52	0.04	0.00	0.098	0.000	28.133	0.00	0.47
135.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.085	0.000	28.358	0.00	14.49
135.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.085	0.000	28.358	0.00	7.25
136.26	2" Conduit	Yes	1.26	0.000	0.00	0.00	0.00	0.087	0.000	28.413	0.00	3.65
136.26	3" Conduit	Yes	1.26	0.000	3.00	0.31	0.00	0.087	0.000	28.413	0.00	1.83
140.00	2" Conduit	Yes	3.74	0.000	0.00	0.00	0.00	0.088	0.000	28.576	0.00	10.84
140.00	3" Conduit	Yes	3.74	0.000	3.00	0.94	0.00	0.088	0.000	28.576	0.00	5.42
145.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	28.788	0.00	14.49
145.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.091	0.000	28.788	0.00	7.25
150.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	28.994	0.00	14.49
150.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.094	0.000	28.994	0.00	7.25
155.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	29.195	0.00	14.49
155.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.097	0.000	29.195	0.00	7.25
160.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.002	29.390	0.00	14.49
160.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.101	1.002	29.390	0.00	7.25
161.50	2" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.103	1.009	29.448	0.00	4.35
161.50	3" Conduit	Yes	1.50	0.000	3.00	0.38	0.00	0.103	1.009	29.448	0.00	2.17
165.00	2" Conduit	Yes	3.50	0.000	0.00	0.00	0.00	0.105	1.015	29.581	0.00	10.14
165.00	3" Conduit	Yes	3.50	0.000	3.00	0.88	0.00	0.105	1.015	29.581	0.00	5.07
165.25	2" Conduit	Yes	0.25	0.000	0.00	0.00	0.00	0.106	1.019	29.591	0.00	0.72
165.25	3" Conduit	Yes	0.25	0.000	3.00	0.06	0.00	0.106	1.019	29.591	0.00	0.36
169.58	2" Conduit	Yes	4.33	0.000	0.00	0.00	0.00	0.108	1.025	29.753	0.00	12.56
169.58	3" Conduit	Yes	4.33	0.000	3.00	1.08	0.00	0.108	1.025	29.753	0.00	6.28
170.00	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.109	1.027	29.768	0.00	1.21
170.00	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.109	1.027	29.768	0.00	0.60
175.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.034	29.950	0.00	14.49
175.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.111	1.034	29.950	0.00	7.25

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

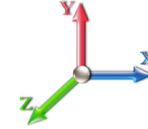


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

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)
Totals:											0.0	821.6

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.6W 93 mph Wind	Iterations 27
Dead Load Factor 0.90	
Wind Load Factor 1.60	

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	-62.23	-50.33	0.00	-7044.3	0.00	7044.39	8794.96	4397.48	21496.0	10671.5	0.00	0.000	0.000	0.667
5.00	-60.03	-49.93	0.00	-6792.7	0.00	6792.75	8639.43	4319.71	20738.5	10295.5	0.10	-0.187	0.000	0.667
10.00	-57.86	-49.53	0.00	-6543.1	0.00	6543.11	8483.89	4241.95	19994.7	9926.22	0.40	-0.376	0.000	0.666
15.00	-55.73	-49.12	0.00	-6295.4	0.00	6295.49	8328.36	4164.18	19264.4	9563.67	0.90	-0.569	0.000	0.665
20.00	-53.62	-48.69	0.00	-6049.8	0.00	6049.87	8172.83	4086.41	18547.7	9207.87	1.60	-0.766	0.000	0.664
25.00	-51.56	-48.22	0.00	-5806.4	0.00	5806.44	8017.29	4008.65	17844.6	8858.82	2.51	-0.965	0.000	0.662
30.00	-49.52	-47.74	0.00	-5565.3	0.00	5565.33	7861.76	3930.88	17155.1	8516.51	3.62	-1.167	0.000	0.660
35.00	-47.52	-47.23	0.00	-5326.6	0.00	5326.65	7706.22	3853.11	16479.1	8180.95	4.96	-1.373	0.000	0.657
40.00	-45.56	-46.71	0.00	-5090.4	0.00	5090.49	7550.69	3775.35	15816.8	7852.13	6.51	-1.582	0.000	0.654
45.00	-43.70	-46.10	0.00	-4856.9	0.00	4856.94	7395.16	3697.58	15168.0	7530.06	8.28	-1.794	0.000	0.651
45.42	-43.49	-46.11	0.00	-4837.7	0.00	4837.73	7382.20	3691.10	15114.6	7503.52	8.43	-1.812	0.000	0.651
48.90	-41.35	-45.65	0.00	-4677.1	0.00	4677.12	7273.84	3636.92	14671.4	7283.52	9.81	-1.964	0.000	0.432
50.00	-40.66	-45.52	0.00	-4626.9	0.00	4626.90	7239.62	3619.81	14532.8	7214.73	10.27	-1.996	0.000	0.431
52.75	-39.00	-45.16	0.00	-4501.7	0.00	4501.72	5810.43	2905.21	11825.7	5870.80	11.44	-2.077	0.000	0.439
55.00	-38.31	-44.88	0.00	-4400.1	0.00	4400.12	5769.82	2884.91	11629.7	5773.48	12.44	-2.143	0.000	0.480
57.15	-37.64	-44.63	0.00	-4303.6	0.00	4303.62	5730.75	2865.38	11443.3	5680.95	13.42	-2.214	0.000	0.476
57.15	-37.64	-44.63	0.00	-4303.6	0.00	4303.62	5730.75	2865.38	11443.3	5680.95	13.42	-2.214	0.000	0.476
60.00	-36.71	-44.34	0.00	-4176.4	0.00	4176.41	5678.55	2839.28	11197.7	5559.03	14.77	-2.307	0.000	0.758
65.00	-35.15	-43.79	0.00	-3954.6	0.00	3954.69	5551.73	2775.86	10705.1	5314.51	17.32	-2.568	0.000	0.751
70.00	-33.61	-43.24	0.00	-3735.7	0.00	3735.72	5427.30	2713.65	10228.2	5077.73	20.15	-2.832	0.000	0.742
75.00	-32.10	-42.68	0.00	-3519.5	0.00	3519.53	5302.88	2651.44	9762.15	4846.34	23.26	-3.099	0.000	0.733
80.00	-30.64	-42.10	0.00	-3306.1	0.00	3306.15	5178.45	2589.22	9306.93	4620.35	26.65	-3.367	0.000	0.722
84.00	-29.53	-41.60	0.00	-3137.7	0.00	3137.77	5078.91	2539.45	8950.59	4443.45	29.56	-3.585	0.000	0.712
85.00	-29.06	-41.49	0.00	-3096.1	0.00	3096.17	5054.02	2527.01	8862.59	4399.76	30.32	-3.641	0.000	0.710
87.00	-28.18	-41.24	0.00	-3013.1	0.00	3013.19	5004.25	2502.13	8687.89	4313.04	31.87	-3.753	0.000	0.426
90.00	-26.94	-40.80	0.00	-2889.4	0.00	2889.48	4929.59	2464.80	8429.11	4184.57	34.26	-3.853	0.000	0.418
90.42	-26.71	-40.78	0.00	-2872.4	0.00	2872.48	3591.78	1795.89	6277.53	3116.43	34.59	-3.867	0.000	0.445
95.00	-25.71	-40.22	0.00	-2685.5	0.00	2685.58	3535.98	1767.99	6038.44	2997.74	38.38	-4.018	0.000	0.487
100.00	-24.60	-39.25	0.00	-2484.4	0.00	2484.48	3473.75	1736.87	5780.45	2869.66	42.68	-4.202	0.000	0.464
105.00	-23.57	-38.65	0.00	-2288.2	0.00	2288.21	3410.09	1705.04	5525.58	2743.13	47.18	-4.383	0.000	0.441
109.50	-22.41	-36.56	0.00	-2107.0	0.00	2107.09	3351.58	1675.79	5299.03	2630.66	51.38	-4.544	0.000	0.418
110.00	-22.29	-36.52	0.00	-2088.8	0.00	2088.81	3345.00	1672.50	5274.03	2618.25	51.86	-4.562	0.000	0.416
112.25	-21.84	-36.25	0.00	-2006.6	0.00	2006.65	3315.25	1657.63	5161.96	2562.62	54.02	-4.642	0.000	0.406
112.25	-21.84	-36.25	0.00	-2006.6	0.00	2006.65	3315.25	1657.63	5161.96	2562.62	54.02	-4.642	0.000	0.406
115.00	-21.22	-35.97	0.00	-1906.9	0.00	1906.95	3278.49	1639.25	5025.98	2495.11	56.72	-4.738	0.000	0.771
120.00	-20.19	-35.42	0.00	-1727.0	0.00	1727.08	3210.56	1605.28	4781.62	2373.80	61.86	-5.070	0.000	0.734
123.58	-19.49	-35.02	0.00	-1600.1	0.00	1600.15	3148.16	1574.08	4590.15	2278.75	65.75	-5.307	0.000	0.709
125.00	-19.08	-34.85	0.00	-1550.5	0.00	1550.54	3121.72	1560.86	4512.97	2240.43	67.34	-5.401	0.000	0.699
125.60	-18.87	-34.79	0.00	-1529.6	0.00	1529.63	3110.52	1555.26	4480.48	2224.30	68.02	-5.442	0.000	0.392
129.00	-17.94	-34.35	0.00	-1411.3	0.00	1411.35	2149.47	1074.74	3099.22	1538.58	71.93	-5.565	0.000	0.411
130.00	-17.71	-34.12	0.00	-1376.8	0.00	1376.85	2141.27	1070.63	3068.69	1523.43	73.10	-5.602	0.000	0.456
135.00	-16.99	-33.54	0.00	-1206.2	0.00	1206.26	2099.38	1049.69	2916.97	1448.11	79.06	-5.794	0.000	0.413
136.26	-16.78	-33.41	0.00	-1164.0	0.00	1164.00	2088.60	1044.30	2879.00	1429.26	80.60	-5.842	0.000	0.402
136.26	-16.78	-33.41	0.00	-1164.0	0.00	1164.00	2088.60	1044.30	2879.00	1429.26	80.60	-5.842	0.000	0.402
140.00	-16.17	-33.03	0.00	-1039.0	0.00	1039.03	2056.07	1028.04	2766.99	1373.65	85.22	-5.978	0.000	0.765
145.00	-13.63	-28.98	0.00	-873.87	0.00	873.87	2011.34	1005.67	2618.95	1300.16	91.66	-6.323	0.000	0.680
150.00	-12.89	-28.47	0.00	-728.98	0.00	728.98	1965.18	982.59	2473.01	1227.71	98.44	-6.642	0.000	0.601
155.00	-10.31	-22.87	0.00	-586.64	0.00	586.64	1917.59	958.80	2329.38	1156.40	105.54	-6.933	0.000	0.513

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 33
	Struct Class: II	



160.00	-9.74	-22.35	0.00	-472.27	0.00	472.27	1868.58	934.29	2188.24	1086.34	112.93	-7.192	0.000	0.441
161.50	-8.35	-20.91	0.00	-438.74	0.00	438.74	1853.60	926.80	2146.41	1065.57	115.19	-7.266	0.000	0.417
165.00	-7.98	-20.54	0.00	-365.57	0.00	365.57	1818.15	909.07	2049.77	1017.59	120.57	-7.425	0.000	0.364
165.25	-7.92	-20.53	0.00	-360.43	0.00	360.43	1815.59	907.79	2042.92	1014.19	120.96	-7.437	0.000	0.360
169.58	-7.27	-20.04	0.00	-271.48	0.00	271.48	1040.26	520.13	1155.41	573.59	127.77	-7.605	0.000	0.482
170.00	-7.20	-20.02	0.00	-263.13	0.00	263.13	1038.39	519.19	1149.55	570.68	128.43	-7.620	0.000	0.469
175.00	-4.53	-12.67	0.00	-163.05	0.00	163.05	1015.17	507.59	1079.51	535.91	136.51	-7.829	0.000	0.309
180.00	-4.26	-12.21	0.00	-99.71	0.00	99.71	990.53	495.27	1010.05	501.43	144.77	-7.973	0.000	0.204
185.00	-2.00	-5.51	0.00	-38.67	0.00	38.67	964.47	482.24	941.35	467.32	153.14	-8.060	0.000	0.085
187.00	-1.90	-4.74	0.00	-22.40	0.00	22.40	953.65	476.82	914.12	453.81	156.51	-8.079	0.000	0.051
190.00	-1.78	-4.49	0.00	-8.17	0.00	8.17	936.98	468.49	873.60	433.69	161.58	-8.092	0.000	0.021
191.50	-0.13	-0.38	0.00	-1.44	0.00	1.44	928.46	464.23	853.48	423.70	164.11	-8.095	0.000	0.004
195.00	-0.03	-0.10	0.00	-0.10	0.00	0.10	908.07	454.03	806.98	400.62	170.03	-8.096	0.000	0.000
196.00	0.00	-0.09	0.00	0.00	0.00	0.00	902.11	451.06	793.81	394.08	171.72	-8.096	0.000	0.000

Wind Loading - Shaft

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



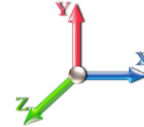
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	26.302	31.56	179.4	472.6	2868.2
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	25.930	31.12	176.9	498.4	2851.2
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	25.530	30.64	174.2	510.3	2820.4
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	25.117	30.14	181.8	516.1	2783.4
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	24.698	29.64	187.4	518.4	2742.9
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	24.275	29.13	191.4	518.3	2700.1
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	23.848	28.62	194.2	516.5	2655.6
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	23.418	28.10	196.1	513.5	2609.9
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	22.988	27.59	197.4	509.5	2563.1
45.42	Bot - Section 2	1.00	1.07	6.517	7.17	0.00	1.200	1.549	0.42	1.896	2.27	16.3	42.4	211.6
48.90	RB1	1.00	1.09	6.619	7.28	0.00	1.200	1.560	3.48	16.029	19.23	140.0	359.2	2910.0
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	1.10	5.017	6.02	44.0	113.2	911.0
52.75	Top - Section 1	1.00	1.11	6.726	7.40	0.00	1.200	1.572	2.75	12.453	14.94	110.6	281.4	2259.5
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	2.25	10.091	12.11	90.4	229.1	949.9
57.15	RT1	1.00	1.12	6.840	7.52	0.00	1.200	1.585	2.15	9.560	11.47	86.3	217.9	900.1
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	2.85	12.549	15.06	114.5	286.8	1181.5
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	21.676	26.01	201.1	496.7	2039.4
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	21.240	25.49	200.1	489.7	1998.3
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	20.803	24.96	198.9	482.4	1956.8
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	20.366	24.44	197.4	474.8	1914.9
84.00	Bot - Section 3	1.00	1.22	7.418	8.16	0.00	1.200	1.647	4.00	15.977	19.17	156.4	374.8	1502.3
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	1.00	4.014	4.82	39.4	94.9	586.5
87.00	RB2	1.00	1.23	7.473	8.22	0.00	1.200	1.653	2.00	7.975	9.57	78.7	188.6	1164.5
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	3.00	11.832	14.20	117.5	279.9	1725.9
90.42	Top - Section 2	1.00	1.24	7.533	8.29	0.00	1.200	1.659	0.42	1.631	1.96	16.2	38.8	237.9
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	4.58	17.739	21.29	178.2	419.8	1358.0
100.00	Appurtenance(s)	1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	18.931	22.72	192.3	449.3	1448.2
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	18.492	22.19	189.8	440.4	1413.7
109.50	Appurtenance(s)	1.00	1.29	7.843	8.63	0.00	1.200	1.691	4.50	16.267	19.52	168.4	389.0	1243.0
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	0.50	1.785	2.14	18.5	43.1	136.7
112.25	RT2	1.00	1.30	7.884	8.67	0.00	1.200	1.695	2.25	7.979	9.58	83.0	192.2	610.3
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	2.75	9.632	11.56	100.8	232.1	736.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	17.173	20.61	181.3	412.6	1308.9
123.58	Bot - Section 4	1.00	1.32	8.046	8.85	0.00	1.200	1.712	3.58	12.036	14.44	127.8	290.7	917.3
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	1.42	4.763	5.72	50.7	115.9	546.5
125.60	RB3	1.00	1.33	8.073	8.88	0.00	1.200	1.715	0.60	2.007	2.41	21.4	48.9	230.2
129.00	Top - Section 3	1.00	1.34	8.119	8.93	0.00	1.200	1.719	3.40	11.252	13.50	120.6	272.9	1287.9
130.00	Appurtenance(s)	1.00	1.34	8.132	8.95	0.00	1.200	1.720	1.00	3.270	3.92	35.1	79.9	207.5
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	16.090	19.31	174.1	389.4	1016.0
136.26	RT3	1.00	1.35	8.213	9.03	0.00	1.200	1.729	1.26	3.985	4.78	43.2	97.5	252.4
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	3.74	11.664	14.00	127.2	283.8	736.3
145.00	Appurtenance(s)	1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	15.208	18.25	167.0	369.2	957.3
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	5.00	14.767	17.72	163.4	359.0	927.8
155.00	Appurtenance(s)	1.00	1.39	8.439	9.28	0.00	1.200	1.751	5.00	14.326	17.19	159.6	348.6	898.2
160.00		1.00	1.40	8.495	9.34	0.00	1.202 *	1.757	5.00	13.885	16.69	156.0	338.1	868.5
161.50	Appurtenance(s)	1.00	1.40	8.512	9.36	0.00	1.211 *	1.758	1.50	4.079	4.94	46.2	100.5	255.8

Wind Loading - Shaft

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 35
	Struct Class: II	



165.00	1.00	1.41	8.551	9.41	0.00	1.218 *	1.762	3.50	9.363	11.40	107.3	229.2	585.0
165.25 Bot - Section 5	1.00	1.41	8.553	9.41	0.00	1.223 *	1.762	0.25	0.660	0.81	7.6	16.3	41.4
169.58 Top - Section 4	1.00	1.41	8.600	9.46	0.00	1.230 *	1.767	4.33	11.412	14.04	132.8	279.0	995.0
170.00	1.00	1.42	8.604	9.46	0.00	1.232 *	1.767	0.42	1.080	1.33	12.6	26.7	54.1
175.00 Appurtenance(s)	1.00	1.42	8.657	9.52	0.00	1.240 *	1.772	5.00	12.719	15.77	150.2	310.2	631.1
180.00	1.00	1.43	8.709	9.58	0.00	1.200	1.777	5.00	12.277	14.73	141.1	299.3	607.4
185.00 Appurtenance(s)	1.00	1.44	8.759	9.63	0.00	1.200	1.782	5.00	11.835	14.20	136.8	288.4	583.6
187.00 Appurtenance(s)	1.00	1.44	8.779	9.66	0.00	1.200	1.784	2.00	4.610	5.53	53.4	113.6	228.1
190.00	1.00	1.45	8.808	9.69	0.00	1.200	1.787	3.00	6.782	8.14	78.9	166.4	334.3
191.50 Appurtenance(s)	1.00	1.45	8.823	9.71	0.00	1.200	1.788	1.50	3.331	4.00	38.8	82.2	164.4
195.00	1.00	1.46	8.857	9.74	0.00	1.200	1.792	3.50	7.619	9.14	89.1	186.3	373.7
196.00 Appurtenance(s)	1.00	1.46	8.866	9.75	0.00	1.200	1.793	1.00	2.137	2.56	25.0	52.8	105.2
								Totals:	196.00			6,964.7	69,104.8

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

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	196.00	6' Lightning rod	1	8.866	9.753	1.00	1.00	1.50	39.78	0.000	0.000	14.60	0.00	0.00
2	191.50	1900MHz - RRU	3	8.823	9.705	0.56	0.80	8.78	400.39	0.000	0.000	85.18	0.00	0.00
3	191.50	APXVTM14-C-120	3	8.823	9.705	0.70	0.80	15.80	697.20	0.000	0.000	153.38	0.00	0.00
4	191.50	APXVSP18-C-A20	3	8.823	9.705	0.68	0.80	22.20	588.08	0.000	0.000	215.46	0.00	0.00
5	191.50	800MHz - RRU	3	8.823	9.705	0.56	0.80	6.15	354.87	0.000	0.000	59.71	0.00	0.00
6	191.50	RRH8x20-25 - RRU	3	8.823	9.705	0.56	0.80	8.21	593.34	0.000	0.000	79.65	0.00	0.00
7	191.50	800MHz Filter	3	8.823	9.705	0.56	0.80	2.42	70.92	0.000	0.000	23.53	0.00	0.00
8	191.50	ACU-A20-N - RET	4	8.823	9.705	0.62	0.80	1.11	17.21	0.000	0.000	10.76	0.00	0.00
9	191.50	Low Profile Platform	1	8.823	9.705	1.00	1.00	40.10	2841.28	0.000	0.000	389.16	0.00	0.00
10	187.00	BA80-41-DIN	1	8.879	9.767	1.00	1.00	28.57	273.56	0.000	10.333	279.06	0.00	2883.58
11	187.00	Pipe mount	1	8.779	9.657	0.56	0.75	4.91	107.07	0.000	0.000	47.43	0.00	0.00
12	185.00	CBC23SR-43	3	8.759	9.635	0.52	0.75	1.12	44.57	0.000	0.000	10.76	0.00	0.00
13	185.00	MT6407-77A	3	8.759	9.635	0.52	0.75	8.91	653.70	0.000	0.000	85.86	0.00	0.00
14	185.00	BXA-70063 6CF_2	3	8.759	9.635	0.64	0.75	19.88	388.02	0.000	0.000	191.50	0.00	0.00
15	185.00	JAHH-65C-R3B-V2	6	8.759	9.635	0.62	0.75	54.07	2414.65	0.000	0.000	520.93	0.00	0.00
16	185.00	DB-C1-12C-24AB-OZ	1	8.759	9.635	0.75	0.75	3.67	126.14	0.000	0.000	35.40	0.00	0.00
17	185.00	Low Profile	1	8.759	9.635	0.00	1.00	40.04	2836.65	0.000	0.000	385.74	0.00	0.00
18	185.00	RFV01U-D2A	3	8.759	9.635	0.58	0.75	4.29	367.27	0.000	0.000	41.31	0.00	0.00
19	185.00	RFV01U-D1A	3	8.759	9.635	0.62	0.75	4.56	355.28	0.000	0.000	43.96	0.00	0.00
20	185.00	HRK12-HD	1	8.759	9.635	0.75	1.00	17.98	1387.31	0.000	0.000	173.26	0.00	0.00
21	175.00	Low Profile Platform	1	8.657	9.523	1.00	1.00	39.94	2829.24	0.000	0.000	380.30	0.00	0.00
22	175.00	DC6-48-60-18-8F	1	8.657	9.523	0.80	0.80	1.09	87.42	0.000	0.000	10.40	0.00	0.00
23	175.00	RRUS-12	3	8.657	9.523	0.56	0.80	6.37	275.05	0.000	0.000	60.68	0.00	0.00
24	175.00	Powerwave 7770	3	8.657	9.523	0.70	0.80	13.90	539.28	0.000	0.000	132.39	0.00	0.00
25	175.00	Powerwave LGP21401	12	8.657	9.523	0.75	0.75	19.25	422.52	0.000	0.000	183.30	0.00	0.00
26	175.00	Powerwave LGP13519	12	8.657	9.523	0.75	0.75	7.21	159.66	0.000	0.000	68.66	0.00	0.00
27	175.00	Ericsson RRUS 4449	3	8.657	9.523	0.50	0.75	3.81	377.43	0.000	0.000	36.26	0.00	0.00
28	175.00	Ericsson RRUS 32 B30	3	8.657	9.523	0.50	0.75	5.25	485.11	0.000	0.000	49.97	0.00	0.00
29	175.00	Raycap	2	8.657	9.523	1.00	1.00	11.36	230.11	0.000	0.000	108.14	0.00	0.00
30	175.00	HRK12 (Handrail Kit)	1	8.657	9.523	1.00	1.00	13.45	891.20	0.000	0.000	128.08	0.00	0.00
31	175.00	Kathrein 800-10965	6	8.657	9.523	0.53	0.75	49.26	2602.82	0.000	0.000	469.05	0.00	0.00
32	175.00	Ericsson RRUS 4478 B14	3	8.657	9.523	0.50	0.75	3.28	311.97	0.000	0.000	31.24	0.00	0.00
33	161.50	Low Profile Platform	1	8.512	9.363	1.00	1.00	39.79	2818.62	0.000	0.000	372.59	0.00	0.00
34	155.00	Ericsson KRY 112 144/1	3	8.439	9.283	0.54	0.80	2.62	104.32	0.000	0.000	24.37	0.00	0.00
35	155.00	Ericsson AIR6419 B41	3	8.439	9.283	0.61	0.80	8.39	459.44	0.000	0.000	77.86	0.00	0.00
36	155.00	RFS	3	8.439	9.283	0.56	0.80	37.21	1719.24	0.000	0.000	345.37	0.00	0.00
37	155.00	Commscope VV-65A-R1	3	8.439	9.283	0.59	0.80	16.31	630.09	0.000	0.000	151.41	0.00	0.00
38	155.00	Ericsson 4460 B25 + B66	3	8.439	9.283	0.54	0.80	5.67	557.83	0.000	0.000	52.64	0.00	0.00
39	155.00	T-Arms w/ Handrail kit &	3	8.439	9.283	0.56	0.75	53.11	3301.14	0.000	0.000	493.00	0.00	0.00
40	155.00	Ericsson 4449 B71 + B85	3	8.439	9.283	0.54	0.80	4.09	262.12	0.000	0.000	37.93	0.00	0.00
41	145.00	TA08025-B605	3	8.321	9.153	0.50	0.75	3.80	388.58	0.000	0.000	34.76	0.00	0.00
42	145.00	MC-PK8-DSH	1	8.321	9.153	1.00	1.00	84.66	3381.52	0.000	0.000	774.94	0.00	0.00
43	145.00	MX08FRO665-21	3	8.321	9.153	0.55	0.75	23.23	900.26	0.000	0.000	212.60	0.00	0.00
44	145.00	TA08025-B604	3	8.321	9.153	0.50	0.75	3.80	345.12	0.000	0.000	34.76	0.00	0.00
45	145.00	RDIDC-9181-PF-48	1	8.321	9.153	0.75	0.75	1.93	66.65	0.000	0.000	17.69	0.00	0.00
46	130.00	Standoff	1	8.132	8.945	0.56	0.75	4.79	104.14	0.000	0.000	42.84	0.00	0.00
47	130.00	ANT150F2	1	8.165	8.981	1.00	1.00	2.27	38.70	0.000	2.500	20.43	0.00	51.07

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 37
	Struct Class: II	



48	109.50	Standoff	1	7.843	8.628	0.56	0.75	4.73	102.79	0.000	0.000	40.83	0.00	0.00
49	109.50	Standoff	5	7.843	8.628	0.56	0.75	23.66	513.96	0.000	0.000	204.16	0.00	0.00
50	109.50	4' Omni	1	7.873	8.661	1.00	1.00	1.84	33.41	0.000	2.000	15.91	0.00	31.83
51	109.50	14' Omni	5	7.946	8.741	1.00	1.00	45.23	601.53	0.000	7.000	395.40	0.00	2767.79
52	100.00	Standoff	1	7.695	8.464	0.56	0.75	4.70	102.09	0.000	0.000	39.81	0.00	0.00
53	100.00	MPRD	1	7.695	8.464	1.00	1.00	7.25	243.56	0.000	0.000	61.39	0.00	0.00

Totals:	40,444.18	7,955.77
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Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		179.42	3263.16	0.00	0.00
10.00		176.89	3253.26	0.00	0.00
15.00		174.16	3226.89	0.00	0.00
20.00		181.80	3193.29	0.00	0.00
25.00		187.37	3155.51	0.00	0.00
30.00		191.36	3114.98	0.00	0.00
35.00		194.20	3072.49	0.00	0.00
40.00		196.14	3028.49	0.00	0.00
45.00		197.36	2983.33	0.00	0.00
45.42		16.31	246.66	0.00	0.00
48.90		140.04	3203.60	0.00	0.00
50.00		44.04	1003.73	0.00	0.00
52.75		110.55	2491.86	0.00	0.00
55.00		90.37	1140.25	0.00	0.00
57.15		86.31	1082.26	0.00	0.00
60.00		114.47	1423.29	0.00	0.00
65.00		201.08	2464.82	0.00	0.00
70.00		200.14	2424.79	0.00	0.00
75.00		198.89	2384.30	0.00	0.00
80.00		197.37	2343.42	0.00	0.00
84.00		156.44	1845.63	0.00	0.00
85.00		39.40	672.38	0.00	0.00
87.00		78.67	1336.43	0.00	0.00
90.00		117.54	1984.03	0.00	0.00
90.42		16.22	273.80	0.00	0.00
95.00		178.25	1753.20	0.00	0.00
100.00	(2) attachments	293.50	2225.76	0.00	0.00
105.00		189.77	1846.09	0.00	0.00
109.50	(12) attachments	824.72	2884.48	0.00	2799.62
110.00		18.50	179.48	0.00	0.00
112.25		83.05	802.75	0.00	0.00
115.00		100.75	971.48	0.00	0.00
120.00		181.25	1737.68	0.00	0.00
123.58		127.82	1224.97	0.00	0.00
125.00		50.71	668.14	0.00	0.00
125.60		21.38	281.76	0.00	0.00
129.00		120.59	1580.22	0.00	0.00
130.00	(2) attachments	98.37	436.34	0.00	51.07
135.00		174.09	1417.36	0.00	0.00
136.26		43.20	353.54	0.00	0.00
140.00		127.17	1036.82	0.00	0.00
145.00	(11) attachments	1241.79	6441.71	0.00	0.00
150.00		163.36	1319.57	0.00	0.00
155.00	(21) attachments	1342.15	8324.52	0.00	0.00
160.00		156.00	1188.29	0.00	0.00
161.50	(1) attachments	418.83	3170.44	0.00	0.00

Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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165.00	107.26	809.17	0.00	0.00
165.25	7.60	57.41	0.00	0.00
169.58	132.80	1272.74	0.00	0.00
170.00	12.59	80.78	0.00	0.00
175.00	(50) attachments	1808.69	10163.80	0.00
180.00		141.13	714.86	0.00
185.00	(24) attachments	1625.54	9264.67	0.00
187.00	(2) attachments	379.90	634.09	0.00
190.00		78.86	370.49	0.00
191.50	(23) attachments	1055.62	5745.79	0.00
195.00		89.07	373.69	0.00
196.00	(1) attachments	39.61	144.95	0.00
Totals:		14,920.47	124,089.7	0.00
			1	5,734.27

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



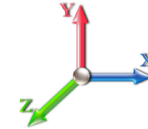
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.058	0.000	5.168	0.00	51.40
5.00	3" Conduit	Yes	5.00	0.000	3.00	2.29	0.00	0.058	0.000	5.168	0.00	37.33
5.00	7/8" Coax	Yes	5.00	0.000	0.52	1.25	0.00	0.058	0.000	5.168	0.00	18.42
10.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	5.168	0.00	54.19
10.00	3" Conduit	Yes	5.00	0.000	3.00	2.36	0.00	0.059	0.000	5.168	0.00	39.77
10.00	7/8" Coax	Yes	5.00	0.000	0.52	1.33	0.00	0.059	0.000	5.168	0.00	20.21
15.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.060	0.000	5.168	0.00	55.96
15.00	3" Conduit	Yes	5.00	0.000	3.00	2.41	0.00	0.060	0.000	5.168	0.00	41.33
15.00	7/8" Coax	Yes	5.00	0.000	0.52	1.37	0.00	0.060	0.000	5.168	0.00	21.36
20.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.061	0.000	5.483	0.00	57.29
20.00	3" Conduit	Yes	5.00	0.000	3.00	2.44	0.00	0.061	0.000	5.483	0.00	42.50
20.00	7/8" Coax	Yes	5.00	0.000	0.52	1.41	0.00	0.061	0.000	5.483	0.00	22.23
25.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	5.747	0.00	58.35
25.00	3" Conduit	Yes	5.00	0.000	3.00	2.47	0.00	0.062	0.000	5.747	0.00	43.44
25.00	7/8" Coax	Yes	5.00	0.000	0.52	1.43	0.00	0.062	0.000	5.747	0.00	22.93
30.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.064	0.000	5.972	0.00	59.26
30.00	3" Conduit	Yes	5.00	0.000	3.00	2.49	0.00	0.064	0.000	5.972	0.00	44.23
30.00	7/8" Coax	Yes	5.00	0.000	0.52	1.45	0.00	0.064	0.000	5.972	0.00	23.53
35.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.065	0.000	6.169	0.00	60.04
35.00	3" Conduit	Yes	5.00	0.000	3.00	2.51	0.00	0.065	0.000	6.169	0.00	44.93
35.00	7/8" Coax	Yes	5.00	0.000	0.52	1.47	0.00	0.065	0.000	6.169	0.00	24.05
40.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	6.345	0.00	60.73
40.00	3" Conduit	Yes	5.00	0.000	3.00	2.52	0.00	0.066	0.000	6.345	0.00	45.54
40.00	7/8" Coax	Yes	5.00	0.000	0.52	1.49	0.00	0.066	0.000	6.345	0.00	24.52
45.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	6.504	0.00	61.35
45.00	3" Conduit	Yes	5.00	0.000	3.00	2.54	0.00	0.068	0.000	6.504	0.00	46.09
45.00	7/8" Coax	Yes	5.00	0.000	0.52	1.51	0.00	0.068	0.000	6.504	0.00	24.94
45.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.068	0.000	6.517	0.00	5.12
45.42	3" Conduit	Yes	0.42	0.000	3.00	0.21	0.00	0.068	0.000	6.517	0.00	3.84
45.42	7/8" Coax	Yes	0.42	0.000	0.52	0.13	0.00	0.068	0.000	6.517	0.00	2.08
48.90	2" Conduit	Yes	3.48	0.000	0.00	0.00	0.00	0.069	0.000	6.619	0.00	43.05
48.90	3" Conduit	Yes	3.48	0.000	3.00	1.78	0.00	0.069	0.000	6.619	0.00	32.39
48.90	7/8" Coax	Yes	3.48	0.000	0.52	1.06	0.00	0.069	0.000	6.619	0.00	17.58
50.00	2" Conduit	Yes	1.10	0.000	0.00	0.00	0.00	0.070	0.000	6.650	0.00	13.62
50.00	3" Conduit	Yes	1.10	0.000	3.00	0.56	0.00	0.070	0.000	6.650	0.00	10.25
50.00	7/8" Coax	Yes	1.10	0.000	0.52	0.33	0.00	0.070	0.000	6.650	0.00	5.57
52.75	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.070	0.000	6.726	0.00	34.21
52.75	3" Conduit	Yes	2.75	0.000	3.00	1.41	0.00	0.070	0.000	6.726	0.00	25.77
52.75	7/8" Coax	Yes	2.75	0.000	0.52	0.84	0.00	0.070	0.000	6.726	0.00	14.03
55.00	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.069	0.000	6.785	0.00	28.10
55.00	3" Conduit	Yes	2.25	0.000	3.00	1.15	0.00	0.069	0.000	6.785	0.00	21.18
55.00	7/8" Coax	Yes	2.25	0.000	0.52	0.69	0.00	0.069	0.000	6.785	0.00	11.55
57.15	2" Conduit	Yes	2.15	0.000	0.00	0.00	0.00	0.070	0.000	6.840	0.00	26.94
57.15	3" Conduit	Yes	2.15	0.000	3.00	1.11	0.00	0.070	0.000	6.840	0.00	20.31
57.15	7/8" Coax	Yes	2.15	0.000	0.52	0.66	0.00	0.070	0.000	6.840	0.00	11.10
60.00	2" Conduit	Yes	2.85	0.000	0.00	0.00	0.00	0.071	0.000	6.910	0.00	35.86
60.00	3" Conduit	Yes	2.85	0.000	3.00	1.47	0.00	0.071	0.000	6.910	0.00	27.07

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



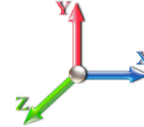
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.00	7/8" Coax	Yes	2.85	0.000	0.52	0.88	0.00	0.071	0.000	6.910	0.00	14.82
65.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	7.028	0.00	63.37
65.00	3" Conduit	Yes	5.00	0.000	3.00	2.59	0.00	0.072	0.000	7.028	0.00	47.88
65.00	7/8" Coax	Yes	5.00	0.000	0.52	1.55	0.00	0.072	0.000	7.028	0.00	26.30
70.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	7.138	0.00	63.79
70.00	3" Conduit	Yes	5.00	0.000	3.00	2.60	0.00	0.074	0.000	7.138	0.00	48.26
70.00	7/8" Coax	Yes	5.00	0.000	0.52	1.56	0.00	0.074	0.000	7.138	0.00	26.59
75.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.075	0.000	7.243	0.00	64.19
75.00	3" Conduit	Yes	5.00	0.000	3.00	2.61	0.00	0.075	0.000	7.243	0.00	48.61
75.00	7/8" Coax	Yes	5.00	0.000	0.52	1.57	0.00	0.075	0.000	7.243	0.00	26.86
80.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.077	0.000	7.342	0.00	64.56
80.00	3" Conduit	Yes	5.00	0.000	3.00	2.62	0.00	0.077	0.000	7.342	0.00	48.94
80.00	7/8" Coax	Yes	5.00	0.000	0.52	1.58	0.00	0.077	0.000	7.342	0.00	27.12
84.00	2" Conduit	Yes	4.00	0.000	0.00	0.00	0.00	0.079	0.000	7.418	0.00	51.88
84.00	3" Conduit	Yes	4.00	0.000	3.00	2.10	0.00	0.079	0.000	7.418	0.00	39.36
84.00	7/8" Coax	Yes	4.00	0.000	0.52	1.27	0.00	0.079	0.000	7.418	0.00	21.85
85.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.080	0.000	7.436	0.00	12.98
85.00	3" Conduit	Yes	1.00	0.000	3.00	0.52	0.00	0.080	0.000	7.436	0.00	9.85
85.00	7/8" Coax	Yes	1.00	0.000	0.52	0.32	0.00	0.080	0.000	7.436	0.00	5.47
87.00	2" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	7.473	0.00	26.02
87.00	3" Conduit	Yes	2.00	0.000	3.00	1.05	0.00	0.080	0.000	7.473	0.00	19.75
87.00	7/8" Coax	Yes	2.00	0.000	0.52	0.64	0.00	0.080	0.000	7.473	0.00	10.98
90.00	2" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.081	0.000	7.526	0.00	39.15
90.00	3" Conduit	Yes	3.00	0.000	3.00	1.58	0.00	0.081	0.000	7.526	0.00	29.74
90.00	7/8" Coax	Yes	3.00	0.000	0.52	0.96	0.00	0.081	0.000	7.526	0.00	16.55
90.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.082	0.000	7.533	0.00	5.44
90.42	3" Conduit	Yes	0.42	0.000	3.00	0.22	0.00	0.082	0.000	7.533	0.00	4.13
90.42	7/8" Coax	Yes	0.42	0.000	0.52	0.13	0.00	0.082	0.000	7.533	0.00	2.30
95.00	2" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.082	0.000	7.612	0.00	60.11
95.00	3" Conduit	Yes	4.58	0.000	3.00	2.42	0.00	0.082	0.000	7.612	0.00	45.69
95.00	7/8" Coax	Yes	4.58	0.000	0.52	1.47	0.00	0.082	0.000	7.612	0.00	25.49
100.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.084	0.000	7.695	0.00	65.88
100.00	3" Conduit	Yes	5.00	0.000	3.00	2.65	0.00	0.084	0.000	7.695	0.00	50.12
100.00	7/8" Coax	Yes	5.00	0.000	0.52	1.61	0.00	0.084	0.000	7.695	0.00	28.02
105.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	7.774	0.00	66.18
105.00	3" Conduit	Yes	5.00	0.000	3.00	2.65	0.00	0.086	0.000	7.774	0.00	50.39
105.00	7/8" Coax	Yes	5.00	0.000	0.52	1.62	0.00	0.086	0.000	7.774	0.00	28.23
109.50	2" Conduit	Yes	4.50	0.000	0.00	0.00	0.00	0.088	0.000	7.843	0.00	59.79
109.50	3" Conduit	Yes	4.50	0.000	3.00	2.39	0.00	0.088	0.000	7.843	0.00	45.55
109.50	7/8" Coax	Yes	4.50	0.000	0.52	1.46	0.00	0.088	0.000	7.843	0.00	25.56
110.00	2" Conduit	Yes	0.50	0.000	0.00	0.00	0.00	0.089	0.000	7.851	0.00	6.65
110.00	3" Conduit	Yes	0.50	0.000	3.00	0.27	0.00	0.089	0.000	7.851	0.00	5.06
110.00	7/8" Coax	Yes	0.50	0.000	0.52	0.16	0.00	0.089	0.000	7.851	0.00	2.84
112.25	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.090	0.000	7.884	0.00	29.96
112.25	3" Conduit	Yes	2.25	0.000	3.00	1.20	0.00	0.090	0.000	7.884	0.00	22.84
112.25	7/8" Coax	Yes	2.25	0.000	0.52	0.73	0.00	0.090	0.000	7.884	0.00	12.83
115.00	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.091	0.000	7.925	0.00	36.71

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



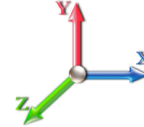
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
115.00	3" Conduit	Yes	2.75	0.000	3.00	1.47	0.00	0.091	0.000	7.925	0.00	27.99
115.00	7/8" Coax	Yes	2.75	0.000	0.52	0.90	0.00	0.091	0.000	7.925	0.00	15.74
120.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	7.996	0.00	67.00
120.00	3" Conduit	Yes	5.00	0.000	3.00	2.67	0.00	0.093	0.000	7.996	0.00	51.12
120.00	7/8" Coax	Yes	5.00	0.000	0.52	1.64	0.00	0.093	0.000	7.996	0.00	28.79
123.58	2" Conduit	Yes	3.58	0.000	0.00	0.00	0.00	0.095	0.000	8.046	0.00	48.15
123.58	3" Conduit	Yes	3.58	0.000	3.00	1.92	0.00	0.095	0.000	8.046	0.00	36.75
123.58	7/8" Coax	Yes	3.58	0.000	0.52	1.18	0.00	0.095	0.000	8.046	0.00	20.73
125.00	2" Conduit	Yes	1.42	0.000	0.00	0.00	0.00	0.097	0.000	8.065	0.00	19.06
125.00	3" Conduit	Yes	1.42	0.000	3.00	0.76	0.00	0.097	0.000	8.065	0.00	14.55
125.00	7/8" Coax	Yes	1.42	0.000	0.52	0.47	0.00	0.097	0.000	8.065	0.00	8.21
125.60	2" Conduit	Yes	0.60	0.000	0.00	0.00	0.00	0.097	0.000	8.073	0.00	8.07
125.60	3" Conduit	Yes	0.60	0.000	3.00	0.32	0.00	0.097	0.000	8.073	0.00	6.16
125.60	7/8" Coax	Yes	0.60	0.000	0.52	0.20	0.00	0.097	0.000	8.073	0.00	3.48
129.00	2" Conduit	Yes	3.40	0.000	0.00	0.00	0.00	0.099	0.000	8.119	0.00	45.87
129.00	3" Conduit	Yes	3.40	0.000	3.00	1.82	0.00	0.099	0.000	8.119	0.00	35.04
129.00	7/8" Coax	Yes	3.40	0.000	0.52	1.12	0.00	0.099	0.000	8.119	0.00	19.79
130.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.098	0.000	8.132	0.00	13.50
130.00	3" Conduit	Yes	1.00	0.000	3.00	0.54	0.00	0.098	0.000	8.132	0.00	10.31
130.00	7/8" Coax	Yes	1.00	0.000	0.52	0.33	0.00	0.098	0.000	8.132	0.00	5.83
135.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.085	0.000	8.197	0.00	67.74
135.00	3" Conduit	Yes	5.00	0.000	3.00	2.69	0.00	0.085	0.000	8.197	0.00	51.78
136.26	2" Conduit	Yes	1.26	0.000	0.00	0.00	0.00	0.087	0.000	8.213	0.00	17.09
136.26	3" Conduit	Yes	1.26	0.000	3.00	0.68	0.00	0.087	0.000	8.213	0.00	13.06
140.00	2" Conduit	Yes	3.74	0.000	0.00	0.00	0.00	0.088	0.000	8.260	0.00	50.84
140.00	3" Conduit	Yes	3.74	0.000	3.00	2.02	0.00	0.088	0.000	8.260	0.00	38.89
145.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	8.321	0.00	68.19
145.00	3" Conduit	Yes	5.00	0.000	3.00	2.70	0.00	0.091	0.000	8.321	0.00	52.19
150.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	8.381	0.00	68.41
150.00	3" Conduit	Yes	5.00	0.000	3.00	2.70	0.00	0.094	0.000	8.381	0.00	52.38
155.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	8.439	0.00	68.62
155.00	3" Conduit	Yes	5.00	0.000	3.00	2.71	0.00	0.097	0.000	8.439	0.00	52.57
160.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.002	8.495	0.00	68.83
160.00	3" Conduit	Yes	5.00	0.000	3.00	2.71	0.00	0.101	1.002	8.495	0.00	52.76
161.50	2" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.103	1.009	8.512	0.00	20.67
161.50	3" Conduit	Yes	1.50	0.000	3.00	0.81	0.00	0.103	1.009	8.512	0.00	15.84
165.00	2" Conduit	Yes	3.50	0.000	0.00	0.00	0.00	0.105	1.015	8.551	0.00	48.32
165.00	3" Conduit	Yes	3.50	0.000	3.00	1.90	0.00	0.105	1.015	8.551	0.00	37.05
165.25	2" Conduit	Yes	0.25	0.000	0.00	0.00	0.00	0.106	1.019	8.553	0.00	3.45
165.25	3" Conduit	Yes	0.25	0.000	3.00	0.14	0.00	0.106	1.019	8.553	0.00	2.65
169.58	2" Conduit	Yes	4.33	0.000	0.00	0.00	0.00	0.108	1.025	8.600	0.00	59.98
169.58	3" Conduit	Yes	4.33	0.000	3.00	2.36	0.00	0.108	1.025	8.600	0.00	46.02
170.00	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.109	1.027	8.604	0.00	5.77
170.00	3" Conduit	Yes	0.42	0.000	3.00	0.23	0.00	0.109	1.027	8.604	0.00	4.43
175.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.034	8.657	0.00	69.42
175.00	3" Conduit	Yes	5.00	0.000	3.00	2.73	0.00	0.111	1.034	8.657	0.00	53.28

Linear Appurtenance Segment Forces (Factored)

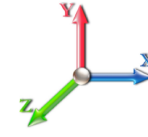
Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 27

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)
Totals:											0.0	4,606.6

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

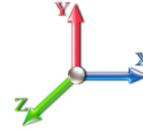


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 27

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-124.0	-14.98	0.00	-2196.9	0.00	2196.97	8794.96	4397.48	21496.0	10671.5	0.00	0.000	0.000	0.220
5.00	-120.8	-14.93	0.00	-2122.0	0.00	2122.05	8639.43	4319.71	20738.5	10295.5	0.03	-0.058	0.000	0.220
10.00	-117.5	-14.87	0.00	-2047.4	0.00	2047.41	8483.89	4241.95	19994.7	9926.22	0.12	-0.118	0.000	0.220
15.00	-114.2	-14.81	0.00	-1973.0	0.00	1973.07	8328.36	4164.18	19264.4	9563.67	0.28	-0.178	0.000	0.220
20.00	-111.0	-14.73	0.00	-1899.0	0.00	1899.04	8172.83	4086.41	18547.7	9207.87	0.50	-0.240	0.000	0.220
25.00	-107.9	-14.65	0.00	-1825.3	0.00	1825.37	8017.29	4008.65	17844.6	8858.82	0.78	-0.302	0.000	0.220
30.00	-104.7	-14.56	0.00	-1752.1	0.00	1752.11	7861.76	3930.88	17155.1	8516.51	1.13	-0.366	0.000	0.219
35.00	-101.7	-14.46	0.00	-1679.3	0.00	1679.32	7706.22	3853.11	16479.1	8180.95	1.55	-0.431	0.000	0.218
40.00	-98.65	-14.35	0.00	-1607.0	0.00	1607.02	7550.69	3775.35	15816.8	7852.13	2.04	-0.497	0.000	0.218
45.00	-95.66	-14.19	0.00	-1535.2	0.00	1535.26	7395.16	3697.58	15168.0	7530.06	2.59	-0.564	0.000	0.217
45.42	-95.41	-14.21	0.00	-1529.3	0.00	1529.35	7382.20	3691.10	15114.6	7503.52	2.64	-0.569	0.000	0.217
48.90	-92.20	-14.09	0.00	-1479.8	0.00	1479.83	7273.84	3636.92	14671.4	7283.52	3.08	-0.617	0.000	0.144
50.00	-91.19	-14.06	0.00	-1464.3	0.00	1464.34	7239.62	3619.81	14532.8	7214.73	3.22	-0.627	0.000	0.144
52.75	-88.70	-13.96	0.00	-1425.6	0.00	1425.67	5810.43	2905.21	11825.7	5870.80	3.59	-0.653	0.000	0.146
55.00	-87.55	-13.89	0.00	-1394.2	0.00	1394.26	5769.82	2884.91	11629.7	5773.48	3.90	-0.674	0.000	0.161
57.15	-86.46	-13.83	0.00	-1364.4	0.00	1364.40	5730.75	2865.38	11443.3	5680.95	4.21	-0.696	0.000	0.159
57.15	-86.46	-13.83	0.00	-1364.4	0.00	1364.40	5730.75	2865.38	11443.3	5680.95	4.21	-0.696	0.000	0.159
60.00	-85.03	-13.78	0.00	-1324.9	0.00	1324.99	5678.55	2839.28	11197.7	5559.03	4.64	-0.726	0.000	0.253
65.00	-82.55	-13.67	0.00	-1256.0	0.00	1256.09	5551.73	2775.86	10705.1	5314.51	5.44	-0.809	0.000	0.251
70.00	-80.11	-13.55	0.00	-1187.7	0.00	1187.75	5427.30	2713.65	10228.2	5077.73	6.33	-0.893	0.000	0.249
75.00	-77.71	-13.43	0.00	-1120.0	0.00	1120.01	5302.88	2651.44	9762.15	4846.34	7.31	-0.978	0.000	0.246
80.00	-75.35	-13.29	0.00	-1052.8	0.00	1052.88	5178.45	2589.22	9306.93	4620.35	8.38	-1.063	0.000	0.242
84.00	-73.50	-13.15	0.00	-999.73	0.00	999.73	5078.91	2539.45	8950.59	4443.45	9.30	-1.133	0.000	0.239
85.00	-72.82	-13.13	0.00	-986.57	0.00	986.57	5054.02	2527.01	8862.59	4399.76	9.54	-1.150	0.000	0.239
87.00	-71.48	-13.07	0.00	-960.31	0.00	960.31	5004.25	2502.13	8687.89	4313.04	10.03	-1.186	0.000	0.144
90.00	-69.49	-12.93	0.00	-921.10	0.00	921.10	4929.59	2464.80	8429.11	4184.57	10.79	-1.218	0.000	0.141
90.42	-69.21	-12.94	0.00	-915.71	0.00	915.71	3591.78	1795.89	6277.53	3116.43	10.89	-1.222	0.000	0.150
95.00	-67.45	-12.79	0.00	-856.39	0.00	856.39	3535.98	1767.99	6038.44	2997.74	12.09	-1.270	0.000	0.165
100.00	-65.22	-12.51	0.00	-792.44	0.00	792.44	3473.75	1736.87	5780.45	2869.66	13.45	-1.329	0.000	0.157
105.00	-63.37	-12.34	0.00	-729.88	0.00	729.88	3410.09	1705.04	5525.58	2743.13	14.88	-1.387	0.000	0.150
109.50	-60.50	-11.47	0.00	-671.56	0.00	671.56	3351.58	1675.79	5299.03	2630.66	16.21	-1.438	0.000	0.142
110.00	-60.32	-11.47	0.00	-665.82	0.00	665.82	3345.00	1672.50	5274.03	2618.25	16.36	-1.444	0.000	0.141
112.25	-59.51	-11.39	0.00	-640.02	0.00	640.02	3315.25	1657.63	5161.96	2562.62	17.05	-1.469	0.000	0.138
112.25	-59.51	-11.39	0.00	-640.02	0.00	640.02	3315.25	1657.63	5161.96	2562.62	17.05	-1.469	0.000	0.138
115.00	-58.53	-11.34	0.00	-608.69	0.00	608.69	3278.49	1639.25	5025.98	2495.11	17.90	-1.500	0.000	0.262
120.00	-56.78	-11.20	0.00	-552.01	0.00	552.01	3210.56	1605.28	4781.62	2373.80	19.53	-1.606	0.000	0.250
123.58	-55.55	-11.09	0.00	-511.88	0.00	511.88	3148.16	1574.08	4590.15	2278.75	20.76	-1.682	0.000	0.242
125.00	-54.88	-11.04	0.00	-496.18	0.00	496.18	3121.72	1560.86	4512.97	2240.43	21.27	-1.712	0.000	0.239
125.60	-54.59	-11.03	0.00	-489.55	0.00	489.55	3110.52	1555.26	4480.48	2224.30	21.48	-1.725	0.000	0.134
129.00	-53.01	-10.89	0.00	-452.05	0.00	452.05	2149.47	1074.74	3099.22	1538.58	22.73	-1.765	0.000	0.141
130.00	-52.57	-10.81	0.00	-441.11	0.00	441.11	2141.27	1070.63	3068.69	1523.43	23.10	-1.776	0.000	0.157
135.00	-51.15	-10.62	0.00	-387.06	0.00	387.06	2099.38	1049.69	2916.97	1448.11	24.99	-1.838	0.000	0.144
136.26	-50.79	-10.60	0.00	-373.68	0.00	373.68	2088.60	1044.30	2879.00	1429.26	25.48	-1.853	0.000	0.140
136.26	-50.79	-10.60	0.00	-373.68	0.00	373.68	2088.60	1044.30	2879.00	1429.26	25.48	-1.853	0.000	0.140
140.00	-49.75	-10.50	0.00	-334.05	0.00	334.05	2056.07	1028.04	2766.99	1373.65	26.95	-1.897	0.000	0.267
145.00	-43.33	-9.12	0.00	-281.53	0.00	281.53	2011.34	1005.67	2618.95	1300.16	28.99	-2.008	0.000	0.238
150.00	-42.01	-8.99	0.00	-235.91	0.00	235.91	1965.18	982.59	2473.01	1227.71	31.15	-2.111	0.000	0.214
155.00	-33.73	-7.38	0.00	-190.98	0.00	190.98	1917.59	958.80	2329.38	1156.40	33.42	-2.205	0.000	0.183

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 45
	Struct Class: II	



160.00	-32.54	-7.21	0.00	-154.07	0.00	154.07	1868.58	934.29	2188.24	1086.34	35.77	-2.290	0.000	0.159
161.50	-29.38	-6.68	0.00	-143.25	0.00	143.25	1853.60	926.80	2146.41	1065.57	36.49	-2.314	0.000	0.150
165.00	-28.58	-6.56	0.00	-119.86	0.00	119.86	1818.15	909.07	2049.77	1017.59	38.21	-2.366	0.000	0.134
165.25	-28.52	-6.56	0.00	-118.22	0.00	118.22	1815.59	907.79	2042.92	1014.19	38.33	-2.370	0.000	0.132
169.58	-27.25	-6.39	0.00	-89.78	0.00	89.78	1040.26	520.13	1155.41	573.59	40.51	-2.425	0.000	0.183
170.00	-27.16	-6.39	0.00	-87.12	0.00	87.12	1038.39	519.19	1149.55	570.68	40.72	-2.430	0.000	0.179
175.00	-17.08	-4.17	0.00	-55.15	0.00	55.15	1015.17	507.59	1079.51	535.91	43.31	-2.500	0.000	0.120
180.00	-16.37	-4.01	0.00	-34.31	0.00	34.31	990.53	495.27	1010.05	501.43	45.95	-2.549	0.000	0.085
185.00	-7.19	-1.97	0.00	-14.28	0.00	14.28	964.47	482.24	941.35	467.32	48.64	-2.579	0.000	0.038
187.00	-6.57	-1.56	0.00	-7.46	0.00	7.46	953.65	476.82	914.12	453.81	49.72	-2.586	0.000	0.023
190.00	-6.20	-1.47	0.00	-2.78	0.00	2.78	936.98	468.49	873.60	433.69	51.35	-2.591	0.000	0.013
191.50	-0.51	-0.15	0.00	-0.58	0.00	0.58	928.46	464.23	853.48	423.70	52.16	-2.592	0.000	0.002
195.00	-0.14	-0.05	0.00	-0.05	0.00	0.05	908.07	454.03	806.98	400.62	54.06	-2.592	0.000	0.000
196.00	0.00	-0.04	0.00	0.00	0.00	0.00	902.11	451.06	793.81	394.08	54.61	-2.592	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E							Iterations 24
Gust Response Factor	1.10	Sds	0.19			Ss	0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1	0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.26	SA	0.03	Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1996.2	0.00	0.03	0.01	36.23	
10.00		1960.6	0.00	0.04	0.03	52.47	
15.00		1925.0	0.01	0.06	0.03	60.57	
20.00		1889.4	0.02	0.06	0.04	64.52	
25.00		1853.8	0.03	0.07	0.04	66.25	
30.00		1818.1	0.04	0.07	0.04	66.82	
35.00		1782.5	0.06	0.07	0.04	66.87	
40.00		1746.9	0.08	0.07	0.04	66.76	
45.00		1711.3	0.10	0.07	0.04	66.63	
45.42	Bot - Section 2	141.00	0.10	0.07	0.04	5.50	
48.90	RB1	2125.6	0.12	0.07	0.03	84.01	
50.00		664.80	0.12	0.07	0.03	26.39	
52.75	Top - Section 1	1648.4	0.14	0.07	0.03	66.09	
55.00		600.65	0.15	0.07	0.03	24.26	
57.15	RT1	568.56	0.16	0.07	0.03	23.11	
60.00		745.55	0.18	0.07	0.03	30.50	
65.00		1285.6	0.21	0.06	0.02	52.70	
70.00		1257.1	0.24	0.06	0.02	50.69	
75.00		1228.6	0.28	0.05	0.01	47.25	
80.00		1200.1	0.31	0.04	0.01	41.88	
84.00	Bot - Section 3	939.59	0.35	0.03	0.01	28.63	
85.00		409.65	0.36	0.03	0.01	11.93	
87.00	RB2	813.31	0.37	0.03	0.01	21.22	
90.00		1205.0	0.40	0.02	0.01	25.00	
90.42	Top - Section 2	165.94	0.40	0.02	0.01	3.31	
95.00		781.83	0.44	0.00	0.01	7.70	
100.00	Appurtenance(s)	908.43	0.49	-0.01	0.01	-2.54	
105.00		811.06	0.54	-0.03	0.01	-12.79	
109.50	Appurtenance(s)	1161.6	0.59	-0.05	0.01	-30.63	
110.00		78.01	0.60	-0.05	0.01	-2.14	
112.25	RT2	348.39	0.62	-0.06	0.02	-11.12	
115.00		419.93	0.65	-0.07	0.02	-15.35	
120.00		746.94	0.71	-0.09	0.03	-31.74	
123.58	Bot - Section 4	522.16	0.75	-0.10	0.04	-23.34	
125.00		358.80	0.77	-0.11	0.05	-16.19	
125.60	RB3	151.06	0.78	-0.11	0.05	-6.83	
129.00	Top - Section 3	845.83	0.82	-0.12	0.06	-37.94	
130.00	Appurtenance(s)	159.35	0.83	-0.12	0.06	-7.09	
135.00		522.14	0.90	-0.12	0.09	-21.29	
136.26	RT3	129.05	0.91	-0.12	0.09	-5.08	
140.00		377.06	0.96	-0.12	0.11	-12.86	
145.00	Appurtenance(s)	2849.1	1.03	-0.10	0.15	-70.06	
150.00		474.06	1.11	-0.07	0.19	-5.81	
155.00	Appurtenance(s)	3221.0	1.18	-0.01	0.24	9.34	
160.00		442.00	1.26	0.07	0.30	9.23	

Seismic Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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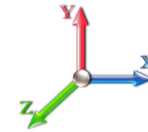
161.50	Appurtenance(s)	1629.4	1.28	0.10	0.32	43.72
165.00		296.50	1.34	0.18	0.37	12.37
165.25	Bot - Section 5	20.88	1.34	0.19	0.38	0.89
169.58	Top - Section 4	596.66	1.41	0.31	0.45	37.83
170.00		22.76	1.42	0.33	0.45	1.49
175.00	Appurtenance(s)	3804.5	1.51	0.52	0.55	350.93
180.00		256.70	1.59	0.76	0.66	31.32
185.00	Appurtenance(s)	3433.8	1.68	1.06	0.79	531.88
187.00	Appurtenance(s)	203.41	1.72	1.20	0.85	34.36
190.00		139.91	1.78	1.43	0.94	26.71
191.50	Appurtenance(s)	2438.9	1.80	1.56	0.98	493.55
195.00		156.13	1.87	1.88	1.10	35.94
196.00	Appurtenance(s)	50.15	1.89	1.98	1.14	11.96
Totals:		60,041.7				2,416.0
						Total Wind: 50,227.0

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E										Iterations 24
Gust Response Factor 1.10					Sds 0.19					Ss 0.18
Dead Load Factor 1.20			Seismic Load Factor 1.00			Sd1 0.10			S1 0.07	
Wind Load Factor 0.00		Structure Frequency (f1) 0.26		SA 0.03		Seismic Importance Factor 1.00				



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-83.08	-2.73	0.00	-371.45	0.00	371.45	8794.96	4397.48	21496.0	10671.5	0.00	0.00	0.00	0.044
5.00	-80.36	-2.71	0.00	-357.78	0.00	357.78	8639.43	4319.71	20738.5	10295.5	0.01	-0.01	0.044	
10.00	-77.69	-2.67	0.00	-344.22	0.00	344.22	8483.89	4241.95	19994.7	9926.22	0.02	-0.02	0.044	
15.00	-75.06	-2.62	0.00	-330.85	0.00	330.85	8328.36	4164.18	19264.4	9563.67	0.05	-0.03	0.044	
20.00	-72.47	-2.57	0.00	-317.73	0.00	317.73	8172.83	4086.41	18547.7	9207.87	0.08	-0.04	0.043	
25.00	-69.93	-2.52	0.00	-304.88	0.00	304.88	8017.29	4008.65	17844.6	8858.82	0.13	-0.05	0.043	
30.00	-67.42	-2.46	0.00	-292.30	0.00	292.30	7861.76	3930.88	17155.1	8516.51	0.19	-0.06	0.043	
35.00	-64.97	-2.40	0.00	-280.00	0.00	280.00	7706.22	3853.11	16479.1	8180.95	0.26	-0.07	0.043	
40.00	-62.55	-2.34	0.00	-267.99	0.00	267.99	7550.69	3775.35	15816.8	7852.13	0.34	-0.08	0.042	
45.00	-60.18	-2.28	0.00	-256.27	0.00	256.27	7395.16	3697.58	15168.0	7530.06	0.44	-0.09	0.042	
45.42	-59.98	-2.28	0.00	-255.32	0.00	255.32	7382.20	3691.10	15114.6	7503.52	0.44	-0.10	0.042	
48.90	-57.21	-2.19	0.00	-247.38	0.00	247.38	7273.84	3636.92	14671.4	7283.52	0.52	-0.10	0.028	
50.00	-56.34	-2.17	0.00	-244.97	0.00	244.97	7239.62	3619.81	14532.8	7214.73	0.54	-0.11	0.028	
52.75	-54.18	-2.10	0.00	-239.00	0.00	239.00	5810.43	2905.21	11825.7	5870.80	0.60	-0.11	0.028	
55.00	-53.32	-2.08	0.00	-234.27	0.00	234.27	5769.82	2884.91	11629.7	5773.48	0.65	-0.11	0.031	
57.15	-52.50	-2.06	0.00	-229.79	0.00	229.79	5730.75	2865.38	11443.3	5680.95	0.71	-0.12	0.031	
57.15	-52.50	-2.06	0.00	-229.79	0.00	229.79	5730.75	2865.38	11443.3	5680.95	0.71	-0.12	0.031	
60.00	-51.42	-2.04	0.00	-223.92	0.00	223.92	5678.55	2839.28	11197.7	5559.03	0.78	-0.12	0.049	
65.00	-49.56	-1.99	0.00	-213.74	0.00	213.74	5551.73	2775.86	10705.1	5314.51	0.91	-0.14	0.049	
70.00	-47.73	-1.95	0.00	-203.78	0.00	203.78	5427.30	2713.65	10228.2	5077.73	1.06	-0.15	0.049	
75.00	-45.93	-1.91	0.00	-194.04	0.00	194.04	5302.88	2651.44	9762.15	4846.34	1.23	-0.16	0.049	
80.00	-44.17	-1.87	0.00	-184.50	0.00	184.50	5178.45	2589.22	9306.93	4620.35	1.41	-0.18	0.048	
84.00	-42.79	-1.84	0.00	-177.02	0.00	177.02	5078.91	2539.45	8950.59	4443.45	1.56	-0.19	0.048	
85.00	-42.23	-1.83	0.00	-175.17	0.00	175.17	5054.02	2527.01	8862.59	4399.76	1.60	-0.19	0.048	
87.00	-41.13	-1.81	0.00	-171.51	0.00	171.51	5004.25	2502.13	8687.89	4313.04	1.69	-0.20	0.029	
90.00	-39.49	-1.78	0.00	-166.07	0.00	166.07	4929.59	2464.80	8429.11	4184.57	1.81	-0.21	0.029	
90.42	-39.27	-1.78	0.00	-165.32	0.00	165.32	3591.78	1795.89	6277.53	3116.43	1.83	-0.21	0.031	
95.00	-38.03	-1.78	0.00	-157.15	0.00	157.15	3535.98	1767.99	6038.44	2997.74	2.04	-0.22	0.034	
100.00	-36.62	-1.78	0.00	-148.26	0.00	148.26	3473.75	1736.87	5780.45	2869.66	2.27	-0.23	0.033	
105.00	-35.33	-1.78	0.00	-139.37	0.00	139.37	3410.09	1705.04	5525.58	2743.13	2.51	-0.24	0.032	
109.50	-33.65	-1.78	0.00	-131.35	0.00	131.35	3351.58	1675.79	5299.03	2630.66	2.74	-0.25	0.031	
110.00	-33.52	-1.78	0.00	-130.47	0.00	130.47	3345.00	1672.50	5274.03	2618.25	2.77	-0.25	0.031	
112.25	-32.96	-1.78	0.00	-126.47	0.00	126.47	3315.25	1657.63	5161.96	2562.62	2.89	-0.25	0.031	
112.25	-32.96	-1.78	0.00	-126.47	0.00	126.47	3315.25	1657.63	5161.96	2562.62	2.89	-0.25	0.031	
115.00	-32.29	-1.78	0.00	-121.57	0.00	121.57	3278.49	1639.25	5025.98	2495.11	3.04	-0.26	0.059	
120.00	-31.08	-1.79	0.00	-112.66	0.00	112.66	3210.56	1605.28	4781.62	2373.80	3.32	-0.28	0.057	
123.58	-30.22	-1.79	0.00	-106.25	0.00	106.25	3148.16	1574.08	4590.15	2278.75	3.54	-0.30	0.056	
125.00	-29.71	-1.79	0.00	-103.72	0.00	103.72	3121.72	1560.86	4512.97	2240.43	3.63	-0.30	0.056	
125.60	-29.49	-1.79	0.00	-102.64	0.00	102.64	3110.52	1555.26	4480.48	2224.30	3.66	-0.31	0.032	
129.00	-28.26	-1.79	0.00	-96.56	0.00	96.56	2149.47	1074.74	3099.22	1538.58	3.89	-0.31	0.034	
130.00	-28.00	-1.79	0.00	-94.77	0.00	94.77	2141.27	1070.63	3068.69	1523.43	3.95	-0.32	0.038	
135.00	-27.07	-1.79	0.00	-85.82	0.00	85.82	2099.38	1049.69	2916.97	1448.11	4.29	-0.33	0.036	
136.26	-26.83	-1.79	0.00	-83.57	0.00	83.57	2088.60	1044.30	2879.00	1429.26	4.38	-0.33	0.035	
136.26	-26.83	-1.79	0.00	-83.57	0.00	83.57	2088.60	1044.30	2879.00	1429.26	4.38	-0.33	0.035	
140.00	-26.15	-1.79	0.00	-76.88	0.00	76.88	2056.07	1028.04	2766.99	1373.65	4.64	-0.34	0.069	
145.00	-22.42	-1.78	0.00	-67.91	0.00	67.91	2011.34	1005.67	2618.95	1300.16	5.02	-0.37	0.063	
150.00	-21.55	-1.78	0.00	-59.01	0.00	59.01	1965.18	982.59	2473.01	1227.71	5.42	-0.40	0.059	

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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155.00	-17.38	-1.75	0.00	-50.09	0.00	50.09	1917.59	958.80	2329.38	1156.40	5.85	-0.42	0.052
160.00	-16.62	-1.74	0.00	-41.32	0.00	41.32	1868.58	934.29	2188.24	1086.34	6.30	-0.44	0.047
161.50	-14.60	-1.68	0.00	-38.71	0.00	38.71	1853.60	926.80	2146.41	1065.57	6.44	-0.45	0.044
165.00	-14.08	-1.67	0.00	-32.82	0.00	32.82	1818.15	909.07	2049.77	1017.59	6.77	-0.46	0.040
165.25	-14.05	-1.67	0.00	-32.40	0.00	32.40	1815.59	907.79	2042.92	1014.19	6.80	-0.46	0.040
169.58	-13.14	-1.63	0.00	-25.16	0.00	25.16	1040.26	520.13	1155.41	573.59	7.23	-0.48	0.056
170.00	-13.09	-1.63	0.00	-24.48	0.00	24.48	1038.39	519.19	1149.55	570.68	7.27	-0.48	0.056
175.00	-8.30	-1.24	0.00	-16.34	0.00	16.34	1015.17	507.59	1079.51	535.91	7.78	-0.50	0.039
180.00	-7.88	-1.21	0.00	-10.14	0.00	10.14	990.53	495.27	1010.05	501.43	8.32	-0.51	0.028
185.00	-3.66	-0.64	0.00	-4.11	0.00	4.11	964.47	482.24	941.35	467.32	8.86	-0.52	0.013
187.00	-3.39	-0.60	0.00	-2.84	0.00	2.84	953.65	476.82	914.12	453.81	9.08	-0.53	0.010
190.00	-3.19	-0.57	0.00	-1.04	0.00	1.04	936.98	468.49	873.60	433.69	9.41	-0.53	0.006
191.50	-0.25	-0.05	0.00	-0.19	0.00	0.19	928.46	464.23	853.48	423.70	9.58	-0.53	0.001
195.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	908.07	454.03	806.98	400.62	9.96	-0.53	0.000
196.00	0.00	-0.01	0.00	0.00	0.00	0.00	902.11	451.06	793.81	394.08	10.07	-0.53	0.000

Seismic Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 24
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.26	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1996.2	0.00	0.03	0.01	36.23	
10.00		1960.6	0.00	0.04	0.03	52.47	
15.00		1925.0	0.01	0.06	0.03	60.57	
20.00		1889.4	0.02	0.06	0.04	64.52	
25.00		1853.8	0.03	0.07	0.04	66.25	
30.00		1818.1	0.04	0.07	0.04	66.82	
35.00		1782.5	0.06	0.07	0.04	66.87	
40.00		1746.9	0.08	0.07	0.04	66.76	
45.00		1711.3	0.10	0.07	0.04	66.63	
45.42	Bot - Section 2	141.00	0.10	0.07	0.04	5.50	
48.90	RB1	2125.6	0.12	0.07	0.03	84.01	
50.00		664.80	0.12	0.07	0.03	26.39	
52.75	Top - Section 1	1648.4	0.14	0.07	0.03	66.09	
55.00		600.65	0.15	0.07	0.03	24.26	
57.15	RT1	568.56	0.16	0.07	0.03	23.11	
60.00		745.55	0.18	0.07	0.03	30.50	
65.00		1285.6	0.21	0.06	0.02	52.70	
70.00		1257.1	0.24	0.06	0.02	50.69	
75.00		1228.6	0.28	0.05	0.01	47.25	
80.00		1200.1	0.31	0.04	0.01	41.88	
84.00	Bot - Section 3	939.59	0.35	0.03	0.01	28.63	
85.00		409.65	0.36	0.03	0.01	11.93	
87.00	RB2	813.31	0.37	0.03	0.01	21.22	
90.00		1205.0	0.40	0.02	0.01	25.00	
90.42	Top - Section 2	165.94	0.40	0.02	0.01	3.31	
95.00		781.83	0.44	0.00	0.01	7.70	
100.00	Appurtenance(s)	908.43	0.49	-0.01	0.01	-2.54	
105.00		811.06	0.54	-0.03	0.01	-12.79	
109.50	Appurtenance(s)	1161.6	0.59	-0.05	0.01	-30.63	
110.00		78.01	0.60	-0.05	0.01	-2.14	
112.25	RT2	348.39	0.62	-0.06	0.02	-11.12	
115.00		419.93	0.65	-0.07	0.02	-15.35	
120.00		746.94	0.71	-0.09	0.03	-31.74	
123.58	Bot - Section 4	522.16	0.75	-0.10	0.04	-23.34	
125.00		358.80	0.77	-0.11	0.05	-16.19	
125.60	RB3	151.06	0.78	-0.11	0.05	-6.83	
129.00	Top - Section 3	845.83	0.82	-0.12	0.06	-37.94	
130.00	Appurtenance(s)	159.35	0.83	-0.12	0.06	-7.09	
135.00		522.14	0.90	-0.12	0.09	-21.29	
136.26	RT3	129.05	0.91	-0.12	0.09	-5.08	
140.00		377.06	0.96	-0.12	0.11	-12.86	
145.00	Appurtenance(s)	2849.1	1.03	-0.10	0.15	-70.06	
150.00		474.06	1.11	-0.07	0.19	-5.81	
155.00	Appurtenance(s)	3221.0	1.18	-0.01	0.24	9.34	
160.00		442.00	1.26	0.07	0.30	9.23	

Seismic Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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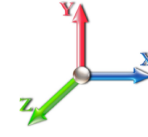
161.50	Appurtenance(s)	1629.4	1.28	0.10	0.32	43.72
165.00		296.50	1.34	0.18	0.37	12.37
165.25	Bot - Section 5	20.88	1.34	0.19	0.38	0.89
169.58	Top - Section 4	596.66	1.41	0.31	0.45	37.83
170.00		22.76	1.42	0.33	0.45	1.49
175.00	Appurtenance(s)	3804.5	1.51	0.52	0.55	350.93
180.00		256.70	1.59	0.76	0.66	31.32
185.00	Appurtenance(s)	3433.8	1.68	1.06	0.79	531.88
187.00	Appurtenance(s)	203.41	1.72	1.20	0.85	34.36
190.00		139.91	1.78	1.43	0.94	26.71
191.50	Appurtenance(s)	2438.9	1.80	1.56	0.98	493.55
195.00		156.13	1.87	1.88	1.10	35.94
196.00	Appurtenance(s)	50.15	1.89	1.98	1.14	11.96
Totals:		60,041.7				2,416.0
						Total Wind: 50,227.0

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E										Iterations 24
Gust Response Factor 1.10					Sds 0.19					Ss 0.18
Dead Load Factor 0.90			Seismic Load Factor 1.00			Sd1 0.10			S1 0.07	
Wind Load Factor 0.00		Structure Frequency (f1) 0.26		SA 0.03		Seismic Importance Factor 1.00				



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-62.31	-2.73	0.00	-365.83	0.00	365.83	8794.96	4397.48	21496.0	10671.5	0.00	0.00	0.00	0.041
5.00	-60.27	-2.71	0.00	-352.16	0.00	352.16	8639.43	4319.71	20738.5	10295.5	0.01	-0.01	0.041	
10.00	-58.27	-2.66	0.00	-338.63	0.00	338.63	8483.89	4241.95	19994.7	9926.22	0.02	-0.02	0.041	
15.00	-56.29	-2.61	0.00	-325.31	0.00	325.31	8328.36	4164.18	19264.4	9563.67	0.05	-0.03	0.041	
20.00	-54.35	-2.56	0.00	-312.25	0.00	312.25	8172.83	4086.41	18547.7	9207.87	0.08	-0.04	0.041	
25.00	-52.44	-2.50	0.00	-299.47	0.00	299.47	8017.29	4008.65	17844.6	8858.82	0.13	-0.05	0.040	
30.00	-50.57	-2.44	0.00	-286.98	0.00	286.98	7861.76	3930.88	17155.1	8516.51	0.19	-0.06	0.040	
35.00	-48.72	-2.38	0.00	-274.78	0.00	274.78	7706.22	3853.11	16479.1	8180.95	0.26	-0.07	0.040	
40.00	-46.91	-2.32	0.00	-262.89	0.00	262.89	7550.69	3775.35	15816.8	7852.13	0.34	-0.08	0.040	
45.00	-45.13	-2.25	0.00	-251.29	0.00	251.29	7395.16	3697.58	15168.0	7530.06	0.43	-0.09	0.039	
45.42	-44.98	-2.25	0.00	-250.36	0.00	250.36	7382.20	3691.10	15114.6	7503.52	0.44	-0.09	0.039	
48.90	-42.90	-2.17	0.00	-242.51	0.00	242.51	7273.84	3636.92	14671.4	7283.52	0.51	-0.10	0.026	
50.00	-42.25	-2.14	0.00	-240.13	0.00	240.13	7239.62	3619.81	14532.8	7214.73	0.53	-0.10	0.026	
52.75	-40.64	-2.08	0.00	-234.24	0.00	234.24	5810.43	2905.21	11825.7	5870.80	0.59	-0.11	0.027	
55.00	-39.99	-2.05	0.00	-229.57	0.00	229.57	5769.82	2884.91	11629.7	5773.48	0.64	-0.11	0.029	
57.15	-39.37	-2.03	0.00	-225.15	0.00	225.15	5730.75	2865.38	11443.3	5680.95	0.69	-0.11	0.029	
57.15	-39.37	-2.03	0.00	-225.15	0.00	225.15	5730.75	2865.38	11443.3	5680.95	0.69	-0.11	0.029	
60.00	-38.56	-2.01	0.00	-219.36	0.00	219.36	5678.55	2839.28	11197.7	5559.03	0.76	-0.12	0.046	
65.00	-37.17	-1.96	0.00	-209.33	0.00	209.33	5551.73	2775.86	10705.1	5314.51	0.90	-0.13	0.046	
70.00	-35.80	-1.91	0.00	-199.54	0.00	199.54	5427.30	2713.65	10228.2	5077.73	1.04	-0.15	0.046	
75.00	-34.45	-1.87	0.00	-189.97	0.00	189.97	5302.88	2651.44	9762.15	4846.34	1.20	-0.16	0.046	
80.00	-33.13	-1.83	0.00	-180.61	0.00	180.61	5178.45	2589.22	9306.93	4620.35	1.38	-0.18	0.045	
84.00	-32.09	-1.81	0.00	-173.28	0.00	173.28	5078.91	2539.45	8950.59	4443.45	1.53	-0.19	0.045	
85.00	-31.67	-1.80	0.00	-171.47	0.00	171.47	5054.02	2527.01	8862.59	4399.76	1.57	-0.19	0.045	
87.00	-30.85	-1.77	0.00	-167.88	0.00	167.88	5004.25	2502.13	8687.89	4313.04	1.66	-0.20	0.027	
90.00	-29.62	-1.75	0.00	-162.56	0.00	162.56	4929.59	2464.80	8429.11	4184.57	1.78	-0.20	0.027	
90.42	-29.45	-1.75	0.00	-161.83	0.00	161.83	3591.78	1795.89	6277.53	3116.43	1.80	-0.20	0.029	
95.00	-28.52	-1.74	0.00	-153.83	0.00	153.83	3535.98	1767.99	6038.44	2997.74	2.00	-0.21	0.032	
100.00	-27.47	-1.74	0.00	-145.14	0.00	145.14	3473.75	1736.87	5780.45	2869.66	2.23	-0.22	0.031	
105.00	-26.50	-1.74	0.00	-136.44	0.00	136.44	3410.09	1705.04	5525.58	2743.13	2.47	-0.23	0.030	
109.50	-25.24	-1.74	0.00	-128.60	0.00	128.60	3351.58	1675.79	5299.03	2630.66	2.69	-0.24	0.029	
110.00	-25.14	-1.74	0.00	-127.74	0.00	127.74	3345.00	1672.50	5274.03	2618.25	2.72	-0.24	0.029	
112.25	-24.72	-1.74	0.00	-123.82	0.00	123.82	3315.25	1657.63	5161.96	2562.62	2.83	-0.25	0.029	
112.25	-24.72	-1.74	0.00	-123.82	0.00	123.82	3315.25	1657.63	5161.96	2562.62	2.83	-0.25	0.029	
115.00	-24.21	-1.74	0.00	-119.04	0.00	119.04	3278.49	1639.25	5025.98	2495.11	2.98	-0.26	0.055	
120.00	-23.31	-1.75	0.00	-110.32	0.00	110.32	3210.56	1605.28	4781.62	2373.80	3.26	-0.28	0.054	
123.58	-22.67	-1.75	0.00	-104.07	0.00	104.07	3148.16	1574.08	4590.15	2278.75	3.47	-0.29	0.053	
125.00	-22.28	-1.75	0.00	-101.59	0.00	101.59	3121.72	1560.86	4512.97	2240.43	3.56	-0.30	0.052	
125.60	-22.11	-1.75	0.00	-100.54	0.00	100.54	3110.52	1555.26	4480.48	2224.30	3.60	-0.30	0.030	
129.00	-21.19	-1.75	0.00	-94.60	0.00	94.60	2149.47	1074.74	3099.22	1538.58	3.81	-0.31	0.032	
130.00	-21.00	-1.75	0.00	-92.86	0.00	92.86	2141.27	1070.63	3068.69	1523.43	3.88	-0.31	0.036	
135.00	-20.30	-1.75	0.00	-84.12	0.00	84.12	2099.38	1049.69	2916.97	1448.11	4.21	-0.32	0.033	
136.26	-20.12	-1.75	0.00	-81.92	0.00	81.92	2088.60	1044.30	2879.00	1429.26	4.30	-0.33	0.033	
136.26	-20.12	-1.75	0.00	-81.92	0.00	81.92	2088.60	1044.30	2879.00	1429.26	4.30	-0.33	0.033	
140.00	-19.61	-1.75	0.00	-75.38	0.00	75.38	2056.07	1028.04	2766.99	1373.65	4.56	-0.34	0.064	
145.00	-16.81	-1.74	0.00	-66.63	0.00	66.63	2011.34	1005.67	2618.95	1300.16	4.92	-0.36	0.060	
150.00	-16.16	-1.74	0.00	-57.92	0.00	57.92	1965.18	982.59	2473.01	1227.71	5.32	-0.39	0.055	

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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155.00	-13.03	-1.72	0.00	-49.21	0.00	49.21	1917.59	958.80	2329.38	1156.40	5.74	-0.41	0.049
160.00	-12.46	-1.71	0.00	-40.62	0.00	40.62	1868.58	934.29	2188.24	1086.34	6.18	-0.43	0.044
161.50	-10.95	-1.65	0.00	-38.06	0.00	38.06	1853.60	926.80	2146.41	1065.57	6.32	-0.44	0.042
165.00	-10.56	-1.64	0.00	-32.27	0.00	32.27	1818.15	909.07	2049.77	1017.59	6.64	-0.45	0.038
165.25	-10.53	-1.64	0.00	-31.86	0.00	31.86	1815.59	907.79	2042.92	1014.19	6.67	-0.45	0.037
169.58	-9.85	-1.60	0.00	-24.75	0.00	24.75	1040.26	520.13	1155.41	573.59	7.09	-0.47	0.053
170.00	-9.81	-1.60	0.00	-24.08	0.00	24.08	1038.39	519.19	1149.55	570.68	7.13	-0.47	0.052
175.00	-6.22	-1.22	0.00	-16.09	0.00	16.09	1015.17	507.59	1079.51	535.91	7.63	-0.49	0.036
180.00	-5.91	-1.19	0.00	-9.99	0.00	9.99	990.53	495.27	1010.05	501.43	8.16	-0.51	0.026
185.00	-2.74	-0.63	0.00	-4.06	0.00	4.06	964.47	482.24	941.35	467.32	8.69	-0.51	0.012
187.00	-2.54	-0.59	0.00	-2.80	0.00	2.80	953.65	476.82	914.12	453.81	8.91	-0.52	0.009
190.00	-2.39	-0.56	0.00	-1.03	0.00	1.03	936.98	468.49	873.60	433.69	9.23	-0.52	0.005
191.50	-0.19	-0.05	0.00	-0.19	0.00	0.19	928.46	464.23	853.48	423.70	9.39	-0.52	0.001
195.00	-0.05	-0.01	0.00	-0.01	0.00	0.01	908.07	454.03	806.98	400.62	9.77	-0.52	0.000
196.00	0.00	-0.01	0.00	0.00	0.00	0.00	902.11	451.06	793.81	394.08	9.88	-0.52	0.000

Wind Loading - Shaft

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

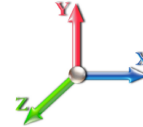


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	282.00	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	277.07	0.750	0.000	5.00	25.267	18.95	155.1	0.0	1996.3
10.00		1.00	0.85	7.442	8.19	272.13	0.750	0.000	5.00	24.821	18.62	152.4	0.0	1960.7
15.00		1.00	0.85	7.442	8.19	267.20	0.750	0.000	5.00	24.375	18.28	149.6	0.0	1925.0
20.00		1.00	0.90	7.896	8.69	270.15	0.750	0.000	5.00	23.929	17.95	155.9	0.0	1889.4
25.00		1.00	0.95	8.276	9.10	271.37	0.750	0.000	5.00	23.482	17.61	160.3	0.0	1853.8
30.00		1.00	0.98	8.600	9.46	271.32	0.750	0.000	5.00	23.036	17.28	163.4	0.0	1818.2
35.00		1.00	1.01	8.883	9.77	270.37	0.750	0.000	5.00	22.590	16.94	165.6	0.0	1782.6
40.00		1.00	1.04	9.137	10.05	268.72	0.750	0.000	5.00	22.144	16.61	166.9	0.0	1747.0
45.00		1.00	1.07	9.366	10.30	266.54	0.750	0.000	5.00	21.698	16.27	167.7	0.0	1711.3
45.42	Bot - Section 2	1.00	1.07	9.384	10.32	266.34	0.750	0.000	0.42	1.788	1.34	13.8	0.0	141.0
48.90	RB1	1.00	1.09	9.531	10.48	264.53	0.750	0.000	3.48	15.123	11.34	118.9	0.0	2125.7
50.00		1.00	1.09	9.576	10.53	263.92	0.750	0.000	1.10	4.731	3.55	37.4	0.0	664.8
52.75	Top - Section 1	1.00	1.11	9.685	10.65	262.31	0.750	0.000	2.75	11.732	8.80	93.7	0.0	1648.4
55.00		1.00	1.12	9.770	10.75	266.31	0.750	0.000	2.25	9.499	7.12	76.6	0.0	600.6
57.15	RT1	1.00	1.12	9.850	10.83	264.94	0.750	0.000	2.15	8.992	6.74	73.1	0.0	568.6
60.00		1.00	1.14	9.951	10.95	263.05	0.750	0.000	2.85	11.793	8.84	96.8	0.0	745.6
65.00		1.00	1.16	10.120	11.13	259.52	0.750	0.000	5.00	20.339	15.25	169.8	0.0	1285.6
70.00		1.00	1.17	10.279	11.31	255.75	0.750	0.000	5.00	19.893	14.92	168.7	0.0	1257.1
75.00		1.00	1.19	10.430	11.47	251.78	0.750	0.000	5.00	19.446	14.58	167.3	0.0	1228.6
80.00		1.00	1.21	10.572	11.63	247.61	0.750	0.000	5.00	19.000	14.25	165.7	0.0	1200.1
84.00	Bot - Section 3	1.00	1.22	10.681	11.75	244.15	0.750	0.000	4.00	14.879	11.16	131.1	0.0	939.6
85.00		1.00	1.22	10.708	11.78	243.27	0.750	0.000	1.00	3.739	2.80	33.0	0.0	409.6
87.00	RB2	1.00	1.23	10.761	11.84	241.50	0.750	0.000	2.00	7.424	5.57	65.9	0.0	813.3
90.00		1.00	1.24	10.838	11.92	238.79	0.750	0.000	3.00	11.003	8.25	98.4	0.0	1205.0
90.42	Top - Section 2	1.00	1.24	10.848	11.93	238.41	0.750	0.000	0.42	1.515	1.14	13.6	0.0	165.9
95.00		1.00	1.25	10.962	12.06	238.44	0.750	0.000	4.58	16.465	12.35	148.9	0.0	781.8
100.00	Appurtenance(s)	1.00	1.27	11.081	12.19	233.71	0.750	0.000	5.00	17.535	13.15	160.3	0.0	832.4
105.00		1.00	1.28	11.195	12.31	228.86	0.750	0.000	5.00	17.089	12.82	157.8	0.0	811.1
109.50	Appurtenance(s)	1.00	1.29	11.294	12.42	224.40	0.750	0.000	4.50	14.998	11.25	139.8	0.0	711.7
110.00		1.00	1.29	11.305	12.44	223.90	0.750	0.000	0.50	1.644	1.23	15.3	0.0	78.0
112.25	RT2	1.00	1.30	11.354	12.49	221.63	0.750	0.000	2.25	7.344	5.51	68.8	0.0	348.4
115.00		1.00	1.30	11.412	12.55	218.84	0.750	0.000	2.75	8.853	6.64	83.3	0.0	419.9
120.00		1.00	1.32	11.514	12.67	213.68	0.750	0.000	5.00	15.750	11.81	149.6	0.0	746.9
123.58	Bot - Section 4	1.00	1.32	11.586	12.74	209.93	0.750	0.000	3.58	11.013	8.26	105.3	0.0	522.2
125.00		1.00	1.33	11.614	12.78	208.44	0.750	0.000	1.42	4.359	3.27	41.8	0.0	358.8
125.60	RB3	1.00	1.33	11.625	12.79	207.80	0.750	0.000	0.60	1.835	1.38	17.6	0.0	151.1
129.00	Top - Section 3	1.00	1.34	11.691	12.86	204.18	0.750	0.000	3.40	10.278	7.71	99.1	0.0	845.8
130.00	Appurtenance(s)	1.00	1.34	11.710	12.88	206.42	0.750	0.000	1.00	2.984	2.24	28.8	0.0	106.4
135.00		1.00	1.35	11.803	12.98	201.03	0.750	0.000	5.00	14.651	10.99	142.7	0.0	522.1
136.26	RT3	1.00	1.35	11.827	13.01	199.66	0.750	0.000	1.26	3.622	2.72	35.3	0.0	129.1
140.00		1.00	1.36	11.894	13.08	195.56	0.750	0.000	3.74	10.583	7.94	103.9	0.0	377.1
145.00	Appurtenance(s)	1.00	1.37	11.982	13.18	190.02	0.750	0.000	5.00	13.759	10.32	136.0	0.0	490.1
150.00		1.00	1.38	12.068	13.27	184.42	0.750	0.000	5.00	13.313	9.98	132.5	0.0	474.1
155.00	Appurtenance(s)	1.00	1.39	12.152	13.37	178.75	0.750	0.000	5.00	12.867	9.65	129.0	0.0	458.0
160.00		1.00	1.40	12.233	13.46	173.02	0.751 *	0.000	5.00	12.421	9.33	125.6	0.0	442.0
161.50	Appurtenance(s)	1.00	1.40	12.257	13.48	171.29	0.757 *	0.000	1.50	3.639	2.75	37.1	0.0	129.5

Wind Loading - Shaft

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 55
	Struct Class: II	



165.00	1.00	1.41	12.313	13.54	167.23	0.761 *	0.000	3.50	8.335	6.34	85.9	0.0	296.5
165.25 Bot - Section 5	1.00	1.41	12.317	13.55	166.94	0.765 *	0.000	0.25	0.587	0.45	6.1	0.0	20.9
169.58 Top - Section 4	1.00	1.41	12.384	13.62	161.88	0.769 *	0.000	4.33	10.136	7.79	106.2	0.0	596.7
170.00	1.00	1.42	12.390	13.63	163.67	0.770 *	0.000	0.42	0.957	0.74	10.0	0.0	22.8
175.00 Appurtenance(s)	1.00	1.42	12.466	13.71	157.78	0.775 *	0.000	5.00	11.242	8.71	119.5	0.0	267.4
180.00	1.00	1.43	12.540	13.79	151.84	0.750	0.000	5.00	10.796	8.10	111.7	0.0	256.7
185.00 Appurtenance(s)	1.00	1.44	12.613	13.87	145.86	0.750	0.000	5.00	10.350	7.76	107.7	0.0	246.0
187.00 Appurtenance(s)	1.00	1.44	12.642	13.91	143.45	0.750	0.000	2.00	4.015	3.01	41.9	0.0	95.4
190.00	1.00	1.45	12.684	13.95	139.82	0.750	0.000	3.00	5.889	4.42	61.6	0.0	139.9
191.50 Appurtenance(s)	1.00	1.45	12.705	13.98	138.00	0.750	0.000	1.50	2.884	2.16	30.2	0.0	68.5
195.00	1.00	1.46	12.753	14.03	133.74	0.750	0.000	3.50	6.573	4.93	69.2	0.0	156.1
196.00 Appurtenance(s)	1.00	1.46	12.767	14.04	132.52	0.750	0.000	1.00	1.838	1.38	19.4	0.0	43.6
								Totals:	196.00	5,788.8	43,630.8		

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



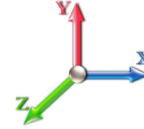
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	196.00	6' Lightning rod	1	12.767	14.044	1.00	1.00	0.38	6.50	0.000	0.000	5.34	0.00	0.00
2	191.50	1900MHz - RRU	3	12.705	13.975	0.54	0.80	6.11	132.00	0.000	0.000	85.40	0.00	0.00
3	191.50	APXVTM14-C-120	3	12.705	13.975	0.68	0.80	12.93	168.00	0.000	0.000	180.75	0.00	0.00
4	191.50	APXVSP18-C-A20	3	12.705	13.975	0.66	0.80	15.98	171.00	0.000	0.000	223.27	0.00	0.00
5	191.50	800MHz - RRU	3	12.705	13.975	0.54	0.80	4.00	159.00	0.000	0.000	55.96	0.00	0.00
6	191.50	RRH8x20-25 - RRU	3	12.705	13.975	0.54	0.80	6.51	210.00	0.000	0.000	91.01	0.00	0.00
7	191.50	800MHz Filter	3	12.705	13.975	0.54	0.80	1.25	26.40	0.000	0.000	17.53	0.00	0.00
8	191.50	ACU-A20-N - RET	4	12.705	13.975	0.60	0.80	0.34	4.00	0.000	0.000	4.70	0.00	0.00
9	191.50	Low Profile Platform	1	12.705	13.975	1.00	1.00	22.00	1500.00	0.000	0.000	307.46	0.00	0.00
10	187.00	BA80-41-DIN	1	12.785	14.064	1.00	1.00	9.40	68.00	0.000	10.333	132.20	0.00	1366.08
11	187.00	Pipe mount	1	12.642	13.906	0.56	0.75	1.48	40.00	0.000	0.000	20.57	0.00	0.00
12	185.00	CBC23SR-43	3	12.613	13.874	0.52	0.75	0.66	14.70	0.000	0.000	9.18	0.00	0.00
13	185.00	MT6407-77A	3	12.613	13.874	0.52	0.75	7.39	238.20	0.000	0.000	102.49	0.00	0.00
14	185.00	BXA-70063 6CF_2	3	12.613	13.874	0.61	0.75	13.97	51.00	0.000	0.000	193.78	0.00	0.00
15	185.00	JAHH-65C-R3B-V2	6	12.613	13.874	0.62	0.75	47.85	481.20	0.000	0.000	663.82	0.00	0.00
16	185.00	DB-C1-12C-24AB-OZ	1	12.613	13.874	0.75	0.75	3.04	32.00	0.000	0.000	42.25	0.00	0.00
17	185.00	Low Profile	1	12.613	13.874	0.00	1.00	22.00	1500.00	0.000	0.000	305.23	0.00	0.00
18	185.00	RFV01U-D2A	3	12.613	13.874	0.58	0.75	3.30	210.90	0.000	0.000	45.78	0.00	0.00
19	185.00	RFV01U-D1A	3	12.613	13.874	0.62	0.75	3.51	253.20	0.000	0.000	48.71	0.00	0.00
20	185.00	HRK12-HD	1	12.613	13.874	0.75	1.00	9.00	406.61	0.000	0.000	124.87	0.00	0.00
21	175.00	Low Profile Platform	1	12.466	13.713	1.00	1.00	22.00	1500.00	0.000	0.000	301.68	0.00	0.00
22	175.00	DC6-48-60-18-8F	1	12.466	13.713	0.80	0.80	0.74	32.80	0.000	0.000	10.09	0.00	0.00
23	175.00	RRUS-12	3	12.466	13.713	0.54	0.80	4.34	150.00	0.000	0.000	59.54	0.00	0.00
24	175.00	Powerwave 7770	3	12.466	13.713	0.68	0.80	11.22	105.00	0.000	0.000	153.86	0.00	0.00
25	175.00	Powerwave LGP21401	12	12.466	13.713	0.75	0.75	11.61	169.20	0.000	0.000	159.21	0.00	0.00
26	175.00	Powerwave LGP13519	12	12.466	13.713	0.75	0.75	3.06	63.60	0.000	0.000	41.96	0.00	0.00
27	175.00	Ericsson RRUS 4449	3	12.466	13.713	0.50	0.75	2.97	213.00	0.000	0.000	40.72	0.00	0.00
28	175.00	Ericsson RRUS 32 B30	3	12.466	13.713	0.50	0.75	4.13	180.00	0.000	0.000	56.64	0.00	0.00
29	175.00	Raycap	2	12.466	13.713	1.00	1.00	9.56	32.00	0.000	0.000	131.09	0.00	0.00
30	175.00	HRK12 (Handrail Kit)	1	12.466	13.713	1.00	1.00	6.75	261.72	0.000	0.000	92.56	0.00	0.00
31	175.00	Kathrein 800-10965	6	12.466	13.713	0.53	0.75	44.12	651.60	0.000	0.000	605.05	0.00	0.00
32	175.00	Ericsson RRUS 4478 B14	3	12.466	13.713	0.50	0.75	2.49	178.20	0.000	0.000	34.11	0.00	0.00
33	161.50	Low Profile Platform	1	12.257	13.483	1.00	1.00	22.00	1500.00	0.000	0.000	296.63	0.00	0.00
34	155.00	Ericsson KRY 112 144/1	3	12.152	13.367	0.54	0.80	1.45	45.60	0.000	0.000	19.34	0.00	0.00
35	155.00	Ericsson AIR6419 B41	3	12.152	13.367	0.61	0.80	6.93	198.30	0.000	0.000	92.65	0.00	0.00
36	155.00	RFS	3	12.152	13.367	0.56	0.80	34.00	384.00	0.000	0.000	454.52	0.00	0.00
37	155.00	Commscope VV-65A-R1	3	12.152	13.367	0.59	0.80	14.03	88.50	0.000	0.000	187.54	0.00	0.00
38	155.00	Ericsson 4460 B25 + B66	3	12.152	13.367	0.54	0.80	4.58	327.00	0.000	0.000	61.26	0.00	0.00
39	155.00	T-Arms w/ Handrail kit &	3	12.152	13.367	0.56	0.75	29.53	1500.00	0.000	0.000	394.74	0.00	0.00
40	155.00	Ericsson 4449 B71 + B85	3	12.152	13.367	0.54	0.80	3.17	219.60	0.000	0.000	42.34	0.00	0.00
41	145.00	TA08025-B605	3	11.982	13.181	0.50	0.75	2.95	225.00	0.000	0.000	38.94	0.00	0.00
42	145.00	MC-PK8-DSH	1	11.982	13.181	1.00	1.00	37.59	1727.00	0.000	0.000	495.46	0.00	0.00
43	145.00	MX08FRO665-21	3	11.982	13.181	0.55	0.75	20.80	193.50	0.000	0.000	274.10	0.00	0.00
44	145.00	TA08025-B604	3	11.982	13.181	0.50	0.75	2.95	191.70	0.000	0.000	38.94	0.00	0.00
45	145.00	RDIDC-9181-PF-48	1	11.982	13.181	0.75	0.75	1.51	21.90	0.000	0.000	19.87	0.00	0.00
46	130.00	Standoff	1	11.710	12.881	0.56	0.75	1.48	40.00	0.000	0.000	19.06	0.00	0.00
47	130.00	ANT150F2	1	11.757	12.933	1.00	1.00	1.23	13.00	0.000	2.500	15.91	0.00	39.77

Discrete Appurtenance Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 57
	Struct Class: II	



48	109.50	Standoff	1	11.294	12.424	0.56	0.75	1.48	40.00	0.000	0.000	18.38	0.00	0.00
49	109.50	Standoff	5	11.294	12.424	0.56	0.75	7.40	200.00	0.000	0.000	91.90	0.00	0.00
50	109.50	4' Omni	1	11.338	12.471	1.00	1.00	1.00	10.00	0.000	2.000	12.47	0.00	24.94
51	109.50	14' Omni	5	11.443	12.587	1.00	1.00	21.00	200.00	0.000	7.000	264.33	0.00	1850.30
52	100.00	Standoff	1	11.081	12.189	0.56	0.75	1.48	40.00	0.000	0.000	18.03	0.00	0.00
53	100.00	MPRD	1	11.081	12.189	1.00	1.00	6.10	36.00	0.000	0.000	74.35	0.00	0.00

Totals:	16,410.93	7,277.56
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Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

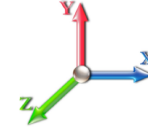


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		155.13	2262.91	0.00	0.00
10.00		152.39	2227.29	0.00	0.00
15.00		149.65	2191.67	0.00	0.00
20.00		155.88	2156.05	0.00	0.00
25.00		160.33	2120.43	0.00	0.00
30.00		163.44	2084.82	0.00	0.00
35.00		165.56	2049.20	0.00	0.00
40.00		166.92	2013.58	0.00	0.00
45.00		167.66	1977.96	0.00	0.00
45.42		13.84	163.22	0.00	0.00
48.90		118.92	2311.42	0.00	0.00
50.00		37.37	723.46	0.00	0.00
52.75		93.74	1795.07	0.00	0.00
55.00		76.56	720.63	0.00	0.00
57.15		73.07	683.21	0.00	0.00
60.00		96.81	897.53	0.00	0.00
65.00		169.81	1552.25	0.00	0.00
70.00		168.70	1523.75	0.00	0.00
75.00		167.33	1495.26	0.00	0.00
80.00		165.72	1466.77	0.00	0.00
84.00		131.12	1152.90	0.00	0.00
85.00		33.03	462.97	0.00	0.00
87.00		65.91	919.96	0.00	0.00
90.00		98.38	1364.98	0.00	0.00
90.42		13.56	188.16	0.00	0.00
95.00		148.90	1026.24	0.00	0.00
100.00	(2) attachments	252.68	1175.06	0.00	0.00
105.00		157.83	1077.49	0.00	0.00
109.50	(12) attachments	526.83	1401.47	0.00	1875.24
110.00		15.34	104.17	0.00	0.00
112.25		68.79	466.12	0.00	0.00
115.00		83.35	563.83	0.00	0.00
120.00		149.62	1008.57	0.00	0.00
123.58		105.27	709.67	0.00	0.00
125.00		41.76	432.93	0.00	0.00
125.60		17.60	182.45	0.00	0.00
129.00		99.13	1023.74	0.00	0.00
130.00	(2) attachments	63.79	211.68	0.00	39.77
135.00		142.67	781.17	0.00	0.00
136.26		35.34	194.33	0.00	0.00
140.00		103.85	570.82	0.00	0.00
145.00	(11) attachments	1003.33	3108.22	0.00	0.00
150.00		132.55	723.99	0.00	0.00
155.00	(21) attachments	1381.39	3470.96	0.00	0.00
160.00		125.60	631.33	0.00	0.00
161.50	(1) attachments	333.76	1686.27	0.00	0.00

Total Applied Force Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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165.00	85.94	429.03	0.00	0.00
165.25	6.08	30.34	0.00	0.00
169.58	106.15	760.75	0.00	0.00
170.00	10.04	38.54	0.00	0.00
175.00	(50) attachments	1806.02	3993.83	0.00
180.00		111.69	346.28	0.00
185.00	(24) attachments	1643.79	3523.40	0.00
187.00	(2) attachments	194.65	224.56	0.00
190.00		61.62	170.08	0.00
191.50	(23) attachments	996.30	2454.00	0.00
195.00		69.16	156.13	0.00
196.00	(1) attachments	24.70	50.15	0.00
Totals:		13,066.33	69,233.03	0.00
				3,281.10

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



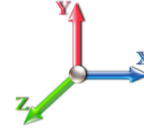
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.058	0.000	7.442	0.00	16.10
5.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.058	0.000	7.442	0.00	8.05
5.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.058	0.000	7.442	0.00	2.60
10.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	7.442	0.00	16.10
10.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.059	0.000	7.442	0.00	8.05
10.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.059	0.000	7.442	0.00	2.60
15.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.060	0.000	7.442	0.00	16.10
15.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.060	0.000	7.442	0.00	8.05
15.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.060	0.000	7.442	0.00	2.60
20.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.061	0.000	7.896	0.00	16.10
20.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.061	0.000	7.896	0.00	8.05
20.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.061	0.000	7.896	0.00	2.60
25.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.062	0.000	8.276	0.00	16.10
25.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.062	0.000	8.276	0.00	8.05
25.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.062	0.000	8.276	0.00	2.60
30.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.064	0.000	8.600	0.00	16.10
30.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.064	0.000	8.600	0.00	8.05
30.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.064	0.000	8.600	0.00	2.60
35.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.065	0.000	8.883	0.00	16.10
35.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.065	0.000	8.883	0.00	8.05
35.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.065	0.000	8.883	0.00	2.60
40.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.066	0.000	9.137	0.00	16.10
40.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.066	0.000	9.137	0.00	8.05
40.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.066	0.000	9.137	0.00	2.60
45.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.068	0.000	9.366	0.00	16.10
45.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.068	0.000	9.366	0.00	8.05
45.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.068	0.000	9.366	0.00	2.60
45.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.068	0.000	9.384	0.00	1.34
45.42	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.068	0.000	9.384	0.00	0.67
45.42	7/8" Coax	Yes	0.42	0.000	0.52	0.02	0.00	0.068	0.000	9.384	0.00	0.22
48.90	2" Conduit	Yes	3.48	0.000	0.00	0.00	0.00	0.069	0.000	9.531	0.00	11.22
48.90	3" Conduit	Yes	3.48	0.000	3.00	0.87	0.00	0.069	0.000	9.531	0.00	5.61
48.90	7/8" Coax	Yes	3.48	0.000	0.52	0.15	0.00	0.069	0.000	9.531	0.00	1.81
50.00	2" Conduit	Yes	1.10	0.000	0.00	0.00	0.00	0.070	0.000	9.576	0.00	3.54
50.00	3" Conduit	Yes	1.10	0.000	3.00	0.28	0.00	0.070	0.000	9.576	0.00	1.77
50.00	7/8" Coax	Yes	1.10	0.000	0.52	0.05	0.00	0.070	0.000	9.576	0.00	0.57
52.75	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.070	0.000	9.685	0.00	8.86
52.75	3" Conduit	Yes	2.75	0.000	3.00	0.69	0.00	0.070	0.000	9.685	0.00	4.43
52.75	7/8" Coax	Yes	2.75	0.000	0.52	0.12	0.00	0.070	0.000	9.685	0.00	1.43
55.00	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.069	0.000	9.770	0.00	7.25
55.00	3" Conduit	Yes	2.25	0.000	3.00	0.56	0.00	0.069	0.000	9.770	0.00	3.62
55.00	7/8" Coax	Yes	2.25	0.000	0.52	0.10	0.00	0.069	0.000	9.770	0.00	1.17
57.15	2" Conduit	Yes	2.15	0.000	0.00	0.00	0.00	0.070	0.000	9.850	0.00	6.92
57.15	3" Conduit	Yes	2.15	0.000	3.00	0.54	0.00	0.070	0.000	9.850	0.00	3.46
57.15	7/8" Coax	Yes	2.15	0.000	0.52	0.09	0.00	0.070	0.000	9.850	0.00	1.12
60.00	2" Conduit	Yes	2.85	0.000	0.00	0.00	0.00	0.071	0.000	9.951	0.00	9.18
60.00	3" Conduit	Yes	2.85	0.000	3.00	0.71	0.00	0.071	0.000	9.951	0.00	4.59

Linear Appurtenance Segment Forces (Factored)

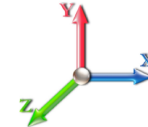
Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.00	7/8" Coax	Yes	2.85	0.000	0.52	0.12	0.00	0.071	0.000	9.951	0.00	1.48
65.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.072	0.000	10.120	0.00	16.10
65.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.072	0.000	10.120	0.00	8.05
65.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.072	0.000	10.120	0.00	2.60
70.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.074	0.000	10.279	0.00	16.10
70.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.074	0.000	10.279	0.00	8.05
70.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.074	0.000	10.279	0.00	2.60
75.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.075	0.000	10.430	0.00	16.10
75.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.075	0.000	10.430	0.00	8.05
75.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.075	0.000	10.430	0.00	2.60
80.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.077	0.000	10.572	0.00	16.10
80.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.077	0.000	10.572	0.00	8.05
80.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.077	0.000	10.572	0.00	2.60
84.00	2" Conduit	Yes	4.00	0.000	0.00	0.00	0.00	0.079	0.000	10.681	0.00	12.88
84.00	3" Conduit	Yes	4.00	0.000	3.00	1.00	0.00	0.079	0.000	10.681	0.00	6.44
84.00	7/8" Coax	Yes	4.00	0.000	0.52	0.17	0.00	0.079	0.000	10.681	0.00	2.08
85.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.080	0.000	10.708	0.00	3.22
85.00	3" Conduit	Yes	1.00	0.000	3.00	0.25	0.00	0.080	0.000	10.708	0.00	1.61
85.00	7/8" Coax	Yes	1.00	0.000	0.52	0.04	0.00	0.080	0.000	10.708	0.00	0.52
87.00	2" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	10.761	0.00	6.44
87.00	3" Conduit	Yes	2.00	0.000	3.00	0.50	0.00	0.080	0.000	10.761	0.00	3.22
87.00	7/8" Coax	Yes	2.00	0.000	0.52	0.09	0.00	0.080	0.000	10.761	0.00	1.04
90.00	2" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.081	0.000	10.838	0.00	9.66
90.00	3" Conduit	Yes	3.00	0.000	3.00	0.75	0.00	0.081	0.000	10.838	0.00	4.83
90.00	7/8" Coax	Yes	3.00	0.000	0.52	0.13	0.00	0.081	0.000	10.838	0.00	1.56
90.42	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.082	0.000	10.848	0.00	1.34
90.42	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.082	0.000	10.848	0.00	0.67
90.42	7/8" Coax	Yes	0.42	0.000	0.52	0.02	0.00	0.082	0.000	10.848	0.00	0.22
95.00	2" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.082	0.000	10.962	0.00	14.76
95.00	3" Conduit	Yes	4.58	0.000	3.00	1.15	0.00	0.082	0.000	10.962	0.00	7.38
95.00	7/8" Coax	Yes	4.58	0.000	0.52	0.20	0.00	0.082	0.000	10.962	0.00	2.38
100.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.084	0.000	11.081	0.00	16.10
100.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.084	0.000	11.081	0.00	8.05
100.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.084	0.000	11.081	0.00	2.60
105.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.086	0.000	11.195	0.00	16.10
105.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.086	0.000	11.195	0.00	8.05
105.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.086	0.000	11.195	0.00	2.60
109.50	2" Conduit	Yes	4.50	0.000	0.00	0.00	0.00	0.088	0.000	11.294	0.00	14.49
109.50	3" Conduit	Yes	4.50	0.000	3.00	1.13	0.00	0.088	0.000	11.294	0.00	7.25
109.50	7/8" Coax	Yes	4.50	0.000	0.52	0.20	0.00	0.088	0.000	11.294	0.00	2.34
110.00	2" Conduit	Yes	0.50	0.000	0.00	0.00	0.00	0.089	0.000	11.305	0.00	1.61
110.00	3" Conduit	Yes	0.50	0.000	3.00	0.13	0.00	0.089	0.000	11.305	0.00	0.81
110.00	7/8" Coax	Yes	0.50	0.000	0.52	0.02	0.00	0.089	0.000	11.305	0.00	0.26
112.25	2" Conduit	Yes	2.25	0.000	0.00	0.00	0.00	0.090	0.000	11.354	0.00	7.25
112.25	3" Conduit	Yes	2.25	0.000	3.00	0.56	0.00	0.090	0.000	11.354	0.00	3.62
112.25	7/8" Coax	Yes	2.25	0.000	0.52	0.10	0.00	0.090	0.000	11.354	0.00	1.17
115.00	2" Conduit	Yes	2.75	0.000	0.00	0.00	0.00	0.091	0.000	11.412	0.00	8.86

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



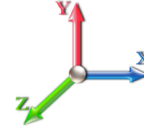
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
115.00	3" Conduit	Yes	2.75	0.000	3.00	0.69	0.00	0.091	0.000	11.412	0.00	4.43
115.00	7/8" Coax	Yes	2.75	0.000	0.52	0.12	0.00	0.091	0.000	11.412	0.00	1.43
120.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.093	0.000	11.514	0.00	16.10
120.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.093	0.000	11.514	0.00	8.05
120.00	7/8" Coax	Yes	5.00	0.000	0.52	0.22	0.00	0.093	0.000	11.514	0.00	2.60
123.58	2" Conduit	Yes	3.58	0.000	0.00	0.00	0.00	0.095	0.000	11.586	0.00	11.54
123.58	3" Conduit	Yes	3.58	0.000	3.00	0.90	0.00	0.095	0.000	11.586	0.00	5.77
123.58	7/8" Coax	Yes	3.58	0.000	0.52	0.16	0.00	0.095	0.000	11.586	0.00	1.86
125.00	2" Conduit	Yes	1.42	0.000	0.00	0.00	0.00	0.097	0.000	11.614	0.00	4.56
125.00	3" Conduit	Yes	1.42	0.000	3.00	0.35	0.00	0.097	0.000	11.614	0.00	2.28
125.00	7/8" Coax	Yes	1.42	0.000	0.52	0.06	0.00	0.097	0.000	11.614	0.00	0.74
125.60	2" Conduit	Yes	0.60	0.000	0.00	0.00	0.00	0.097	0.000	11.625	0.00	1.93
125.60	3" Conduit	Yes	0.60	0.000	3.00	0.15	0.00	0.097	0.000	11.625	0.00	0.97
125.60	7/8" Coax	Yes	0.60	0.000	0.52	0.03	0.00	0.097	0.000	11.625	0.00	0.31
129.00	2" Conduit	Yes	3.40	0.000	0.00	0.00	0.00	0.099	0.000	11.691	0.00	10.95
129.00	3" Conduit	Yes	3.40	0.000	3.00	0.85	0.00	0.099	0.000	11.691	0.00	5.47
129.00	7/8" Coax	Yes	3.40	0.000	0.52	0.15	0.00	0.099	0.000	11.691	0.00	1.77
130.00	2" Conduit	Yes	1.00	0.000	0.00	0.00	0.00	0.098	0.000	11.710	0.00	3.22
130.00	3" Conduit	Yes	1.00	0.000	3.00	0.25	0.00	0.098	0.000	11.710	0.00	1.61
130.00	7/8" Coax	Yes	1.00	0.000	0.52	0.04	0.00	0.098	0.000	11.710	0.00	0.52
135.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.085	0.000	11.803	0.00	16.10
135.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.085	0.000	11.803	0.00	8.05
136.26	2" Conduit	Yes	1.26	0.000	0.00	0.00	0.00	0.087	0.000	11.827	0.00	4.06
136.26	3" Conduit	Yes	1.26	0.000	3.00	0.31	0.00	0.087	0.000	11.827	0.00	2.03
140.00	2" Conduit	Yes	3.74	0.000	0.00	0.00	0.00	0.088	0.000	11.894	0.00	12.04
140.00	3" Conduit	Yes	3.74	0.000	3.00	0.94	0.00	0.088	0.000	11.894	0.00	6.02
145.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.091	0.000	11.982	0.00	16.10
145.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.091	0.000	11.982	0.00	8.05
150.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	12.068	0.00	16.10
150.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.094	0.000	12.068	0.00	8.05
155.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.097	0.000	12.152	0.00	16.10
155.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.097	0.000	12.152	0.00	8.05
160.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.101	1.002	12.233	0.00	16.10
160.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.101	1.002	12.233	0.00	8.05
161.50	2" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.103	1.009	12.257	0.00	4.83
161.50	3" Conduit	Yes	1.50	0.000	3.00	0.38	0.00	0.103	1.009	12.257	0.00	2.42
165.00	2" Conduit	Yes	3.50	0.000	0.00	0.00	0.00	0.105	1.015	12.313	0.00	11.27
165.00	3" Conduit	Yes	3.50	0.000	3.00	0.88	0.00	0.105	1.015	12.313	0.00	5.64
165.25	2" Conduit	Yes	0.25	0.000	0.00	0.00	0.00	0.106	1.019	12.317	0.00	0.81
165.25	3" Conduit	Yes	0.25	0.000	3.00	0.06	0.00	0.106	1.019	12.317	0.00	0.40
169.58	2" Conduit	Yes	4.33	0.000	0.00	0.00	0.00	0.108	1.025	12.384	0.00	13.95
169.58	3" Conduit	Yes	4.33	0.000	3.00	1.08	0.00	0.108	1.025	12.384	0.00	6.98
170.00	2" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.109	1.027	12.390	0.00	1.34
170.00	3" Conduit	Yes	0.42	0.000	3.00	0.10	0.00	0.109	1.027	12.390	0.00	0.67
175.00	2" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.034	12.466	0.00	16.10
175.00	3" Conduit	Yes	5.00	0.000	3.00	1.25	0.00	0.111	1.034	12.466	0.00	8.05

Linear Appurtenance Segment Forces (Factored)

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

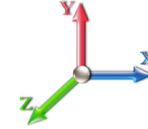


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
Totals:											0.0	912.9

Calculated Forces

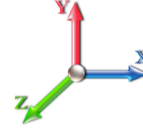
Structure: CT46138-A-SBA **Code:** TIA-222-G 4/29/2022
Site Name: Torrington/Oandg Ind Inc **Exposure:** C
Height: 196.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 64



Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-69.23	-13.10	0.00	-1845.6	0.00	1845.68	8794.96	4397.48	21496.0	10671.5	0.00	0.000	0.000	0.181
5.00	-66.95	-13.00	0.00	-1780.2	0.00	1780.20	8639.43	4319.71	20738.5	10295.5	0.03	-0.049	0.000	0.181
10.00	-64.71	-12.90	0.00	-1715.2	0.00	1715.21	8483.89	4241.95	19994.7	9926.22	0.10	-0.099	0.000	0.180
15.00	-62.51	-12.80	0.00	-1650.7	0.00	1650.72	8328.36	4164.18	19264.4	9563.67	0.23	-0.149	0.000	0.180
20.00	-60.35	-12.69	0.00	-1586.7	0.00	1586.72	8172.83	4086.41	18547.7	9207.87	0.42	-0.201	0.000	0.180
25.00	-58.21	-12.58	0.00	-1523.2	0.00	1523.26	8017.29	4008.65	17844.6	8858.82	0.66	-0.253	0.000	0.179
30.00	-56.12	-12.46	0.00	-1460.3	0.00	1460.38	7861.76	3930.88	17155.1	8516.51	0.95	-0.306	0.000	0.179
35.00	-54.06	-12.33	0.00	-1398.1	0.00	1398.10	7706.22	3853.11	16479.1	8180.95	1.30	-0.360	0.000	0.178
40.00	-52.03	-12.20	0.00	-1336.4	0.00	1336.45	7550.69	3775.35	15816.8	7852.13	1.71	-0.415	0.000	0.177
45.00	-50.05	-12.04	0.00	-1275.4	0.00	1275.45	7395.16	3697.58	15168.0	7530.06	2.17	-0.471	0.000	0.176
45.42	-49.88	-12.05	0.00	-1270.4	0.00	1270.43	7382.20	3691.10	15114.6	7503.52	2.21	-0.475	0.000	0.176
48.90	-47.57	-11.93	0.00	-1228.4	0.00	1228.47	7273.84	3636.92	14671.4	7283.52	2.57	-0.515	0.000	0.117
50.00	-46.84	-11.90	0.00	-1215.3	0.00	1215.35	7239.62	3619.81	14532.8	7214.73	2.69	-0.524	0.000	0.117
52.75	-45.04	-11.80	0.00	-1182.6	0.00	1182.64	5810.43	2905.21	11825.7	5870.80	3.00	-0.545	0.000	0.119
55.00	-44.32	-11.73	0.00	-1156.0	0.00	1156.08	5769.82	2884.91	11629.7	5773.48	3.26	-0.562	0.000	0.130
57.15	-43.63	-11.67	0.00	-1130.8	0.00	1130.86	5730.75	2865.38	11443.3	5680.95	3.52	-0.581	0.000	0.129
57.15	-43.63	-11.67	0.00	-1130.8	0.00	1130.86	5730.75	2865.38	11443.3	5680.95	3.52	-0.581	0.000	0.129
60.00	-42.73	-11.60	0.00	-1097.6	0.00	1097.61	5678.55	2839.28	11197.7	5559.03	3.87	-0.605	0.000	0.205
65.00	-41.16	-11.46	0.00	-1039.6	0.00	1039.63	5551.73	2775.86	10705.1	5314.51	4.54	-0.674	0.000	0.203
70.00	-39.63	-11.32	0.00	-982.33	0.00	982.33	5427.30	2713.65	10228.2	5077.73	5.29	-0.743	0.000	0.201
75.00	-38.12	-11.18	0.00	-925.73	0.00	925.73	5302.88	2651.44	9762.15	4846.34	6.10	-0.813	0.000	0.198
80.00	-36.65	-11.03	0.00	-869.84	0.00	869.84	5178.45	2589.22	9306.93	4620.35	6.99	-0.884	0.000	0.195
84.00	-35.49	-10.91	0.00	-825.71	0.00	825.71	5078.91	2539.45	8950.59	4443.45	7.76	-0.942	0.000	0.193
85.00	-35.02	-10.88	0.00	-814.80	0.00	814.80	5054.02	2527.01	8862.59	4399.76	7.96	-0.956	0.000	0.192
87.00	-34.10	-10.81	0.00	-793.04	0.00	793.04	5004.25	2502.13	8687.89	4313.04	8.37	-0.986	0.000	0.115
90.00	-32.73	-10.70	0.00	-760.61	0.00	760.61	4929.59	2464.80	8429.11	4184.57	8.99	-1.012	0.000	0.113
90.42	-32.54	-10.70	0.00	-756.15	0.00	756.15	3591.78	1795.89	6277.53	3116.43	9.08	-1.016	0.000	0.121
95.00	-31.51	-10.55	0.00	-707.13	0.00	707.13	3535.98	1767.99	6038.44	2997.74	10.08	-1.055	0.000	0.132
100.00	-30.33	-10.30	0.00	-654.37	0.00	654.37	3473.75	1736.87	5780.45	2869.66	11.21	-1.104	0.000	0.126
105.00	-29.25	-10.15	0.00	-602.86	0.00	602.86	3410.09	1705.04	5525.58	2743.13	12.39	-1.152	0.000	0.120
109.50	-27.85	-9.60	0.00	-555.32	0.00	555.32	3351.58	1675.79	5299.03	2630.66	13.50	-1.194	0.000	0.114
110.00	-27.75	-9.59	0.00	-550.52	0.00	550.52	3345.00	1672.50	5274.03	2618.25	13.62	-1.199	0.000	0.113
112.25	-27.28	-9.52	0.00	-528.94	0.00	528.94	3315.25	1657.63	5161.96	2562.62	14.19	-1.220	0.000	0.110
112.25	-27.28	-9.52	0.00	-528.94	0.00	528.94	3315.25	1657.63	5161.96	2562.62	14.19	-1.220	0.000	0.110
115.00	-26.71	-9.46	0.00	-502.75	0.00	502.75	3278.49	1639.25	5025.98	2495.11	14.90	-1.245	0.000	0.210
120.00	-25.69	-9.32	0.00	-455.47	0.00	455.47	3210.56	1605.28	4781.62	2373.80	16.25	-1.333	0.000	0.200
123.58	-24.98	-9.21	0.00	-422.09	0.00	422.09	3148.16	1574.08	4590.15	2278.75	17.28	-1.395	0.000	0.193
125.00	-24.54	-9.17	0.00	-409.04	0.00	409.04	3121.72	1560.86	4512.97	2240.43	17.69	-1.420	0.000	0.190
125.60	-24.36	-9.16	0.00	-403.54	0.00	403.54	3110.52	1555.26	4480.48	2224.30	17.87	-1.431	0.000	0.107
129.00	-23.33	-9.04	0.00	-372.41	0.00	372.41	2149.47	1074.74	3099.22	1538.58	18.90	-1.463	0.000	0.112
130.00	-23.12	-8.98	0.00	-363.33	0.00	363.33	2141.27	1070.63	3068.69	1523.43	19.21	-1.473	0.000	0.125
135.00	-22.34	-8.83	0.00	-318.42	0.00	318.42	2099.38	1049.69	2916.97	1448.11	20.78	-1.524	0.000	0.113
136.26	-22.14	-8.80	0.00	-307.30	0.00	307.30	2088.60	1044.30	2879.00	1429.26	21.19	-1.536	0.000	0.110
136.26	-22.14	-8.80	0.00	-307.30	0.00	307.30	2088.60	1044.30	2879.00	1429.26	21.19	-1.536	0.000	0.110
140.00	-21.56	-8.71	0.00	-274.38	0.00	274.38	2056.07	1028.04	2766.99	1373.65	22.40	-1.572	0.000	0.210
145.00	-18.47	-7.64	0.00	-230.86	0.00	230.86	2011.34	1005.67	2618.95	1300.16	24.10	-1.663	0.000	0.187
150.00	-17.74	-7.51	0.00	-192.64	0.00	192.64	1965.18	982.59	2473.01	1227.71	25.89	-1.748	0.000	0.166
155.00	-14.31	-6.04	0.00	-155.07	0.00	155.07	1917.59	958.80	2329.38	1156.40	27.76	-1.824	0.000	0.142

Calculated Forces

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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160.00	-13.67	-5.91	0.00	-124.86	0.00	124.86	1868.58	934.29	2188.24	1086.34	29.71	-1.893	0.000	0.122
161.50	-12.00	-5.52	0.00	-116.00	0.00	116.00	1853.60	926.80	2146.41	1065.57	30.31	-1.913	0.000	0.115
165.00	-11.57	-5.43	0.00	-96.67	0.00	96.67	1818.15	909.07	2049.77	1017.59	31.73	-1.955	0.000	0.101
165.25	-11.54	-5.43	0.00	-95.31	0.00	95.31	1815.59	907.79	2042.92	1014.19	31.83	-1.958	0.000	0.100
169.58	-10.78	-5.30	0.00	-71.80	0.00	71.80	1040.26	520.13	1155.41	573.59	33.63	-2.002	0.000	0.136
170.00	-10.74	-5.29	0.00	-69.59	0.00	69.59	1038.39	519.19	1149.55	570.68	33.80	-2.006	0.000	0.132
175.00	-6.81	-3.35	0.00	-43.12	0.00	43.12	1015.17	507.59	1079.51	535.91	35.93	-2.061	0.000	0.087
180.00	-6.46	-3.23	0.00	-26.37	0.00	26.37	990.53	495.27	1010.05	501.43	38.11	-2.100	0.000	0.059
185.00	-3.00	-1.46	0.00	-10.22	0.00	10.22	964.47	482.24	941.35	467.32	40.33	-2.123	0.000	0.025
187.00	-2.79	-1.26	0.00	-5.93	0.00	5.93	953.65	476.82	914.12	453.81	41.22	-2.128	0.000	0.016
190.00	-2.62	-1.19	0.00	-2.16	0.00	2.16	936.98	468.49	873.60	433.69	42.56	-2.131	0.000	0.008
191.50	-0.20	-0.10	0.00	-0.38	0.00	0.38	928.46	464.23	853.48	423.70	43.23	-2.132	0.000	0.001
195.00	-0.05	-0.03	0.00	-0.03	0.00	0.03	908.07	454.03	806.98	400.62	44.79	-2.132	0.000	0.000
196.00	0.00	-0.02	0.00	0.00	0.00	0.00	902.11	451.06	793.81	394.08	45.23	-2.132	0.000	0.000

Final Analysis Summary

Structure: CT46138-A-SBA	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	50.4	0.00	82.99	0.00	0.00	7146.48
0.9D + 1.6W 93 mph Wind	50.3	0.00	62.23	0.00	0.00	7044.39
1.2D + 1.0Di + 1.0Wi 50 mph Wind	15.0	0.00	124.08	0.00	0.00	2196.97
1.2D + 1.0E	2.7	0.00	83.08	0.00	0.00	371.45
0.9D + 1.0E	2.7	0.00	62.31	0.00	0.00	365.83
1.0D + 1.0W 60 mph Wind	13.1	0.00	69.23	0.00	0.00	1845.68

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-29.20	-36.71	0.00	-1950.2	0.00	-1950.2	3278.49	1639.2	5025.98	2495.11	115.00	0.791
0.9D + 1.6W 93 mph Wind	-21.22	-35.97	0.00	-1906.9	0.00	-1906.9	3278.49	1639.2	5025.98	2495.11	115.00	0.771
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-49.75	-10.50	0.00	-334.05	0.00	-334.05	2056.07	1028.0	2766.99	1373.65	140.00	0.267
1.2D + 1.0E	-26.15	-1.79	0.00	-76.88	0.00	-76.88	2056.07	1028.0	2766.99	1373.65	140.00	0.069
0.9D + 1.0E	-19.61	-1.75	0.00	-75.38	0.00	-75.38	2056.07	1028.0	2766.99	1373.65	140.00	0.064
1.0D + 1.0W 60 mph Wind	-21.56	-8.71	0.00	-274.38	0.00	-274.38	2056.07	1028.0	2766.99	1373.65	140.00	0.210

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max 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
48.9	57.1	(4) PLT-7.25x1.5(31mm Hole)	335.8	0.00	37.1	362.8	37.1	10	14	391.2	37.1	11	13	393.89	489.4	436.34	0.903
87.0	112.3	(4) PLT-6.5x1.5(31mm Hole)	451.0	0.00	37.1	322.4	37.1	9	12	299.3	37.1	9	11	348.24	438.8	381.49	0.913
125.6	136.3	(4) PLT-4.75x1.5(31mm Hole)	493.8	11.85	37.1	217.8	37.1	6	8	206.7	37.1	6	7	230.83	303.1	253.52	0.910

Base Plate Summary

Structure: CT46138-A-SB	Code: TIA-222-G	4/29/2022
Site Name: Torrington/Oandg Ind Inc	Exposure: C	
Height: 196.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 45.00	Bolt Circle: 67.68
Moment (kip-ft): 5499.00	Width (in): 73.67	Number Bolts: 28.00
Axial (kip): 55.74	Style: Polygon	Bolt Type: 2.25" 18J
Shear (kip): 40.77	Polygon Sides: 16.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 7146.48	Effective Len (in): 10.91	Ultimate (ksi): 100.00
Axial (kip): 82.99	Moment (kip-in): 712.11	Arrangement: Radial
Shear (kip): 50.37	Allow Stress (ksi): 60.75	Cluster Dist (in): 0.00
	Applied Stress (ksi): 43.74	Start Angle (deg): 0.00
	Stress Ratio: 0.72	Compression
		Force (kip): 185.45
		Allowable (kip): 260.00
		Ratio: 0.73
		Tension
		Force (kip): 176.58
		Allowable (kip): 260.00
		Ratio: 0.69



Monopole Mat Foundation Design

Date

9/28/2021

Customer Name:		EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	196
Site Number:	CT46138-A-SBA	Engineer Name:	J. Tibbetts
Engr. Number:		Engineer Login ID:	

Foundation Info Obtained from:

Mapping Operation
Monopole
Analysis

Structure Type:

Analysis or Design?

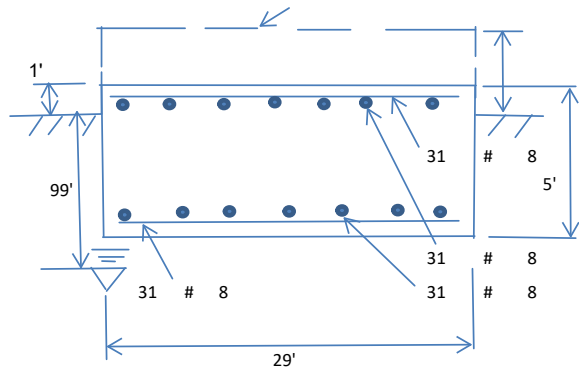
Base Reactions (Factored):

Axial Load (Kips):	83.0	Shear Force (Kips):	50.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	7146.5

Allowable overstress %: 5.0%

Foundation Geometries:

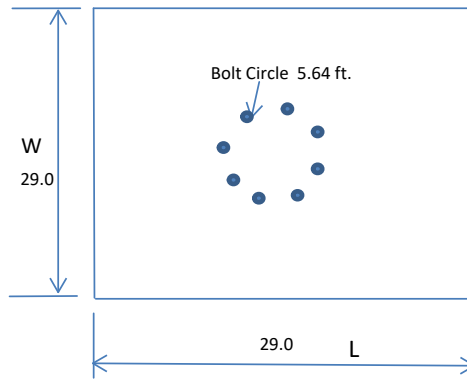
Anchor Bolt Circle (ft.):	5.64	Mods required -Yes/No ?:	No
Thickness of Pad (ft):	5.00	Depth of Base BG (ft.):	4.00
Length of Pad (ft.):	29	Width of Pad (ft.):	29
	1		1
Final Length of pad (ft)	29.0	Final width of pad (ft):	29.0



Material Properties and Rebar 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):	31	Qty. of Rebar in Pad (W):	31	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	31	Qty. of Rebar in Pad (W):	31	

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):	12000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	4205.00	Total Dry Concrete Weight (Kips):	630.75
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	630.75	Total Vertical Load on Base (Kips):	713.74

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	4023	<	Allowable Factored Soil Bearing (psf):	9000	0.45	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	9434.6	>	Design Factored Momnt (kips-ft):	7401	0.78	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.27					OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1615.4	>	One-Way Factored Shear (L-D. Kips):	437.7	0.27	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1615.4	>	One-Way Factored Shear (W-D., Kips)	437.7	0.27	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1942.5	>	One-Way Factored Shear (C-C, Kips):	910.0	0.47	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0012	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0012		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	6135.3	>	Moment at Bottom (L-Direct, K-Ft):	1471.1	0.24	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	6135.3	>	Moment at Bottom (W-Direct, K-Ft):	1471.1	0.24	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	8654.0	>	Moment at Bottom (C-C Dir, K-Ft):	2080.5	0.24	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0012	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0012		
Upper Steel Pad Moment Capacity (L-Direction, Kips-ft):	6135.3	>	Moment at the top (L-Dir Kips-Ft):	635.3	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direction, Kips-ft):	6135.3	>	Moment at the top (W-Dir Kips-Ft):	635.3	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	8654.0	>	Moment at the top (C-C Direc, K-Ft):	1039.8	0.12	OK!

Exhibit E

Mount Analysis



Tower Engineering Solutions

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

Antenna Mount Analysis Report

Existing Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT46138-A-SBA

Customer Site Name: Torrington/Oandg Ind Inc

Carrier Name: T-Mobile (App#: 194679, V1)

Carrier Site ID / Name: CTNH402A / Litchfield SSUSA

Site Location: 350 Burr Mountain Road

Torrington, Connecticut

Litchfield County

Latitude: 41.873255

Longitude: -73.088405

Analysis Result:

Max Structural Usage: 81.9% [Pass]

Report Prepared By : Andrew Weissenberger



Introduction

The purpose of this report is to summarize the analysis results on the (3) T-arms w/support rail kit & v-brace kit at 155.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount mapping provided by Full Metal Tower Services, dated 04/27/2019
Antenna Loading	SBA, Application #: 194679, v1, dated 04/26/2022
Modification Drawings	N/A

Analysis Criteria

Basic Wind Speed Used in the Analysis: $V_{ULT} = 120$ mph (3-Sec. Gust) / Equivalent to
 $V_{ASD} = 93$ mph (3-Sec. Gust)

Basic Wind Speed with Ice: 40 mph (3-Sec. Gust) with 1" radial ice concurrent

Operational Wind Speed: 30 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G / 2015 IBC

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

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

Mount Information

(3) T-arms w/support rail kit & v-brace kit at 155.00' elevation

Final Antenna Configuration

3	RFS APXVAARR24_43-U-NA20
3	Ericsson AIR6419 B41
3	Commscope VV-65A-R1
3	Ericsson KRY 112 144/1
3	Ericsson 4449 B71 + B85
3	Ericsson 4460 B25+B66

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 81.9%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.


Attachments

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

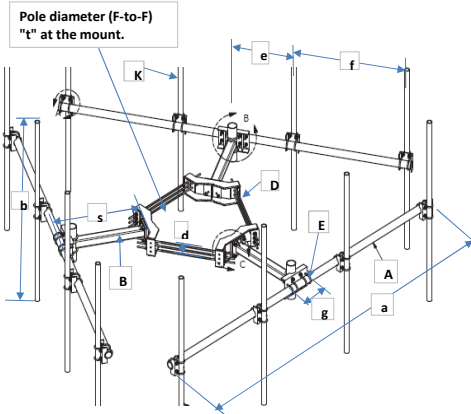
Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.
2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.
4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.
6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.
7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.
8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



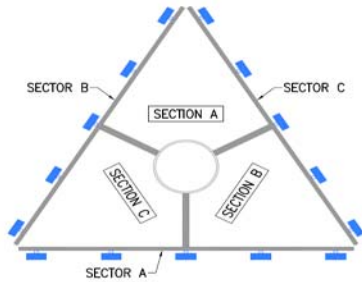
	Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)			FCC #
				1270235
Tower Owner:	SBA Communications	Mapping Date:	4/27/19	
Site Name:	Torrington/Oandg Ind. Inc	Structure Type:	Monopole	
Site Number or ID:	CT46138-A-SBA	Structure Height (Ft.):	195	
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	152.4	

This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.

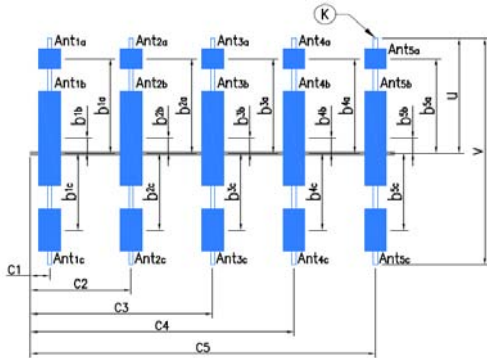


Geometries (Unit: inches)									
a	151	e	7	j		o		s	48
b	72	f	39	k		p		t	25
c		g	9.5	m		q		u*	46
d	6	h		n		r		v*	72

Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F				
B	Tubing 4x4x1/4	4	4	0.25	G				
C					H				
D	3/4" Bolt			24	J				
E	1/2" Bolt			U-Bolt	K* (pipe)	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									
Please enter the information below if members can't be found from the drop down lists									
Mount has additional reinforcement modification installed above original mount.									



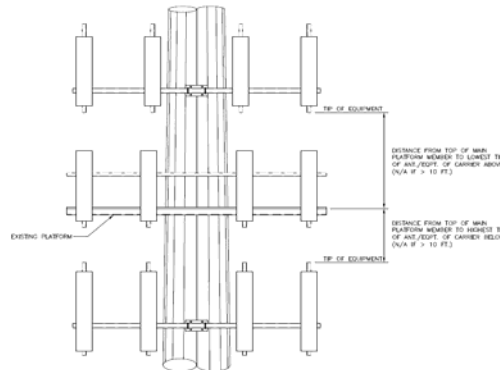
Ants. Items	Enter antenna model. If not labeled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b _{3a} , b _{2a} , b _{3b} , b _{1b} ..." (in.)	Horiz. offset (Use "..." if Ant. is inside)	Horiz. offset "C ₁ , C ₂ , C ₃ , C ₄ , C ₅ " (in.)	
Sector A									
Ant _{1a}								124	
Ant _{1b}	Antenna A	13	9	56	1/2" (2)	22	8		
Ant _{1c}	TMA A	6	3	8	1/2" (2)	12			
Ant _{2a}								66	
Ant _{2b}	Antenna B	12	7.5	96.5	1/2" (2)	9	7		
Ant _{2c}									
Ant _{3a}								40	
Ant _{3b}	Antenna C	12	8	56	1/2" (1)	22	7		
Ant _{3c}									
Ant _{4a}									
Ant _{4b}									
Ant _{4c}									
Ant _{5a}									
Ant _{5b}									
Ant _{5c}									
Are Ant same as sector A? Yes Antennas on Sector B are the same as Sector A									



Antenna Layout

Azimuth (Degree) of Each Sector and Climbing Information		
Sector A:	60°	Deg
Sector B:	180°	Deg
Sector C:	300°	Deg
Climbing:	150°	Deg
Climbing Facility	Corrosion Type:	Severe corrosion observed
	Access:	Climbing path was unobstructed.
	Condition:	N/A

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



Structure: CT46138-A-SBA - Torrington/Oandg Ind Inc

Sector: **A**

4/26/2022

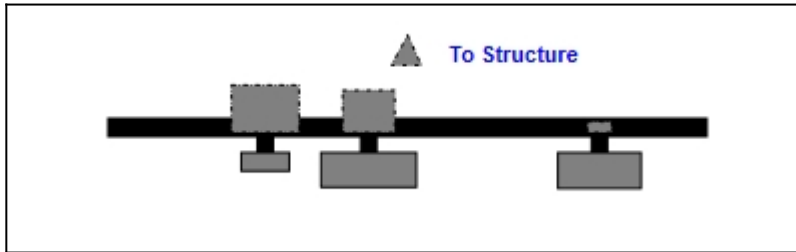


Structure Type: Monopole

Page: 1

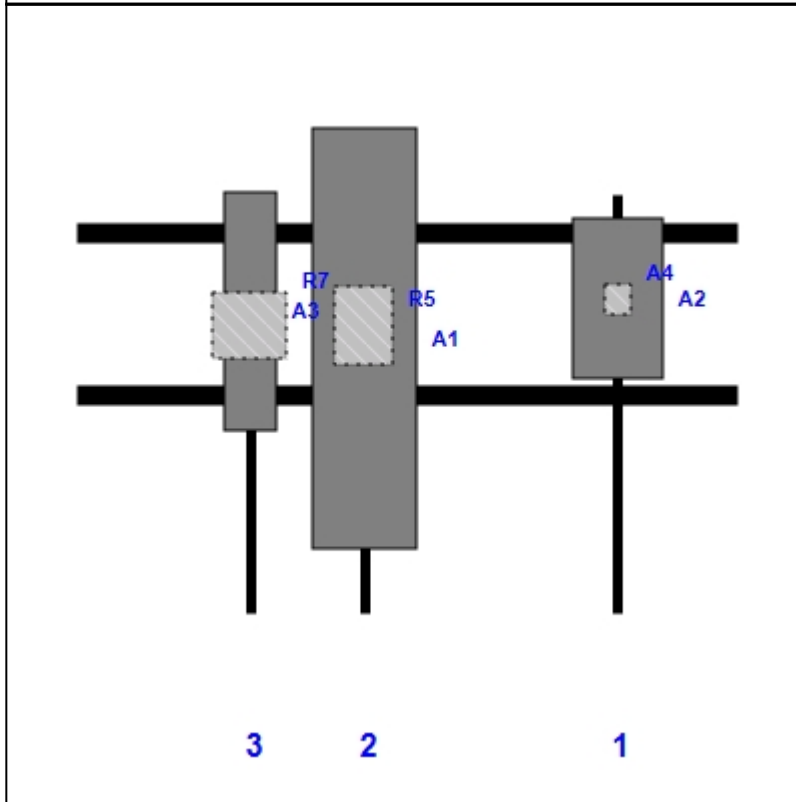
Mount Elev: 155.00

Plan View



Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	AIR6419 B41	36.30	20.90	124.00	1	a	Front	24.00		Added	
A4	KRY 112 144/1	6.90	6.10	124.00	1	a	Behind	24.00		Retained	
A1	APXVAARR24_43-U-NA20	95.90	24.00	66.00	2	a	Front	33.00		Retained	
R5	4449 B71 + B85	17.90	13.10	66.00	2	a	Behind	30.00		Retained	
A3	VV-65A-R1	54.72	12.08	40.00	3	a	Front	27.00		Added	
R7	4460 B25+B66	15.10	17.00	40.00	3	a	Behind	30.00		Added	

Structure: CT46138-A-SBA - Torrington/Oandg Ind Inc

Sector: **B**

4/26/2022

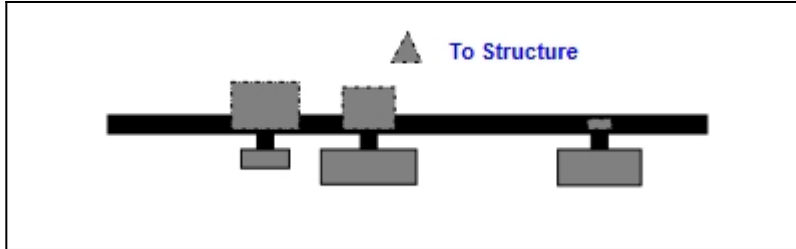
Structure Type: Monopole



Mount Elev: 155.00

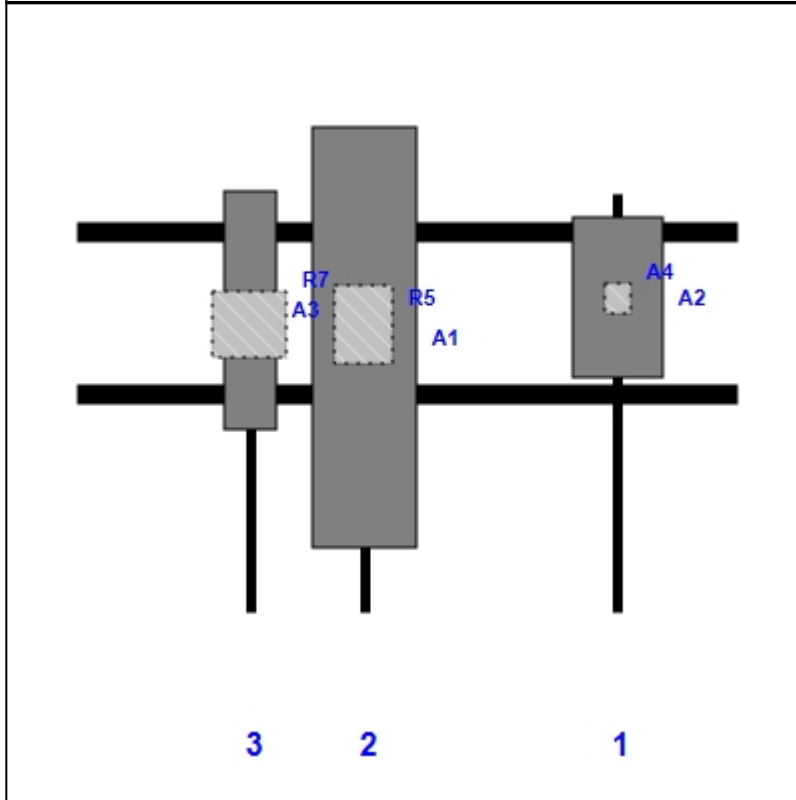
Page: 2

Plan View



Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	AIR6419 B41	36.30	20.90	124.00	1	a	Front	24.00		Added	
A4	KRY 112 144/1	6.90	6.10	124.00	1	a	Behind	24.00		Retained	
A1	APXVAARR24_43-U-NA20	95.90	24.00	66.00	2	a	Front	33.00		Retained	
R5	4449 B71 + B85	17.90	13.10	66.00	2	a	Behind	30.00		Retained	
A3	VV-65A-R1	54.72	12.08	40.00	3	a	Front	27.00		Added	
R7	4460 B25+B66	15.10	17.00	40.00	3	a	Behind	30.00		Added	

Structure: CT46138-A-SBA - Torrington/Oandg Ind Inc

Sector: **C**

4/26/2022

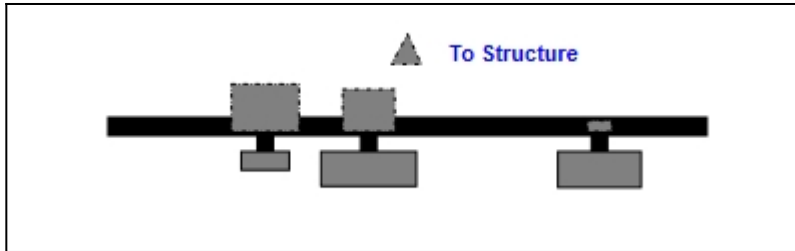
Structure Type: Monopole

Mount Elev: 155.00

Page: 3

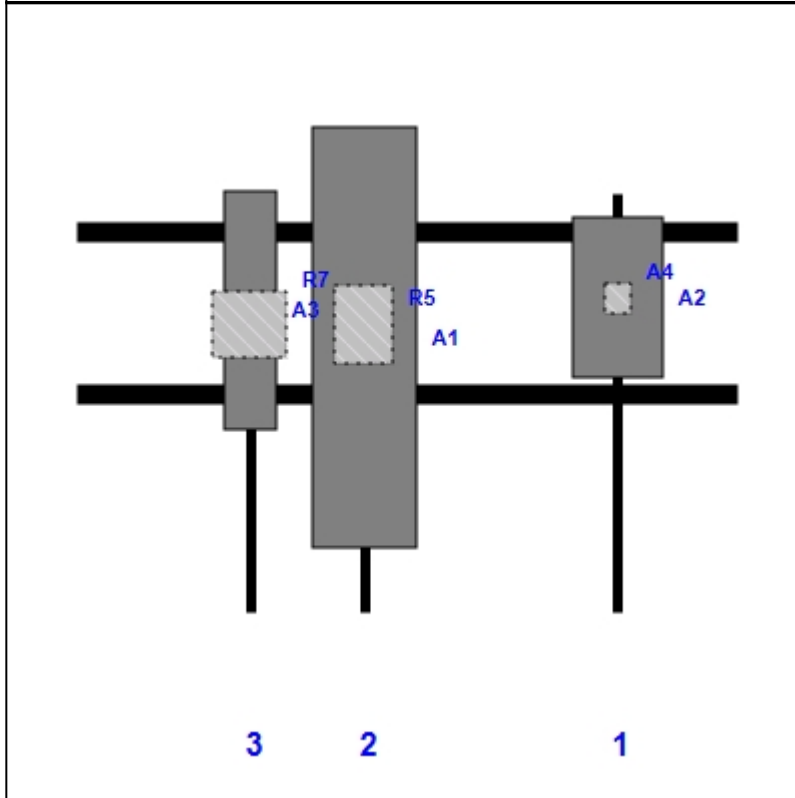


Plan View

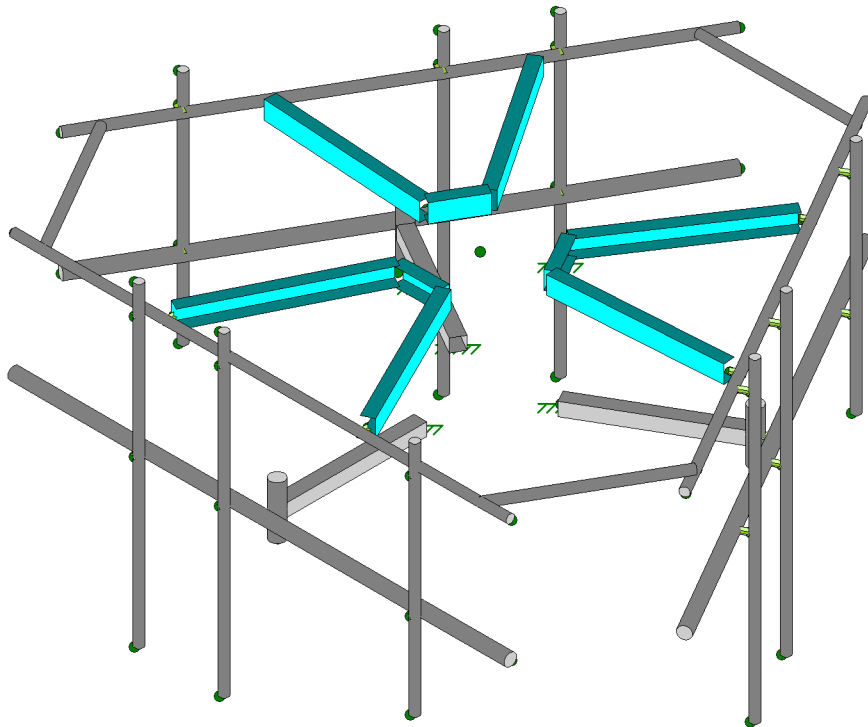
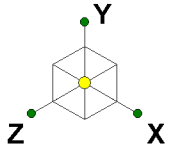


Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	AIR6419 B41	36.30	20.90	124.00	1	a	Front	24.00		Added	
A4	KRY 112 144/1	6.90	6.10	124.00	1	a	Behind	24.00		Retained	
A1	APXVAARR24_43-U-NA20	95.90	24.00	66.00	2	a	Front	33.00		Retained	
R5	4449 B71 + B85	17.90	13.10	66.00	2	a	Behind	30.00		Retained	
A3	VV-65A-R1	54.72	12.08	40.00	3	a	Front	27.00		Added	
R7	4460 B25+B66	15.10	17.00	40.00	3	a	Behind	30.00		Added	



Tower Engineering Solutio...

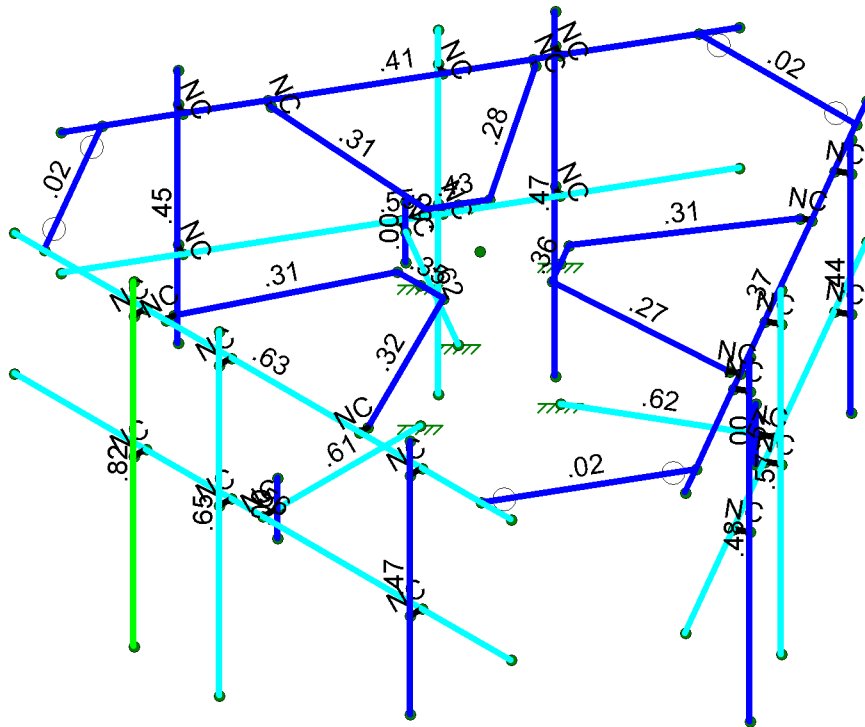
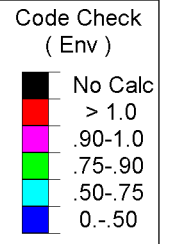
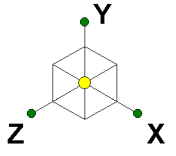
CT46138-A-SBA_MT_LO_Loads Only_G

SK - 1

Apr 26, 2022 at 4:08 PM

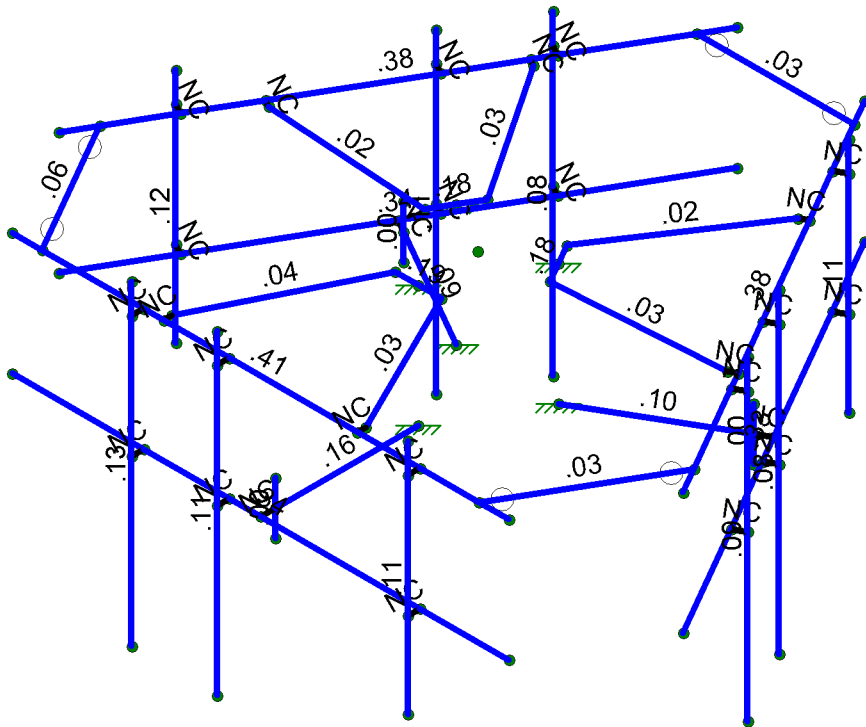
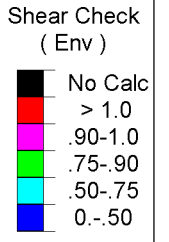
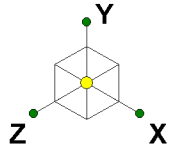
TES Project No. 128320

CT46138-A-SBA_128320_G_RISA_...



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

Tower Engineering Solutio...	CT46138-A-SBA_MT_LO_Loads Only_G	SK - 2
		Apr 26, 2022 at 4:08 PM
TES Project No. 128320		CT46138-A-SBA_128320_G_RISA_...



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

Tower Engineering Solutio...		SK - 3
	CT46138-A-SBA_MT_LO_Loads Only_G	Apr 26, 2022 at 4:08 PM
TES Project No. 128320		CT46138-A-SBA_128320_G_RISA_...

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A Ya Vyf 5 Xj Ub WX 8 UH

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G			{ a IÊÊÊ	G	Ġ ÊÊ F	I	ÊÊÊ	J	ÊÊÊ	I	ÊÊÊ	Í	ÊÊÊ	H	
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G			{ a ĠÊÊÊ	G	JÊÊ H	F	ÊÊÊ	J	ÊÊÊ	I	ÊÊÊ	H	ÊÊÊ	Í	
G		I	{ æ ÊÊÊ	FÊ	FÍÊÊÊ	H	FÍÊÊÊ	G	Ê	J	ÊÊÊ	F	ÊÊÊ	H	
G			{ a ÊÊÊ	Í	ÊÊÊ	I	ÊÊÊ	F	Ê	Í	ÊÊÊ	G	ÊÊÊ	I	
GJ		Í	{ æ Ê	Í	ÊÊÊ	Í	ÊÊÊ	Í	Ê	J	Ê	Í	Ê	FF	
HE			{ a Ê	J	ÊÊÊ	J	ÊÊÊ	I	Ê	Í	Ê	F	Ê	F	
HF	T ÚCE	F	{ æ Ê	Í	ÊÊÊ	J	ÊÊÊ	J	Ê	Í	Ê	Í	Ê	FF	
HG			{ a Ê	G	ÊÊÊ	I	ÊÊÊ	Í	Ê	J	Ê	G	Ê	F	
HH		G	{ æ ĠĠÊÊ	J	ÊÊÊ	H	ĠÊÊÊ	Í	ÊÊÊ	J	ÊÊÊ	Í	ÊÊÊ	Í	
H			{ a IÊÊÊ	FÊ	ÊÊÊÊÊ	J	ĠĠÊÊ	G	ÊÊÊ	F	ÊÊÊ	G	ÊÊÊ	J	
H		H	{ æ ÊÊÊ	J	GÍÊÊ	H	ĠĠÊÊ	G	Ê	Í	ÊÊÊ	F	ÊÊÊ	H	
H			{ a ÊÊÊ	Í	ÊÊÊ	I	ÊÊÊ	F	Ê	Í	ÊÊÊ	G	ÊÊÊ	I	
H		I	{ æ ÊÊÊ	J	GÊÊ	H	GÊÊ	G	Ê	Í	ÊÊÊ	F	ÊÊÊ	H	
H			{ a ÊÊÊ	Í	ÊÊÊ	I	ÊÊÊ	F	Ê	Í	ÊÊÊ	G	ÊÊÊ	I	
HJ		Í	{ æ Ê	Í	ÊÊÊ	I	ÊÊÊ	Í	Ê	Í	Ê	FF	Ê	FF	
I€			{ a Ê	G	ÊÊÊ	Í	ÊÊÊ	G	Ê	Í	Ê	F	Ê	F	
IF	T ÚCE	F	{ æ ÊÊÊ	J	ÊÊÊ	Í	ÊÊÊ	G	Ê	Í	Ê	J	Ê	FF	
IG			{ a Ê	G	ÊÊÊ	I	ÊÊÊ	Í	Ê	Í	Ê	G	Ê	F	
IH		G	{ æ FÊÊ	Í	ÊÊÊ	F	ĠĠÊÊ	Í	ÊÊ	J	ÊÊÊ	F	ÊÊÊ	J	
II			{ a ÊÊÊÊÊ	J	ÊÊÊ	J	ĠĠÊÊ	I	ÊÊÊ	Í	ÊÊÊ	J	ÊÊÊ	Í	
II		H	{ æ ÊÊÊ	J	ĠÊÊ	G	H	ĠÊÊ	G	Ê	Í	ÊÊÊ	F	ÊÊÊ	H
II			{ a ÊÊÊ	Í	ÊÊÊ	I	ÊÊÊ	F	Ê	Í	ÊÊÊ	G	ÊÊÊ	I	
II		I	{ æ ÊÊÊ	J	GÊÊ	H	GÊÊ	G	Ê	Í	ÊÊÊ	F	ÊÊÊ	H	
II			{ a ÊÊÊ	Í	ÊÊÊ	I	ÊÊÊ	F	Ê	Í	ÊÊÊ	G	ÊÊÊ	I	
IJ		Í	{ æ Ê	J	ÊÊÊ	I	ÊÊÊ	Í	Ê	Í	Ê	FF	Ê	FF	
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II			{ a ÊÊÊ	Í	ÊÊÊ	H	ÊÊÊ	F	Ê	F	ÊÊÊ	F	ÊÊÊ	I	
II		H	{ æ FÍÊÊ	Í	FHÊÊ	H	FHÊÊ	J	F	Ê	FF	ÊÊÊ	G	ÊÊÊ	H
II			{ a ĠÊÊ	F	ÊÊÊ	I	ÊÊÊ	G	Ê	F	ÊÊÊ	F	ÊÊÊ	I	
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II			{ a HÊÊ	F	ÊÊÊ	I	ÊÊÊ	G	Ê	F	ÊÊÊ	F	ÊÊÊ	I	
IJ		Í	{ æ Ê	FF	ÊÊÊ	I	ÊÊÊ	G	Ê	FF	Ê	FF	Ê	FF	
I€			{ a Ê	F	ÊÊÊ	J	ÊÊÊ	Í	Ê	F	Ê	F	Ê	F	
IF	T	F	{ æ FÍÊÊ	G	F	GÍÊÊ	Í	JÍÊÊ	J	ÊÊÊ	I	ÊÊÊ	J	ÊÊÊ	F
IG			{ a ÊÊÊ	G	ĠJÍÊÊ	H	ÊÊÊ	I	ÊÊÊ	J	ÊÊÊ	G	ÊÊÊ	G	
IH		G	{ æ FÍÊÊ	G	F	GÍÊÊ	Í	JÍÊÊ	J	ÊÊÊ	I	FÊÊ	J	ÊÊÊ	F
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9bj YcdYA Ya Vyf GYWjcb: cfWg f7 cb7pi YXL

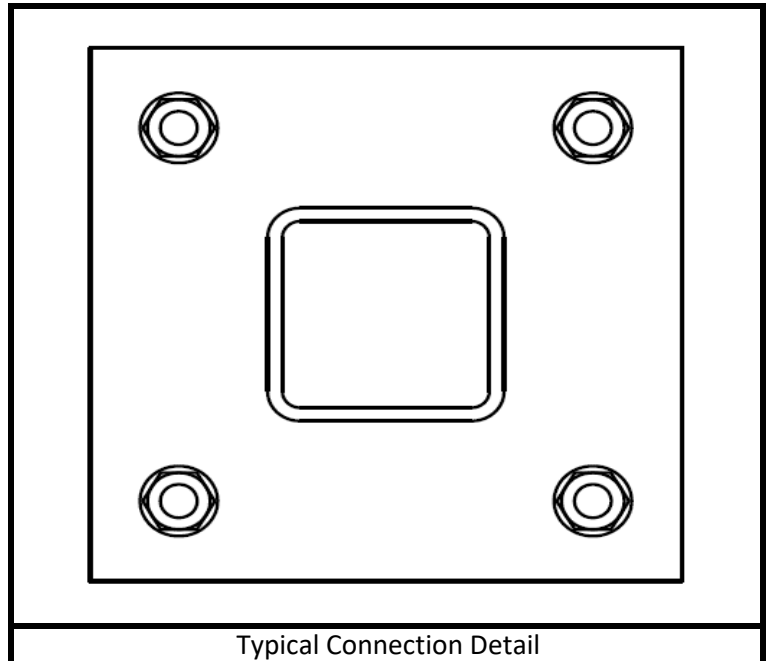
	T^ { }à!	Ù&	Çæ7aa	SÔ	^ÁU@æ7aa	SÔ	: ÁU@æ7aa	SÔ	V{ }ˆ^Z ÊÊ SÔ	^È Á{ } ^ÊÊ SÔ	: È Á{ } ^ÊÊ SÔ				
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î			{ a	ÊÊÊÊ H	G	Ê Ê ÊÊ	J	ÊÊ ÊÊ H	I	ÊÊ H	H	ÊÊ H	J	ÊÊ H	J
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î	TJ	F	{ æ	î JÊÊ	F	FG ÊÊ	í	î ÊÊ FJ	H	ÊÊ F	J	ÊÊ I	I	ÊÊ FG	F
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î		G	{ æ	î JÊÊ	F	FG ÊÊ	í	î ÊÊ FJ	H	ÊÊ F	J	ÊÊ I	I	ÊÊ J	F
î			{ a	ÊÊ ÊÊ G	G	GH ÊÊ	FÊ	ÊÊ ÊÊ	I	ÊÊ J	H	ÊÊ H	H	ÊÊ F	î
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î			{ a	ÊÊ ÊÊ G	G	GH ÊÊ	FÊ	ÊÊ ÊÊ	I	ÊÊ J	H	ÊÊ I	F	ÊÊ FH	î
î		í	{ æ	î JÊÊ	F	FG ÊÊ	í	î ÊÊ FJ	H	ÊÊ F	J	ÊÊ I	G	ÊÊ FJ	F
î			{ a	ÊÊ ÊÊ G	G	GH ÊÊ	FÊ	ÊÊ ÊÊ	I	ÊÊ J	H	ÊÊ H	F	ÊÊ FF	î
JF	TFÊ	F	{ æ	HF ÊÊ	í	í ÊÊ	í	F ÊÊ	H	ÊÊ J	J	ÊÊ	í	ÊÊ F	H
JG			{ a	ÊÊ Ê J	G	FG ÊÊ	F	ÊÊ ÊÊ	ì	ÊÊ I	í	ÊÊ	F	ÊÊ J	ì
JH		G	{ æ	HF ÊÊ	í	í ÊÊ	í	F ÊÊ	H	ÊÊ J	J	ÊÊ	í	ÊÊ	H
JI			{ a	ÊÊ Ê J	G	FG ÊÊ	F	ÊÊ ÊÊ	ì	ÊÊ I	í	€	F	ÊÊ	ì
Jí		H	{ æ	HF ÊÊ	í	í ÊÊ	í	F ÊÊ	H	ÊÊ J	J	ÊÊ G	í	ÊÊ G	J
Jî			{ a	ÊÊ Ê J	G	FG ÊÊ	F	ÊÊ ÊÊ	ì	ÊÊ I	í	ÊÊ	F	ÊÊ I	ì
Jï		I	{ æ	HF ÊÊ	í	í ÊÊ	í	F ÊÊ	H	ÊÊ J	J	ÊÊ I	í	ÊÊ FG	J
Jì			{ a	ÊÊ Ê J	G	FG ÊÊ	F	ÊÊ ÊÊ	ì	ÊÊ I	í	ÊÊ	I	ÊÊ I	ì
JJ		í	{ æ	HF ÊÊ	í	í ÊÊ	í	F ÊÊ	H	ÊÊ J	J	ÊÊ G	í	ÊÊ G	J
FÊ			{ a	ÊÊ Ê J	G	FG ÊÊ	F	ÊÊ ÊÊ	ì	ÊÊ I	í	ÊÊ	I	ÊÊ G	ì
FÊ	TF	F	{ æ	FF ÊÊ	G	î JÊÊ	J	ÊÊ Ê H	H	ÊÊ H	J	ÊÊ H	J	ÊÊ H	I
FÊ			{ a	ÊÊ Ê Ê	í	F ÊÊ	I	ÊÊ Ê	J	ÊÊ I	I	ÊÊ G	H	ÊÊ G	î
FÊ		G	{ æ	FF ÊÊ	G	î JÊÊ	J	ÊÊ Ê H	H	ÊÊ H	J	ÊÊ I	ì	ÊÊ H	I
FÊ			{ a	ÊÊ Ê Ê	í	F ÊÊ	I	ÊÊ Ê	J	ÊÊ I	I	ÊÊ G	H	ÊÊ I	ì
FÊ		H	{ æ	FF ÊÊ	G	î JÊÊ	J	ÊÊ Ê H	H	ÊÊ H	J	ÊÊ I	ì	ÊÊ H	I
FÊ			{ a	ÊÊ Ê Ê	í	F ÊÊ	I	ÊÊ Ê	J	ÊÊ I	I	ÊÊ G	H	ÊÊ J	ì
FÊ		I	{ æ	FF ÊÊ	G	î JÊÊ	J	ÊÊ Ê H	H	ÊÊ H	J	ÊÊ G	ì	ÊÊ	I
FÊ			{ a	ÊÊ Ê Ê	í	F ÊÊ	I	ÊÊ Ê	J	ÊÊ I	I	ÊÊ H	H	ÊÊ FF	J
FÊ		í	{ æ	FF ÊÊ	G	î JÊÊ	J	ÊÊ Ê H	H	ÊÊ H	J	ÊÊ	ì	ÊÊ F	I
FFÊ			{ a	ÊÊ Ê Ê	í	F ÊÊ	I	ÊÊ Ê	J	ÊÊ I	I	ÊÊ H	H	ÊÊ I	J
FFF	TFG	F	{ æ	HH ÊÊ	F	î ÊÊ	FÊ	GH ÊÊ	H	ÊÊ J	J	ÊÊ I	ì	ÊÊ F	G
FFG			{ a	ÊÊ FG	G	ÊÊ FG	J	ÊÊ Ê Ê	J	ÊÊ F	I	ÊÊ G	H	ÊÊ I	í
FFH		G	{ æ	HH ÊÊ	F	î ÊÊ	FÊ	GH ÊÊ	H	ÊÊ J	J	ÊÊ F	ì	ÊÊ	G
FFI			{ a	ÊÊ FG	G	ÊÊ FG	J	ÊÊ Ê Ê	J	ÊÊ F	I	ÊÊ	H	ÊÊ I	í
FFí		H	{ æ	HH ÊÊ	F	î ÊÊ	FÊ	GH ÊÊ	H	ÊÊ J	J	ÊÊ I	ì	ÊÊ G	G
FFî			{ a	ÊÊ FG	G	ÊÊ FG	J	ÊÊ Ê Ê	J	ÊÊ F	I	ÊÊ J	H	ÊÊ H	ì
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FFì			{ a	ÊÊ FG	G	ÊÊ FG	J	ÊÊ Ê Ê	J	ÊÊ F	I	ÊÊ H	H	ÊÊ F	ì
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9bj YcdYA Ya Vyf GYWJcb: cfWwg f7 cbh7bi YXL

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GG			{ a FGGÉÍ	G	ÍÍÊÍ	H	ÊÊÉÊÉ	Í	ÊÊÍ	G	ÊÊGG	Í	ÊÊEH	Í	
GG		H	{ æ ÊJÊÍ	I	ÍÍÊÍ	H	HÍJÊÍ	G	€	H	ÊÚ	F	ÊÍ	H	
GG			{ a ÊÍÊEG	Í	ÊÍÊÍ	I	ÊÍJÊÍ	F	€	Í	ÊÊÚ	G	ÊÍH	I	
GG		I	{ æ ÊÊEH	I	G ÊG F	H	G ÊÍH	G	€	H	ÊEG	F	ÊEG	H	
GG			{ a ÊÍÊFÍ	Í	ÊG ÊG F	I	ÊG ÊGG	F	€	Í	ÊÊG	G	ÊÊG	I	
GG		Í	{ æ €	Í	GÊ	Í	ÊÍ	F	€	H	€	Í	€	FF	
GHE			{ a €	H	ÊÊH	H	ÊÍH	Í	€	Í	€	F	€	F	
GH	T ÚHÔ	F	{ æ €	Í	ÊÊÍ	H	ÊF	G	€	Í	€	Í	€	FF	
GH			{ a €	H	ÊÊHG	Í	ÊÊG	Í	€	H	€	F	€	F	
GH		G	{ æ FFÊJ	G	ÍG ÊHH	Í	FGÊÍ	Í	ÊÍH	F	ÊÊ	H	ÊÊ	Í	
GH			{ a ÊJÊÍ	F	ÍÍÊÍ	H	ÊÊÍJ	F	ÊÊF	G	ÊÊÍ	Í	ÊÊG	G	
GH		H	{ æ ÊÍÊÍ	I	ÍÍÊÍ	H	ÍGÊH	G	€	H	ÊÊÍ	F	ÊÊÍ	H	
GH			{ a ÊÍÊHH	Í	ÊÍÊG	I	ÊGÊJ	F	€	Í	ÊÊÚ	G	ÊÊÚ	I	
GH		I	{ æ ÊÊEH	I	G ÊU	H	G ÊÍ	G	€	H	ÊEG	F	ÊEG	H	
GH			{ a ÊÍÊFÍ	Í	ÊG ÊU	I	ÊG ÊÍ	F	€	Í	ÊÊG	G	ÊÊG	I	
GH		Í	{ æ €	Í	ÊÍF	Í	ÊFÍ	Í	€	H	€	Í	€	FF	
G€			{ a €	H	ÊÊF	H	ÊÊF	G	€	Í	€	F	€	F	
GF	TG	F	{ æ €	FF	ÊÊÍ	H	€	F	€	FF	€	FF	€	FF	
GG			{ a €	F	ÊÊÍ	Í	ÊÊF	Í	€	F	€	F	€	F	
GH		G	{ æ ÊÊEH	F€	ÍÊÍ	I	ÍÊÍ	G	€	FF	ÊÊF	G	ÊÊF	H	
GI			{ a ÊÊG	Í	ÊÊÍ	H	ÊÊG	F	€	F	ÊÊF	F	ÊÊF	I	
GI		H	{ æ FÍÊÍF	I	FÊÊ	H	FÊEH	F	€	FF	ÊÊÍ	G	ÊÊÍ	H	
GI			{ a ÍÊÍ	F	ÊÊÍJF	I	ÊÊÍJ	G	€	F	ÊÊÍ	F	ÊÊÍ	I	
GI		I	{ æ JÊG	Í	ÍÊÍ	H	ÍÊG	F	€	FF	ÊÊF	G	ÊÊF	H	
GI			{ a HÊEH	F	ÊÊÍ	I	ÊÊÍ	G	€	F	ÊÊF	F	ÊÊF	I	
GJ		Í	{ æ €	FF	ÊÊÍ	Í	ÊÊF	Í	€	FF	€	FF	€	FF	
G€			{ a €	F	ÊÊÍ	H	€	F	€	F	€	F	€	F	
GF	TG	F	{ æ FÚÍÊÚ	I	GJJÊJJ	Í	ÍÍÊG	F	ÊEG	G	ÊFJ	Í	ÊÊÍ	I	
GG			{ a ÊÍÊÊ	H	ÍÊÊÍJ	F	ÊÍJÊJF	G	ÊÊFJ	Í	ÊÊÍ	H	ÊÊÍ	Í	
GH		G	{ æ FÚÍÊÚ	I	GJJÊJJ	Í	ÍÍÊG	F	ÊEG	G	ÊÍ	Í	ÊEH	I	
GI			{ a ÊÍÊÊ	H	ÍÊÊÍJ	F	ÊÍJÊJF	G	ÊÊFJ	Í	ÊÊG	H	ÊÊFJ	Í	
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GI			{ a ÊÍÊÊ	H	ÍÊÊÍJ	F	ÊÍJÊJF	G	ÊÊFJ	Í	ÊÊÍ	H	ÊÊG	Í	
GI		I	{ æ FÚÍÊÚ	I	GJJÊJJ	Í	ÍÍÊG	F	ÊEG	G	ÊGF	Í	ÊÊ	I	
GI			{ a ÊÍÊÊ	H	ÍÊÊÍJ	F	ÊÍJÊJF	G	ÊÊFJ	Í	ÊÊG	H	ÊÊEH	Í	
GJ		Í	{ æ FÚÍÊÚ	I	GJJÊJJ	Í	ÍÍÊG	F	ÊEG	G	ÊÍJ	Í	ÊÊH	I	
G€			{ a ÊÍÊÊ	H	ÍÊÊÍJ	F	ÊÍJÊJF	G	ÊÊFJ	Í	ÊÊ	H	ÊÊÍ	Í	
GF	TG	F	{ æ ÍÊÊÍ	Í	ÍÍÊÍ	Í	ÍÊÊF	Í	ÊÍ	Í	ÊÊÍ	J	ÊÊJ	G	
GG			{ a ÊGÊJJ	H	ÍÍÊÍ	F	ÊÊÊÊ	G	ÊG	J	ÊÊÍ	Í	ÊÊÍ	Í	
GH		G	{ æ ÍÊÊÍ	Í	ÍÍÊÍ	Í	ÍÊÊF	Í	ÊÍ	Í	ÊÊH	J	ÊÊÍ	G	
GI			{ a ÊGÊJJ	H	ÍÍÊÍ	F	ÊÊÊÊ	G	ÊG	J	ÊÊJ	Í	ÊÊJF	Í	
GI		H	{ æ ÍÊÊÍ	Í	ÍÍÊÍ	Í	ÍÊÊF	Í	ÊÍ	Í	ÊÊG	F	ÊÊJ	G	
GI			{ a ÊGÊJJ	H	ÍÍÊÍ	F	ÊÊÊÊ	G	ÊG	J	ÊÊÍ	Í	ÊÊG	Í	
GI		I	{ æ ÍÊÊÍ	Í	ÍÍÊÍ	Í	ÍÊÊF	Í	ÊÍ	Í	ÊÊG	F	ÊÊG	G	
GI			{ a ÊGÊJJ	H	ÍÍÊÍ	F	ÊÊÊÊ	G	ÊG	J	ÊÊÍ	G	ÊÊÍ	Í	
GJ		Í	{ æ ÍÊÊÍ	Í	ÍÍÊÍ	Í	ÍÊÊF	Í	ÊÍ	Í	ÊÊÍ	F	ÊÊÍ	G	
G€			{ a ÊGÊJJ	H	ÍÍÊÍ	F	ÊÊÊÊ	G	ÊG	J	ÊÊÍ	G	ÊÊJG	Í	
GF	TG	F	{ æ ÍÊÊÍH	I	FHÊÊ	Í	ÍFHÊÍ	F	ÊÍ	G	ÊÊÍ	H	ÊEH	I	
GG			{ a ÊÍÊFÍ	H	FHÊÊ	G	ÊHÊH	G	ÊG	Í	F	ÊÊÍ	Í	ÊÊG	Í
GH		G	{ æ ÍÊÊÍH	I	FHÊÊ	Í	ÍFHÊÍ	F	ÊÍ	G	ÊEH	H	ÊEH	I	
GI			{ a ÊÍÊFÍ	H	FHÊÊ	G	ÊHÊH	G	ÊG	Í	F	ÊÊU	Í	ÊEH	Í
GI		H	{ æ ÍÊÊÍH	I	FHÊÊ	Í	ÍFHÊÍ	F	ÊÍ	G	ÊFH	H	ÊEH	I	

	Standoff Arm Flange Connection Check			Date
				4/26/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
	Carrier:	T Mobile	Mount Elev. [ft]:	155
	Site Name:	Torrington/Oandg Ind Inc	Engineer Name:	A. Weissenberger
Site Number:	CT46138-A-04	Project #:	128320	
<p><i>NOTE: The calculations shown below are for a single representative load combination for example purposes. The results for all load combinations are presented in the Results Summary Table.</i></p>				


RISA Member Label =	M2	
I or J End?	J	
Load Combination # =	1	
Plate Width, Wp =	10	[In]
Plate Height, Hp =	10	[In]
Plate Thickness, tp =	0.75	[In]
Plate Fy =	36	[KSI]
Bolt Diameter, db =	0.625	[In]
Bolt Fu =	120	[KSI]
Bolt Horizontal Spacing, Sbh =	7	[In]
Bolt Vertical Spacing, Sbv =	7	[In]
Standoff Member Shape =	Rect Tube	
Member Width, Wm =	4	[In]
Member Depth, Dm =	4	[In]
Member Thickness, tm =	0.25	[In]
Standoff Weld Size =	0.1875	[In]
# Standoff Welds =	2	
Length of Stiffener, Ls =		[In]
Width of Stiffener, Ws =		[In]
Width of Notch, Wn =		[In]
Stiffener Dim 1, ds1 =		[In]
Stiffener Dim 2, ds2 =		[In]
Stiffener Fy =		[KSI]
Stiffener Weld Size =		[In]
# Stiffener Welds =		



NOTES
Standoff and Stiffener welds are assumed 0.1875 in.

Capacity Checks:

Max Bolt Shear =	0.183	[Kips]
Bolt Shear Capacity =	13.81	[Kips]
Max Bolt Shear Usage =	1.3%	PASS
Max Bolt Tension =	0.26	[Kips]
Bolt Tension Capacity =	20.34	[Kips]
Max Bolt Tension Usage =	1.3%	PASS
Max Bolt Interaction =	1.8%	PASS
Max Plate Bending Moment =	0.61	[Kip-In]
Length of Yield Line =	7.75	[In]
Plate Moment Capacity =	35.31	[Kip-In]
Max Plate Usage =	1.7%	PASS
Max Weld Usage =	8.1%	PASS

	Standoff Arm Flange Connection Check			Date
				4/26/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
	Carrier:	T Mobile	Mount Elev. [ft]:	155
	Site Name:	Torrington/Oandg Ind Inc	Engineer Name:	A. Weissenberger
Site Number:	CT46138-A-04	Project #:	128320	

Results Summary Table

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
M2	J	1	0.1835	0.2596	1.3%	1.3%	1.8%	1.7%	8.1%
M21	J	1	0.4463	0.4339	3.2%	2.1%	3.4%	2.9%	3.4%
M40	J	1	0.3539	0.4097	2.6%	2.0%	2.9%	2.7%	3.9%
M2	J	2	0.2243	0.9744	1.6%	4.8%	5.1%	6.5%	7.3%
M21	J	2	0.3423	0.0000	2.5%	0.0%	2.5%	0.0%	3.0%
M40	J	2	0.4143	0.0981	3.0%	0.5%	3.0%	0.7%	4.4%
M2	J	3	0.4261	0.2838	3.1%	1.4%	3.1%	1.9%	3.1%
M21	J	3	0.2463	0.8582	1.8%	4.2%	4.6%	5.7%	6.5%
M40	J	3	0.2921	0.1106	2.1%	0.5%	2.1%	0.7%	6.0%
M2	J	4	0.3590	0.0317	2.6%	0.2%	2.6%	0.2%	2.7%
M21	J	4	0.3458	0.2646	2.5%	1.3%	2.5%	1.8%	7.3%
M40	J	4	0.3488	0.7366	2.5%	3.6%	4.4%	4.9%	5.9%
M2	J	5	0.7288	0.4064	5.3%	2.0%	5.3%	2.7%	5.5%
M21	J	5	0.8230	0.5989	6.0%	2.9%	6.0%	4.0%	5.7%
M40	J	5	0.7102	0.4632	5.1%	2.3%	5.1%	3.1%	5.3%
M2	J	6	0.7346	0.5928	5.3%	2.9%	5.3%	4.0%	5.2%
M21	J	6	0.7629	0.4714	5.5%	2.3%	5.5%	3.1%	5.2%
M40	J	6	0.7566	0.4447	5.5%	2.2%	5.5%	3.0%	5.2%
M2	J	7	0.7636	0.5272	5.5%	2.6%	5.5%	3.5%	5.1%
M21	J	7	0.7754	0.5897	5.6%	2.9%	5.6%	3.9%	5.6%
M40	J	7	0.7171	0.3616	5.2%	1.8%	5.2%	2.4%	5.0%
M2	J	8	0.7042	0.4719	5.1%	2.3%	5.1%	3.1%	4.8%
M21	J	8	0.8077	0.4824	5.9%	2.4%	5.9%	3.2%	5.7%
M40	J	8	0.7461	0.5471	5.4%	2.7%	5.4%	3.6%	5.5%
M2	J	9	1.4133	0.9007	10.2%	4.4%	10.2%	6.0%	11.5%
M21	J	9	0.2680	0.2547	1.9%	1.3%	1.9%	1.7%	1.9%
M40	J	9	0.2371	0.2413	1.7%	1.2%	1.7%	1.6%	1.7%
M2	J	10	0.3554	0.3065	2.6%	1.5%	2.9%	2.0%	2.7%
M21	J	10	0.2367	0.1866	1.7%	0.9%	1.7%	1.2%	1.6%
M40	J	10	0.1957	0.1368	1.4%	0.7%	1.4%	0.9%	1.5%
M2	J	11	0.2371	0.1715	1.7%	0.8%	1.7%	1.1%	1.6%
M21	J	11	0.2558	0.1820	1.9%	0.9%	1.9%	1.2%	1.8%
M40	J	11	0.2367	0.1550	1.7%	0.8%	1.7%	1.0%	1.7%

Exhibit F

Power Density/RF Emissions Report

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

T-Mobile Existing Facility

Site ID: CTNH402A

Litchfield SSUSA
350 Burr Mountain Road
Torrington, Connecticut 06790

May 15, 2022

EBI Project Number: 6222003228

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	18.90%

May 15, 2022

T-Mobile

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

Emissions Analysis for Site: CTNH402A - Litchfield SSUSA

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **350 Burr Mountain Road in Torrington, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. 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 350 Burr Mountain Road in Torrington, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 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 IC 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 IC 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 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope _VV-65A-RI for the 1900 MHz / 1900 MHz / 1900 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope _VV-65A-RI for the 1900 MHz / 1900 MHz / 1900 MHz / 1900 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope _VV-65A-RI for the 1900 MHz / 1900 MHz / 1900 MHz / 1900 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 155 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 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 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):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A1 MPE %:	5.02%	Antenna B1 MPE %:	5.02%	Antenna C1 MPE %:	5.02%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts
ERP (W):	4,059.02	ERP (W):	4,059.02	ERP (W):	4,059.02
Antenna A2 MPE %:	1.57%	Antenna B2 MPE %:	1.57%	Antenna C2 MPE %:	1.57%
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 / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz
Gain:	15.55 dBd / 15.55 dBd / 15.55 dBd / 15.55 dBd	Gain:	15.55 dBd / 15.55 dBd / 15.55 dBd	Gain:	15.55 dBd / 15.55 dBd / 15.55 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 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):	15,074.72	ERP (W):	15,074.72	ERP (W):	15,074.72
Antenna A3 MPE %:	2.44%	Antenna B3 MPE %:	2.44%	Antenna C3 MPE %:	2.44%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	9.03%
Sprint	0.18%
Metro PCS	0.37%
Verizon	5.83%
AT&T	3.18%
Nextel	0.31%
Site Total MPE % :	18.90%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	9.03%
T-Mobile Sector B Total:	9.03%
T-Mobile Sector C Total:	9.03%
Site Total MPE % :	18.90%

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 ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	9619.47	155.0	15.58	2500 MHz LTE IC & 2C Traffic	1000	1.56%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	717.84	155.0	1.16	2500 MHz LTE IC & 2C Broadcast	1000	0.12%
T-Mobile 2500 MHz NR Traffic	1	19238.94	155.0	31.15	2500 MHz NR Traffic	1000	3.12%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	155.0	2.32	2500 MHz NR Broadcast	1000	0.23%
T-Mobile 600 MHz LTE	2	591.73	155.0	1.92	600 MHz LTE	400	0.48%
T-Mobile 600 MHz NR	1	1577.94	155.0	2.56	600 MHz NR	400	0.64%
T-Mobile 700 MHz LTE	2	648.82	155.0	2.10	700 MHz LTE	467	0.45%
T-Mobile 1900 MHz GSM	4	1076.77	155.0	6.97	1900 MHz GSM	1000	0.70%
T-Mobile 1900 MHz UMTS	2	1076.77	155.0	3.49	1900 MHz UMTS	1000	0.35%
T-Mobile 1900 MHz LTE	2	2153.53	155.0	6.97	1900 MHz LTE	1000	0.70%
T-Mobile 1900 MHz LTE	2	2153.53	155.0	6.97	1900 MHz LTE	1000	0.70%
						Total:	9.03%

• 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:	9.03%
Sector B:	9.03%
Sector C:	9.03%
T-Mobile Maximum MPE % (Sector A):	9.03%
Site Total:	18.90%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **18.90%** 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



SBA COMMUNICATIONS CORPORATION
STE 125
13 FLANDERS RD
WESTBOROUGH MA 01581

P

USPS.com 9405 5036 9930 0330 5880 17 0034 2000 0010 1581
\$8.95
US POSTAGE
 Flat Rate Env
 U.S. POSTAGE PAID
 Click-N-Ship®

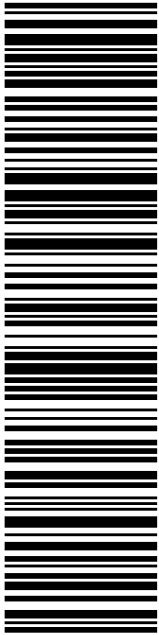
08/25/2022 Mailed from 01566

PRIORITY MAIL®

Expected Delivery Date: 08/26/22
 Ref#: SBCT-NH402
0000


R005

USPS TRACKING #



9405 5036 9930 0330 5880 17

Electronic Rate Approved #038555749





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 0330 5880 17

Trans. #: 570471626	Priority Mail® Postage: \$8.95
Print Date: 08/25/2022	Total: \$8.95
Ship Date: 08/25/2022	
Expected Delivery Date: 08/26/2022	

From: DEBORAH CHASE Ref#: SBCT-NH402
 NORTHEAST SITE SOLUTIONS
 STE 1
 420 MAIN ST
 STURBRIDGE MA 01566-1359


To: SBA COMMUNICATIONS CORPORATION
 STE 125
 13 FLANDERS RD
 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.



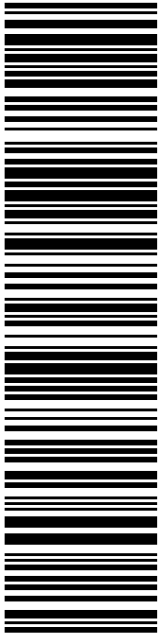
Thank you for shipping with the United States Postal Service!

Check the status of your shipment on the USPS Tracking® page at usps.com




ELINORE CARBONE
MAYOR OF TORRINGTON
140 MAIN ST
TORRINGTON CT 06790-5201

USPS TRACKING #



9405 5036 9930 0330 5880 62



Electronic Rate Approved #038555749

P

USPS.com 9405 5036 9930 0330 5880 62 0034 2000 0020 6790
US POSTAGE
 Flat Rate Env
 08/25/2022 Mailed from 01566


U.S. POSTAGE PAID
 Click-N-Ship®

PRIORITY MAIL®

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

Expected Delivery Date: 08/27/22
 Ref#: SBCT-NH402
0000

C009



Click-N-Ship®

U.S. POSTAGE PAID
 Click-N-Ship®

USPS.com 9405 5036 9930 0330 5880 62 0034 2000 0020 6790
US POSTAGE
 Flat Rate Env
 08/25/2022 Mailed from 01566



Cut on dotted line.

Instructions

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0330 5880 62

Trans. #: 570471626	Priority Mail® Postage: \$8.95
Print Date: 08/25/2022	Total: \$8.95
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Expected Delivery Date: 08/27/2022	


From: DEBORAH CHASE Ref#: SBCT-NH402
 NORTHEAST SITE SOLUTIONS
 STE 1
 420 MAIN ST
 STURBRIDGE MA 01566-1359

To: ELINORE CARBONE
 MAYOR OF TORRINGTON
 140 MAIN ST
 TORRINGTON CT 06790-5201

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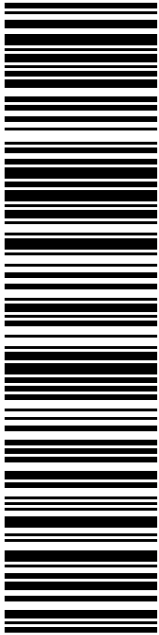


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JEREMY LEIFERT
CITY PLANNER
140 MAIN ST
TORRINGTON CT 06790-5201

USPS TRACKING #



9405 5036 9930 0330 5880 93

P

USPS.com
US POSTAGE
Flat Rate Env

9405 5036 9930 0330 5880 93 0034 3000 0020 6790

U.S. POSTAGE PAID
click-n-ship®

08/25/2022 Mailed from 01566


PRIORITY MAIL®

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

Expected Delivery Date: 08/27/22
Ref#: SBCT-NH402
0000

C009

Electronic Rate Approved #038555749





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USPS TRACKING # :	
9405 5036 9930 0330 5880 93	
Trans. #: 570471626	Priority Mail® Postage: \$8.95
Print Date: 08/25/2022	Total: \$8.95
Ship Date: 08/25/2022	
Expected Delivery Date: 08/27/2022	
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359	
Ref#: SBCT-NH402	
To: JEREMY LEIFERT CITY PLANNER 140 MAIN ST TORRINGTON CT 06790-5201	
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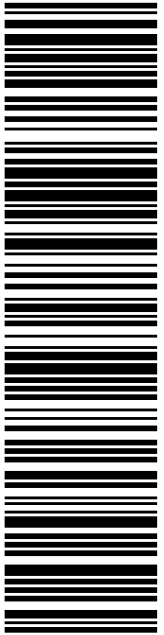


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O & G INDUSTRIES INC.
112 WALL ST
TORRINGTON CT 06790-5416

USPS TRACKING #



9405 5036 9930 0330 5881 30

P

USPS.com
US POSTAGE
Flat Rate Env

08/25/2022

Mailed from 01566

U.S. POSTAGE PAID
Click-N-Ship®


PRIORITY MAIL®

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

Expected Delivery Date: 08/27/22
Ref#: SBCT-NH402
0000

C026

Electronic Rate Approved #038555749



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NORTHEAST SITE SOLUTIONS
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420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: SBCT-NH402

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112 WALL ST
TORRINGTON CT 06790-5416

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CTNH 402A 5/31/20



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

08/26/2022 01:23 PM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 1.90 oz			
Acceptance Date:			
Fri 08/26/2022			
Tracking #:			
9405 5036 9930 0330 5880 17			

Prepaid Mail	1		\$0.00
Torrington, CT 06790			
Weight: 0 lb 6.60 oz			
Acceptance Date:			
Fri 08/26/2022			
Tracking #:			
9405 5036 9930 0330 5880 62			

Prepaid Mail	1		\$0.00
Torrington, CT 06790			
Weight: 0 lb 6.70 oz			
Acceptance Date:			
Fri 08/26/2022			
Tracking #:			
9405 5036 9930 0330 5880 93			

Prepaid Mail	1		\$0.00
Torrington, CT 06790			
Weight: 0 lb 6.70 oz			
Acceptance Date:			
Fri 08/26/2022			
Tracking #:			
9405 5036 9930 0330 5881 30			

Grand Total:			\$0.00
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 Thank you for your business.

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