



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

April 22, 2022

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

RE: Exempt Modification Application
292 Plain Hill Road, Norwich, CT 06360
Latitude: 41.578166
Longitude: -72.103680
Site#: CT01365-S_CTNL149A_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 292 Plain Hill Road, Norwich, CT 06360. T-Mobile currently maintains six (6) antennas at the 177-foot level of the existing 180-foot tower. The property is owned by Kelvin & Frances Stott, and the tower is owned by SBA. T-Mobile now intends to replace (6) existing antennas with (6) new antennas. The new antennas would be installed at the 177-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable. Antenna mount modifications will be completed as per attached GeoStructural mount analysis dated December 3, 2021.

T-Mobile Planned Modifications:

Remove:

- (4) Coax 1-1/4"
- (3) ALU RRH8x20

Remove and Replace:

- (3) RFS APXVSP18-C-A20 Antennas (Remove) – (3) Ericsson AIR6449 B41 Antennas (Replace)
- (3) RFS APXVTM14-C-120 Antennas (Remove) – (3) RFS APXVAALL24_43—U-NA20 Antennas (Replace)
- (3) ALU RRH4x45 (Remove) - (3) Ericsson 4460 B25+B66 RRH (Replace)
- (3) ALU RRH2x50 (Remove) - (3) Ericsson 4449 B71+B85 RRH (Replace)

Install New:

- (3) HCS Fiber Cable 1.9"

Existing to Remain:

- (3) ALU 1900 MHz RRU *
- (3) Filters *
- (4) RETs *

*Equipment listed for entitlement purposed only



This facility was approved by the City of Norwich Commission on the City Plan on April 20, 1999. 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 Peter Albert Nystrom, John L. Salamone, City Manager, and Deana Rhodes, City Planner for the City of Norwich, as well as the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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

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

Sincerely,

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



NORTHEAST
SITE SOLUTIONS

Turnkey Wireless Development

Attachments

Cc: Mayor Peter Albert Nystrom
City of Norwich
23 Union Street
Norwich, CT 06360

John L. Salamone, City Manager
City of Norwich
23 Union Street
Norwich, CT 06360

Deana Rhodes, City Planner
City of Norwich
23 Union Street
Norwich, CT 06360

Kelvin & Frances Stott, Property Owners
292 Plain Hill Road
Norwich, CT 06360

SBA – Tower Owner

Exhibit A

Original Facility Approval

SITE ID #4290

SITE NAME: Norwich 2, CT
CTO 1365-S

JOB COST #001365

ZONING/PERMITTING COMPLETION FORM

Zoning Classification for Site: R-80

Special Relief (setback, height variance, special use permit, wetlands permit etc.):

Special Permit Approval

* Date of Zoning Decision: 04/20/99

Summary of zoning conditions (Include details of any conditions relative to time restrictions, expiration dates, renewal obligations, monetary obligations, performance obligation, inspection fees).

See attached

Submitted by: Esther McNany

Title: Territory Manager

Territory Manager Approval:

* Attach a copy of the Zoning decision and forward to the Regional Compliance Manager as soon as possible, after the decision.



CERTIFIED MAIL
#Z011426906

CITY OF NORWICH CONNECTICUT

SITE PLAN APPROVAL

Date: April 28, 1999

Site Development Plan # 796 - SBA, Inc.; construction of a 180-ft. multi-tenant monopole telecommunications facility and the placement of associated equipment.

Name: SBA, Inc.
125 Shaw Street, #116
New London, CT 06320

Location: 292 Plain Hill Road, Norwich, CT

The final plan of Site Development Plan #796 as referenced above was considered at the regular meeting of the Commission on the City Plan held on April 20, 1999.

After careful consideration the Commission voted unanimously to approve the site plan.

A coastal site plan review was not required in accordance with Chapter 444 of the Connecticut General Statutes. After careful consideration the Commission on the City Plan voted n/a to n/a the coastal site plan application.

The approval of the above referenced site plan is subject to the following conditions and/or modifications:

1. A bond in the amount of \$30,000.00 for site improvements shall be posted prior to endorsement of the plan;
2. A bond in the amount of \$15,000.00 for removal of the facility in the event it is abandoned shall be posted prior to endorsement of the plan.

Please provide the following plans, bond, and deeds to the Planning Department, 23 Union Street, within 60 days after the date of approval.

1. Two sets of mylars and six sets of prints of the final site plan; one set of the mylars shall be produced by one of the following processes: wash-off photographic polyester film; fixed line photographic polyester film; original ink drawing on polyester film or linen. All modifications of approval shall be incorporated into the final plan.

2. All R.O.W. and/or easement deeds associated with the site plan.
3. Post a passbook or surety bond with the Commission on the City Plan in a form acceptable to the Corporation Counsel and in the amount approved by the Director of Public Works.

The Chairperson of the Commission on the City Plan must endorse the site plans prior to filing the approved plans with the City Clerk and prior to the issuance of a zoning compliance permit and a building permit.

The Planning Department will contact you after the site plan has been endorsed by the chairperson. You are responsible for filing the plan with the City Clerk within 90 days after approval by the Commission; provided acceptable plans and bond are submitted by the applicant. If an acceptable plan is not filed with the clerk within the 90 day period, the Commission's approval is invalid.

CHANGES TO THE APPROVED PLAN: All site activities shall be constructed in accordance with the approved plans, specifications and documents of record. Any change to the plans must be approved by the Commission on the City Plan.

EROSION AND SEDIMENT CONTROL: The erosion and sediment control measures shall be installed in accordance with the Connecticut Guidelines for Erosion and Sediment Control; such measures shall be installed prior to site disturbance. Additional erosion and sediment control measures shall be provided if determined to be necessary by a representative of the Planning Department or Public Works Department.

PRE-CONSTRUCTION CONFERENCE: It is the responsibility of the permittee or the contractor to schedule a pre-construction conference with the Planning Department for the purpose of inspecting the installation of the erosion and sediment control measures, and Public Works to set up an inspection schedule for road, drainage and sidewalk construction. City Hall telephone number: Planning Department, (860) 823-3766; Public Works Department, (860) 823-3798.

PUBLIC UTILITIES: Contact the Department of Public Utilities for an inspection of the sewer, water, electric and gas lines installation.

TIME PERIODS: Site plan approval is valid for one year, however, an extension to such approval may be granted by the Commission. In addition, all construction in the approved site plan must be completed within 5 years, based on Section 8.3.i of the Connecticut General Statutes.

CONSTRUCTION REQUIREMENTS: The following conditions shall be a requirement of the approval:

1. Unsuitable material in the pavement areas must be removed and replaced with suitable material as directed by the City Road Inspector.
2. If blasting is required for construction, a pre-blast survey shall be conducted prior to blasting. Contact the Fire Marshal, telephone (860) 887-2780.

ZONING PERMIT: After the plan has been filed, a zoning permit can be applied for through the zoning enforcement officer: telephone (860) 823-3766.

BUILDING PERMIT: For any building construction, please submit building plans and separate application to the building inspector.

CERTIFICATE OF COMPLIANCE will be issued after all parking, sidewalks, recreation area (for multi-family development) and public safety concerns are addressed in accordance with the approved site plan.

CERTIFICATE OF OCCUPANCY is issued by the building inspector. Certificate of Compliance must be obtained prior to the issuance of a Certificate of Occupancy.

AS-BUILT DRAWING may be required by the Commission prior to the final release of the bond.

Congratulations on the successful completion of your application.



Peter W. Davis
Planning Director

cc-Director of Public Works

-City Engineer

-Building Inspector

-John F. Bilda, Engineer, Public Utilities Dept.

CITY OF NORWICH
CONNECTICUT

TO: SBA, Inc.
125 Shaw St., #116
New London, CT 06320

Date April 28, 1999

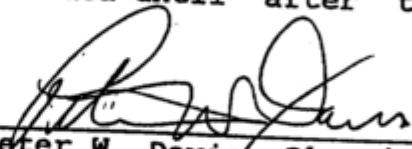
CERTIFIED MAIL
#Z011426905

FROM: COMMISSION ON THE CITY PLAN

SUBJECT: RECORDING OF COMMISSION ON THE CITY PLAN DECISION -
PUBLIC ACT NO. 75-317 - Special Permit #SP-99-2

The attached form MUST be recorded in the office of the City Clerk after 15 days from the effective date of the decision. Please note the dates on the lower left hand corner of the form. The decision IS NOT VALID until after the form has been properly recorded.

Recording fee is \$10.00, payable to the City Clerk. After recording the decision, the Planning Department office IS TO BE NOTIFIED of the receipt number so that our files for your hearing can be closed. Note that no permits will be issued until after the recording process is completed.


Peter W. Davis, Planning Director

FILE LOWER PORTION WITH CITY CLERK
cut here-----

Special Permit #SP-99-2

COMMISSION ON THE CITY PLAN
CITY OF NORWICH

NOTICE OF SPECIAL PERMIT RECORDED
PURSUANT TO PUBLIC ACT NO. 75-317 - CONNECTICUT STATUTES

Record owner of property Kelvin H. Stott

Property recorded in Norwich Land Records Vol. 572 Page 155

Location of property 292 Plain Hill Road

DESCRIPTION: Special permit pursuant to Section 7.5 of the Zoning Regulations to permit the construction of a 180-foot multi-tenant monopole telecommunications facility and the placement of associated equipment.

Effective date of decision: April 24, 1999


Peter W. Davis
Planning Director

NOT TO BE FILED WITH
CITY CLERK BEFORE

May 10, 1999

Exhibit B

Property Card

292R PLAIN HILL RD

Location	292R PLAIN HILL RD	Mblu	28/ 1/ 13/ 1/
Acct#	0280130001	Owner	STOTT KELVIN H + STOTT FRANCES S
Assessment	\$683,600	Appraisal	\$976,300
PID	112017	Building Count	1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$848,800	\$127,500	\$976,300
Assessment			
Valuation Year	Improvements	Land	Total
2018	\$594,300	\$89,300	\$683,600

Parcel Addresses

Additional Addresses
No Additional Addresses available for this parcel

Owner of Record

Owner	STOTT KELVIN H + STOTT FRANCES S % SBA PROPERTIES LLC	Sale Price	\$0
Address	8051 CONGRESS AVE ATTN: TAX DEPT CT01365 BOCA RATON, FL 33487-1307	Certificate	
		Book & Page	1691/0144
		Sale Date	09/11/2002

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
STOTT KELVIN H + STOTT FRANCES S	\$0		1691/0144	09/11/2002

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent Good:
Replacement Cost
Less Depreciation: \$0

Building Attributes	
Field	Description
Style	Vacant
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Fireplace (s)	
Whirlpool	
FPLG Gas	
FPLW Wood	
FPO	
Usrflid 107	
park	
Fireplaces	
Usrflid 108	
Usrflid 101	

Building Photo



(<http://images.vgsi.com/photos/NorwichCTPhotos//default.jpg>)

Building Layout

([ParcelSketch.ashx?pid=112017&bid=110618](#))

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Usrflid 102	
Usrflid 100	
Usrflid 300	
Usrflid 301	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use	Land Line Valuation
Use Code 431V Description TEL REL TW M-00 Zone BP Neighborhood 0050 Alt Land Appr No Category	Size (Acres) 1 Frontage Depth Assessed Value \$89,300 Appraised Value \$127,500

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN3	Fence Chain 6'			280.00 L.F.	\$4,500	1
SHD5	Shed Comm Mas			192.00 S.F.	\$4,800	1
SHD5	Shed Comm Mas			360.00 S.F.	\$9,000	1
SHD5	Shed Comm Mas			280.00 S.F.	\$7,000	1
TWR	CELL TOWER			180.00 UNITS	\$121,500	1
MSC5	ARRAYS			3.00 UNIT	\$702,000	1

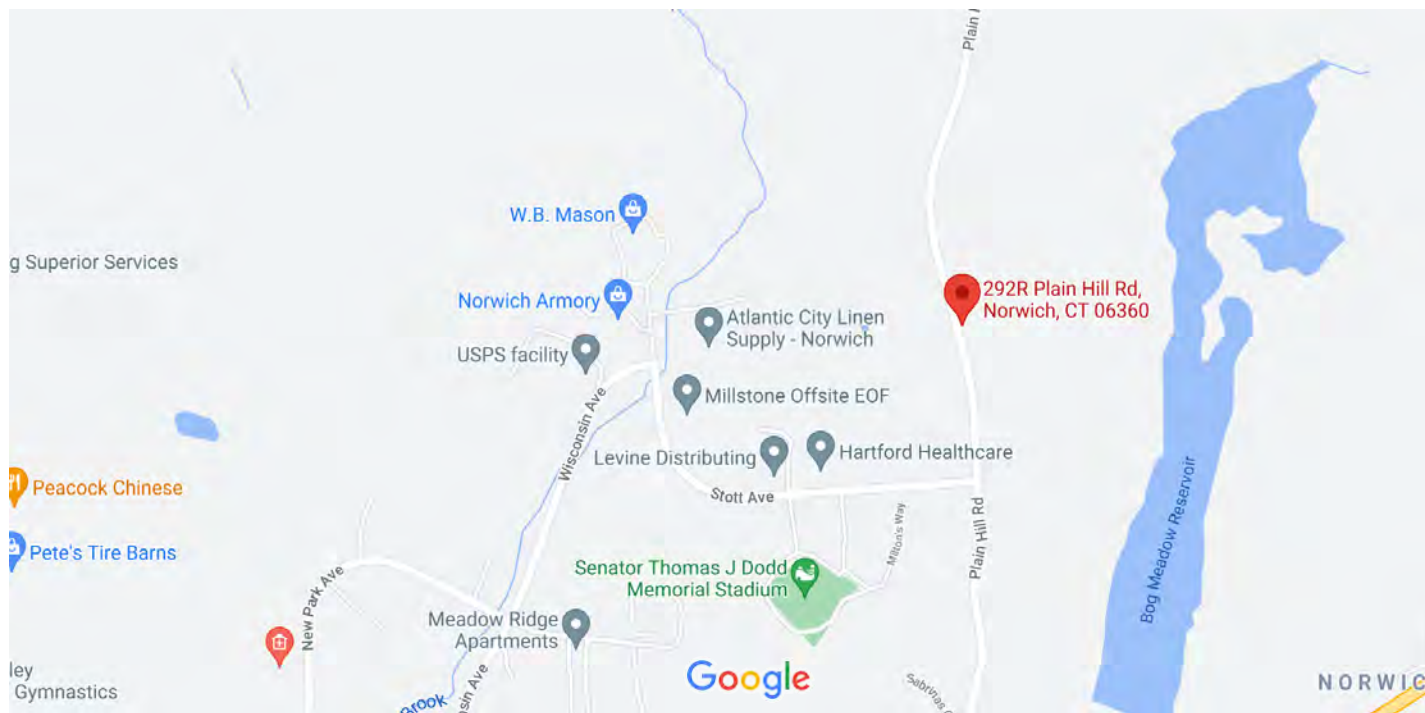
Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$848,800	\$127,500	\$976,300
2019	\$848,800	\$127,500	\$976,300
2018	\$848,800	\$127,500	\$976,300

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$594,300	\$89,300	\$683,600
2019	\$594,300	\$89,300	\$683,600
2018	\$594,300	\$89,300	\$683,600



292R Plain Hill Rd



Map data ©2021 1000 ft



292R Plain Hill Rd

Norwich, CT 06360



Directions



Save



Nearby

Send to your
phone

Share



HVJX+33 Norwich, Connecticut

Photos

Google Maps 292 Plain Hill Rd



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

Exhibit C

Construction Drawings

CTNL149A

292 PLAIN HILL ROAD
NORWICH, CT 06360
NEW LONDON COUNTY

SITE NO.: CTNL149A
CARRIER ID: CT23XC501

SITE TYPE: 180'± MONOPOLE

RF DESIGN GUIDELINE: 67E5A998E 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

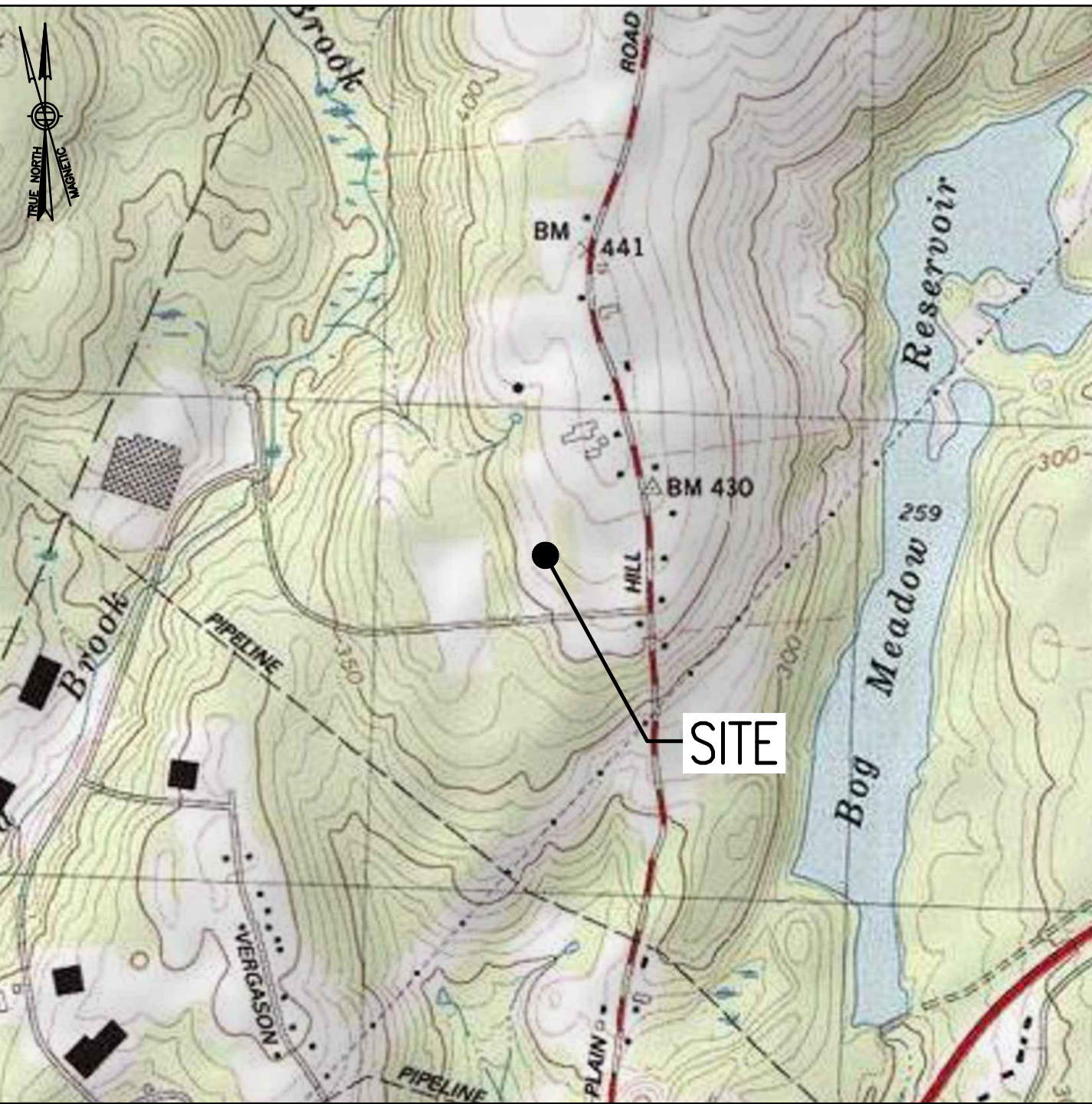
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- 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.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOT 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- 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.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- 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.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

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



VICINITY MAP

SCALE: 1" = 1000'-0"



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.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	2
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A-1	COMPOUND & EQUIPMENT PLANS	2
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A-3	SITE DETAILS	2
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E-1	ELECTRIC & GROUNDING DETAILS	2

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).

SCOPE OF WORK

REMOVE:	INSTALL:
6 ANTENNAS 9 RADIOS 4 HYBRID CABLES 3 EQUIPMENT CABINETS 1 FIBER CABINET 1 GPS ANTENNA	6 ANTENNAS 6 RADIOS 1 B160 BATTERY CABINET 1 B160 EQUIPMENT CABINET 1 RAC24 CABINET 3 HYBRID CABLES 1 125A-2P BREAKER 2 20A-1P BREAKERS 1 FUTURE GENERATOR 1 FUTURE ATS

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

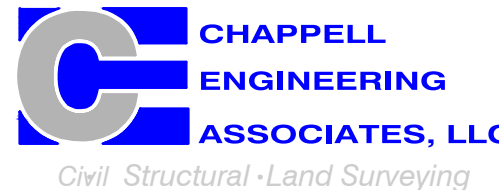
SITE NUMBER:	CTNL149A
SITE NAME:	CTNL149A
SBA SITE NUMBER:	CT01365-S
SBA SITE NAME:	NORWICH 2 CT
SITE ADDRESS:	292 PLAIN HILL ROAD NORWICH, CT 06360
PROPERTY OWNER:	KEVLIN H. STOTT 300 PLAIN HILL ROAD NORWICH, CT 06360
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON
ZONING DISTRICT:	R-40 (RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	180'±
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: 41.578197° N41°34'41.51" LONGITUDE: -72.103717° W72°06'13.38"

T-MOBILE
NORTHEAST LLC

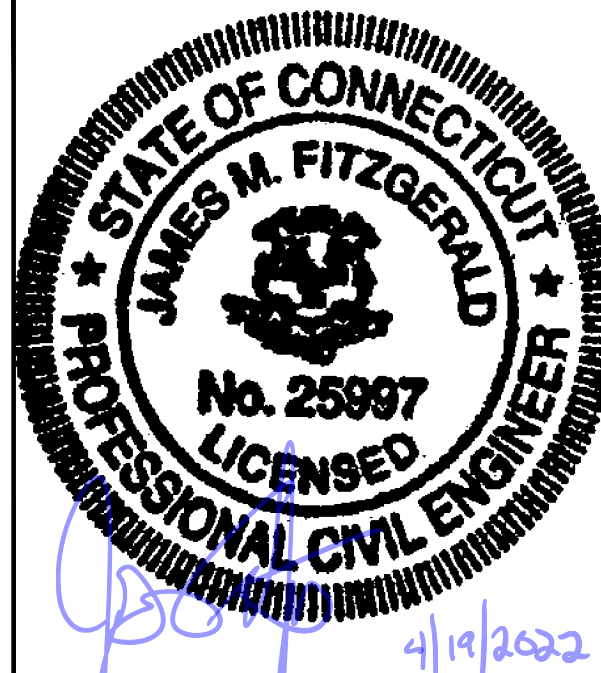
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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
2	11/30/21	ISSUED FOR CONSTRUCTION	JRV
1	05/03/21	ISSUED FOR CONSTRUCTION	CMC
0	04/23/21	ISSUED FOR REVIEW	CMC

SITE NUMBER:
CTNL149A

SITE ADDRESS:
292 PLAIN HILL ROAD
NORWICH, CT 06360

SHEET TITLE

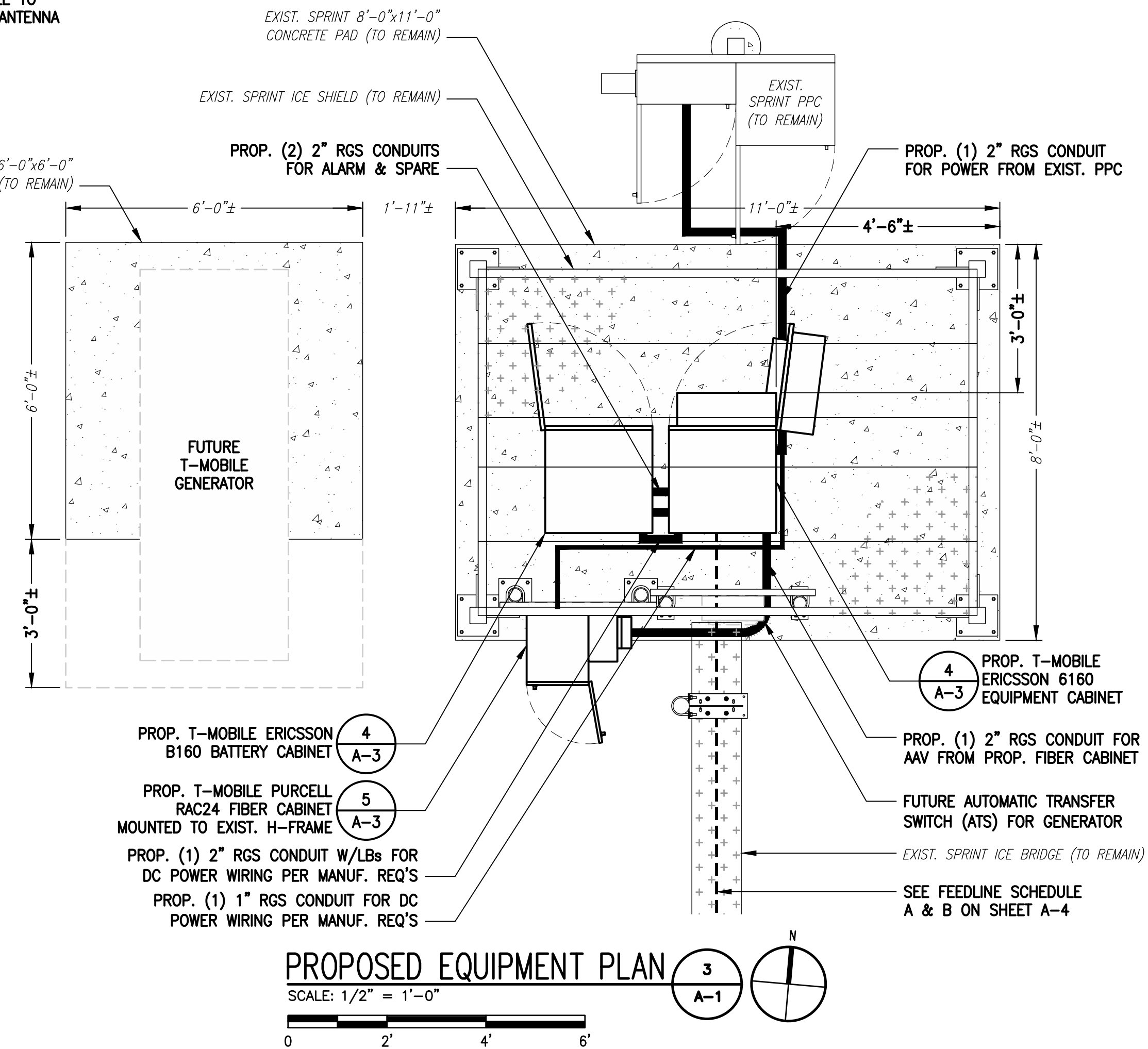
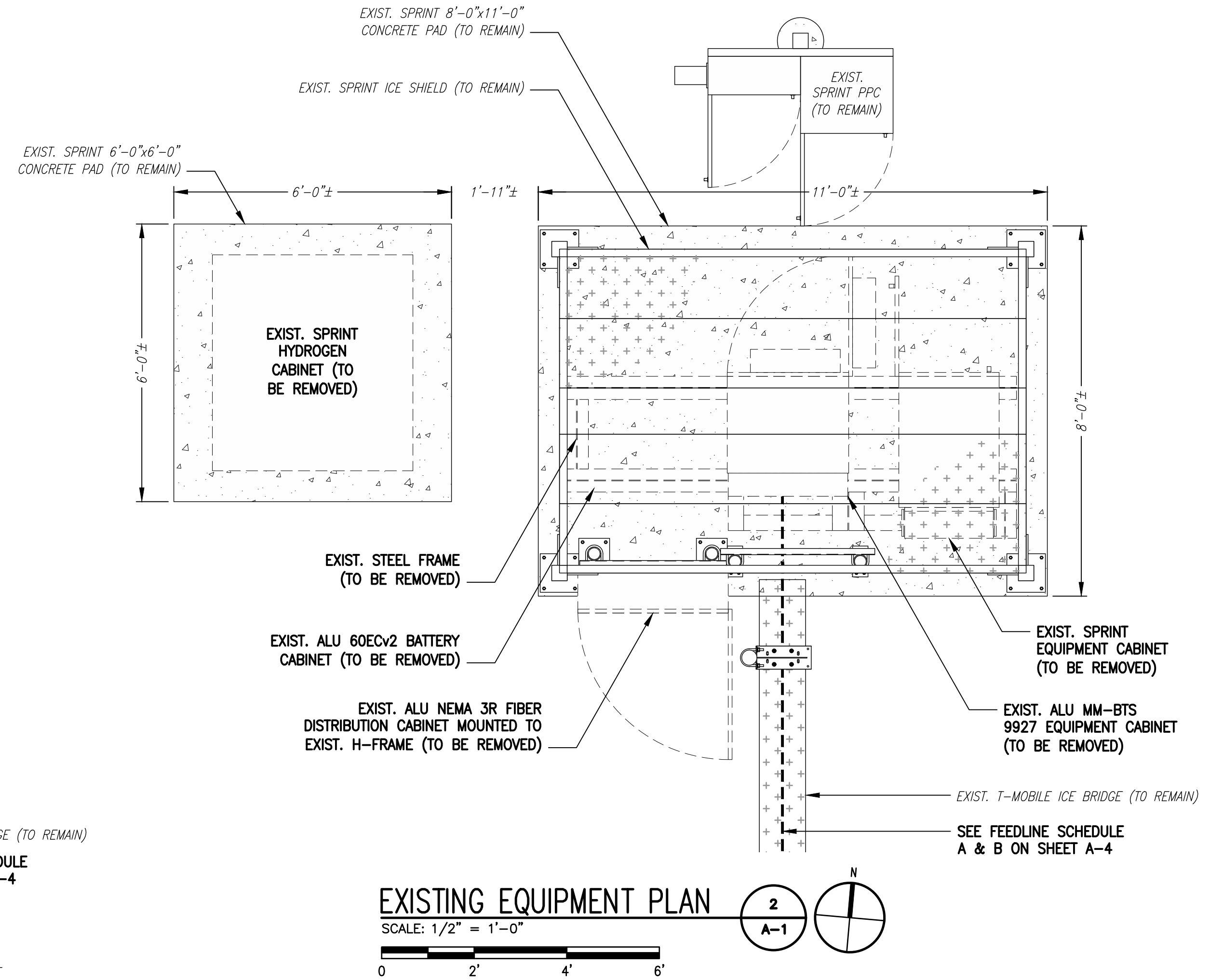
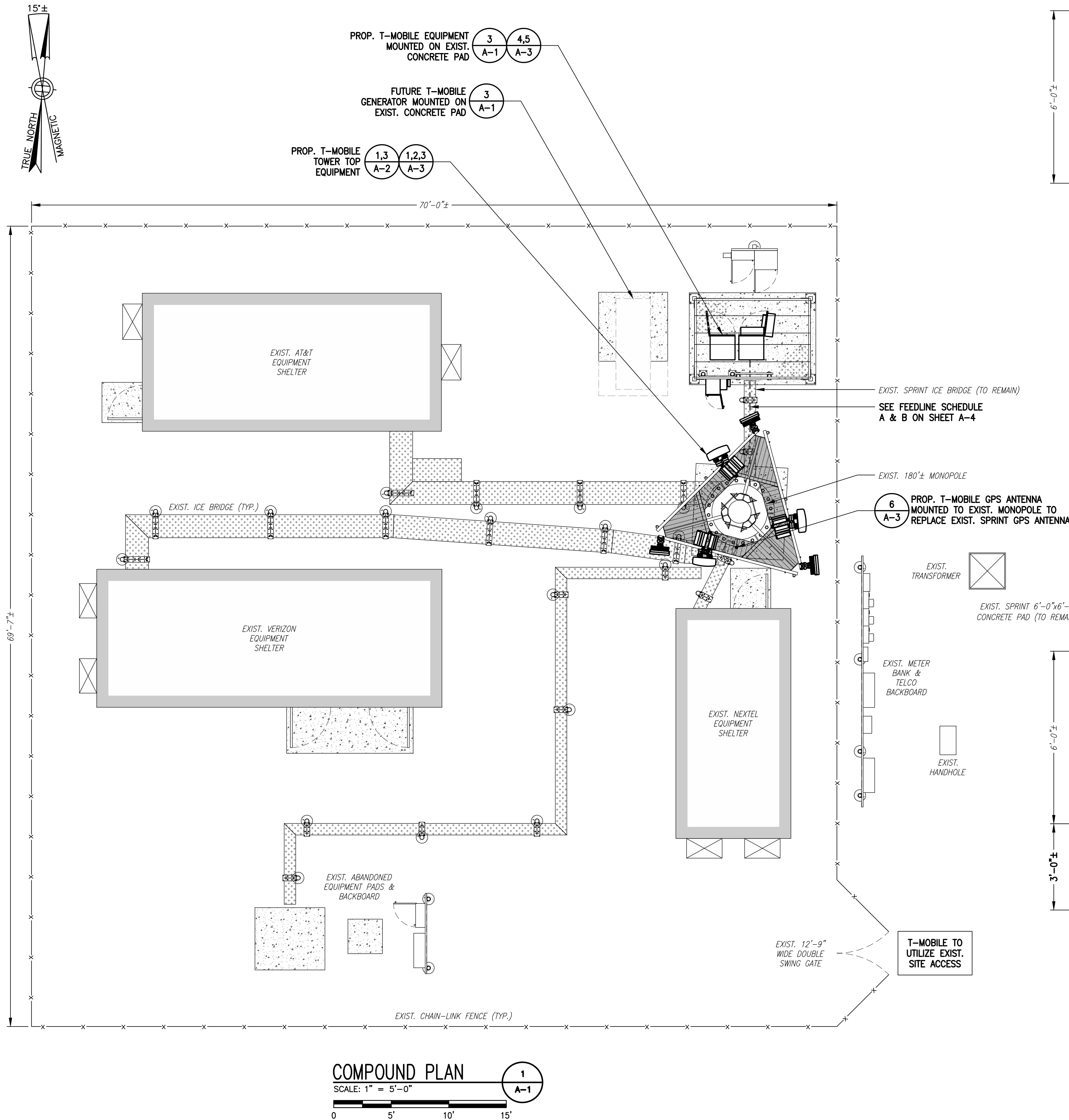
TITLE SHEET

SHEET NUMBER

T-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).



T-MOBILE NORTHEAST LLC

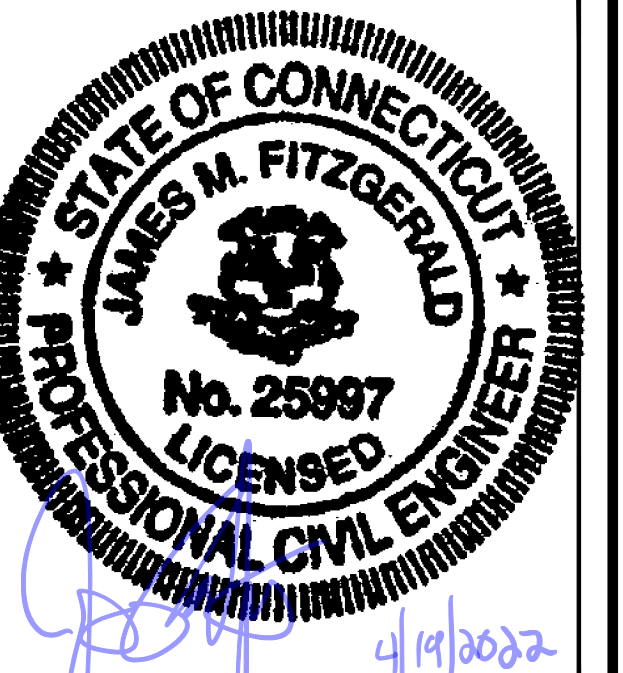
15 COMMERCE WAY, SUITE B
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WESTBOROUGH, MA 01581
(508) 251-0720



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MARLBOROUGH, MA 01752
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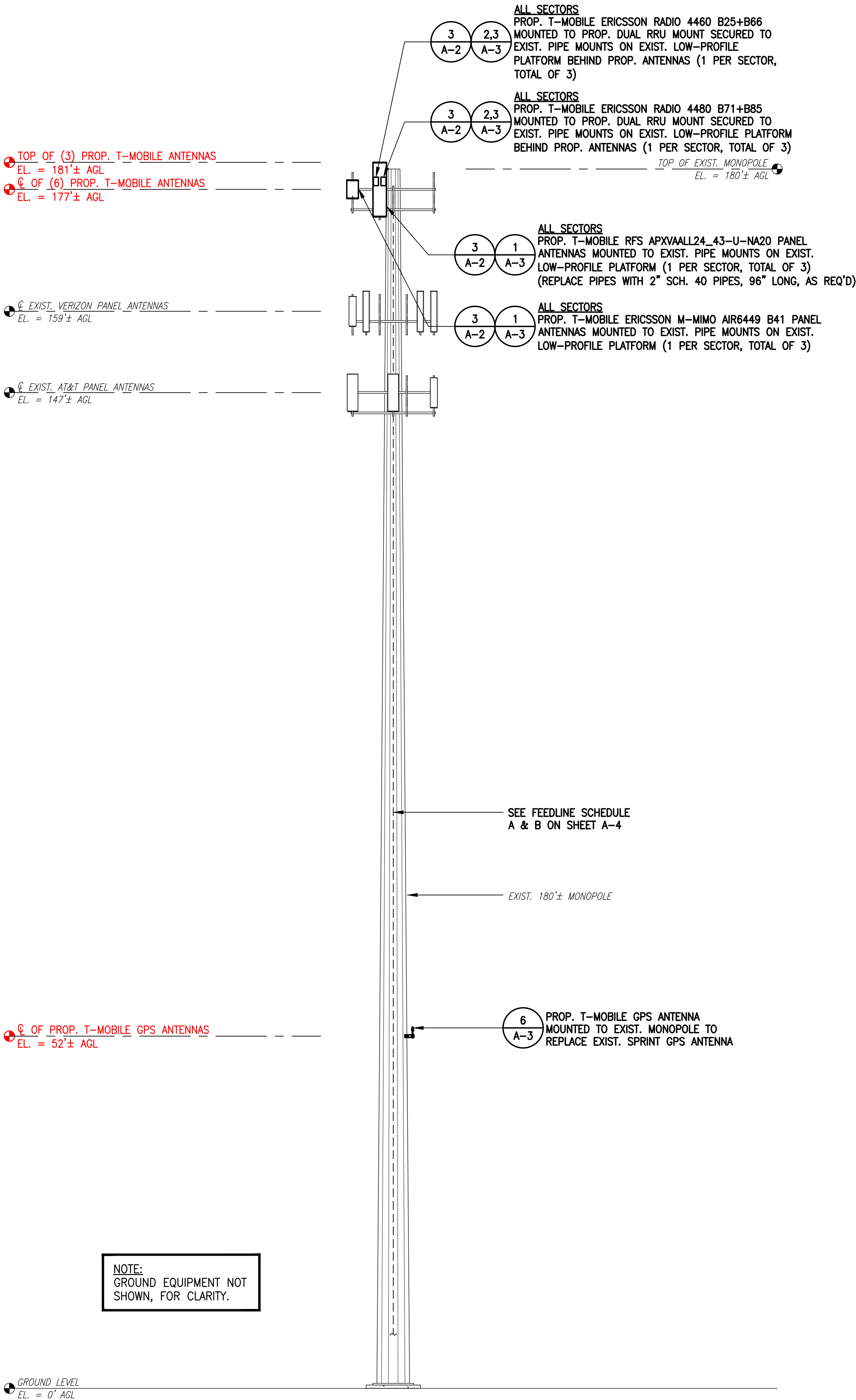
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0	04/23/21	ISSUED FOR REVIEW	CMC

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SITE ADDRESS:
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NORWICH, CT 06360

SHEET TITLE
**COMPOUND &
EQUIPMENT PLANS**

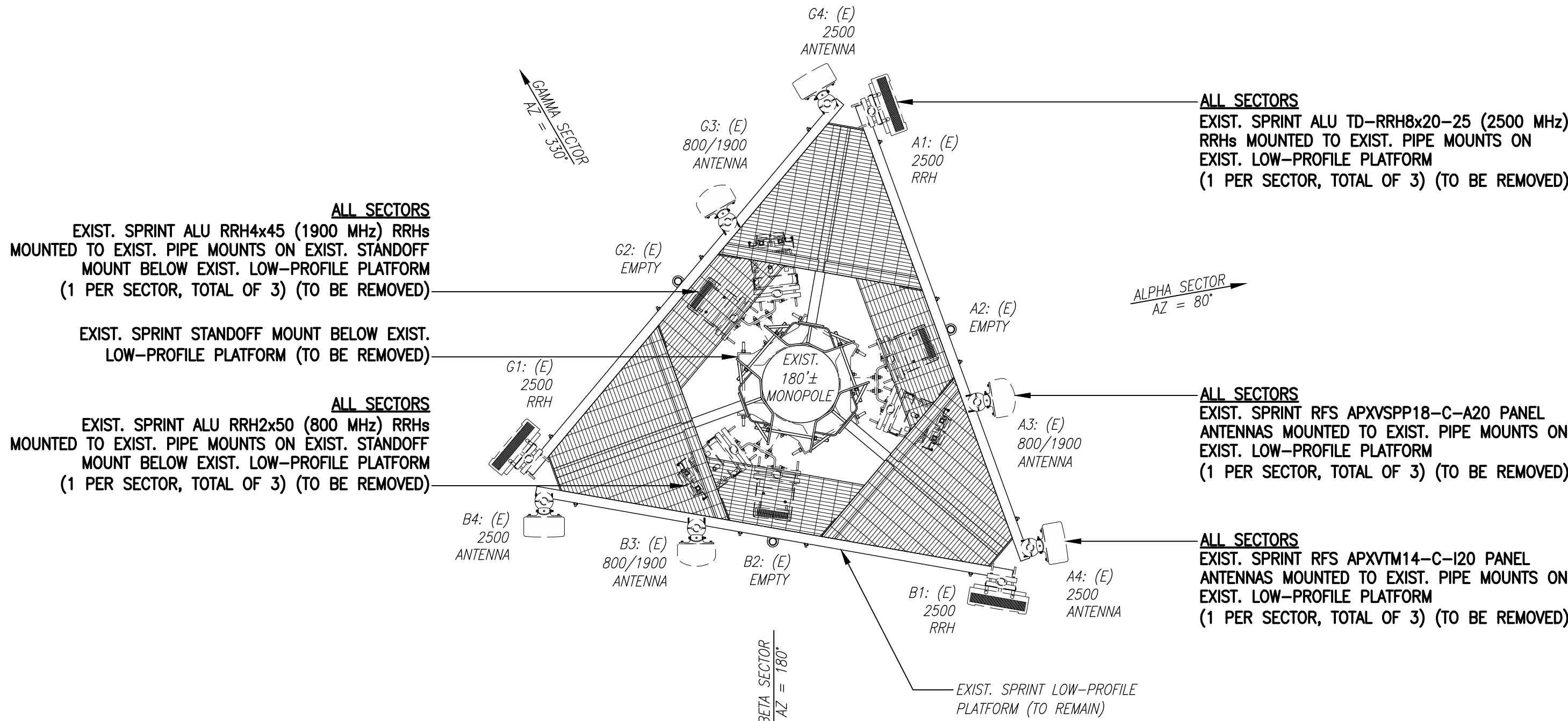
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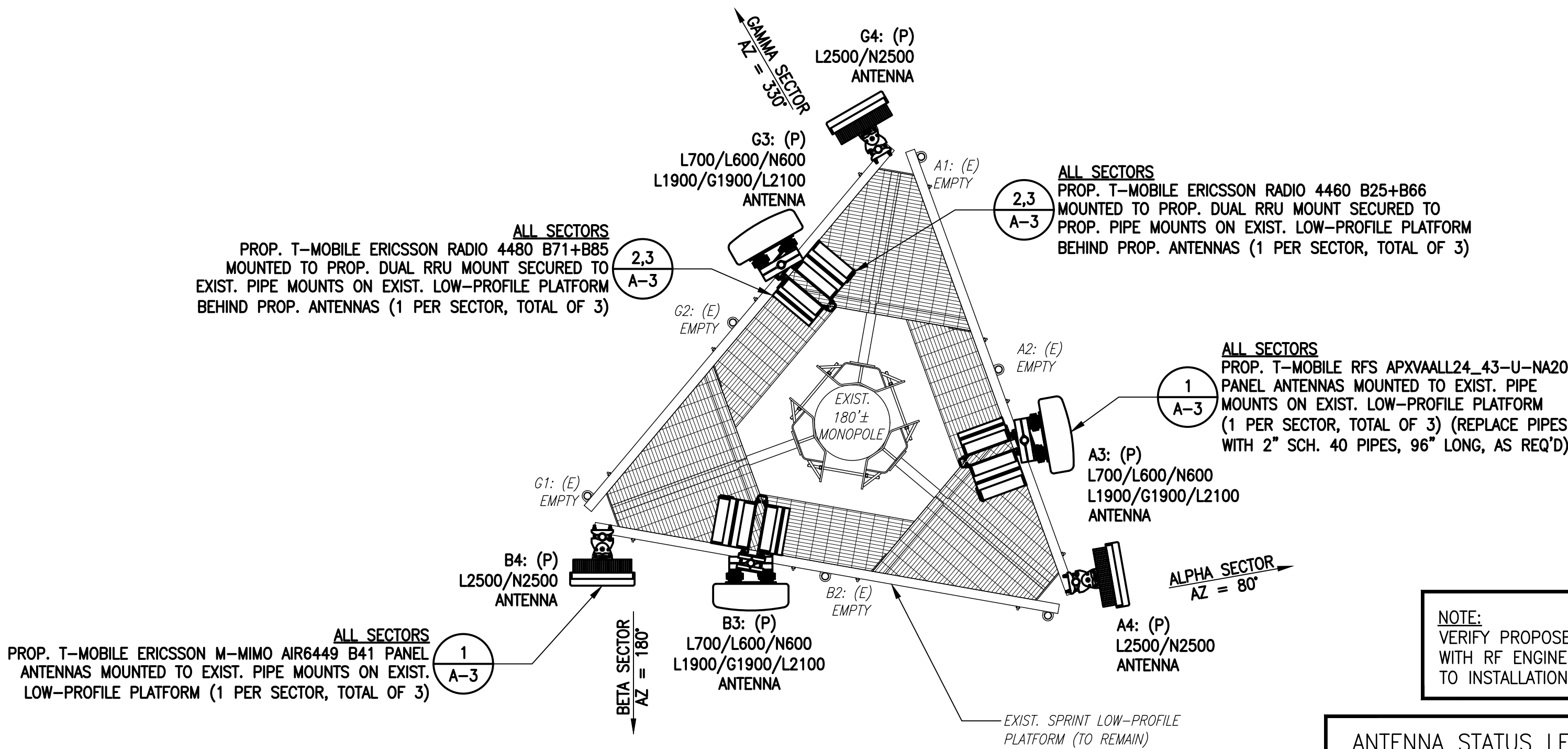
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SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

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

SPECIAL CONSTRUCTION NOTE:
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 ANTENNA PLAN
SCALE: N.T.S.



PROPOSED ANTENNA PLAN
SCALE: N.T.S.

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING

(P) - INSTALL

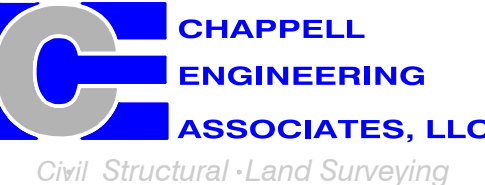
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T-MOBILE NORTHEAST LLC

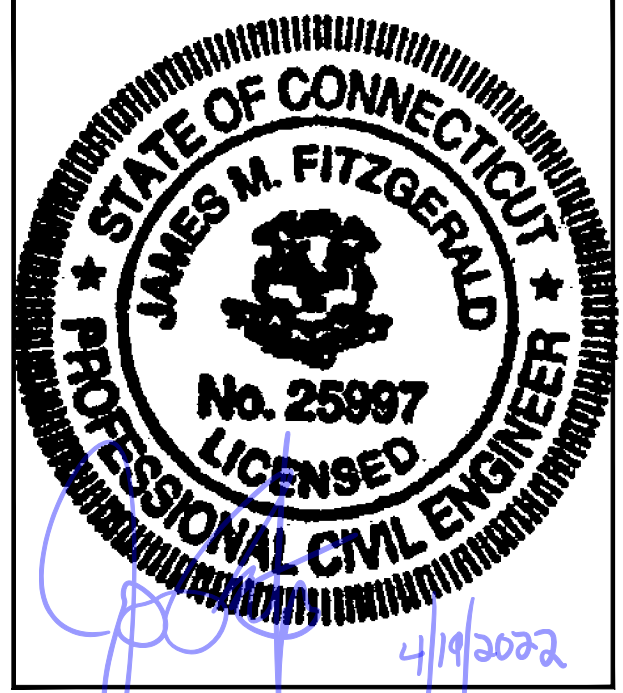
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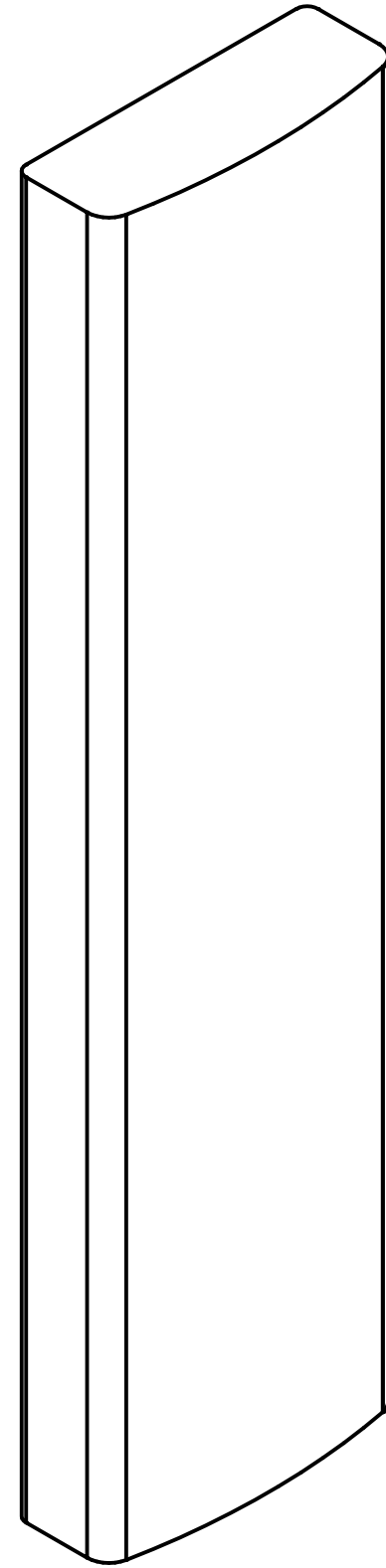
SITE ADDRESS:
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NORWICH, CT 06360

SHEET TITLE

TOWER ELEVATIONS &
ANTENNA PLANS

SHEET NUMBER

A-2



RFS APXVAALL24 43-U-NA20 ANTENNA

DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
WEIGHT: 128.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3



ERICSSON M-MIMO AIR6449 B41 ANTENNA

DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS

SCALE: N.T.S.



ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

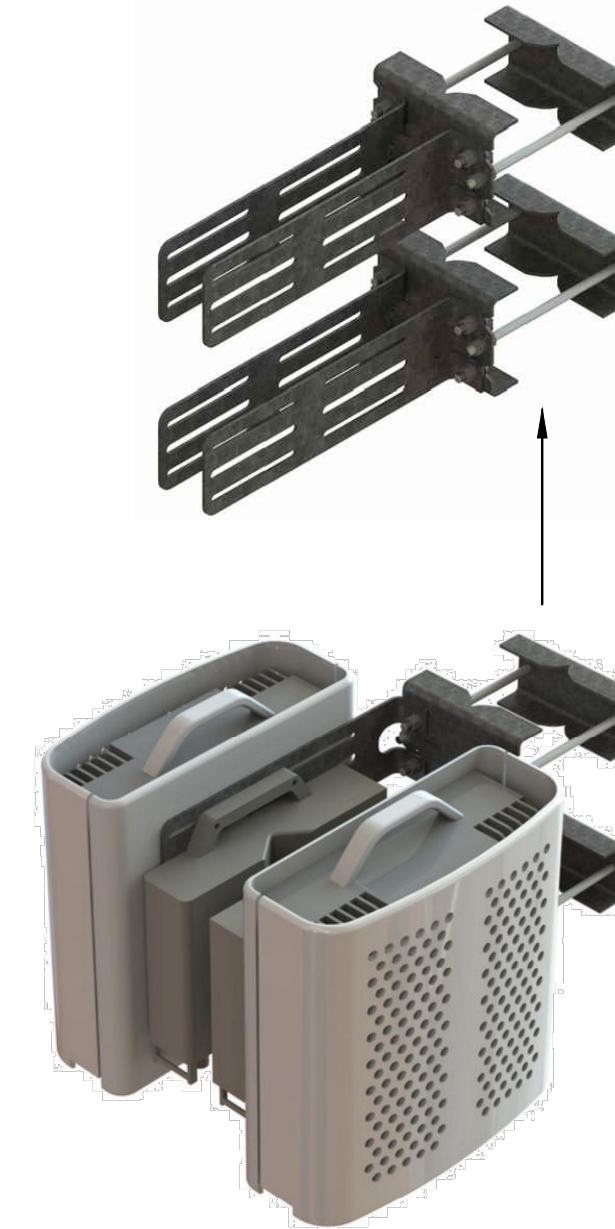
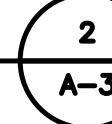


ERICSSON RADIO 4480 B71+B85

DIMENSIONS: 19.2"H x 15.1"W x 7.5"D
WEIGHT: 92.6 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

SCALE: N.T.S.

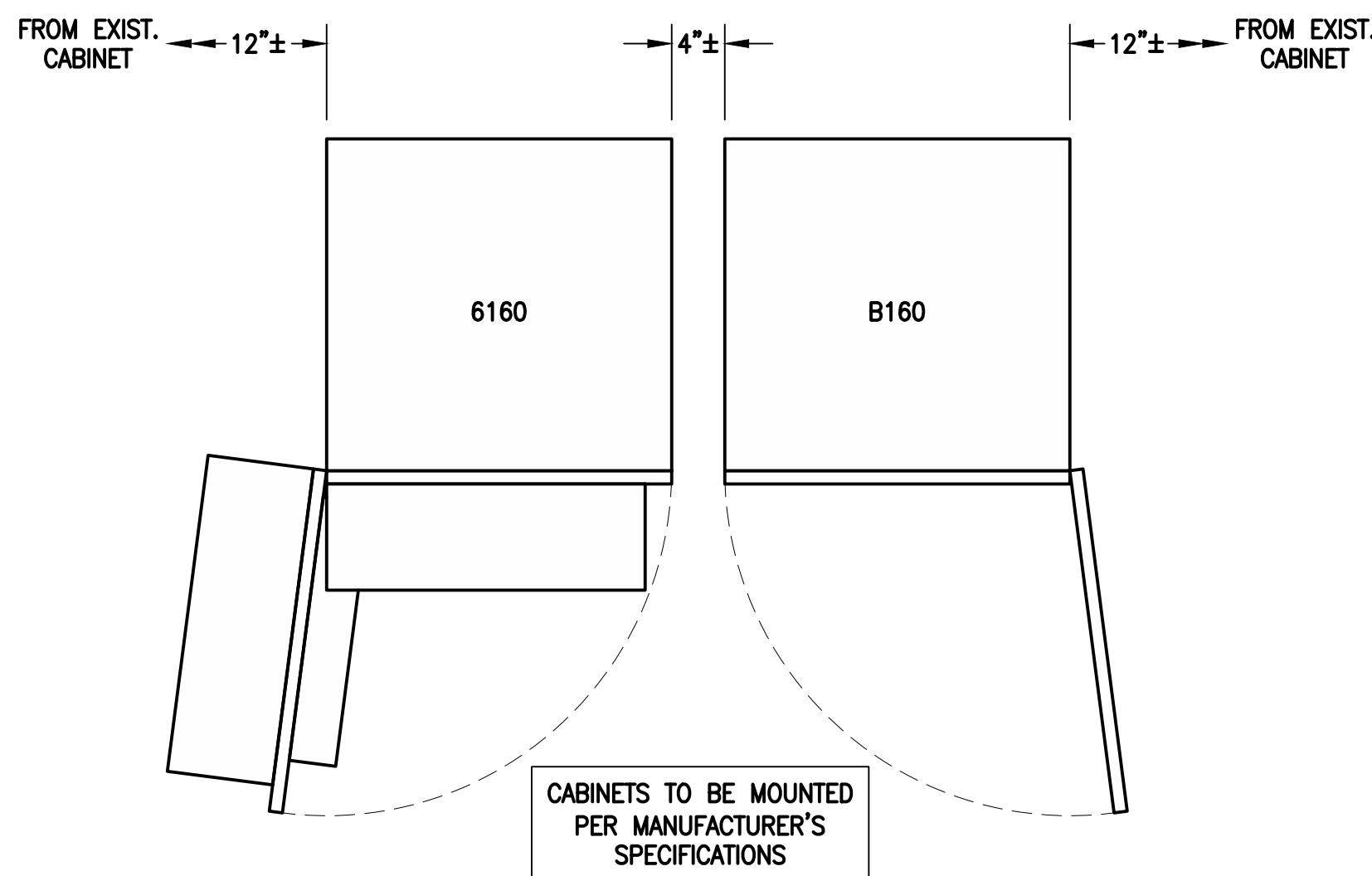
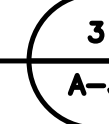


COMMSCOPE RR-FA2 FAST ACCESS DUAL RRU MOUNT KIT

DIMENSIONS: 16.4"H x 8.6"W x 18"L
WEIGHT: 36.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO MOUNT DETAIL

SCALE: N.T.S.



ERICSSON 6160 SITE SUPPORT CABINET

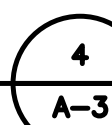
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET

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

EQUIPMENT DETAIL

SCALE: N.T.S.

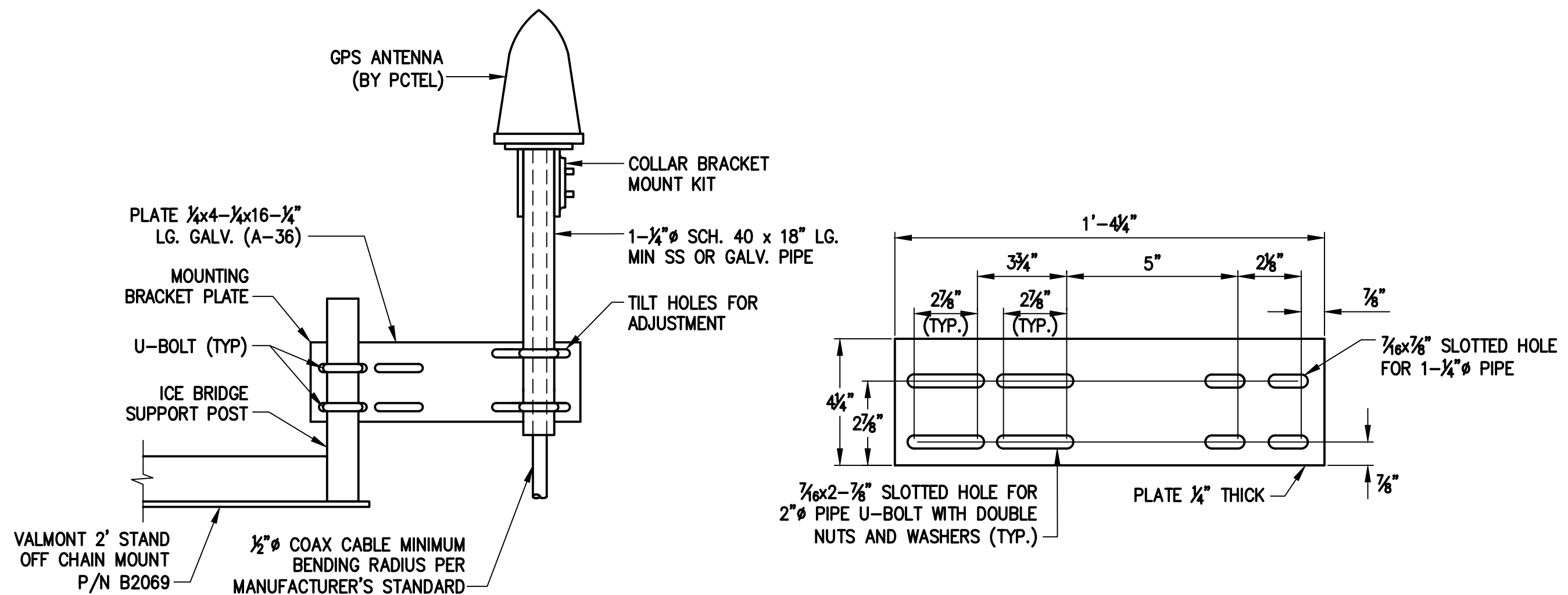
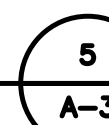


PURCELL SITE SUPPORT CABINET RAC24

DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS

SCALE: N.T.S.



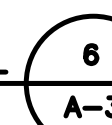
GPS ANTENNA MOUNTING BRACKET

- THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1 1/2" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
- THE MOUNTING PLATE SHALL BE FASTENED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE SHALL THEN BE ATTACHED TO THE MOUNTING PLATE USING THE OVERSIZE U-BOLTS PROVIDED TO ALLOW ADJUSTMENT. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2 DEGREES OF LEVEL.

MOUNTING BRACKET PLATE

GPS MOUNTING DETAIL

SCALE: N.T.S.

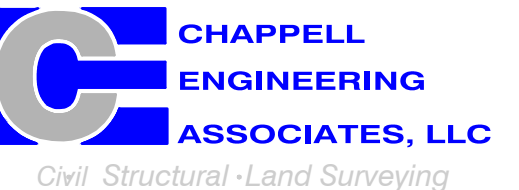


**T-MOBILE
NORTHEAST LLC**

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NORWICH, CT 06360

SHEET TITLE

SITE DETAILS

SHEET NUMBER

A-3

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	A1 EMPTY PIPE	—	—	—	—	—	—	PROP. (3) 2" (6x24) HCS FIBER CABLES
	A2 EMPTY PIPE	—	—	—	—	—	—	
	A3 RFS APXVAALL24_43—U—NA20	177'± AGL	80°	0°	2'	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
					2'	L1900/G1900/L2100	ERICSSON RADIO 4460 B25+B66	
	A4 ERICSSON M—MIMO AIR6449 B41	177'± AGL	80°	0°	2'	L2500/N2500	—	
BETA	B1 EMPTY PIPE	—	—	—	—	—	—	
	B2 EMPTY PIPE	—	—	—	—	—	—	
	B3 RFS APXVAALL24_43—U—NA20	177'± AGL	180°	0°	2'	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
					2'	L1900/G1900/L2100	ERICSSON RADIO 4460 B25+B66	
B4 ERICSSON M—MIMO AIR6449 B41	177'± AGL	180°	0°	2'	L2500/N2500	—		
GAMMA	G1 EMPTY PIPE	—	—	—	—	—	—	
	G2 EMPTY PIPE	—	—	—	—	—	—	
	G3 RFS APXVAALL24_43—U—NA20	177'± AGL	330°	0°	2'	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
					2'	L1900/G1900/L2100	ERICSSON RADIO 4460 B25+B66	
	G4 ERICSSON M—MIMO AIR6449 B41	177'± AGL	330°	0°	2'	L2500/N2500	—	
CABLE NOTE: EXISTING (4) 1–¼" CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.								

NOTE: RFDS REV1 – 03/30/21

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) ½" COAX FOR GPS ANTENNA EXISTING TO BE REMOVED: (4) 1-¼" HYBRID CABLESCABLES	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (3) 2" (6x24) HCS FIBER CABLES	
NOTE: EXISTING T—MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.		

T-MOBILE
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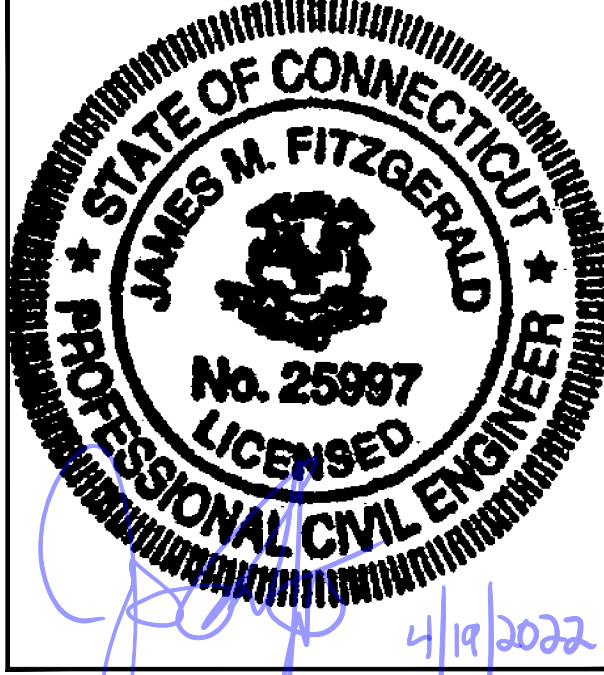


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Civil Structural Land Surveying

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4/19/2022

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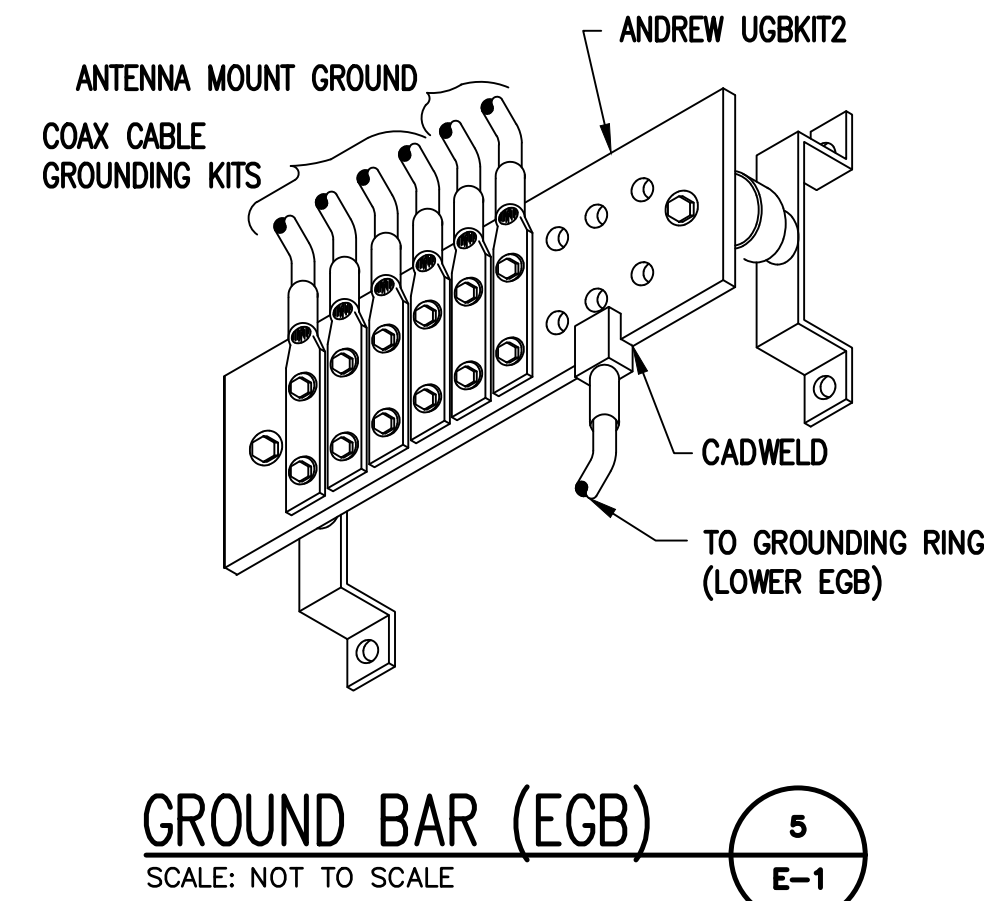
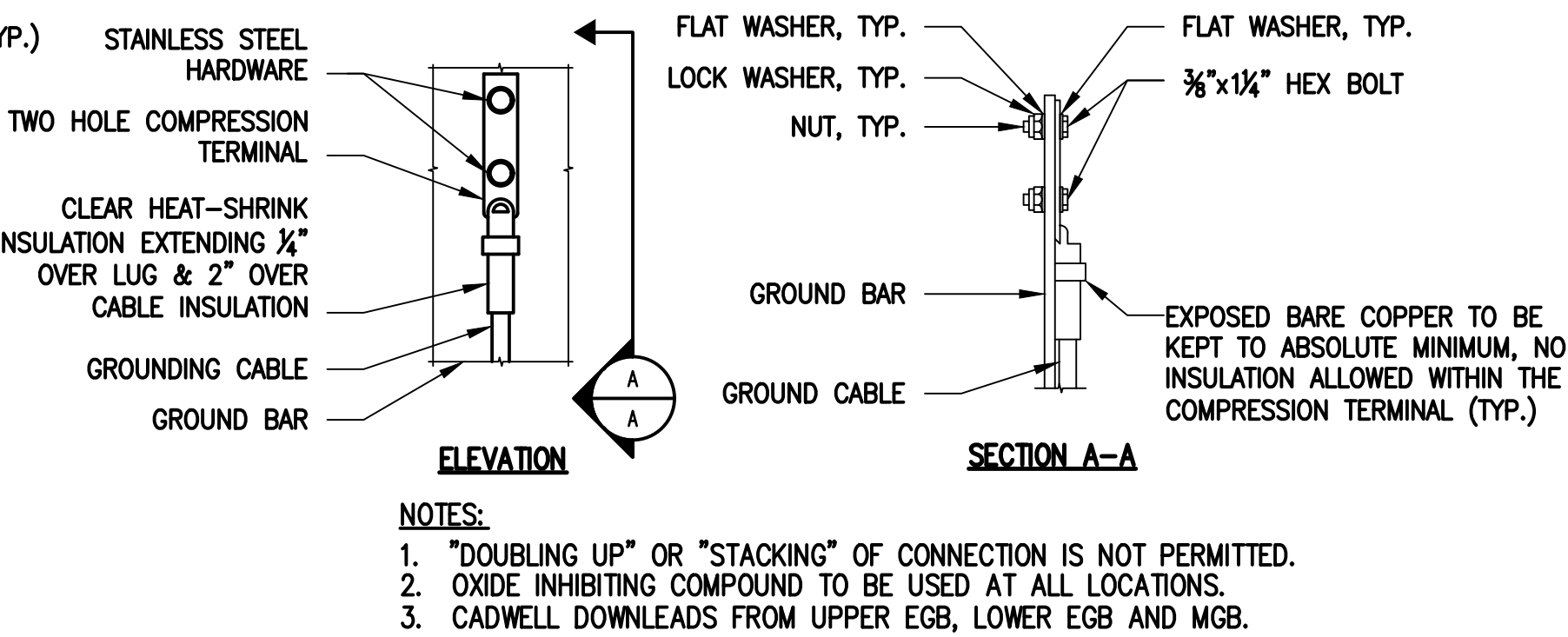
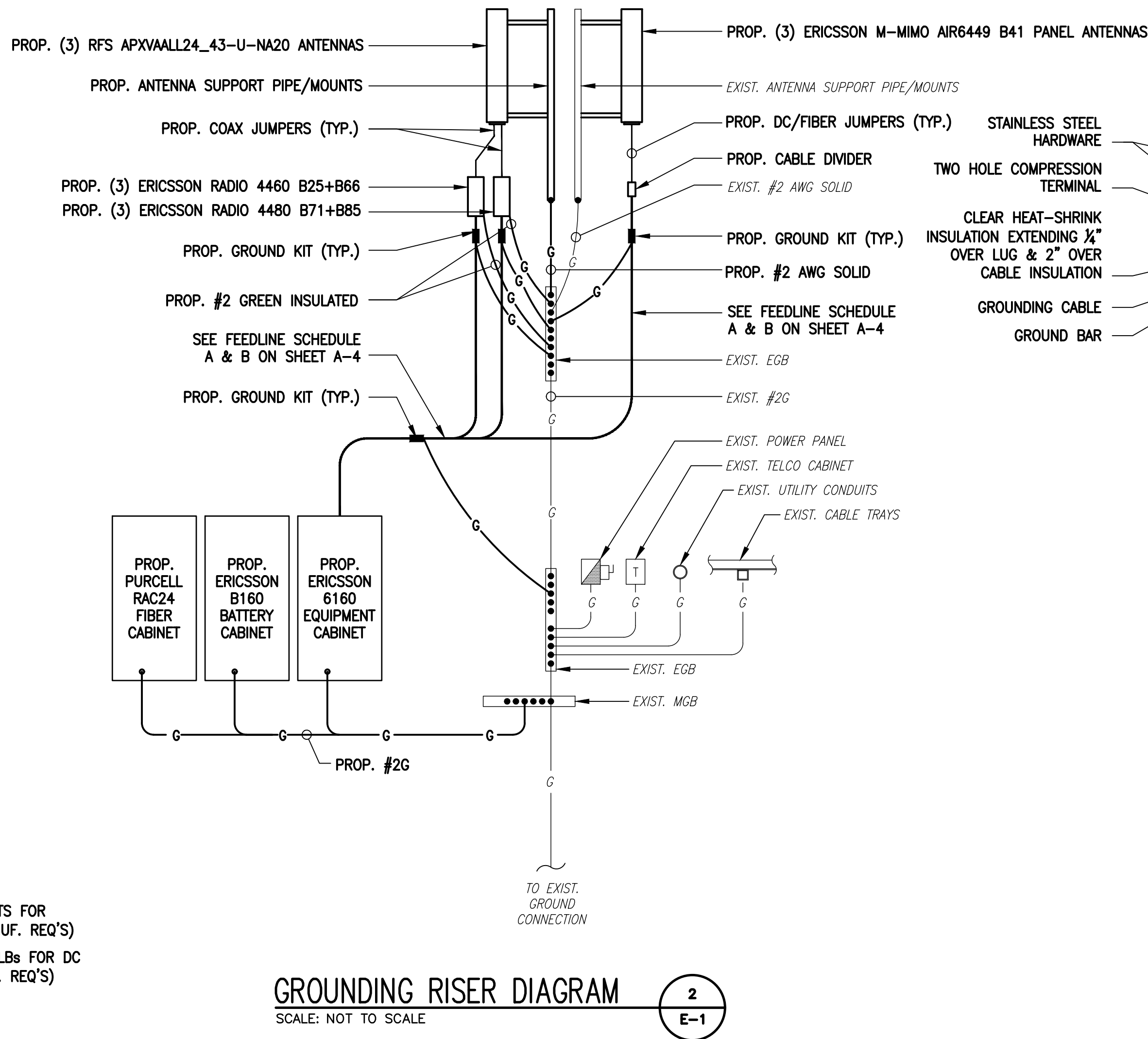
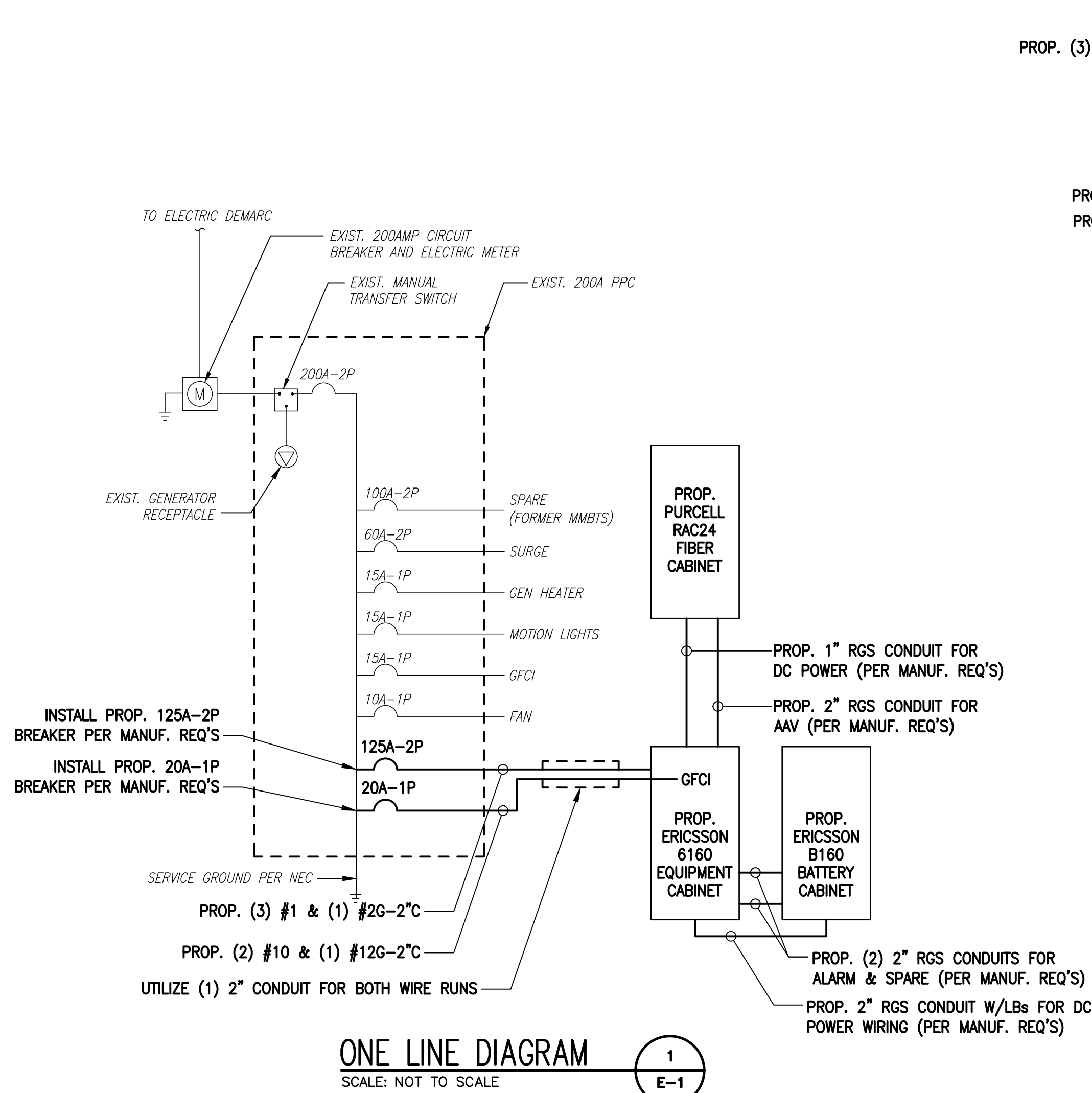
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ANTENNA &
FEEDLINE CHARTS

SHEET NUMBER

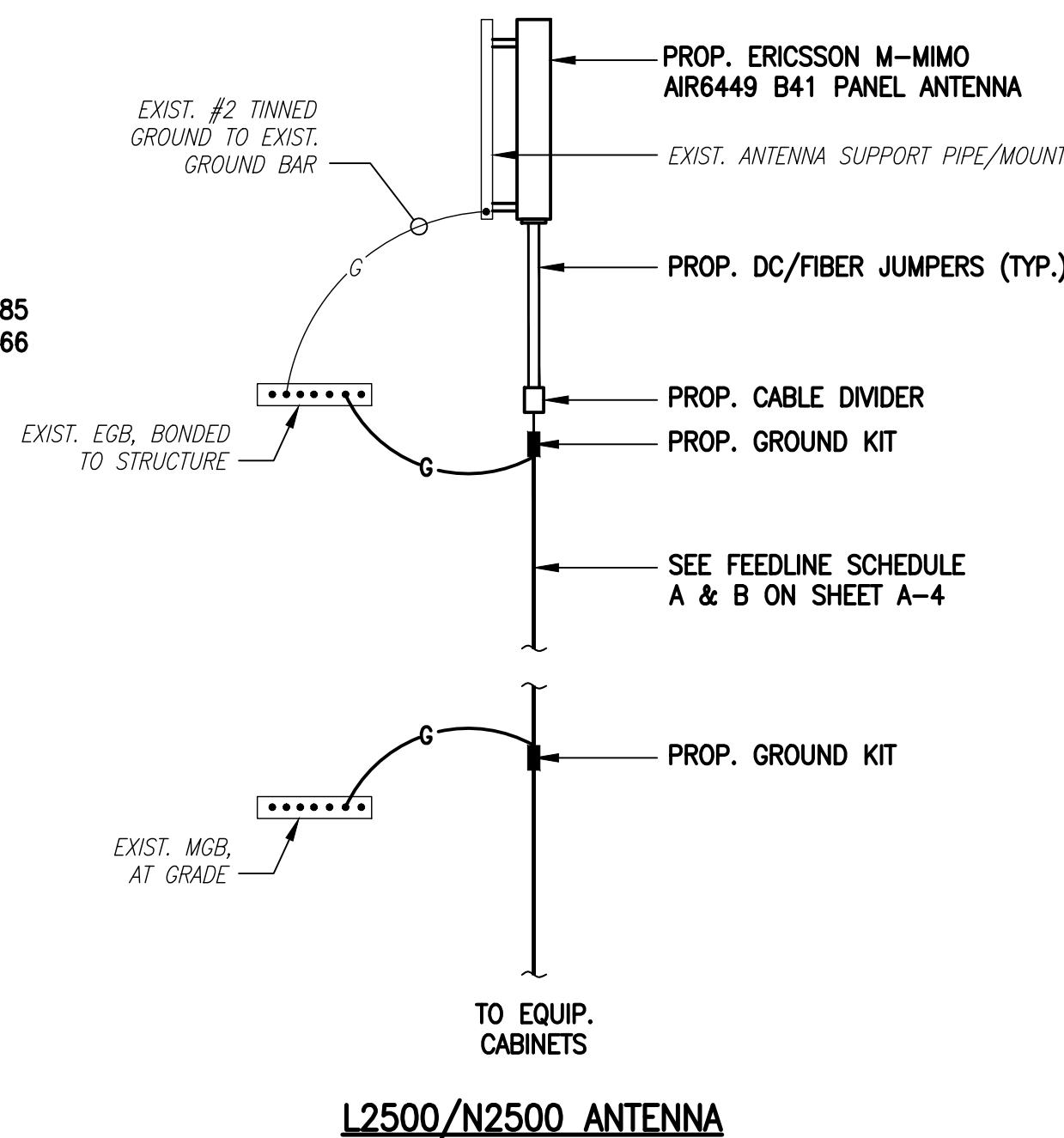
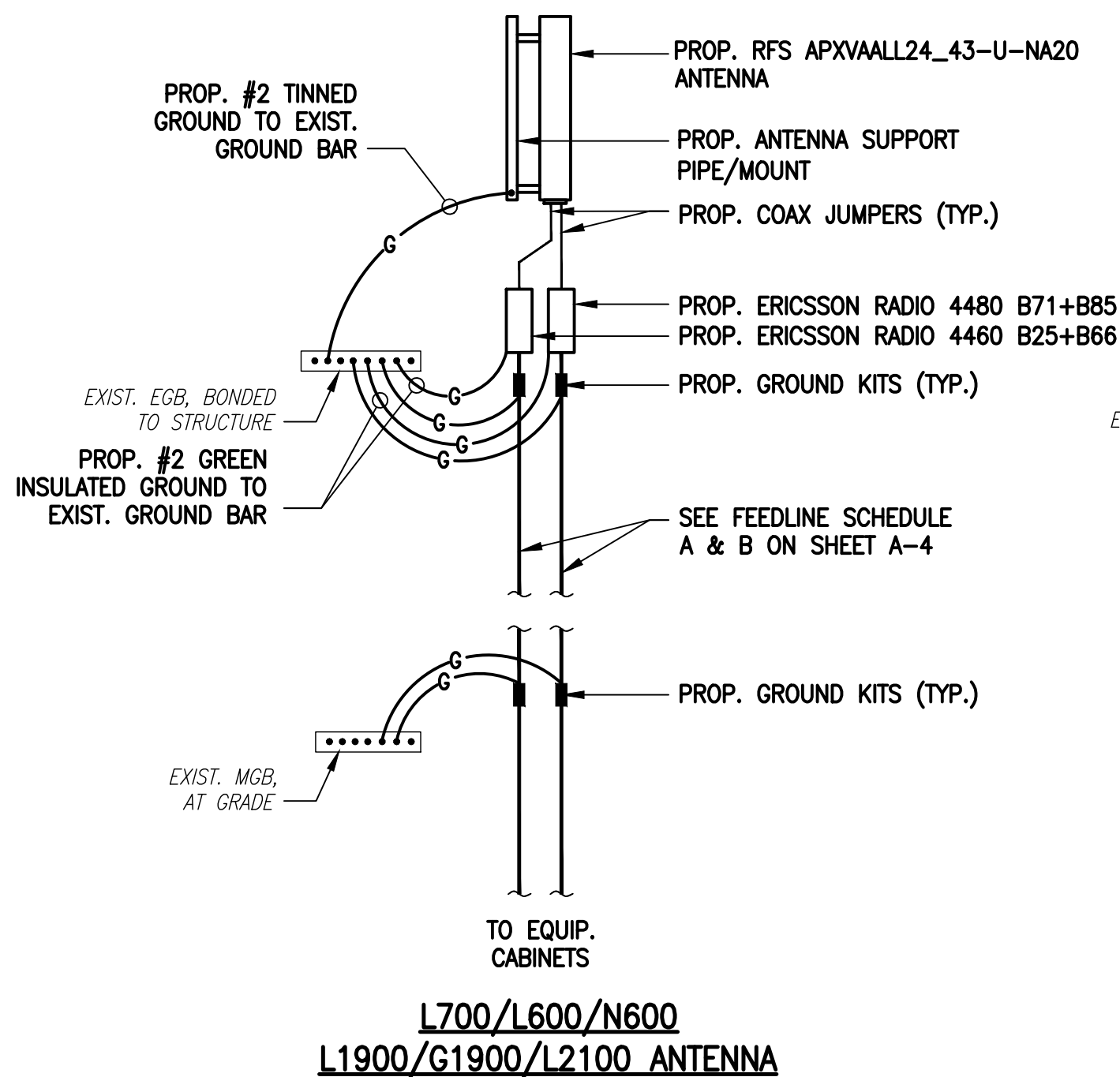
A-4

1815.233



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 DRAWINGS.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- 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.

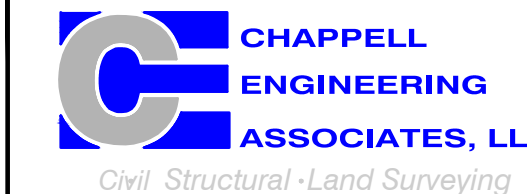


T-MOBILE NORTHEAST LLC

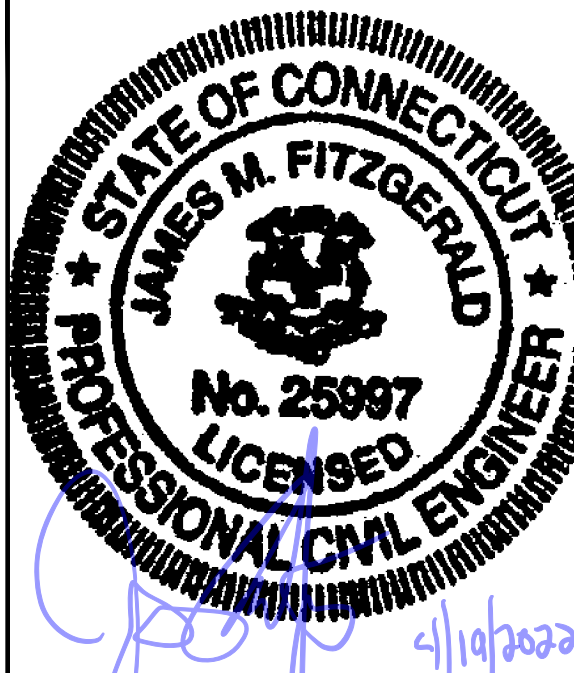
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SITE ADDRESS:
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NORWICH, CT 06360

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 180 ft Valmont Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01365-S

Customer Site Name: Norwich 2 CT

Carrier Name: T-Mobile Sprint (App#: 154248, V#4)

Carrier Site ID / Name: CT23XC501 / _

Site Location: 292 Plain Hill Road

Norwich, Connecticut

New London County

Latitude: 41.578199

Longitude: -72.103675

Analysis Result:

Max Structural Usage: 99.8% [Pass]

Max Foundation Usage: 83.0% [Pass]

Additional Usage Caused by Mount Modification: +2%

Report Prepared By : Mariana Franco





Tower Engineering Solutions

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Max Structural Usage: 99.8% [Pass]

Max Foundation Usage: 83.0% [Pass]

Additional Usage Caused by Mount Modification: +2%

Report Prepared By : Mariana Franco

Introduction

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

Sources of Information

Tower Drawings	Tower Design prepared by Valmont, job # 18407-99, dated 06/03/1999
Foundation Drawing	Foundation Design prepared by Valmont, job # 18407-99, dated 06/03/1999
Geotechnical Report	Geotechnical Report prepared by FDH, job # 1207121EG1, dated 08/13/2012
Modification Drawings	Modification Design prepared by FDH, job # 1316541400, dated 03/14/13
Mount Analysis	GeoStructural MA for T-Mobile Site # CTNL149A rev.1, dated 12/03/2021

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.17$, $S_1 = 0.061$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	177.0	3	RFS APXVAALL24 43-U-NA20 - Panel	Platform w/ Handrails	(3) 1.99" Hybrid - 6x24	T-Mobile Sprint
-		3	RFS APX16DWV-16DWVS-E-A20 - Panel			
-		3	Ericsson AIR6449 B41 - Panel			
-		4	4" x 2" x 3.5" RETs			
-		3	Ericsson 4424 B25 RRU			
-		3	Ericsson 4415 B66A RRU			
-		3	Ericsson 4449 B71 + B85 RRU			
-		3	10" x 8" x 3" Filter			
8	159.0	3	Samsung VZS01 - Panel	Modified Low Profile Platform w/ (3) Commscope BSAMNT-SBS-1-2	(11) 1 5/8" (2) 1 5/8" Hybrid	Verizon
9		6	Commscope SBNHH-1D65B- Panel			
10		3	Antel BXA-80040/4CF- Panel			
11		3	Samsung B2/B66A RRH-BR049 (RFV01U-D1A)			
12		3	Samsung B5/B13 RRH-BR04C (RFV01U-D2A)			
13		2	RFS DB-T1-6Z-8AB-0Z-OVP			
14	147.0	3	Powerwave - 7770 - Panel	Platform w/ Handrails	(12) 1 5/8" (2) 3" Conduit [Housing (4) 3/4" DC & (2) 1/2" Fiber]	AT&T
15		2	CCI - DMP65R-BU6DA - Panel			
16		4	CCI - DMP65R-BU8DA - Panel			
17		6	Powerwave LGP21401 TMA			
18		12	Kathrein 860 10025 RET			
19		3	Ericsson RRUS 12			
20		3	Ericsson RRUS 4478 B14			
21		3	Ericsson RRUS 4449 B5/B12			
22		3	Ericsson RRUS-A2			
23		2	Raycap DC6-48-60-18-8F COVP			
24	137.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/ Handrails Commscope MC-PK8-DSH	(1) 1.60" Hybrid	Dish Wireless
25		3	Fujitsu TA08025-B605 - RRU			
26		3	Fujitsu TA08025-B604 - RRU			
27		1	Raycap RDIDC-9181-PF-48 - OVP			
28	127.0	1	CS72188.01 LMU - Whip	Direct Mount	(1) 1/2" w/LMU	AT&T
29	52.0	1	GPS	-	(1) 1/2"	Sprint Nextel

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	RFS - APXVAALL24_43-U-NA20 - Panel	Platform w/ Handrail (SitePro1 HRK 12-U) + Mods (SitePro1 PRK-1245L Kicker Kit)	(3) 1.9" Fiber	T-Mobile Sprint
2		3	Ericsson - AIR6449 B41 - Panel			
3		4	RFS - ACU-A20-N - RET			
4		3	Ericsson - 4480 B71 + B85 - RRU			
5		3	Ericsson - 4460 B25 + B66 - RRU			
6		3	ALU - 1900 MHz - RRU			
7		3	ALU - 800 MHz - Filter			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	99.8%	96.9%	62.2%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	6332.1	50.4	90.3

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 1.7446 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 99.79% at 98.9ft

Structure: CT01365-S-SBA
Site Name: Norwich 2 CT
Height: 180.00 (ft)
Base Elev: 0.000 (ft)

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

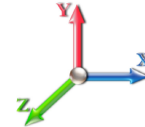
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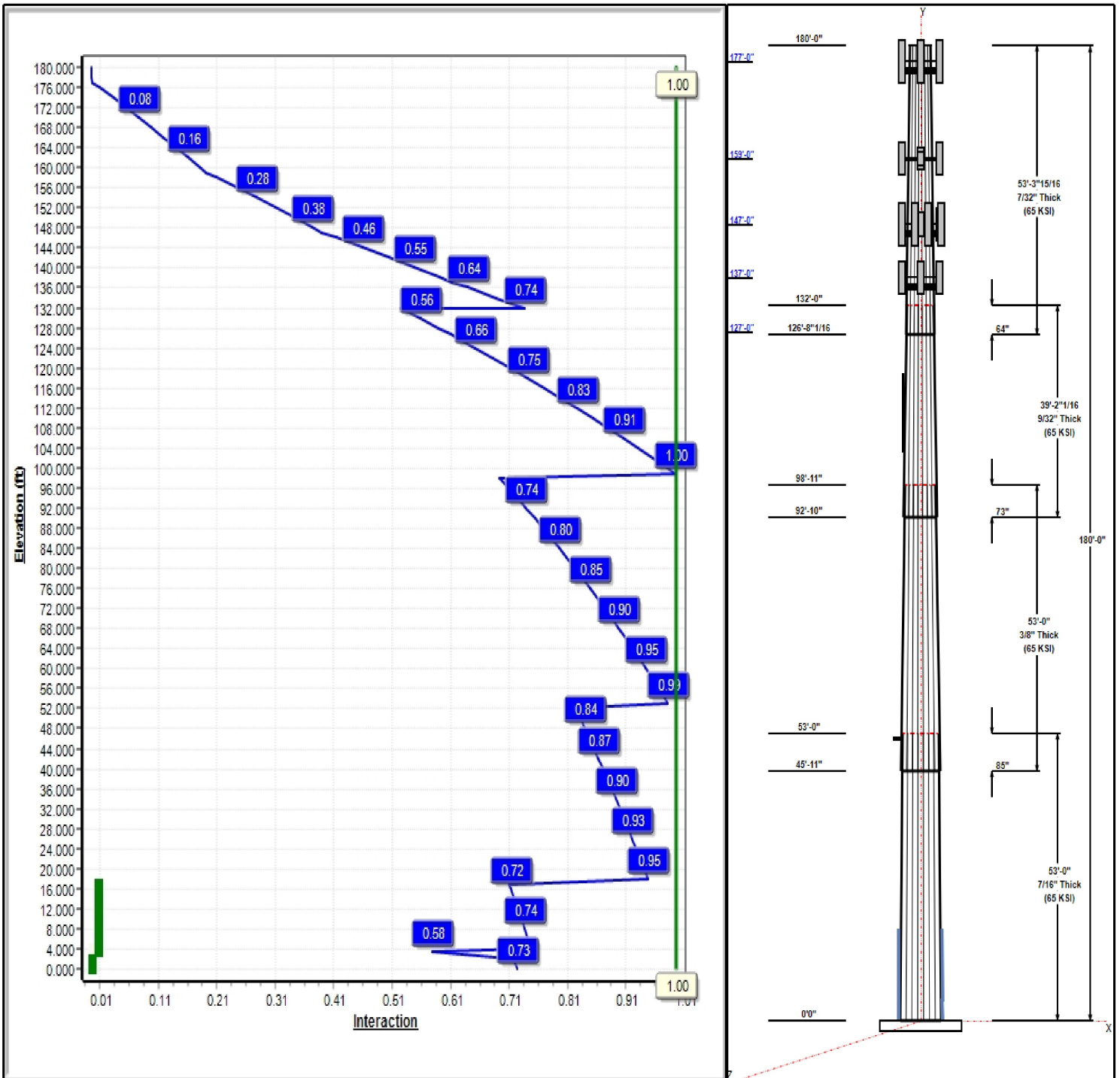
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 31

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Structure: CT01365-S-SBA

Type: Tapered
Site Name: Norwich 2 CT
Height: 180.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.18500

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Shaft Properties

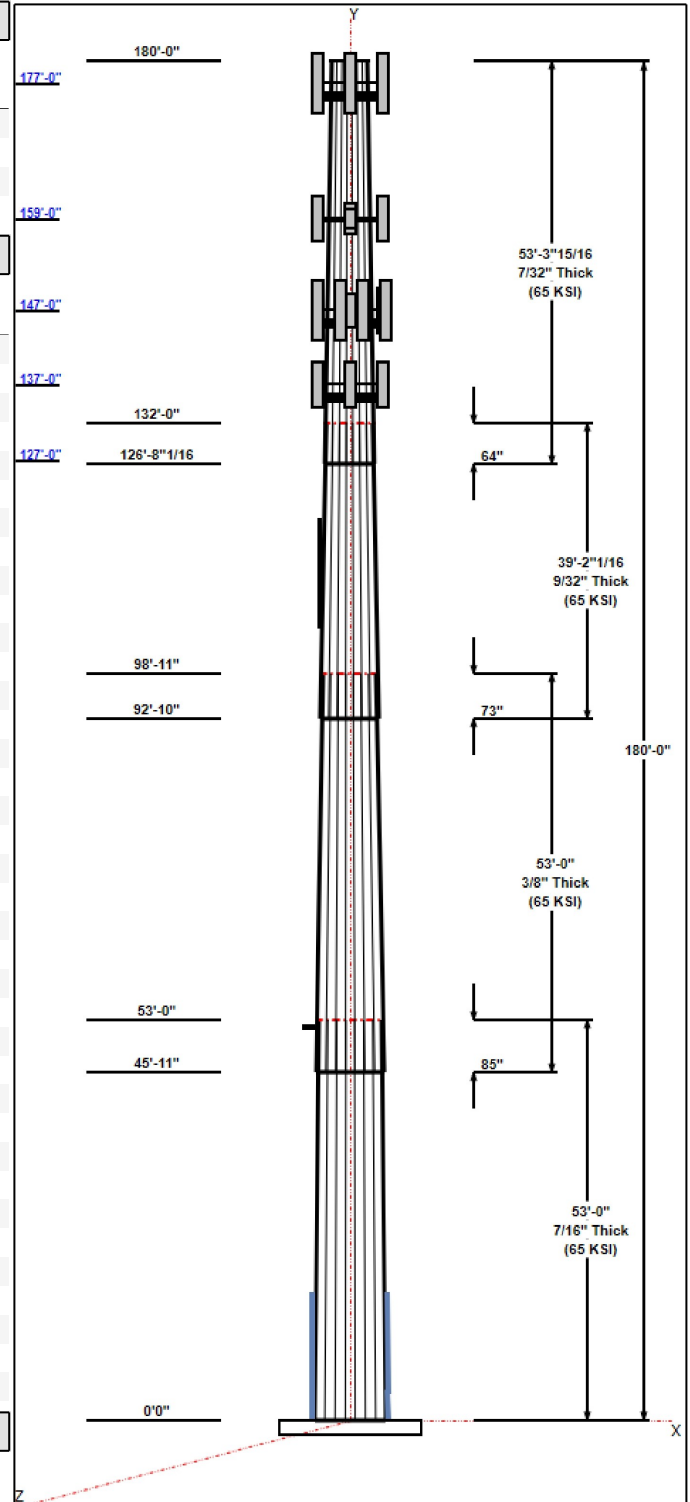
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.00	48.20	58.00	0.438		0.18500	65
2	53.00	40.45	50.26	0.375	Slip	0.18500	65
3	39.17	34.89	42.14	0.281	Slip	0.18500	65
4	53.33	26.45	36.32	0.219	Slip	0.18500	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
180.00	183.00	1	Lightning Rod	
177.00	177.00	1	Platform w/ Hand Rail	T-Mobile Sprint
177.00	177.00	1	PRK-1245 (kicker kit)	T-Mobile Sprint
177.00	177.00	3	APXVAALL24_43-U-NA20	T-Mobile Sprint
177.00	177.00	3	AIR6449 B41	T-Mobile Sprint
177.00	177.00	4	ACU-A20-N	T-Mobile Sprint
177.00	177.00	3	4480 Radio	T-Mobile Sprint
177.00	177.00	3	4460 Radio	T-Mobile Sprint
177.00	177.00	3	1900MHz RRH (65MHz)	T-Mobile Sprint
177.00	177.00	3	ALU 800MHz External	T-Mobile Sprint
159.00	159.00	3	Samsung VZS01	Verizon
159.00	159.00	3	BSAMNT-SBS-1-2	Verizon
159.00	159.00	3	B2/B66A	Verizon
159.00	159.00	3	B5/B13 RRH-BR04C	Verizon
159.00	159.00	2	DB-T1-6Z-8AB-0Z	Verizon
159.00	159.00	1	Low Profile Platform	Verizon
159.00	159.00	3	BXA-80040/4CF	Verizon
159.00	159.00	6	SBNHH-1D65B	Verizon
147.00	147.00	3	7770	AT&T
147.00	147.00	6	Powerwave LGP21401	AT&T
147.00	147.00	2	Raycap DC6-48-60-18-8F	AT&T
147.00	147.00	1	Platform w/ Hand Rails	AT&T
147.00	147.00	12	Kathrein 860 10025 RET	AT&T
147.00	147.00	3	Ericsson RRUS 12	AT&T
147.00	147.00	3	Ericsson RRUS-A2	AT&T
147.00	147.00	2	DMP65R-BU6DA	AT&T
147.00	147.00	4	DMP65R-BU8DA	AT&T
147.00	147.00	3	Ericsson RRUS 4478 B14	AT&T
147.00	147.00	3	Ericsson RRUS 4449	AT&T
137.00	137.00	3	MX08FRO665-21	Dish Wireless
137.00	137.00	3	TA08025-B605	Dish Wireless
137.00	137.00	3	TA08025-B604	Dish Wireless
137.00	137.00	1	RDIDC-9181-OF-48	Dish Wireless
137.00	137.00	1	MC-PK8-DSH	Dish Wireless
127.00	112.00	1	CS72188.01 LMU	AT&T
52.00	52.00	1	3 ft Standoff	Sprint Nextel
52.00	52.00	1	GPS	Sprint Nextel

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	177.00	Inside	1.9" Fiber	T-Mobile Sprint
0.00	159.00	Inside	1 5/8" Coax	Verizon
0.00	159.00	Inside	1 5/8" Hybrid	Verizon
0.00	147.00	Inside	1 5/8" Coax	AT&T
0.00	147.00	Inside	1/2" Fiber	AT&T



Structure: CT01365-S-SBA

Type: Tapered	Base Shape: 16 Sided	2/9/2022
Site Name: Norwich 2 CT	Taper: 0.18500	
Height: 180.00 (ft)		
Base Elev: 0.00 (ft)		Page: 3



0.00	147.00	Inside	3" Conduit	AT&T
0.00	147.00	Inside	3/4" DC	AT&T
0.00	137.00	Inside	1.60" Hybrid	Dish Wireless
0.00	127.00	Inside	1/2" w/LMU	AT&T
0.00	52.00	Outside	1/2" Coax	Sprint Nextel
0.00	20.00	Outside	1.25" Reinforcing plate	

Anchor Bolts

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

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	72.5	60.0	Polygon

Reactions

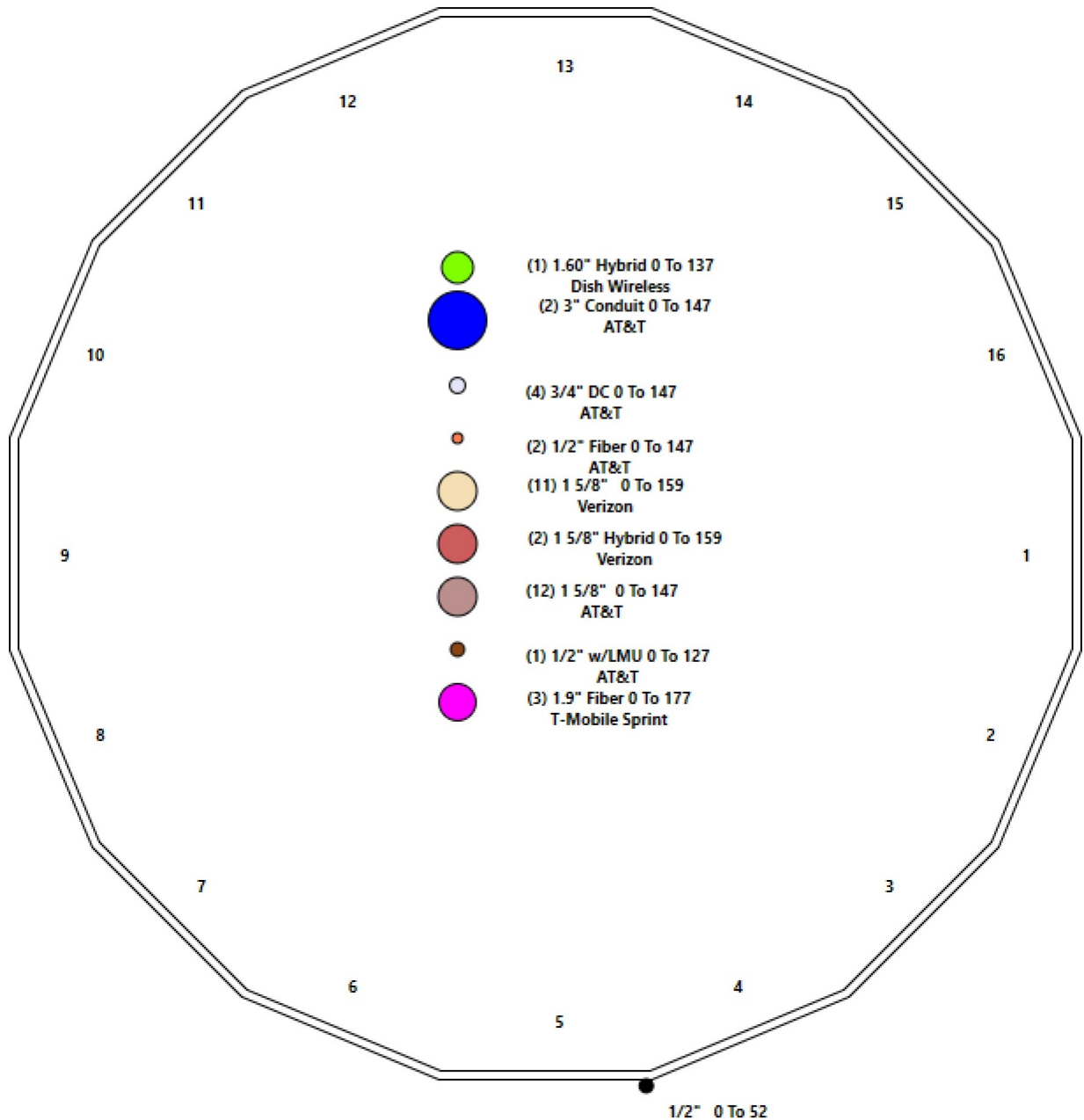
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	6332.1	50.4	59.0
0.9D + 1.6W 105 mph Wind	6251.4	50.4	44.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1526.2	11.8	90.3
1.2D + 1.0E	257.8	1.9	59.0
0.9D + 1.0E	254.2	1.9	44.2
1.0D + 1.0W 60 mph Wind	1284.9	10.3	49.2

Structure: CT01365-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Norwich 2 CT
Height: 180.00 (ft)

2/9/2022

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Shaft Properties

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	53.000	0.4380	65		0.00	13,269
2	16	53.000	0.3750	65	Slip	85.00	9,704
3	16	39.170	0.2810	65	Slip	73.00	4,568
4	16	53.330	0.2190	65	Slip	64.00	3,951
Total Shaft Weight:							31,492

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	58.00	0.00	80.43	33665.63	24.75	132.42	48.20	53.00	66.73	19226.0	20.30	110.0	0.185000
2	50.26	45.92	59.67	18755.41	25.07	134.01	40.45	98.92	47.94	9726.81	19.86	107.8	0.185000
3	42.14	92.83	37.52	8304.44	28.24	149.96	34.89	132.00	31.02	4694.95	23.11	124.1	0.185000
4	36.32	126.6	25.22	4151.11	31.39	165.83	26.45	180.00	18.33	1592.92	22.43	120.7	0.185000

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors			
							Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
0.00	4.00	6	PLT 1.25"x4.5" STFNR	65	80	0.00	AJM20&sleeve	0.00	AJM20&sleeve			
3.42	16.88	3	PLT 7.5"x1.25"(1.25"hole	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	14	14

Load Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 6



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	180.00	Lightning Rod	1	5.00	0.50	1.00	26.33	2.277	1.00	0.00	3.00
2	177.00	Platform w/ Hand Rail	1	1600.00	40.00	1.00	3734.89	75.487	1.00	0.00	0.00
3	177.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	794.87	19.614	1.00	0.00	0.00
4	177.00	APXVAALL24_43-U-NA20	3	122.80	20.24	0.73	558.55	22.173	0.75	0.00	0.00
5	177.00	AIR6449 B41	3	103.00	5.65	0.71	242.41	6.616	0.73	0.00	0.00
6	177.00	ACU-A20-N	4	1.00	0.14	0.50	5.37	0.442	0.50	0.00	0.00
7	177.00	4480 Radio	3	93.00	2.42	0.50	166.13	3.002	0.67	0.00	0.00
8	177.00	4460 Radio	3	109.00	2.14	0.50	182.11	2.655	0.67	0.00	0.00
9	177.00	1900MHz RRH (65MHz)	3	60.00	2.70	0.50	144.83	3.957	0.67	0.00	0.00
10	177.00	ALU 800MHz External Notch Filt	3	8.80	0.78	0.50	26.74	1.438	0.50	0.00	0.00
11	159.00	Samsung VZS01	3	87.10	4.30	0.69	198.92	5.189	0.69	0.00	0.00
12	159.00	BSAMNT-SBS-1-2	3	25.35	0.00	1.00	43.15	0.000	1.00	0.00	0.00
13	159.00	B2/B66A RRH-BR049(RFV01U-D1A)	3	67.50	1.87	0.50	144.61	2.447	0.50	0.00	0.00
14	159.00	B5/B13 RRH-BR04C (RFV01U-D2A)	3	82.00	1.87	0.50	151.87	2.447	0.50	0.00	0.00
15	159.00	DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.50	188.72	5.679	0.50	0.00	0.00
16	159.00	Low Profile Platform	1	1500.00	25.00	1.00	2816.56	45.187	1.00	0.00	0.00
17	159.00	BXA-80040/4CF	3	25.00	9.28	0.67	248.22	10.551	0.67	0.00	0.00
18	159.00	SBNHH-1D65B	6	40.60	8.08	0.78	243.61	9.380	0.78	0.00	0.00
19	147.00	7770	3	35.00	5.50	0.73	169.84	6.563	0.73	0.00	0.00
20	147.00	Powerwave LGP21401 TMA	6	19.00	1.29	0.50	52.62	2.124	0.50	0.00	0.00
21	147.00	Raycap DC6-48-60-18-8F COVP	2	32.80	0.92	0.50	96.44	1.357	0.50	1.00	0.00
22	147.00	Platform w/ Hand Rails (flat)	1	2000.00	40.00	1.00	4090.03	60.900	1.00	0.00	0.00
23	147.00	Kathrein 860 10025 RET	12	1.20	0.18	0.50	7.18	0.558	0.50	0.00	0.00
24	147.00	Ericsson RRUS 12	3	58.00	2.70	0.50	122.65	3.358	0.50	0.00	0.00
25	147.00	Ericsson RRUS-A2	3	22.00	1.86	0.50	59.40	2.832	0.50	0.00	0.00
26	147.00	DMP65R-BU6DA	2	79.40	9.66	0.81	366.20	14.195	0.81	0.00	0.00
27	147.00	DMP65R-BU8DA	4	95.70	12.75	0.77	471.76	19.689	0.77	0.00	0.00
28	147.00	Ericsson RRUS 4478 B14	3	59.40	1.65	0.50	100.78	2.167	0.50	0.00	0.00
29	147.00	Ericsson RRUS 4449 B5/B12	3	73.00	1.97	0.50	127.77	2.516	0.50	0.00	0.00
30	137.00	MX08FRO665-21	3	64.50	12.49	0.74	352.75	13.942	0.74	0.00	0.00
31	137.00	TA08025-B605	3	75.00	1.96	0.50	126.83	2.516	0.50	0.00	0.00
32	137.00	TA08025-B604	3	63.90	1.96	0.50	114.07	2.516	0.50	0.00	0.00
33	137.00	RDIDC-9181-OF-48	1	21.90	2.01	0.50	74.67	2.573	0.50	0.00	0.00
34	137.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3399.60	84.398	1.00	0.00	0.00
35	127.00	CS72188.01 LMU	1	35.00	6.41	1.00	187.54	11.458	1.00	1.50	-15.00
36	52.00	3 ft Standoff	1	40.00	2.63	1.00	112.21	7.999	1.00	0.00	0.00
37	52.00	GPS	1	0.20	0.11	1.00	0.92	0.542	1.00	1.00	0.00
Totals:			105	12,168.26			30,157.30				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	177.00	(3) 1.9" Fiber	0.00	Inside
0.00	159.00	(11) 1 5/8" Coax	0.00	Inside
0.00	159.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	147.00	(12) 1 5/8" Coax	0.00	Inside

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		
0.00	147.00	(2) 1/2" Fiber		0.00		Inside					
0.00	147.00	(2) 3" Conduit		0.00		Inside					
0.00	147.00	(4) 3/4" DC		0.00		Inside					
0.00	137.00	(1) 1.60" Hybrid		0.00		Inside					
0.00	127.00	(1) 1/2" w/LMU		0.00		Inside					
0.00	52.00	(1) 1/2" Coax		0.65		Outside					
0.00	20.00	(3) 1.25" Reinforcing plate		1.25		Outside					

Shaft Section Properties

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Increment Length: 2 (ft)

											Additional Reinforcing			
Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1	0.4380	58.000	80.427	33665.6	24.75	132.42	65	75	0.0	33.75	20101.4	12848.7	
2.00		0.4380	57.630	79.910	33020.6	24.58	131.58	65	75	545.6	33.75	19864.4	12697.2	229.7
3.42	RB2	0.4380	57.367	79.543	32567.7	24.46	130.98	65	75	385.2	61.88	33484.9	23015.7	299.0
4.00	RT1	0.4380	57.260	79.393	32383.9	24.41	130.73	65	75	156.8	28.13	13756.1	10383.4	55.5
6.00		0.4380	56.890	78.876	31755.4	24.24	129.89	65	75	538.6	28.13	13583.4	10253.1	191.4
8.00		0.4380	56.520	78.359	31135.1	24.08	129.04	65	75	535.0	28.13	13411.8	10123.8	191.4
10.00		0.4380	56.150	77.842	30522.9	23.91	128.20	65	76	531.5	28.13	13241.3	9995.2	191.4
12.00		0.4380	55.780	77.325	29918.8	23.74	127.35	65	76	528.0	28.13	13071.9	9867.5	191.4
14.00		0.4380	55.410	76.808	29322.7	23.57	126.51	65	76	524.5	28.13	12903.6	9740.6	191.4
16.00		0.4380	55.040	76.291	28734.6	23.40	125.66	65	76	521.0	28.13	12736.4	9614.5	191.4
16.88	RT2	0.4380	54.877	76.064	28478.3	23.33	125.29	65	76	228.1	28.13	12663.2	9559.3	84.2
18.00		0.4380	54.670	75.774	28154.4	23.24	124.82	65	76	289.3				
20.00		0.4380	54.300	75.257	27582.1	23.07	123.97	65	76	513.9				
22.00		0.4380	53.930	74.740	27017.5	22.90	123.13	65	77	510.4				
24.00		0.4380	53.560	74.223	26460.8	22.73	122.28	65	77	506.9				
26.00		0.4380	53.190	73.706	25911.7	22.56	121.44	65	77	503.4				
28.00		0.4380	52.820	73.189	25370.3	22.40	120.59	65	77	499.9				
30.00		0.4380	52.450	72.672	24836.5	22.23	119.75	65	77	496.3				
32.00		0.4380	52.080	72.155	24310.2	22.06	118.90	65	78	492.8				
34.00		0.4380	51.710	71.638	23791.4	21.89	118.06	65	78	489.3				
36.00		0.4380	51.340	71.121	23280.0	21.72	117.21	65	78	485.8				
38.00		0.4380	50.970	70.604	22776.1	21.56	116.37	65	78	482.3				
40.00		0.4380	50.600	70.087	22279.4	21.39	115.53	65	78	478.7				
42.00		0.4380	50.230	69.570	21790.0	21.22	114.68	65	79	475.2				
44.00		0.4380	49.860	69.053	21307.9	21.05	113.84	65	79	471.7				
45.92	Bot - Section 2	0.4380	49.505	68.558	20852.5	20.89	113.03	65	79	448.8				
46.00		0.4380	49.490	68.536	20832.9	20.88	112.99	65	79	36.4				
48.00		0.4380	49.120	68.019	20365.0	20.72	112.15	65	79	869.1				
50.00		0.4380	48.750	67.502	19904.2	20.55	111.30	65	79	862.6				
52.00		0.4380	48.380	66.986	19450.4	20.38	110.46	65	80	856.1				
53.00	Top - Section 1	0.3750	48.945	58.102	17315.7	24.37	130.52	65	75	425.6				
54.00		0.3750	48.760	57.881	17118.6	24.27	130.03	65	75	197.3				
56.00		0.3750	48.390	57.438	16728.9	24.08	129.04	65	75	392.4				
58.00		0.3750	48.020	56.995	16345.1	23.88	128.05	65	76	389.4				
60.00		0.3750	47.650	56.553	15967.3	23.68	127.07	65	76	386.4				
62.00		0.3750	47.280	56.110	15595.3	23.49	126.08	65	76	383.4				
64.00		0.3750	46.910	55.667	15229.1	23.29	125.09	65	76	380.4				
66.00		0.3750	46.540	55.225	14868.8	23.10	124.11	65	76	377.3				
68.00		0.3750	46.170	54.782	14514.1	22.90	123.12	65	77	374.3				
70.00		0.3750	45.800	54.340	14165.1	22.70	122.13	65	77	371.3				
72.00		0.3750	45.430	53.897	13821.8	22.51	121.15	65	77	368.3				
74.00		0.3750	45.060	53.454	13484.1	22.31	120.16	65	77	365.3				
76.00		0.3750	44.690	53.012	13151.9	22.11	119.17	65	78	362.3				
78.00		0.3750	44.320	52.569	12825.2	21.92	118.19	65	78	359.3				
80.00		0.3750	43.950	52.127	12504.0	21.72	117.20	65	78	356.3				
82.00		0.3750	43.580	51.684	12188.2	21.52	116.21	65	78	353.2				
84.00		0.3750	43.210	51.241	11877.7	21.33	115.23	65	78	350.2				
86.00		0.3750	42.840	50.799	11572.6	21.13	114.24	65	79	347.2				
88.00		0.3750	42.470	50.356	11272.7	20.94	113.25	65	79	344.2				
90.00		0.3750	42.100	49.914	10978.1	20.74	112.27	65	79	341.2				

Increment Length: 2 (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)
92.00		0.3750	41.730	49.471	10688.6	20.54	111.28	65	79	338.2				
92.83	Bot - Section 3	0.3750	41.576	49.286	10569.5	20.46	110.87	65	79	140.0				
94.00		0.3750	41.360	49.028	10404.3	20.35	110.29	65	80	343.7				
96.00		0.3750	40.990	48.586	10125.0	20.15	109.31	65	80	585.1				
98.00		0.3750	40.620	48.143	9850.8	19.95	108.32	65	80	579.8				
98.92	Top - Section 2	0.2810	41.012	36.511	7652.4	27.44	145.95	65	72	264.0				
100.00		0.2810	40.812	36.332	7540.0	27.30	145.24	65	72	134.3				
102.00		0.2810	40.442	36.000	7335.4	27.04	143.92	65	72	246.1				
104.00		0.2810	40.072	35.668	7134.5	26.77	142.60	65	72	243.9				
106.00		0.2810	39.702	35.337	6937.4	26.51	141.29	65	73	241.6				
108.00		0.2810	39.332	35.005	6743.8	26.25	139.97	65	73	239.4				
110.00		0.2810	38.962	34.673	6554.0	25.99	138.65	65	73	237.1				
112.00		0.2810	38.592	34.342	6367.7	25.73	137.34	65	73	234.8				
114.00		0.2810	38.222	34.010	6185.0	25.47	136.02	65	74	232.6				
116.00		0.2810	37.852	33.678	6005.8	25.20	134.70	65	74	230.3				
118.00		0.2810	37.482	33.347	5830.1	24.94	133.39	65	74	228.1				
120.00		0.2810	37.112	33.015	5657.9	24.68	132.07	65	75	225.8				
122.00		0.2810	36.742	32.683	5489.0	24.42	130.75	65	75	223.6				
124.00		0.2810	36.372	32.352	5323.6	24.16	129.44	65	75	221.3				
126.00		0.2810	36.002	32.020	5161.6	23.89	128.12	65	76	219.0				
126.67	Bot - Section 4	0.2810	35.878	31.909	5108.0	23.81	127.68	65	76	72.9				
127.00		0.2810	35.817	31.854	5081.8	23.76	127.46	65	76	64.1				
128.00		0.2810	35.632	31.688	5002.8	23.63	126.80	65	76	193.6				
130.00		0.2810	35.262	31.357	4847.4	23.37	125.49	65	76	384.1				
132.00		0.2810	34.892	31.025	4695.2	23.11	124.17	65	76	380.1				
132.00	Top - Section 3	0.2190	35.329	24.528	3819.9	30.50	161.32	65	68	0.6				
134.00		0.2190	34.960	24.270	3700.6	30.16	159.63	65	68	165.8				
136.00		0.2190	34.590	24.012	3583.7	29.83	157.95	65	69	164.3				
137.00		0.2190	34.405	23.883	3526.1	29.66	157.10	65	69	81.5				
138.00		0.2190	34.220	23.753	3469.2	29.49	156.26	65	69	81.0				
140.00		0.2190	33.850	23.495	3357.1	29.15	154.57	65	70	160.8				
142.00		0.2190	33.480	23.236	3247.5	28.82	152.88	65	70	159.0				
144.00		0.2190	33.110	22.978	3140.4	28.48	151.19	65	70	157.3				
146.00		0.2190	32.740	22.719	3035.6	28.15	149.50	65	71	155.5				
147.00		0.2190	32.555	22.590	2984.1	27.98	148.65	65	71	77.1				
148.00		0.2190	32.370	22.461	2933.1	27.81	147.81	65	71	76.6				
150.00		0.2190	32.000	22.203	2833.0	27.47	146.12	65	71	152.0				
152.00		0.2190	31.630	21.944	2735.2	27.14	144.43	65	72	150.2				
154.00		0.2190	31.260	21.686	2639.7	26.80	142.74	65	72	148.5				
156.00		0.2190	30.890	21.427	2546.4	26.47	141.05	65	73	146.7				
158.00		0.2190	30.520	21.169	2455.4	26.13	139.36	65	73	144.9				
159.00		0.2190	30.335	21.039	2410.7	25.96	138.52	65	73	71.8				
160.00		0.2190	30.150	20.910	2366.5	25.79	137.67	65	73	71.4				
162.00		0.2190	29.780	20.652	2279.9	25.46	135.98	65	74	141.4				
164.00		0.2190	29.410	20.393	2195.3	25.12	134.29	65	74	139.7				
166.00		0.2190	29.040	20.135	2112.9	24.79	132.60	65	75	137.9				
168.00		0.2190	28.670	19.876	2032.6	24.45	130.91	65	75	136.1				
170.00		0.2190	28.300	19.618	1954.3	24.11	129.22	65	75	134.4				
172.00		0.2190	27.930	19.359	1878.0	23.78	127.53	65	76	132.6				
174.00		0.2190	27.560	19.101	1803.8	23.44	125.84	65	76	130.9				
176.00		0.2190	27.190	18.842	1731.6	23.10	124.16	65	76	129.1				
177.00		0.2190	27.005	18.713	1696.2	22.94	123.31	65	77	63.9				
178.00		0.2190	26.820	18.584	1661.3	22.77	122.47	65	77	63.5				
180.00		0.2190	26.450	18.325	1592.9	22.43	120.78	65	77	125.6				
Total Weight										31491.9	1816.8			

Wind Loading - Shaft

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 12



Totals:	180.00	26,611.8	37,790.2
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Discrete Appurtenance Forces

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

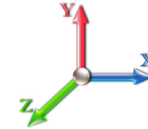
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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	180.00	Lightning Rod	1	38.539	42.393	1.00	1.00	0.50	6.00	0.000	3.000	33.91	0.00	101.74
2	177.00	ACU-A20-N	4	38.269	42.096	0.38	0.75	0.21	4.80	0.000	0.000	14.14	0.00	0.00
3	177.00	Platform w/ Hand Rail	1	38.269	42.096	1.00	1.00	40.00	1920.00	0.000	0.000	2694.16	0.00	0.00
4	177.00	APXVAALL24_43-U-NA20	3	38.269	42.096	0.55	0.75	33.24	442.08	0.000	0.000	2239.13	0.00	0.00
5	177.00	AIR6449 B41	3	38.269	42.096	0.53	0.75	9.03	370.80	0.000	0.000	607.93	0.00	0.00
6	177.00	PRK-1245 (kicker kit)	1	38.269	42.096	1.00	1.00	9.50	557.89	0.000	0.000	639.86	0.00	0.00
7	177.00	4460 Radio	3	38.269	42.096	0.38	0.75	2.41	392.40	0.000	0.000	162.15	0.00	0.00
8	177.00	1900MHz RRH (65MHz)	3	38.269	42.096	0.38	0.75	3.04	216.00	0.000	0.000	204.59	0.00	0.00
9	177.00	ALU 800MHz External	3	38.269	42.096	0.38	0.75	0.88	31.68	0.000	0.000	59.10	0.00	0.00
10	177.00	4480 Radio	3	38.269	42.096	0.38	0.75	2.72	334.80	0.000	0.000	183.37	0.00	0.00
11	159.00	B5/B13 RRH-BR04C	3	37.415	41.156	0.40	0.80	2.24	295.20	0.000	0.000	147.77	0.00	0.00
12	159.00	Samsung VZS01	3	37.415	41.156	0.55	0.80	7.12	313.56	0.000	0.000	468.91	0.00	0.00
13	159.00	BSAMNT-SBS-1-2	3	37.415	41.156	1.00	1.00	0.00	91.26	0.000	0.000	0.00	0.00	0.00
14	159.00	B2/B66A	3	37.415	41.156	0.40	0.80	2.24	243.00	0.000	0.000	147.77	0.00	0.00
15	159.00	BXA-80040/4CF ____	3	37.415	41.156	0.54	0.80	14.92	90.00	0.000	0.000	982.63	0.00	0.00
16	159.00	DB-T1-6Z-8AB-OZ	2	37.415	41.156	0.40	0.80	3.84	105.60	0.000	0.000	252.86	0.00	0.00
17	159.00	Low Profile Platform	1	37.415	41.156	1.00	1.00	25.00	1800.00	0.000	0.000	1646.26	0.00	0.00
18	159.00	SBNHH-1D65B	6	37.415	41.156	0.62	0.80	30.25	292.32	0.000	0.000	1992.07	0.00	0.00
19	147.00	Ericsson RRUS 4449	3	36.802	40.482	0.38	0.75	2.22	262.80	0.000	0.000	143.55	0.00	0.00
20	147.00	Kathrein 860 10025 RET	12	36.802	40.482	0.38	0.75	0.81	17.28	0.000	0.000	52.46	0.00	0.00
21	147.00	7770	3	36.802	40.482	0.55	0.75	9.03	126.00	0.000	0.000	585.13	0.00	0.00
22	147.00	Powerwave LGP21401	6	36.802	40.482	0.38	0.75	2.90	136.80	0.000	0.000	188.00	0.00	0.00
23	147.00	Raycap DC6-48-60-18-8F	2	36.802	40.482	0.38	0.75	0.69	78.72	2.383	0.000	44.69	66.56	0.00
24	147.00	Platform w/ Hand Rails	1	36.802	40.482	1.00	1.00	40.00	2400.00	0.000	0.000	2590.85	0.00	0.00
25	147.00	Ericsson RRUS 4478 B14	3	36.802	40.482	0.38	0.75	1.86	213.84	0.000	0.000	120.23	0.00	0.00
26	147.00	Ericsson RRUS-A2	3	36.802	40.482	0.38	0.75	2.09	79.20	0.000	0.000	135.53	0.00	0.00
27	147.00	DMP65R-BU6DA	2	36.802	40.482	0.61	0.75	11.74	190.56	0.000	0.000	760.21	0.00	0.00
28	147.00	DMP65R-BU8DA	4	36.802	40.482	0.58	0.75	29.45	459.36	0.000	0.000	1907.68	0.00	0.00
29	147.00	Ericsson RRUS 12	3	36.802	40.482	0.38	0.75	3.04	208.80	0.000	0.000	196.74	0.00	0.00
30	137.00	TA08025-B605	3	36.260	39.886	0.38	0.75	2.21	270.00	0.000	0.000	140.72	0.00	0.00
31	137.00	MX08FRO665-21	3	36.260	39.886	0.55	0.75	20.80	232.20	0.000	0.000	1327.14	0.00	0.00
32	137.00	RDIDC-9181-OF-48	1	36.260	39.886	0.38	0.75	0.75	26.28	0.000	0.000	48.10	0.00	0.00
33	137.00	TA08025-B604	3	36.260	39.886	0.38	0.75	2.21	230.04	0.000	0.000	140.72	0.00	0.00
34	137.00	MC-PK8-DSH	1	36.260	39.886	1.00	1.00	37.59	2072.40	0.000	0.000	2398.91	0.00	0.00
35	127.00	CS72188.01 LMU	1	34.754	38.230	1.00	1.00	6.41	42.00	3.022	-15.000	392.08	740.45	-5881.24
36	52.00	GPS	1	29.570	32.527	1.00	1.00	0.11	0.24	3.055	0.000	5.72	10.93	0.00
37	52.00	3 ft Standoff	1	29.570	32.527	1.00	1.00	2.63	48.00	0.000	0.000	136.88	0.00	0.00

Totals: 14,601.91

23,791.96

Total Applied Force Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

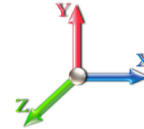


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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 31

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
2.00		295.56	740.72	0.00	0.00
3.42		208.70	523.35	0.00	0.00
4.00		84.97	213.15	0.00	0.00
6.00		291.78	732.28	0.00	0.00
8.00		289.89	728.06	0.00	0.00
10.00		288.00	723.84	0.00	0.00
12.00		286.11	719.61	0.00	0.00
14.00		284.21	715.39	0.00	0.00
16.00		285.81	711.17	0.00	0.00
16.88		126.57	311.58	0.00	0.00
18.00		162.73	395.37	0.00	0.00
20.00		295.54	702.73	0.00	0.00
22.00		299.48	698.50	0.00	0.00
24.00		302.94	694.28	0.00	0.00
26.00		305.96	690.06	0.00	0.00
28.00		308.62	685.84	0.00	0.00
30.00		310.95	681.62	0.00	0.00
32.00		312.99	677.39	0.00	0.00
34.00		314.76	673.17	0.00	0.00
36.00		316.30	668.95	0.00	0.00
38.00		317.63	664.73	0.00	0.00
40.00		318.75	660.51	0.00	0.00
42.00		319.70	656.29	0.00	0.00
44.00		320.47	652.06	0.00	0.00
45.92		307.65	620.93	0.00	0.00
46.00		13.53	47.21	0.00	0.00
48.00		326.46	1128.96	0.00	0.00
50.00		326.85	1121.13	0.00	0.00
52.00	(2) attachments	469.70	1161.53	10.93	0.00
53.00		163.28	553.51	0.00	0.00
54.00		163.31	279.61	0.00	0.00
56.00		327.26	556.52	0.00	0.00
58.00		327.18	552.90	0.00	0.00
60.00		326.99	549.29	0.00	0.00
62.00		326.71	545.67	0.00	0.00
64.00		326.34	542.06	0.00	0.00
66.00		325.88	538.44	0.00	0.00
68.00		325.33	534.83	0.00	0.00
70.00		324.71	531.21	0.00	0.00
72.00		324.02	527.60	0.00	0.00
74.00		323.25	523.98	0.00	0.00
76.00		322.41	520.37	0.00	0.00
78.00		321.50	516.75	0.00	0.00
80.00		320.53	513.14	0.00	0.00
82.00		319.50	509.53	0.00	0.00
84.00		318.41	505.91	0.00	0.00

Total Applied Force Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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86.00		317.27	502.30	0.00	0.00
88.00		316.06	498.68	0.00	0.00
90.00		314.81	495.07	0.00	0.00
92.00		313.50	491.45	0.00	0.00
92.83		130.06	203.70	0.00	0.00
94.00		184.21	462.41	0.00	0.00
96.00		314.98	787.70	0.00	0.00
98.00		313.55	781.38	0.00	0.00
98.92		143.05	356.02	0.00	0.00
100.00		168.69	207.50	0.00	0.00
102.00		310.54	380.99	0.00	0.00
104.00		308.97	378.28	0.00	0.00
106.00		307.36	375.57	0.00	0.00
108.00		305.71	372.86	0.00	0.00
110.00		304.02	370.15	0.00	0.00
112.00		302.29	367.44	0.00	0.00
114.00		300.53	364.73	0.00	0.00
116.00		298.72	362.03	0.00	0.00
118.00		296.88	359.32	0.00	0.00
120.00		295.01	356.61	0.00	0.00
122.00		293.10	353.90	0.00	0.00
124.00		291.16	351.19	0.00	0.00
126.00		289.19	348.48	0.00	0.00
126.67		96.32	116.14	0.00	0.00
127.00	(1) attachments	440.01	133.04	740.45	-5881.24
128.00		144.97	274.89	0.00	0.00
130.00		288.67	546.17	0.00	0.00
132.00		286.61	541.35	0.00	0.00
132.00		0.48	0.90	0.00	0.00
134.00		284.05	284.04	0.00	0.00
136.00		282.41	282.40	0.00	0.00
137.00	(11) attachments	4195.88	2971.33	0.00	0.00
138.00		139.75	138.68	0.00	0.00
140.00		278.09	275.78	0.00	0.00
142.00		275.89	273.67	0.00	0.00
144.00		273.66	271.56	0.00	0.00
146.00		271.41	269.45	0.00	0.00
147.00	(42) attachments	6859.83	4307.29	66.56	0.00
148.00		134.18	112.09	0.00	0.00
150.00		266.82	222.60	0.00	0.00
152.00		264.49	220.49	0.00	0.00
154.00		262.13	218.38	0.00	0.00
156.00		259.75	216.27	0.00	0.00
158.00		257.35	214.16	0.00	0.00
159.00	(24) attachments	5765.95	3337.23	0.00	0.00
160.00		127.07	89.39	0.00	0.00
162.00		252.47	177.20	0.00	0.00
164.00		250.00	175.09	0.00	0.00
166.00		247.51	172.98	0.00	0.00
168.00		244.99	170.87	0.00	0.00
170.00		242.45	168.75	0.00	0.00
172.00		239.89	166.64	0.00	0.00
174.00		237.31	164.53	0.00	0.00
176.00		234.71	162.42	0.00	0.00
177.00	(24) attachments	6920.74	4350.87	0.00	0.00
178.00		115.65	76.15	0.00	0.00
180.00	(1) attachments	263.36	156.71	0.00	101.74

Total Applied Force Summary

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	
		Struct Class:	II	Page: 16



Totals:	50,403.75	58,988.97	817.95	-5,779.50
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Linear Appurtenance Segment Forces (Factored)

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

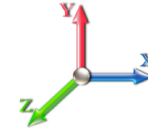


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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 31

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)
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.032	0.000	22.791	0.00	0.38
2.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	22.791	0.00	0.00
3.42	1/2" Coax	Yes	1.42	0.000	0.65	0.08	0.00	0.032	0.000	22.791	0.00	0.27
3.42	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.15	0.00	0.032	0.000	22.791	0.00	0.00
4.00	1/2" Coax	Yes	0.58	0.000	0.65	0.03	0.00	0.033	0.000	22.791	0.00	0.11
4.00	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.033	0.000	22.791	0.00	0.00
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.38
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.38
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.38
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.38
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	22.791	0.00	0.38
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	22.791	0.00	0.00
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	23.072	0.00	0.38
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	23.072	0.00	0.00
16.88	1/2" Coax	Yes	0.88	0.000	0.65	0.05	0.00	0.034	0.000	23.334	0.00	0.17
16.88	1.25" Reinforcing	Yes	0.88	0.000	1.25	0.09	0.00	0.034	0.000	23.334	0.00	0.00
18.00	1/2" Coax	Yes	1.12	0.000	0.65	0.06	0.00	0.034	0.000	23.652	0.00	0.22
18.00	1.25" Reinforcing	Yes	1.12	0.000	1.25	0.12	0.00	0.034	0.000	23.652	0.00	0.00
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	24.182	0.00	0.38
20.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	24.182	0.00	0.00
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	24.672	0.00	0.38
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	25.128	0.00	0.38
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	25.555	0.00	0.38
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	25.957	0.00	0.38
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	26.337	0.00	0.38
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	26.697	0.00	0.38
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	27.040	0.00	0.38
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	27.367	0.00	0.38
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	27.681	0.00	0.38
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	27.981	0.00	0.38
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	28.270	0.00	0.38
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	28.548	0.00	0.38
45.92	1/2" Coax	Yes	1.92	0.000	0.65	0.10	0.00	0.013	0.000	28.806	0.00	0.37
46.00	1/2" Coax	Yes	0.08	0.000	0.65	0.00	0.00	0.013	0.000	28.817	0.00	0.02
48.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	29.076	0.00	0.38
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	29.327	0.00	0.38
52.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	29.570	0.00	0.38
Totals:											0.0	10.0

Calculated Forces

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 20



Wind Loading - Shaft

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 23



Totals:	180.00	26,611.8	28,342.7
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Discrete Appurtenance Forces

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

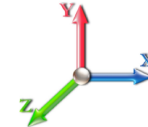
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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 31

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	180.00	Lightning Rod	1	38.539	42.393	1.00	1.00	0.50	4.50	0.000	3.000	33.91	0.00	101.74
2	177.00	ACU-A20-N	4	38.269	42.096	0.38	0.75	0.21	3.60	0.000	0.000	14.14	0.00	0.00
3	177.00	Platform w/ Hand Rail	1	38.269	42.096	1.00	1.00	40.00	1440.00	0.000	0.000	2694.16	0.00	0.00
4	177.00	APXVAALL24_43-U-NA20	3	38.269	42.096	0.55	0.75	33.24	331.56	0.000	0.000	2239.13	0.00	0.00
5	177.00	AIR6449 B41	3	38.269	42.096	0.53	0.75	9.03	278.10	0.000	0.000	607.93	0.00	0.00
6	177.00	PRK-1245 (kicker kit)	1	38.269	42.096	1.00	1.00	9.50	418.42	0.000	0.000	639.86	0.00	0.00
7	177.00	4460 Radio	3	38.269	42.096	0.38	0.75	2.41	294.30	0.000	0.000	162.15	0.00	0.00
8	177.00	1900MHz RRH (65MHz)	3	38.269	42.096	0.38	0.75	3.04	162.00	0.000	0.000	204.59	0.00	0.00
9	177.00	ALU 800MHz External	3	38.269	42.096	0.38	0.75	0.88	23.76	0.000	0.000	59.10	0.00	0.00
10	177.00	4480 Radio	3	38.269	42.096	0.38	0.75	2.72	251.10	0.000	0.000	183.37	0.00	0.00
11	159.00	B5/B13 RRH-BR04C	3	37.415	41.156	0.40	0.80	2.24	221.40	0.000	0.000	147.77	0.00	0.00
12	159.00	Samsung VZS01	3	37.415	41.156	0.55	0.80	7.12	235.17	0.000	0.000	468.91	0.00	0.00
13	159.00	BSAMNT-SBS-1-2	3	37.415	41.156	1.00	1.00	0.00	68.45	0.000	0.000	0.00	0.00	0.00
14	159.00	B2/B66A	3	37.415	41.156	0.40	0.80	2.24	182.25	0.000	0.000	147.77	0.00	0.00
15	159.00	BXA-80040/4CF ____	3	37.415	41.156	0.54	0.80	14.92	67.50	0.000	0.000	982.63	0.00	0.00
16	159.00	DB-T1-6Z-8AB-OZ	2	37.415	41.156	0.40	0.80	3.84	79.20	0.000	0.000	252.86	0.00	0.00
17	159.00	Low Profile Platform	1	37.415	41.156	1.00	1.00	25.00	1350.00	0.000	0.000	1646.26	0.00	0.00
18	159.00	SBNHH-1D65B	6	37.415	41.156	0.62	0.80	30.25	219.24	0.000	0.000	1992.07	0.00	0.00
19	147.00	Ericsson RRUS 4449	3	36.802	40.482	0.38	0.75	2.22	197.10	0.000	0.000	143.55	0.00	0.00
20	147.00	Kathrein 860 10025 RET	12	36.802	40.482	0.38	0.75	0.81	12.96	0.000	0.000	52.46	0.00	0.00
21	147.00	7770	3	36.802	40.482	0.55	0.75	9.03	94.50	0.000	0.000	585.13	0.00	0.00
22	147.00	Powerwave LGP21401	6	36.802	40.482	0.38	0.75	2.90	102.60	0.000	0.000	188.00	0.00	0.00
23	147.00	Raycap DC6-48-60-18-8F	2	36.802	40.482	0.38	0.75	0.69	59.04	2.383	0.000	44.69	66.56	0.00
24	147.00	Platform w/ Hand Rails	1	36.802	40.482	1.00	1.00	40.00	1800.00	0.000	0.000	2590.85	0.00	0.00
25	147.00	Ericsson RRUS 4478 B14	3	36.802	40.482	0.38	0.75	1.86	160.38	0.000	0.000	120.23	0.00	0.00
26	147.00	Ericsson RRUS-A2	3	36.802	40.482	0.38	0.75	2.09	59.40	0.000	0.000	135.53	0.00	0.00
27	147.00	DMP65R-BU6DA	2	36.802	40.482	0.61	0.75	11.74	142.92	0.000	0.000	760.21	0.00	0.00
28	147.00	DMP65R-BU8DA	4	36.802	40.482	0.58	0.75	29.45	344.52	0.000	0.000	1907.68	0.00	0.00
29	147.00	Ericsson RRUS 12	3	36.802	40.482	0.38	0.75	3.04	156.60	0.000	0.000	196.74	0.00	0.00
30	137.00	TA08025-B605	3	36.260	39.886	0.38	0.75	2.21	202.50	0.000	0.000	140.72	0.00	0.00
31	137.00	MX08FRO665-21	3	36.260	39.886	0.55	0.75	20.80	174.15	0.000	0.000	1327.14	0.00	0.00
32	137.00	RDIDC-9181-OF-48	1	36.260	39.886	0.38	0.75	0.75	19.71	0.000	0.000	48.10	0.00	0.00
33	137.00	TA08025-B604	3	36.260	39.886	0.38	0.75	2.21	172.53	0.000	0.000	140.72	0.00	0.00
34	137.00	MC-PK8-DSH	1	36.260	39.886	1.00	1.00	37.59	1554.30	0.000	0.000	2398.91	0.00	0.00
35	127.00	CS72188.01 LMU	1	34.754	38.230	1.00	1.00	6.41	31.50	3.022	-15.000	392.08	740.45	-5881.24
36	52.00	GPS	1	29.570	32.527	1.00	1.00	0.11	0.18	3.055	0.000	5.72	10.93	0.00
37	52.00	3 ft Standoff	1	29.570	32.527	1.00	1.00	2.63	36.00	0.000	0.000	136.88	0.00	0.00

Totals: 10,951.43

23,791.96

Total Applied Force Summary

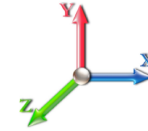
Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 31

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
2.00		295.56	555.54	0.00	0.00
3.42		208.70	392.51	0.00	0.00
4.00		84.97	159.86	0.00	0.00
6.00		291.78	549.21	0.00	0.00
8.00		289.89	546.04	0.00	0.00
10.00		288.00	542.88	0.00	0.00
12.00		286.11	539.71	0.00	0.00
14.00		284.21	536.54	0.00	0.00
16.00		285.81	533.38	0.00	0.00
16.88		126.57	233.68	0.00	0.00
18.00		162.73	296.53	0.00	0.00
20.00		295.54	527.04	0.00	0.00
22.00		299.48	523.88	0.00	0.00
24.00		302.94	520.71	0.00	0.00
26.00		305.96	517.55	0.00	0.00
28.00		308.62	514.38	0.00	0.00
30.00		310.95	511.21	0.00	0.00
32.00		312.99	508.05	0.00	0.00
34.00		314.76	504.88	0.00	0.00
36.00		316.30	501.71	0.00	0.00
38.00		317.63	498.55	0.00	0.00
40.00		318.75	495.38	0.00	0.00
42.00		319.70	492.21	0.00	0.00
44.00		320.47	489.05	0.00	0.00
45.92		307.65	465.70	0.00	0.00
46.00		13.53	35.41	0.00	0.00
48.00		326.46	846.72	0.00	0.00
50.00		326.85	840.84	0.00	0.00
52.00	(2) attachments	469.70	871.15	10.93	0.00
53.00		163.28	415.14	0.00	0.00
54.00		163.31	209.71	0.00	0.00
56.00		327.26	417.39	0.00	0.00
58.00		327.18	414.68	0.00	0.00
60.00		326.99	411.96	0.00	0.00
62.00		326.71	409.25	0.00	0.00
64.00		326.34	406.54	0.00	0.00
66.00		325.88	403.83	0.00	0.00
68.00		325.33	401.12	0.00	0.00
70.00		324.71	398.41	0.00	0.00
72.00		324.02	395.70	0.00	0.00
74.00		323.25	392.99	0.00	0.00
76.00		322.41	390.28	0.00	0.00
78.00		321.50	387.57	0.00	0.00
80.00		320.53	384.85	0.00	0.00
82.00		319.50	382.14	0.00	0.00
84.00		318.41	379.43	0.00	0.00

Total Applied Force Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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86.00		317.27	376.72	0.00	0.00
88.00		316.06	374.01	0.00	0.00
90.00		314.81	371.30	0.00	0.00
92.00		313.50	368.59	0.00	0.00
92.83		130.06	152.78	0.00	0.00
94.00		184.21	346.81	0.00	0.00
96.00		314.98	590.78	0.00	0.00
98.00		313.55	586.03	0.00	0.00
98.92		143.05	267.01	0.00	0.00
100.00		168.69	155.62	0.00	0.00
102.00		310.54	285.74	0.00	0.00
104.00		308.97	283.71	0.00	0.00
106.00		307.36	281.68	0.00	0.00
108.00		305.71	279.64	0.00	0.00
110.00		304.02	277.61	0.00	0.00
112.00		302.29	275.58	0.00	0.00
114.00		300.53	273.55	0.00	0.00
116.00		298.72	271.52	0.00	0.00
118.00		296.88	269.49	0.00	0.00
120.00		295.01	267.46	0.00	0.00
122.00		293.10	265.42	0.00	0.00
124.00		291.16	263.39	0.00	0.00
126.00		289.19	261.36	0.00	0.00
126.67		96.32	87.10	0.00	0.00
127.00	(1) attachments	440.01	99.78	740.45	-5881.24
128.00		144.97	206.17	0.00	0.00
130.00		288.67	409.63	0.00	0.00
132.00		286.61	406.01	0.00	0.00
132.00		0.48	0.67	0.00	0.00
134.00		284.05	213.03	0.00	0.00
136.00		282.41	211.80	0.00	0.00
137.00	(11) attachments	4195.88	2228.50	0.00	0.00
138.00		139.75	104.01	0.00	0.00
140.00		278.09	206.83	0.00	0.00
142.00		275.89	205.25	0.00	0.00
144.00		273.66	203.67	0.00	0.00
146.00		271.41	202.08	0.00	0.00
147.00	(42) attachments	6859.83	3230.47	66.56	0.00
148.00		134.18	84.07	0.00	0.00
150.00		266.82	166.95	0.00	0.00
152.00		264.49	165.37	0.00	0.00
154.00		262.13	163.78	0.00	0.00
156.00		259.75	162.20	0.00	0.00
158.00		257.35	160.62	0.00	0.00
159.00	(24) attachments	5765.95	2502.92	0.00	0.00
160.00		127.07	67.04	0.00	0.00
162.00		252.47	132.90	0.00	0.00
164.00		250.00	131.32	0.00	0.00
166.00		247.51	129.73	0.00	0.00
168.00		244.99	128.15	0.00	0.00
170.00		242.45	126.57	0.00	0.00
172.00		239.89	124.98	0.00	0.00
174.00		237.31	123.40	0.00	0.00
176.00		234.71	121.82	0.00	0.00
177.00	(24) attachments	6920.74	3263.15	0.00	0.00
178.00		115.65	57.11	0.00	0.00
180.00	(1) attachments	263.36	117.53	0.00	101.74

Total Applied Force Summary

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	
		Struct Class:	II	Page: 27



Totals:	50,403.75	44,241.73	817.95	-5,779.50
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Linear Appurtenance Segment Forces (Factored)

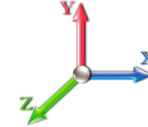
Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022	
Site Name: Norwich 2 CT	Exposure: C		
Height: 180.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 28



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 31

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)
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.032	0.000	22.791	0.00	0.29
2.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	22.791	0.00	0.00
3.42	1/2" Coax	Yes	1.42	0.000	0.65	0.08	0.00	0.032	0.000	22.791	0.00	0.20
3.42	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.15	0.00	0.032	0.000	22.791	0.00	0.00
4.00	1/2" Coax	Yes	0.58	0.000	0.65	0.03	0.00	0.033	0.000	22.791	0.00	0.08
4.00	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.033	0.000	22.791	0.00	0.00
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.29
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.29
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.29
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	22.791	0.00	0.29
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	22.791	0.00	0.00
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	22.791	0.00	0.29
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	22.791	0.00	0.00
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	23.072	0.00	0.29
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	23.072	0.00	0.00
16.88	1/2" Coax	Yes	0.88	0.000	0.65	0.05	0.00	0.034	0.000	23.334	0.00	0.13
16.88	1.25" Reinforcing	Yes	0.88	0.000	1.25	0.09	0.00	0.034	0.000	23.334	0.00	0.00
18.00	1/2" Coax	Yes	1.12	0.000	0.65	0.06	0.00	0.034	0.000	23.652	0.00	0.16
18.00	1.25" Reinforcing	Yes	1.12	0.000	1.25	0.12	0.00	0.034	0.000	23.652	0.00	0.00
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	24.182	0.00	0.29
20.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	24.182	0.00	0.00
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	24.672	0.00	0.29
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	25.128	0.00	0.29
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	25.555	0.00	0.29
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	25.957	0.00	0.29
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	26.337	0.00	0.29
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	26.697	0.00	0.29
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	27.040	0.00	0.29
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	27.367	0.00	0.29
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	27.681	0.00	0.29
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	27.981	0.00	0.29
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	28.270	0.00	0.29
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	28.548	0.00	0.29
45.92	1/2" Coax	Yes	1.92	0.000	0.65	0.10	0.00	0.013	0.000	28.806	0.00	0.28
46.00	1/2" Coax	Yes	0.08	0.000	0.65	0.00	0.00	0.013	0.000	28.817	0.00	0.01
48.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	29.076	0.00	0.29
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	29.327	0.00	0.29
52.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	29.570	0.00	0.29
Totals:											0.0	7.5

Calculated Forces

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 31



Wind Loading - Shaft

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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

Iterations 29

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	RB1	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
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.133	2.00	10.202	12.24	69.6	168.4	823.1
3.42	RB2	1.00	0.85	5.168	5.68	0.00	1.200	1.196	1.42	7.220	8.66	49.3	125.7	588.0
4.00	RT1	1.00	0.85	5.168	5.68	0.00	1.200	1.215	0.58	2.942	3.53	20.1	52.1	240.3
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.265	2.00	10.120	12.14	69.0	186.0	832.3
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.302	2.00	10.070	12.08	68.7	190.3	832.4
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	2.00	10.017	12.02	68.3	193.5	831.3
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.356	2.00	9.962	11.95	68.0	195.9	829.5
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.377	2.00	9.906	11.89	67.6	197.7	827.1
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.395	2.00	9.850	11.82	68.0	199.1	824.3
16.88	RT2	1.00	0.87	5.291	5.82	0.00	1.200	1.403	0.88	4.315	5.18	30.1	87.8	361.6
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.412	1.12	5.476	6.57	38.8	112.1	459.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	2.00	9.734	11.68	70.5	201.0	817.7
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.440	2.00	9.676	11.61	71.5	201.7	814.1
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.453	2.00	9.617	11.54	72.3	202.1	810.4
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.465	2.00	9.558	11.47	73.1	202.4	806.4
28.00		1.00	0.97	5.886	6.47	0.00	1.200	1.476	2.00	9.499	11.40	73.8	202.6	802.4
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	2.00	9.440	11.33	74.4	202.6	798.2
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.495	2.00	9.380	11.26	75.0	202.6	793.9
34.00		1.00	1.01	6.132	6.74	0.00	1.200	1.504	2.00	9.320	11.18	75.4	202.4	789.6
36.00		1.00	1.02	6.206	6.83	0.00	1.200	1.513	2.00	9.260	11.11	75.9	202.2	785.1
38.00		1.00	1.03	6.277	6.90	0.00	1.200	1.521	2.00	9.200	11.04	76.2	201.9	780.6
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.00	9.140	10.97	76.5	201.5	776.0
42.00		1.00	1.05	6.410	7.05	0.00	1.200	1.537	2.00	9.079	10.90	76.8	201.1	771.4
44.00		1.00	1.06	6.474	7.12	0.00	1.200	1.544	2.00	9.019	10.82	77.1	200.6	766.7
45.92	Bot - Section 2	1.00	1.07	6.532	7.19	0.00	1.200	1.550	1.92	8.586	10.30	74.0	191.8	730.3
46.00		1.00	1.07	6.534	7.19	0.00	1.200	1.551	0.08	0.377	0.45	3.3	8.5	52.1
48.00		1.00	1.08	6.593	7.25	0.00	1.200	1.557	2.00	9.025	10.83	78.5	202.5	1245.4
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.00	8.964	10.76	78.7	201.9	1237.0
52.00	Appurtenance(s)	1.00	1.10	6.705	7.38	0.00	1.200	1.570	2.00	8.903	10.68	78.8	201.2	1228.5
53.00	Top - Section 1	1.00	1.11	6.732	7.41	0.00	1.200	1.573	1.00	4.429	5.31	39.4	100.4	611.1
54.00		1.00	1.11	6.759	7.43	0.00	1.200	1.576	1.00	4.413	5.30	39.4	100.3	337.1
56.00		1.00	1.12	6.811	7.49	0.00	1.200	1.581	2.00	8.782	10.54	78.9	199.8	670.7
58.00		1.00	1.13	6.861	7.55	0.00	1.200	1.587	2.00	8.721	10.46	79.0	199.0	666.3
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	2.00	8.659	10.39	79.0	198.2	661.9
62.00		1.00	1.14	6.958	7.65	0.00	1.200	1.598	2.00	8.598	10.32	79.0	197.4	657.5
64.00		1.00	1.15	7.005	7.71	0.00	1.200	1.603	2.00	8.537	10.24	78.9	196.6	653.0
66.00		1.00	1.16	7.050	7.76	0.00	1.200	1.608	2.00	8.476	10.17	78.9	195.7	648.5
68.00		1.00	1.17	7.095	7.80	0.00	1.200	1.612	2.00	8.415	10.10	78.8	194.8	644.0
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	2.00	8.353	10.02	78.7	193.9	639.4
72.00		1.00	1.18	7.181	7.90	0.00	1.200	1.622	2.00	8.292	9.95	78.6	192.9	634.9
74.00		1.00	1.19	7.222	7.94	0.00	1.200	1.626	2.00	8.231	9.88	78.5	191.9	630.3
76.00		1.00	1.19	7.263	7.99	0.00	1.200	1.631	2.00	8.169	9.80	78.3	190.9	625.7
78.00		1.00	1.20	7.303	8.03	0.00	1.200	1.635	2.00	8.108	9.73	78.2	189.9	621.0
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	2.00	8.046	9.66	78.0	188.9	616.4
82.00		1.00	1.21	7.380	8.12	0.00	1.200	1.643	2.00	7.985	9.58	77.8	187.8	611.7
84.00		1.00	1.22	7.418	8.16	0.00	1.200	1.647	2.00	7.923	9.51	77.6	186.8	607.0

Wind Loading - Shaft

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 34



Totals:	180.00	6,507.8	53,660.5
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Discrete Appurtenance Forces

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

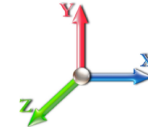
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	180.00	Lightning Rod	1	8.739	9.613	1.00	1.00	2.28	21.33	0.000	3.000	21.89	0.00	65.67
2	177.00	ACU-A20-N	4	8.678	9.546	0.38	0.75	0.66	17.07	0.000	0.000	6.32	0.00	0.00
3	177.00	Platform w/ Hand Rail	1	8.678	9.546	1.00	1.00	75.49	3454.89	0.000	0.000	720.57	0.00	0.00
4	177.00	APXVAALL24_43-U-NA20	3	8.678	9.546	0.56	0.75	37.42	1749.32	0.000	0.000	357.17	0.00	0.00
5	177.00	AIR6449 B41	3	8.678	9.546	0.55	0.75	10.87	693.92	0.000	0.000	103.74	0.00	0.00
6	177.00	PRK-1245 (kicker kit)	1	8.678	9.546	1.00	1.00	19.61	792.77	0.000	0.000	187.23	0.00	0.00
7	177.00	4460 Radio	3	8.678	9.546	0.50	0.75	4.00	560.72	0.000	0.000	38.20	0.00	0.00
8	177.00	1900MHz RRH (65MHz)	3	8.678	9.546	0.50	0.75	5.97	398.78	0.000	0.000	56.94	0.00	0.00
9	177.00	ALU 800MHz External	3	8.678	9.546	0.38	0.75	1.62	70.49	0.000	0.000	15.44	0.00	0.00
10	177.00	4480 Radio	3	8.678	9.546	0.50	0.75	4.53	503.20	0.000	0.000	43.20	0.00	0.00
11	159.00	B5/B13 RRH-BR04C	3	8.484	9.333	0.40	0.80	2.94	504.81	0.000	0.000	27.40	0.00	0.00
12	159.00	Samsung VZS01	3	8.484	9.333	0.55	0.80	8.59	649.01	0.000	0.000	80.20	0.00	0.00
13	159.00	BSAMNT-SBS-1-2	3	8.484	9.333	1.00	1.00	0.00	141.21	0.000	0.000	0.00	0.00	0.00
14	159.00	B2/B66A	3	8.484	9.333	0.40	0.80	2.94	474.34	0.000	0.000	27.40	0.00	0.00
15	159.00	BXA-80040/4CF ____	3	8.484	9.333	0.54	0.80	16.97	759.65	0.000	0.000	158.33	0.00	0.00
16	159.00	DB-T1-6Z-8AB-OZ	2	8.484	9.333	0.40	0.80	4.54	395.04	0.000	0.000	42.40	0.00	0.00
17	159.00	Low Profile Platform	1	8.484	9.333	1.00	1.00	45.19	2816.56	0.000	0.000	421.71	0.00	0.00
18	159.00	SBNHH-1D65B	6	8.484	9.333	0.62	0.80	35.12	1510.39	0.000	0.000	327.75	0.00	0.00
19	147.00	Ericsson RRUS 4449	3	8.345	9.180	0.38	0.75	2.83	392.32	0.000	0.000	25.99	0.00	0.00
20	147.00	Kathrein 860 10025 RET	12	8.345	9.180	0.38	0.75	2.51	69.89	0.000	0.000	23.05	0.00	0.00
21	147.00	7770	3	8.345	9.180	0.55	0.75	10.78	530.52	0.000	0.000	98.95	0.00	0.00
22	147.00	Powerwave LGP21401	6	8.345	9.180	0.38	0.75	4.78	325.33	0.000	0.000	43.87	0.00	0.00
23	147.00	Raycap DC6-48-60-18-8F	2	8.345	9.180	0.38	0.75	1.02	172.60	2.383	0.000	9.34	22.27	0.00
24	147.00	Platform w/ Hand Rails	1	8.345	9.180	1.00	1.00	60.90	3890.03	0.000	0.000	559.04	0.00	0.00
25	147.00	Ericsson RRUS 4478 B14	3	8.345	9.180	0.38	0.75	2.44	309.79	0.000	0.000	22.38	0.00	0.00
26	147.00	Ericsson RRUS-A2	3	8.345	9.180	0.38	0.75	3.19	160.73	0.000	0.000	29.24	0.00	0.00
27	147.00	DMP65R-BU6DA	2	8.345	9.180	0.61	0.75	17.25	764.15	0.000	0.000	158.32	0.00	0.00
28	147.00	DMP65R-BU8DA	4	8.345	9.180	0.58	0.75	45.48	1963.59	0.000	0.000	417.50	0.00	0.00
29	147.00	Ericsson RRUS 12	3	8.345	9.180	0.38	0.75	3.78	349.65	0.000	0.000	34.68	0.00	0.00
30	137.00	TA08025-B605	3	8.222	9.044	0.38	0.75	2.83	387.70	0.000	0.000	25.60	0.00	0.00
31	137.00	MX08FRO665-21	3	8.222	9.044	0.55	0.75	23.21	895.34	0.000	0.000	209.95	0.00	0.00
32	137.00	RDIDC-9181-OF-48	1	8.222	9.044	0.38	0.75	0.96	66.35	0.000	0.000	8.73	0.00	0.00
33	137.00	TA08025-B604	3	8.222	9.044	0.38	0.75	2.83	344.26	0.000	0.000	25.60	0.00	0.00
34	137.00	MC-PK8-DSH	1	8.222	9.044	1.00	1.00	84.40	3372.00	0.000	0.000	763.33	0.00	0.00
35	127.00	CS72188.01 LMU	1	7.881	8.669	1.00	1.00	11.46	150.24	3.022	-15.000	99.33	300.12	-1489.89
36	52.00	GPS	1	6.705	7.376	1.00	1.00	0.54	0.76	3.055	0.000	4.00	12.21	0.00
37	52.00	3 ft Standoff	1	6.705	7.376	1.00	1.00	8.00	97.21	0.000	0.000	59.00	0.00	0.00

Totals: 29,755.96

5,253.80

Total Applied Force Summary

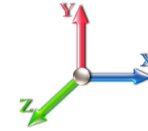
Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 36



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 29

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
2.00		69.60	924.02	0.00	0.00
3.42		49.26	660.45	0.00	0.00
4.00		20.07	269.98	0.00	0.00
6.00		69.04	935.62	0.00	0.00
8.00		68.69	936.44	0.00	0.00
10.00		68.33	935.94	0.00	0.00
12.00		67.96	934.58	0.00	0.00
14.00		67.58	932.61	0.00	0.00
16.00		68.02	930.18	0.00	0.00
16.88		30.14	408.24	0.00	0.00
18.00		38.77	518.82	0.00	0.00
20.00		70.46	924.32	0.00	0.00
22.00		71.46	906.76	0.00	0.00
24.00		72.34	903.09	0.00	0.00
26.00		73.11	899.25	0.00	0.00
28.00		73.80	895.29	0.00	0.00
30.00		74.41	891.20	0.00	0.00
32.00		74.96	887.00	0.00	0.00
34.00		75.43	882.72	0.00	0.00
36.00		75.86	878.34	0.00	0.00
38.00		76.23	873.89	0.00	0.00
40.00		76.55	869.37	0.00	0.00
42.00		76.83	864.79	0.00	0.00
44.00		77.07	860.15	0.00	0.00
45.92		74.03	819.92	0.00	0.00
46.00		3.25	55.98	0.00	0.00
48.00		78.55	1339.01	0.00	0.00
50.00		78.69	1330.62	0.00	0.00
52.00	(2) attachments	141.80	1420.15	12.21	0.00
53.00		39.36	653.95	0.00	0.00
54.00		39.37	379.88	0.00	0.00
56.00		78.95	756.31	0.00	0.00
58.00		78.98	751.94	0.00	0.00
60.00		78.99	747.53	0.00	0.00
62.00		78.97	743.09	0.00	0.00
64.00		78.94	738.62	0.00	0.00
66.00		78.88	734.13	0.00	0.00
68.00		78.81	729.61	0.00	0.00
70.00		78.71	725.07	0.00	0.00
72.00		78.60	720.50	0.00	0.00
74.00		78.47	715.91	0.00	0.00
76.00		78.32	711.30	0.00	0.00
78.00		78.16	706.67	0.00	0.00
80.00		77.98	702.02	0.00	0.00
82.00		77.78	697.35	0.00	0.00
84.00		77.58	692.66	0.00	0.00

Total Applied Force Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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86.00		77.36	687.96	0.00	0.00
88.00		77.12	683.24	0.00	0.00
90.00		76.88	678.50	0.00	0.00
92.00		76.62	673.75	0.00	0.00
92.83		31.80	279.46	0.00	0.00
94.00		45.02	569.46	0.00	0.00
96.00		77.03	970.05	0.00	0.00
98.00		76.74	962.56	0.00	0.00
98.92		35.03	438.81	0.00	0.00
100.00		41.32	304.99	0.00	0.00
102.00		76.13	559.77	0.00	0.00
104.00		75.81	555.85	0.00	0.00
106.00		75.47	551.92	0.00	0.00
108.00		75.13	547.97	0.00	0.00
110.00		74.78	544.01	0.00	0.00
112.00		74.42	540.05	0.00	0.00
114.00		74.06	536.07	0.00	0.00
116.00		73.68	532.08	0.00	0.00
118.00		73.29	528.08	0.00	0.00
120.00		72.90	524.07	0.00	0.00
122.00		72.50	520.05	0.00	0.00
124.00		72.09	516.02	0.00	0.00
126.00		71.67	511.98	0.00	0.00
126.67		23.89	170.76	0.00	0.00
127.00	(1) attachments	111.20	268.46	300.12	-1489.89
128.00		35.94	356.92	0.00	0.00
130.00		71.61	708.88	0.00	0.00
132.00		71.18	702.71	0.00	0.00
132.00		0.12	1.17	0.00	0.00
134.00		70.61	443.77	0.00	0.00
136.00		70.28	441.03	0.00	0.00
137.00	(11) attachments	1068.14	5285.02	0.00	0.00
138.00		34.83	217.31	0.00	0.00
140.00		69.36	431.65	0.00	0.00
142.00		68.89	428.15	0.00	0.00
144.00		68.41	424.63	0.00	0.00
146.00		67.93	421.12	0.00	0.00
147.00	(42) attachments	1456.13	9138.02	22.27	0.00
148.00		33.63	187.22	0.00	0.00
150.00		66.94	371.43	0.00	0.00
152.00		66.44	367.89	0.00	0.00
154.00		65.93	364.35	0.00	0.00
156.00		65.42	360.80	0.00	0.00
158.00		64.90	357.24	0.00	0.00
159.00	(24) attachments	1117.43	7428.47	0.00	0.00
160.00		32.10	160.20	0.00	0.00
162.00		63.84	317.36	0.00	0.00
164.00		63.31	313.79	0.00	0.00
166.00		62.77	310.20	0.00	0.00
168.00		62.22	306.61	0.00	0.00
170.00		61.67	303.02	0.00	0.00
172.00		61.11	299.42	0.00	0.00
174.00		60.55	295.81	0.00	0.00
176.00		59.99	292.20	0.00	0.00
177.00	(24) attachments	1558.57	8386.10	0.00	0.00
178.00		29.62	140.28	0.00	0.00
180.00	(1) attachments	80.73	298.80	0.00	65.67

Total Applied Force Summary

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	
		Struct Class:	II	Page: 38



Totals:	11,761.60	90,312.77	334.60	-1,424.21
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Linear Appurtenance Segment Forces (Factored)

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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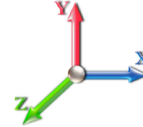


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 29

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)
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.49	0.00	0.032	0.000	5.168	0.00	4.74
2.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.59	0.00	0.032	0.000	5.168	0.00	10.53
3.42	1/2" Coax	Yes	1.42	0.000	0.65	0.36	0.00	0.032	0.000	5.168	0.00	3.66
3.42	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.43	0.00	0.032	0.000	5.168	0.00	7.99
4.00	1/2" Coax	Yes	0.58	0.000	0.65	0.15	0.00	0.033	0.000	5.168	0.00	1.53
4.00	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.18	0.00	0.033	0.000	5.168	0.00	3.33
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.53	0.00	0.033	0.000	5.168	0.00	5.64
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.63	0.00	0.033	0.000	5.168	0.00	12.07
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.54	0.00	0.033	0.000	5.168	0.00	5.91
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.64	0.00	0.033	0.000	5.168	0.00	12.52
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.55	0.00	0.033	0.000	5.168	0.00	6.13
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.65	0.00	0.033	0.000	5.168	0.00	12.88
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.56	0.00	0.033	0.000	5.168	0.00	6.32
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.66	0.00	0.033	0.000	5.168	0.00	13.18
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.57	0.00	0.034	0.000	5.168	0.00	6.48
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.67	0.00	0.034	0.000	5.168	0.00	13.44
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.57	0.00	0.034	0.000	5.232	0.00	6.62
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.67	0.00	0.034	0.000	5.232	0.00	13.68
16.88	1/2" Coax	Yes	0.88	0.000	0.65	0.25	0.00	0.034	0.000	5.291	0.00	2.94
16.88	1.25" Reinforcing	Yes	0.88	0.000	1.25	0.30	0.00	0.034	0.000	5.291	0.00	6.06
18.00	1/2" Coax	Yes	1.12	0.000	0.65	0.32	0.00	0.034	0.000	5.363	0.00	3.78
18.00	1.25" Reinforcing	Yes	1.12	0.000	1.25	0.38	0.00	0.034	0.000	5.363	0.00	7.78
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.58	0.00	0.034	0.000	5.483	0.00	6.87
20.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.68	0.00	0.034	0.000	5.483	0.00	14.08
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.59	0.00	0.012	0.000	5.595	0.00	6.98
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.59	0.00	0.012	0.000	5.698	0.00	7.08
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.60	0.00	0.012	0.000	5.795	0.00	7.18
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.60	0.00	0.012	0.000	5.886	0.00	7.27
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.60	0.00	0.012	0.000	5.972	0.00	7.35
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.61	0.00	0.012	0.000	6.054	0.00	7.43
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.61	0.00	0.012	0.000	6.132	0.00	7.51
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.61	0.00	0.012	0.000	6.206	0.00	7.58
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.62	0.00	0.012	0.000	6.277	0.00	7.65
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.62	0.00	0.013	0.000	6.345	0.00	7.71
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.62	0.00	0.013	0.000	6.410	0.00	7.78
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.62	0.00	0.013	0.000	6.474	0.00	7.84
45.92	1/2" Coax	Yes	1.92	0.000	0.65	0.60	0.00	0.013	0.000	6.532	0.00	7.57
46.00	1/2" Coax	Yes	0.08	0.000	0.65	0.03	0.00	0.013	0.000	6.534	0.00	0.33
48.00	1/2" Coax	Yes	2.00	0.000	0.65	0.63	0.00	0.013	0.000	6.593	0.00	7.95
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.63	0.00	0.013	0.000	6.650	0.00	8.01
52.00	1/2" Coax	Yes	2.00	0.000	0.65	0.63	0.00	0.013	0.000	6.705	0.00	8.06
Totals:											0.0	309.4

Calculated Forces

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Seismic Segment Forces (Factored)

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 43



Load Case: 1.2D + 1.0E

Iterations 26

Gust Response Factor 1.10

Sds 0.18

Ss 0.17

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.10

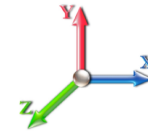
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.28

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.00	0.00	0.00	
2.00		545.59	0.00	0.01	0.01	4.91	
3.42	RB2	385.23	0.00	0.02	0.01	5.24	
4.00	RT1	156.84	0.00	0.02	0.01	2.38	
6.00		538.55	0.00	0.03	0.02	10.63	
8.00		535.03	0.00	0.04	0.02	12.39	
10.00		531.52	0.01	0.05	0.03	13.71	
12.00		528.00	0.01	0.05	0.03	14.70	
14.00		524.48	0.01	0.06	0.03	15.43	
16.00		520.96	0.01	0.06	0.04	15.98	
16.88	RT2	228.11	0.02	0.06	0.04	7.10	
18.00		289.33	0.02	0.06	0.04	9.16	
20.00		513.93	0.02	0.07	0.04	16.68	
22.00		510.41	0.03	0.07	0.04	16.89	
24.00		506.89	0.03	0.07	0.04	17.03	
26.00		503.37	0.04	0.07	0.04	17.13	
28.00		499.85	0.05	0.07	0.04	17.19	
30.00		496.33	0.05	0.07	0.04	17.23	
32.00		492.82	0.06	0.07	0.04	17.26	
34.00		489.30	0.07	0.07	0.04	17.28	
36.00		485.78	0.08	0.07	0.04	17.29	
38.00		482.26	0.08	0.07	0.04	17.31	
40.00		478.74	0.09	0.07	0.04	17.32	
42.00		475.22	0.10	0.07	0.04	17.33	
44.00		471.71	0.11	0.07	0.04	17.35	
45.92	Bot - Section 2	448.75	0.12	0.07	0.03	16.63	
46.00		36.36	0.12	0.07	0.03	1.35	
48.00		869.12	0.13	0.07	0.03	32.47	
50.00		862.59	0.15	0.07	0.03	32.46	
52.00	Appurtenance(s)	896.26	0.16	0.07	0.03	33.95	
53.00	Top - Section 1	425.58	0.16	0.07	0.03	16.16	
54.00		197.33	0.17	0.07	0.03	7.51	
56.00		392.40	0.18	0.06	0.03	14.99	
58.00		389.39	0.20	0.06	0.02	14.89	
60.00		386.38	0.21	0.06	0.02	14.75	
62.00		383.37	0.22	0.06	0.02	14.55	
64.00		380.35	0.24	0.06	0.02	14.30	
66.00		377.34	0.25	0.05	0.02	13.97	
68.00		374.33	0.27	0.05	0.02	13.55	
70.00		371.32	0.29	0.05	0.01	13.04	
72.00		368.31	0.30	0.04	0.01	12.41	
74.00		365.29	0.32	0.04	0.01	11.67	
76.00		362.28	0.34	0.04	0.01	10.80	
78.00		359.27	0.35	0.03	0.01	9.79	
80.00		356.26	0.37	0.03	0.01	8.63	
82.00		353.24	0.39	0.02	0.01	7.34	

Seismic Segment Forces (Factored)

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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84.00		350.23	0.41	0.01	0.01	5.91
86.00		347.22	0.43	0.01	0.01	4.36
88.00		344.21	0.45	0.00	0.01	2.72
90.00		341.20	0.47	-0.01	0.01	1.01
92.00		338.18	0.49	-0.01	0.01	-0.73
92.83	Bot - Section 3	140.02	0.50	-0.02	0.01	-0.61
94.00		343.72	0.52	-0.02	0.01	-2.53
96.00		585.06	0.54	-0.03	0.01	-7.31
98.00		579.79	0.56	-0.04	0.01	-10.12
98.92	Top - Section 2	263.98	0.57	-0.04	0.01	-5.18
100.00		134.26	0.58	-0.05	0.01	-2.97
102.00		246.13	0.61	-0.06	0.02	-6.50
104.00		243.87	0.63	-0.06	0.02	-7.37
106.00		241.61	0.66	-0.07	0.02	-8.10
108.00		239.36	0.68	-0.08	0.03	-8.68
110.00		237.10	0.71	-0.09	0.03	-9.12
112.00		234.84	0.73	-0.10	0.04	-9.41
114.00		232.59	0.76	-0.10	0.04	-9.55
116.00		230.33	0.78	-0.11	0.05	-9.55
118.00		228.07	0.81	-0.11	0.06	-9.43
120.00		225.81	0.84	-0.12	0.07	-9.17
122.00		223.56	0.87	-0.12	0.08	-8.80
124.00		221.30	0.90	-0.12	0.09	-8.31
126.00		219.04	0.93	-0.12	0.10	-7.71
126.67	Bot - Section 4	72.87	0.94	-0.12	0.10	-2.50
127.00	Appurtenance(s)	99.09	0.94	-0.12	0.10	-3.35
128.00		193.56	0.96	-0.12	0.11	-6.26
130.00		384.10	0.99	-0.11	0.12	-11.11
132.00		380.08	1.02	-0.11	0.14	-9.51
132.00	Top - Section 3	0.63	1.02	-0.11	0.14	-0.02
134.00		165.77	1.05	-0.09	0.16	-3.41
136.00		164.29	1.08	-0.08	0.17	-2.57
137.00	Appurtenance(s)	2440.5	1.09	-0.07	0.18	-31.74
138.00		81.05	1.11	-0.06	0.19	-0.83
140.00		160.78	1.14	-0.04	0.21	-0.69
142.00		159.02	1.18	-0.02	0.24	0.35
144.00		157.26	1.21	0.01	0.26	1.44
146.00		155.50	1.24	0.05	0.29	2.59
147.00	Appurtenance(s)	3554.8	1.26	0.07	0.30	73.28
148.00		76.65	1.28	0.09	0.32	1.89
150.00		151.98	1.31	0.14	0.35	5.05
152.00		150.22	1.35	0.19	0.38	6.35
154.00		148.46	1.38	0.25	0.41	7.70
156.00		146.70	1.42	0.32	0.45	9.09
158.00		144.94	1.46	0.40	0.49	10.53
159.00	Appurtenance(s)	2764.2	1.47	0.44	0.51	216.10
160.00		71.37	1.49	0.48	0.53	5.98
162.00		141.43	1.53	0.58	0.58	13.52
164.00		139.67	1.57	0.69	0.63	15.07
166.00		137.91	1.61	0.80	0.68	16.65
168.00		136.15	1.65	0.93	0.73	18.27
170.00		134.39	1.69	1.07	0.79	19.91
172.00		132.63	1.73	1.22	0.85	21.58
174.00		130.87	1.77	1.39	0.92	23.27
176.00		129.11	1.81	1.57	0.99	24.99
177.00	Appurtenance(s)	3622.6	1.83	1.67	1.03	730.32
178.00		63.46	1.85	1.77	1.06	13.31

Seismic Segment Forces (Factored)

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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180.00 Appurtenance(s)	130.59	1.89	1.98	1.14	29.61	
Totals:	43,660.1				1,717.9	Total Wind: 50,403.8

Calculated Forces

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 48



180.00	0.00	-0.03	0.00	0.00	0.00	0.00	0.00	1273.05	636.53	1377.59	683.89	8.43	-0.45	0.000
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Seismic Segment Forces (Factored)

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.0E

Iterations 26

Gust Response Factor 1.10

Sds 0.18

Ss 0.17

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

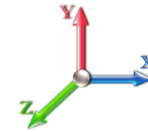
Sd1 0.10

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.28

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.00	0.00	0.00	
2.00		545.59	0.00	0.01	0.01	4.91	
3.42	RB2	385.23	0.00	0.02	0.01	5.24	
4.00	RT1	156.84	0.00	0.02	0.01	2.38	
6.00		538.55	0.00	0.03	0.02	10.63	
8.00		535.03	0.00	0.04	0.02	12.39	
10.00		531.52	0.01	0.05	0.03	13.71	
12.00		528.00	0.01	0.05	0.03	14.70	
14.00		524.48	0.01	0.06	0.03	15.43	
16.00		520.96	0.01	0.06	0.04	15.98	
16.88	RT2	228.11	0.02	0.06	0.04	7.10	
18.00		289.33	0.02	0.06	0.04	9.16	
20.00		513.93	0.02	0.07	0.04	16.68	
22.00		510.41	0.03	0.07	0.04	16.89	
24.00		506.89	0.03	0.07	0.04	17.03	
26.00		503.37	0.04	0.07	0.04	17.13	
28.00		499.85	0.05	0.07	0.04	17.19	
30.00		496.33	0.05	0.07	0.04	17.23	
32.00		492.82	0.06	0.07	0.04	17.26	
34.00		489.30	0.07	0.07	0.04	17.28	
36.00		485.78	0.08	0.07	0.04	17.29	
38.00		482.26	0.08	0.07	0.04	17.31	
40.00		478.74	0.09	0.07	0.04	17.32	
42.00		475.22	0.10	0.07	0.04	17.33	
44.00		471.71	0.11	0.07	0.04	17.35	
45.92	Bot - Section 2	448.75	0.12	0.07	0.03	16.63	
46.00		36.36	0.12	0.07	0.03	1.35	
48.00		869.12	0.13	0.07	0.03	32.47	
50.00		862.59	0.15	0.07	0.03	32.46	
52.00	Appurtenance(s)	896.26	0.16	0.07	0.03	33.95	
53.00	Top - Section 1	425.58	0.16	0.07	0.03	16.16	
54.00		197.33	0.17	0.07	0.03	7.51	
56.00		392.40	0.18	0.06	0.03	14.99	
58.00		389.39	0.20	0.06	0.02	14.89	
60.00		386.38	0.21	0.06	0.02	14.75	
62.00		383.37	0.22	0.06	0.02	14.55	
64.00		380.35	0.24	0.06	0.02	14.30	
66.00		377.34	0.25	0.05	0.02	13.97	
68.00		374.33	0.27	0.05	0.02	13.55	
70.00		371.32	0.29	0.05	0.01	13.04	
72.00		368.31	0.30	0.04	0.01	12.41	
74.00		365.29	0.32	0.04	0.01	11.67	
76.00		362.28	0.34	0.04	0.01	10.80	
78.00		359.27	0.35	0.03	0.01	9.79	
80.00		356.26	0.37	0.03	0.01	8.63	
82.00		353.24	0.39	0.02	0.01	7.34	

Seismic Segment Forces (Factored)

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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84.00		350.23	0.41	0.01	0.01	5.91
86.00		347.22	0.43	0.01	0.01	4.36
88.00		344.21	0.45	0.00	0.01	2.72
90.00		341.20	0.47	-0.01	0.01	1.01
92.00		338.18	0.49	-0.01	0.01	-0.73
92.83	Bot - Section 3	140.02	0.50	-0.02	0.01	-0.61
94.00		343.72	0.52	-0.02	0.01	-2.53
96.00		585.06	0.54	-0.03	0.01	-7.31
98.00		579.79	0.56	-0.04	0.01	-10.12
98.92	Top - Section 2	263.98	0.57	-0.04	0.01	-5.18
100.00		134.26	0.58	-0.05	0.01	-2.97
102.00		246.13	0.61	-0.06	0.02	-6.50
104.00		243.87	0.63	-0.06	0.02	-7.37
106.00		241.61	0.66	-0.07	0.02	-8.10
108.00		239.36	0.68	-0.08	0.03	-8.68
110.00		237.10	0.71	-0.09	0.03	-9.12
112.00		234.84	0.73	-0.10	0.04	-9.41
114.00		232.59	0.76	-0.10	0.04	-9.55
116.00		230.33	0.78	-0.11	0.05	-9.55
118.00		228.07	0.81	-0.11	0.06	-9.43
120.00		225.81	0.84	-0.12	0.07	-9.17
122.00		223.56	0.87	-0.12	0.08	-8.80
124.00		221.30	0.90	-0.12	0.09	-8.31
126.00		219.04	0.93	-0.12	0.10	-7.71
126.67	Bot - Section 4	72.87	0.94	-0.12	0.10	-2.50
127.00	Appurtenance(s)	99.09	0.94	-0.12	0.10	-3.35
128.00		193.56	0.96	-0.12	0.11	-6.26
130.00		384.10	0.99	-0.11	0.12	-11.11
132.00		380.08	1.02	-0.11	0.14	-9.51
132.00	Top - Section 3	0.63	1.02	-0.11	0.14	-0.02
134.00		165.77	1.05	-0.09	0.16	-3.41
136.00		164.29	1.08	-0.08	0.17	-2.57
137.00	Appurtenance(s)	2440.5	1.09	-0.07	0.18	-31.74
138.00		81.05	1.11	-0.06	0.19	-0.83
140.00		160.78	1.14	-0.04	0.21	-0.69
142.00		159.02	1.18	-0.02	0.24	0.35
144.00		157.26	1.21	0.01	0.26	1.44
146.00		155.50	1.24	0.05	0.29	2.59
147.00	Appurtenance(s)	3554.8	1.26	0.07	0.30	73.28
148.00		76.65	1.28	0.09	0.32	1.89
150.00		151.98	1.31	0.14	0.35	5.05
152.00		150.22	1.35	0.19	0.38	6.35
154.00		148.46	1.38	0.25	0.41	7.70
156.00		146.70	1.42	0.32	0.45	9.09
158.00		144.94	1.46	0.40	0.49	10.53
159.00	Appurtenance(s)	2764.2	1.47	0.44	0.51	216.10
160.00		71.37	1.49	0.48	0.53	5.98
162.00		141.43	1.53	0.58	0.58	13.52
164.00		139.67	1.57	0.69	0.63	15.07
166.00		137.91	1.61	0.80	0.68	16.65
168.00		136.15	1.65	0.93	0.73	18.27
170.00		134.39	1.69	1.07	0.79	19.91
172.00		132.63	1.73	1.22	0.85	21.58
174.00		130.87	1.77	1.39	0.92	23.27
176.00		129.11	1.81	1.57	0.99	24.99
177.00	Appurtenance(s)	3622.6	1.83	1.67	1.03	730.32
178.00		63.46	1.85	1.77	1.06	13.31

Seismic Segment Forces (Factored)

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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180.00 Appurtenance(s)	130.59	1.89	1.98	1.14	29.61	
Totals:	43,660.1				1,717.9	Total Wind: 50,403.8

Calculated Forces

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 54



180.00	0.00	-0.03	0.00	0.00	0.00	0.00	0.00	1273.05	636.53	1377.59	683.89	8.28	-0.44	0.000
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Wind Loading - Shaft

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 57



Totals:	180.00	5,431.0	31,491.9
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Discrete Appurtenance Forces

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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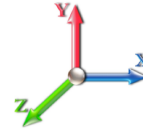


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 28

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	180.00	Lightning Rod	1	12.584	13.842	1.00	1.00	0.50	5.00	0.000	3.000	6.92	0.00	20.76
2	177.00	ACU-A20-N	4	12.496	13.746	0.38	0.75	0.21	4.00	0.000	0.000	2.89	0.00	0.00
3	177.00	Platform w/ Hand Rail	1	12.496	13.746	1.00	1.00	40.00	1600.00	0.000	0.000	549.83	0.00	0.00
4	177.00	APXVAALL24_43-U-NA20	3	12.496	13.746	0.55	0.75	33.24	368.40	0.000	0.000	456.96	0.00	0.00
5	177.00	AIR6449 B41	3	12.496	13.746	0.53	0.75	9.03	309.00	0.000	0.000	124.07	0.00	0.00
6	177.00	PRK-1245 (kicker kit)	1	12.496	13.746	1.00	1.00	9.50	464.91	0.000	0.000	130.58	0.00	0.00
7	177.00	4460 Radio	3	12.496	13.746	0.38	0.75	2.41	327.00	0.000	0.000	33.09	0.00	0.00
8	177.00	1900MHz RRH (65MHz)	3	12.496	13.746	0.38	0.75	3.04	180.00	0.000	0.000	41.75	0.00	0.00
9	177.00	ALU 800MHz External	3	12.496	13.746	0.38	0.75	0.88	26.40	0.000	0.000	12.06	0.00	0.00
10	177.00	4480 Radio	3	12.496	13.746	0.38	0.75	2.72	279.00	0.000	0.000	37.42	0.00	0.00
11	159.00	B5/B13 RRH-BR04C	3	12.217	13.439	0.40	0.80	2.24	246.00	0.000	0.000	30.16	0.00	0.00
12	159.00	Samsung VZS01	3	12.217	13.439	0.55	0.80	7.12	261.30	0.000	0.000	95.70	0.00	0.00
13	159.00	BSAMNT-SBS-1-2	3	12.217	13.439	1.00	1.00	0.00	76.05	0.000	0.000	0.00	0.00	0.00
14	159.00	B2/B66A	3	12.217	13.439	0.40	0.80	2.24	202.50	0.000	0.000	30.16	0.00	0.00
15	159.00	BXA-80040/4CF ____	3	12.217	13.439	0.54	0.80	14.92	75.00	0.000	0.000	200.54	0.00	0.00
16	159.00	DB-T1-6Z-8AB-OZ	2	12.217	13.439	0.40	0.80	3.84	88.00	0.000	0.000	51.61	0.00	0.00
17	159.00	Low Profile Platform	1	12.217	13.439	1.00	1.00	25.00	1500.00	0.000	0.000	335.97	0.00	0.00
18	159.00	SBNHH-1D65B	6	12.217	13.439	0.62	0.80	30.25	243.60	0.000	0.000	406.54	0.00	0.00
19	147.00	Ericsson RRUS 4449	3	12.017	13.219	0.38	0.75	2.22	219.00	0.000	0.000	29.30	0.00	0.00
20	147.00	Kathrein 860 10025 RET	12	12.017	13.219	0.38	0.75	0.81	14.40	0.000	0.000	10.71	0.00	0.00
21	147.00	7770	3	12.017	13.219	0.55	0.75	9.03	105.00	0.000	0.000	119.41	0.00	0.00
22	147.00	Powerwave LGP21401	6	12.017	13.219	0.38	0.75	2.90	114.00	0.000	0.000	38.37	0.00	0.00
23	147.00	Raycap DC6-48-60-18-8F	2	12.017	13.219	0.38	0.75	0.69	65.60	2.383	0.000	9.12	21.74	0.00
24	147.00	Platform w/ Hand Rails	1	12.017	13.219	1.00	1.00	40.00	2000.00	0.000	0.000	528.75	0.00	0.00
25	147.00	Ericsson RRUS 4478 B14	3	12.017	13.219	0.38	0.75	1.86	178.20	0.000	0.000	24.54	0.00	0.00
26	147.00	Ericsson RRUS-A2	3	12.017	13.219	0.38	0.75	2.09	66.00	0.000	0.000	27.66	0.00	0.00
27	147.00	DMP65R-BU6DA	2	12.017	13.219	0.61	0.75	11.74	158.80	0.000	0.000	155.15	0.00	0.00
28	147.00	DMP65R-BU8DA	4	12.017	13.219	0.58	0.75	29.45	382.80	0.000	0.000	389.32	0.00	0.00
29	147.00	Ericsson RRUS 12	3	12.017	13.219	0.38	0.75	3.04	174.00	0.000	0.000	40.15	0.00	0.00
30	137.00	TA08025-B605	3	11.840	13.024	0.38	0.75	2.21	225.00	0.000	0.000	28.72	0.00	0.00
31	137.00	MX08FRO665-21	3	11.840	13.024	0.55	0.75	20.80	193.50	0.000	0.000	270.85	0.00	0.00
32	137.00	RDIDC-9181-OF-48	1	11.840	13.024	0.38	0.75	0.75	21.90	0.000	0.000	9.82	0.00	0.00
33	137.00	TA08025-B604	3	11.840	13.024	0.38	0.75	2.21	191.70	0.000	0.000	28.72	0.00	0.00
34	137.00	MC-PK8-DSH	1	11.840	13.024	1.00	1.00	37.59	1727.00	0.000	0.000	489.57	0.00	0.00
35	127.00	CS72188.01 LMU	1	11.348	12.483	1.00	1.00	6.41	35.00	3.022	-15.000	80.02	241.78	-1200.25
36	52.00	GPS	1	9.656	10.621	1.00	1.00	0.11	0.20	3.055	0.000	1.17	3.57	0.00
37	52.00	3 ft Standoff	1	9.656	10.621	1.00	1.00	2.63	40.00	0.000	0.000	27.93	0.00	0.00

Totals: 12,168.26

4,855.50

Total Applied Force Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

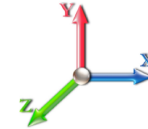


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 28

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
2.00		60.32	617.27	0.00	0.00
3.42		42.59	436.13	0.00	0.00
4.00		17.34	177.63	0.00	0.00
6.00		59.55	610.23	0.00	0.00
8.00		59.16	606.71	0.00	0.00
10.00		58.77	603.20	0.00	0.00
12.00		58.39	599.68	0.00	0.00
14.00		58.00	596.16	0.00	0.00
16.00		58.33	592.64	0.00	0.00
16.88		25.83	259.65	0.00	0.00
18.00		33.21	329.48	0.00	0.00
20.00		60.31	585.61	0.00	0.00
22.00		61.12	582.09	0.00	0.00
24.00		61.82	578.57	0.00	0.00
26.00		62.44	575.05	0.00	0.00
28.00		62.98	571.53	0.00	0.00
30.00		63.46	568.01	0.00	0.00
32.00		63.87	564.50	0.00	0.00
34.00		64.24	560.98	0.00	0.00
36.00		64.55	557.46	0.00	0.00
38.00		64.82	553.94	0.00	0.00
40.00		65.05	550.42	0.00	0.00
42.00		65.24	546.90	0.00	0.00
44.00		65.40	543.39	0.00	0.00
45.92		62.78	517.44	0.00	0.00
46.00		2.76	39.34	0.00	0.00
48.00		66.63	940.80	0.00	0.00
50.00		66.70	934.27	0.00	0.00
52.00	(2) attachments	95.86	967.94	3.57	0.00
53.00		33.32	461.26	0.00	0.00
54.00		33.33	233.01	0.00	0.00
56.00		66.79	463.76	0.00	0.00
58.00		66.77	460.75	0.00	0.00
60.00		66.73	457.74	0.00	0.00
62.00		66.68	454.73	0.00	0.00
64.00		66.60	451.71	0.00	0.00
66.00		66.51	448.70	0.00	0.00
68.00		66.39	445.69	0.00	0.00
70.00		66.27	442.68	0.00	0.00
72.00		66.13	439.67	0.00	0.00
74.00		65.97	436.65	0.00	0.00
76.00		65.80	433.64	0.00	0.00
78.00		65.61	430.63	0.00	0.00
80.00		65.42	427.62	0.00	0.00
82.00		65.20	424.60	0.00	0.00
84.00		64.98	421.59	0.00	0.00

Total Applied Force Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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86.00		64.75	418.58	0.00	0.00
88.00		64.50	415.57	0.00	0.00
90.00		64.25	412.56	0.00	0.00
92.00		63.98	409.54	0.00	0.00
92.83		26.54	169.75	0.00	0.00
94.00		37.59	385.34	0.00	0.00
96.00		64.28	656.42	0.00	0.00
98.00		63.99	651.15	0.00	0.00
98.92		29.19	296.68	0.00	0.00
100.00		34.43	172.92	0.00	0.00
102.00		63.38	317.49	0.00	0.00
104.00		63.06	315.23	0.00	0.00
106.00		62.73	312.97	0.00	0.00
108.00		62.39	310.72	0.00	0.00
110.00		62.05	308.46	0.00	0.00
112.00		61.69	306.20	0.00	0.00
114.00		61.33	303.95	0.00	0.00
116.00		60.96	301.69	0.00	0.00
118.00		60.59	299.43	0.00	0.00
120.00		60.21	297.17	0.00	0.00
122.00		59.82	294.92	0.00	0.00
124.00		59.42	292.66	0.00	0.00
126.00		59.02	290.40	0.00	0.00
126.67		19.66	96.78	0.00	0.00
127.00	(1) attachments	89.80	110.87	241.78	-1200.25
128.00		29.59	229.08	0.00	0.00
130.00		58.91	455.14	0.00	0.00
132.00		58.49	451.12	0.00	0.00
132.00		0.10	0.75	0.00	0.00
134.00		57.97	236.70	0.00	0.00
136.00		57.63	235.33	0.00	0.00
137.00	(11) attachments	856.30	2476.11	0.00	0.00
138.00		28.52	115.57	0.00	0.00
140.00		56.75	229.82	0.00	0.00
142.00		56.30	228.06	0.00	0.00
144.00		55.85	226.30	0.00	0.00
146.00		55.39	224.54	0.00	0.00
147.00	(42) attachments	1399.97	3589.41	21.74	0.00
148.00		27.38	93.41	0.00	0.00
150.00		54.45	185.50	0.00	0.00
152.00		53.98	183.74	0.00	0.00
154.00		53.50	181.98	0.00	0.00
156.00		53.01	180.22	0.00	0.00
158.00		52.52	178.46	0.00	0.00
159.00	(24) attachments	1176.72	2781.02	0.00	0.00
160.00		25.93	74.49	0.00	0.00
162.00		51.53	147.67	0.00	0.00
164.00		51.02	145.91	0.00	0.00
166.00		50.51	144.15	0.00	0.00
168.00		50.00	142.39	0.00	0.00
170.00		49.48	140.63	0.00	0.00
172.00		48.96	138.87	0.00	0.00
174.00		48.43	137.11	0.00	0.00
176.00		47.90	135.35	0.00	0.00
177.00	(24) attachments	1412.40	3625.73	0.00	0.00
178.00		23.60	63.46	0.00	0.00
180.00	(1) attachments	53.75	130.59	0.00	20.76

Total Applied Force Summary

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	
		Struct Class:	II	Page: 61



Totals:	10,286.48	49,157.48	267.08	-1,179.49
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Linear Appurtenance Segment Forces (Factored)

Structure: CT01365-S-SBA

Code: TIA-222-G

2/9/2022

Site Name: Norwich 2 CT

Exposure: C

Height: 180.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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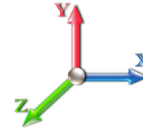


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 28

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)
2.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.032	0.000	7.442	0.00	0.32
2.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.032	0.000	7.442	0.00	0.00
3.42	1/2" Coax	Yes	1.42	0.000	0.65	0.08	0.00	0.032	0.000	7.442	0.00	0.23
3.42	1.25" Reinforcing	Yes	1.42	0.000	1.25	0.15	0.00	0.032	0.000	7.442	0.00	0.00
4.00	1/2" Coax	Yes	0.58	0.000	0.65	0.03	0.00	0.033	0.000	7.442	0.00	0.09
4.00	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.033	0.000	7.442	0.00	0.00
6.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	7.442	0.00	0.32
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	7.442	0.00	0.00
8.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	7.442	0.00	0.32
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	7.442	0.00	0.00
10.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	7.442	0.00	0.32
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	7.442	0.00	0.00
12.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.033	0.000	7.442	0.00	0.32
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.033	0.000	7.442	0.00	0.00
14.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	7.442	0.00	0.32
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	7.442	0.00	0.00
16.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	7.534	0.00	0.32
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	7.534	0.00	0.00
16.88	1/2" Coax	Yes	0.88	0.000	0.65	0.05	0.00	0.034	0.000	7.619	0.00	0.14
16.88	1.25" Reinforcing	Yes	0.88	0.000	1.25	0.09	0.00	0.034	0.000	7.619	0.00	0.00
18.00	1/2" Coax	Yes	1.12	0.000	0.65	0.06	0.00	0.034	0.000	7.723	0.00	0.18
18.00	1.25" Reinforcing	Yes	1.12	0.000	1.25	0.12	0.00	0.034	0.000	7.723	0.00	0.00
20.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.034	0.000	7.896	0.00	0.32
20.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.034	0.000	7.896	0.00	0.00
22.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.056	0.00	0.32
24.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.205	0.00	0.32
26.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.345	0.00	0.32
28.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.476	0.00	0.32
30.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.600	0.00	0.32
32.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.717	0.00	0.32
34.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.829	0.00	0.32
36.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	8.936	0.00	0.32
38.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.012	0.000	9.039	0.00	0.32
40.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	9.137	0.00	0.32
42.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	9.231	0.00	0.32
44.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	9.322	0.00	0.32
45.92	1/2" Coax	Yes	1.92	0.000	0.65	0.10	0.00	0.013	0.000	9.406	0.00	0.31
46.00	1/2" Coax	Yes	0.08	0.000	0.65	0.00	0.00	0.013	0.000	9.410	0.00	0.01
48.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	9.494	0.00	0.32
50.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	9.576	0.00	0.32
52.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.013	0.000	9.656	0.00	0.32
Totals:											0.0	8.3

Calculated Forces

Structure:	CT01365-S-SBA	Code:	TIA-222-G	2/9/2022
Site Name:	Norwich 2 CT	Exposure:	C	
Height:	180.00 (ft)	Crest Height:	0.00	
Base Elev:	0.000 (ft)	Site Class:	D - Stiff Soil	
Gh:	1.1	Topography:	1	Struct Class: II
				Page: 65



Final Analysis Summary

Structure: CT01365-S-SBA	Code: TIA-222-G	2/9/2022
Site Name: Norwich 2 CT	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 105 mph Wind	50.4	0.00	58.95	0.02	0.79	6332.11
0.9D + 1.6W 105 mph Wind	50.4	0.00	44.21	0.01	0.80	6251.37
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.8	0.00	90.31	0.00	0.33	1526.18
1.2D + 1.0E	1.9	0.00	58.99	0.00	0.00	257.84
0.9D + 1.0E	1.9	0.00	44.24	0.00	0.00	254.23
1.0D + 1.0W 60 mph Wind	10.3	0.00	49.16	0.00	0.27	1284.92

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 105 mph Wind	-22.80	-37.10	-0.80	-1938.2	-0.04	-1938.2	2350.25	1175.1	3954.81	1963.33	98.92	0.998
0.9D + 1.6W 105 mph Wind	-16.33	-36.46	-0.80	-1898.7	-0.04	-1898.7	2350.25	1175.1	3954.81	1963.33	98.92	0.975
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-47.38	-9.07	-0.32	-478.11	-0.01	-478.11	2350.25	1175.1	3954.81	1963.33	98.92	0.264
1.2D + 1.0E	-19.64	-1.39	0.00	-51.97	0.00	-51.97	1502.55	751.27	2180.88	1082.68	132.00	0.061
0.9D + 1.0E	-19.65	-1.34	0.00	-95.84	0.00	-95.84	2350.25	1175.1	3954.81	1963.33	98.92	0.057
1.0D + 1.0W 60 mph Wind	-21.70	-7.51	-0.26	-392.94	0.00	-392.94	2350.25	1175.1	3954.81	1963.33	98.92	0.209

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
0.0	4.0	(6) PLT-1.25"x4.5" STFNR	189.9	0.00	37.1	282.9	37.1	8	0	223.3	37.1	7	0	282.86	329.1	329.06	0.860
3.4	16.9	(3) PLT-7.5"x1.25"(1.25"hole)	328.8	5.92	37.1	356.0	37.1	10	14	446.1	37.1	13	14	461.85	516.9	464.06	0.995

	Monopole Mat Foundation Design		Date
			2/9/2022
	Customer Name:	T-Mobile Sprint	TIA Standard:
	Site Name:		Structure Height (Ft.):
	Site Number:	CT01365-S-SBA	Engineer Name:
Engr. Number:	123674	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	59.0	Shear Force (Kips):	50.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6332.1

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	11.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	22.5	Width of Pad (ft.):	22.5

Final Length of pad (ft)	22.5	Final width of pad (ft):	22.5
--------------------------	------	--------------------------	------

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	10	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20
---------------------------	----	---------------------------	----

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

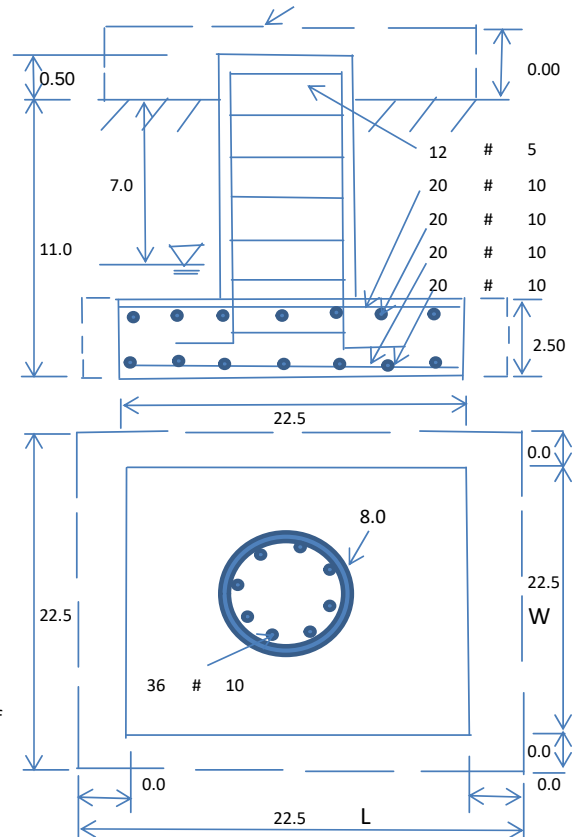
Soil Unit Weight (pcf):	135.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	7.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	500	Psf
Consider Friction for O.T.M. (Y/N):	Yes	Consider Friction for bearing (Y/N):	Yes	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Botm of Pad:	25	
		Angle from Botm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	3191.89	Total Dry Soil Weight (Kips):	430.91
Total Buoyant Soil Volume (cu. Ft.):	743.18	Total Buoyant Soil Weight (Kips):	37.16
Total Effective Soil Weight (Kips):	468.06	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	376.99	Total Dry Concrete Weight (Kips):	56.55
Total Buoyant Concrete Volume (cu. Ft.):	1341.02	Total Buoyant Concrete Weight (Kips):	117.47
Total Effective Concrete Weight (Kips):	174.02	Total Vertical Load on Base (Kips):	701.09

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	6547	< Allowable Factored Soil Bearing (psf):	22500	0.29	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7609.5	> Design Factored Momont (kips-ft):	6329	0.83	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.20				OK!



Check the capacities of Reinforcing Concrete:

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

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.27	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	8888.9	> Design Factored Moment (Mu, Kips-F	6785.7	0.76	OK!
Calculated Shear Capacity (Kips):	924.8	> Design Factored Shear (Kips):	50.4	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	2468.9	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12716.4	> Design Factored Axial Load (Pu Kips):	59.0	0.00	OK!
Moment & Axial Strength Combination:	0.76	OK! Check Tie Spacing (Design/Required):	1		OK!
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	675.6	> One-Way Factored Shear (L-D. Kips):	392.1	0.58	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	675.6	> One-Way Factored Shear (W-D., Kips)	392.1	0.58	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	583.2	> One-Way Factored Shear (C-C, Kips):	396.7	0.68	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0036	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0036		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2919.8	> Moment at Bottom (L-Dir. K-Ft):	1678.2	0.57	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2919.8	> Moment at Bottom (W-Dir. K-Ft):	1678.2	0.57	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4084.1	> Moment at Bottom (C-C Dir. K-Ft):	2373.3	0.58	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0036	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0036		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	2919.8	> Moment at the top (L-Dir K-Ft):	633.6	0.22	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	2919.8	> Moment at the top (W-Dir K-Ft):	633.6	0.22	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4084.1	> Moment at the top (C-C Dir. K-Ft):	643.5	0.16	OK!

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

Moment transferred by punching shear:	2532.8	k-ft.	Max. factored shear stress v_{u_CD} :	5.9	Psi
Max. factored shear stress v_{u_AB} :	15.5	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	15.5	Psi	Check Usage of Punching Shear Capacity:	0.08	OK!

Exhibit E

Mount Analysis



Mount Structural Analysis

SBA Site: CT01365-S-01 Norwich 2 CT
T-Mobile Site Number: CTNL149A
Project: Sprint Retain

Prepared For: T-Mobile

Mount Description: Platform

Site Location: 292 Plain Hill Rd.
Norwich, CT 6360
New London County
41.578197°, -72.103717°

Design Codes: ANSI/TIA-222-G
2018 Connecticut Building Code
2015 IBC w/ State Amendments

Analysis Load Case: T-Mobile Final Configuration

Analysis Result: Adequate @ 66% Capacity

Once Modifications Are Implemented

**See Conclusion & Recommendations for
required mount modifications (reinforcements).*

Date Signed:
12/3/2021



Revision 1
December 3, 2021

CTNL149A_Mount_Structural Analysis Report_R1 1089



1.0 Introduction

GeoStructural LLC has completed a structural analysis for the existing T-Mobile mount assembly located at the *CTNL149A communications site* in New London County, CT considering the final appurtenance loading configurations listed in Section 3.0.

2.0 Analysis Procedure & Design Criteria

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

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

Wind w/o ice = 131 mph (3-sec gust Ultimate Wind Speed)	
Wind w/o ice = 102 mph (3-sec gust Equivalent per TIA-222-G Tower Code)	
Wind w/ ice = 50 mph (3-sec gust Basic) with 0.75" Design Ice (Escalated with Height) ¹	
Topographic Category 1;	Exposure Category C
Structure Class (Risk Category) II;	Ground Elevation = 426 ft (NAVD 88)
Gust Effect Factor = 1.0; Directionality Factor = 0.95; Appurtenance Shielding Factor = 0.9	
Seismic Design Parameters: Site Class D "Stiff Soil"; $S_s = 0.170$, $S_1 = 0.061$, $S_{DS} = 0.181$	
Maintenance Loads ² :	
$L_m = 500$ lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed)	
$L_v = 250$ lb @ Worst Case Member Location (Center Span or Cantilever)	
1. Ice loading has been ignored with Design Ice Thickness $\leq 0.25"$.	
2. The face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading unless noted otherwise.	

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

- T-Mobile Site #: CTNL149A, CDs, Chappell, Rev-1 05/03/21
- T-Mobile Site #: CTNL149A, Colo App, SBA, #154248, v1
- T-Mobile Site #: CTNL149A, RFDS, T-Mobile Sprint Retain, 07/09/21
- T-Mobile Site #: CTNL149A, Mount Record Docs, SBA

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

3.0 Appurtenance Information

Table 3.1 - Final T-Mobile Appurtenance Configuration¹

COR	(Quantity) Appurtenance Make/Model	Mount Description
171'±	(3) RFS APXVAALL24_43-U-NA20	<i>Platform</i> • <i>With Proposed MODs</i>
	(3) ERICSSON AIR6449 B41	
	(3) RRH 4480 B71+B8	
	(3) RRH 4460 B25+B6	

1. Refer to antenna installation Construction Drawings (when applicable) for additional information regarding final antenna and equipment orientations.

4.0 Structural Analysis Results

Table 4.1 – Mount Capacity

Load Case	Governing Mount Component ¹	% Capacity ²	Result
Final T-Mobile Configuration	Horizontal Boom	36.7%	Adequate Once MODs Installed³
	Handrail	46.4%	
	Platform Bracing	54.3%	
	Standoff	23.7%	
	Mount Pipe	50.2%	
	Plate at Boom	66.1%	
	Connections	35.2%	
	Collar	3.27 k-ft	Adequate by Inspection⁴

1. Refer to the Calculations & Software Output portion of this report for mount component and structural information.
2. Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.2. 105% is an acceptable allowable stress percentage for mount components. Refer to Section 7.0 for additional member usage capacities.
3. Refer to Conclusion & Recommendations for current required mount modifications (reinforcements) based on this analysis.
4. By inspection the tri-collar mount assemblies of the platform and PRK kickers are adequate to support the proposed final configuration as they're designed to resist the forces required to fully develop the primary mount structural members.

Table 4.2 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material ¹
Pipe	$F_y = 35$ ksi (A53, Gr. B)
Tube	$F_y = 46$ ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate & Bar	$F_y = 36$ ksi (A36)
Uni-Strut (P1000, etc.)	$F_y = 33$ ksi (A570, Gr. 33)
Connection Bolts	A325
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) $F_y = 57$ ksi (Yield) & $F_u = 74$ ksi (Tension)
	SAE J429 Grade 5 ($\frac{1}{4}$ " to 1" Nominal ϕ) $F_y = 92$ ksi (Yield) & $F_u = 120$ ksi (Tension)
Welds	E70XX Electrodes

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

5.0 Conclusion & Recommendations

Based on T-Mobile's final equipment loading configuration, the existing mount assembly does not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural modifications (reinforcements) will be required and are briefly summarized below:

- Install Platform Reinforcement Kit; located 3.5' below the existing collar mount and attaching to the existing tube steel platform members 3.5' from collar interface.
 - Sitepro1 PRK-1245L, (1) total.
- Remove and properly dispose of existing single angle handrail.
- Install Handrail Kit; located 3.0' above the existing platform bottom rail and attaching to the mount pipes.
 - Sitepro1 HRK14-U, (1) total. Attach all mount pipes to new handrail with kit-provided cross-over plates.
 - 1/2"Ø or 5/8"Ø U-Bolts, (18) total. Attach all mount pipes to existing bottom rail w/ (2) U-Bolts each similar to existing.

Once the recommended augments are successfully implemented, the **modified** mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Modification Requirements:

- **In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade modifications must be installed in accordance with GeoStructural's Mount Augmentation Drawings (Sprint CT33XC023 dated 04/15/18).**
- **Antennas and equipment shall be installed centered vertically on the mount front face rails. RRH units shall be installed as low as possible (no "lollipopping" is allowed). If this assumption is incorrect, the results of this analysis will be affected.**

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

Prepared by:



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Reviewed and Approved by:



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6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.
- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.
- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.
- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.
- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.
- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.
- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.
- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Attachments, Calculations & Software Output

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ASCE 7 Hazards Report

Address:

No Address at This
Location

Standard:

ASCE/SEI 7-10

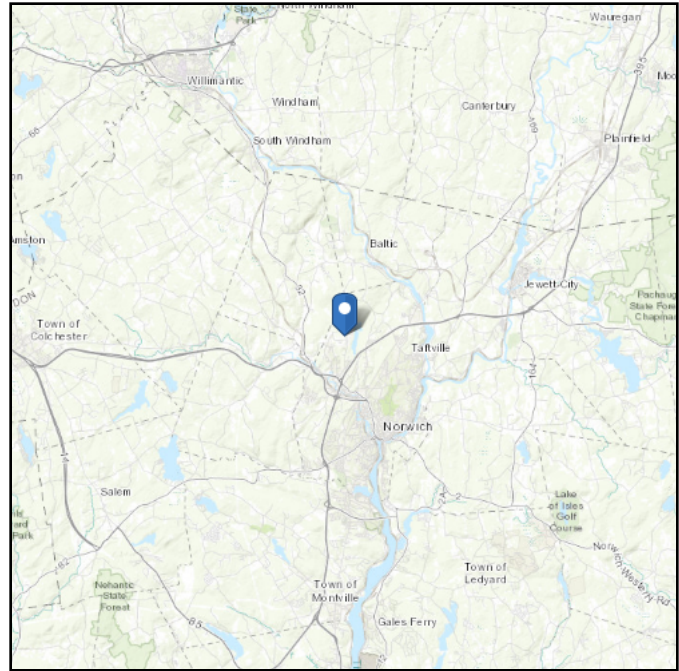
Risk Category: II**Soil Class:**

D - Stiff Soil

Elevation: 426.44 ft (NAVD 88)

Latitude: 41.578197

Longitude: -72.103717



Wind

Results:

Wind Speed:	131 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	107 Vmph

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

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

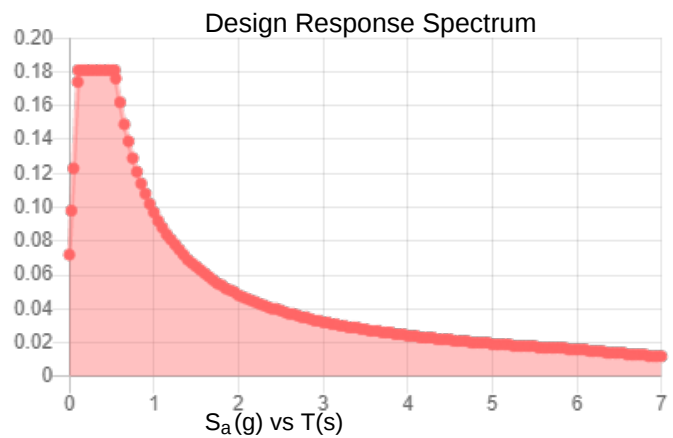
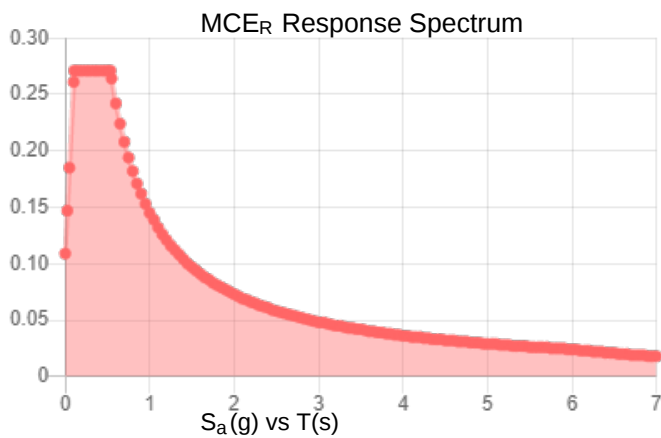
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.17	S_{DS} :	0.181
S_1 :	0.061	S_{D1} :	0.097
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.271	PGA _M :	0.136
S_{M1} :	0.145	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Thu Jul 01 2021

Date Source:

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

Results:

Ice Thickness: 0.75 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Thu Jul 01 2021

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

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

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

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Design Wind Force on Appurtenances

ASCE 7-10 & IBC 2015

Wind Design Parameters:					
$V_{basic} =$	131	mph	Basic Ult Wind (§2.6.4)	C	Exposure Category (§2.6.5.1.2)
$V_{ice} =$	50	mph	Basic Wind w/ Ice (§2.6.4)	1	Topographic Category (§2.6.6.2.1)
$t_{ice} =$	0.75	inch	Ice Thickness (§2.6.10)	II	Risk Category (§2, Table 2-1)
$K_a =$	0.9			30	mph Service Wind Speed
$K_d =$	0.95				
$G_h =$	1				
$q_z =$	59	psf	Wind Load without Ice	$t_{ice} =$	0 inch
$q_z =$	9	psf	Wind Load with Ice	$t_{ice} =$	0.88 inch
$z =$	171.0	ft	COR (Height above ground level at the base of structure)		
$H =$	0	ft	Height of crest above surrounding terrain (Topo Categories 2, 3 & 4)		
$z_s =$	0	ft	Mean elevation of base of structure above sea level		

Seismic Design Parameters:					
Site Class:	D	Occupancy Cat:	II	Seismic Design Cat:	B
				$z =$	171
				$h =$	171
Amp. Factor, a_p :	1	Response Factor, R_p :	2.5		
$S_{DS} =$	0.1813	$S_{D1} =$	0.098		
(ASCE 7-05 13.3-3)	$F_{p,min} = 0.3 S_{DS} I_p W_p$	=	0.0544	w_p	
(ASCE 7-05 13.3-1)	$F_p = \frac{0.4 a_p S_{DS} W_p}{\left(\frac{R_p}{I_p} \right)} \left(1 + 2 \frac{z}{h} \right)$	=	0.08704	w_p	
					Use $F_p =$ 0.087 W_p
(ASCE 7-05 13.3-2)	$F_{p,max} = 1.6 S_{DS} I_p W_p$	=	0.290133	w_p	

Importance Factor (§2, Table 2-3):

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



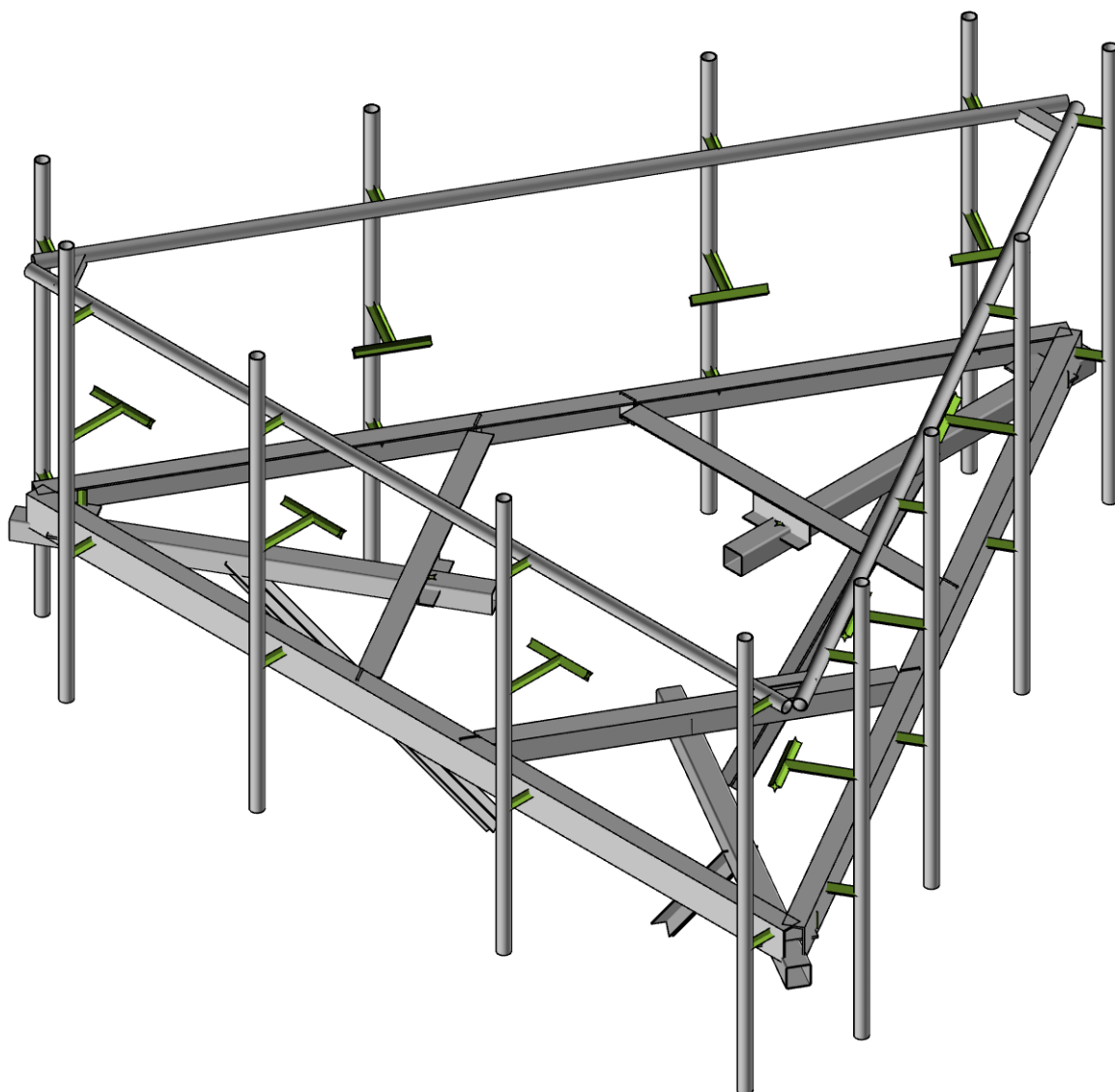
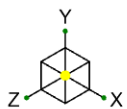
Appurtenances

RFS		APXVAALL24_43-U-NA20		
	FFRONT	FSIDE	WT	E
<i>No Ice</i>	1077.4	473.1	128.0	11.1
<i>0.88 inch Ice</i>	171.6	84.5	191.7	

Ericsson		AIR6449 B41		
	FFRONT	FSIDE	WT	E
<i>No Ice</i>	302.4	128.6	104.0	9.0
<i>0.88 inch Ice</i>	50.4	23.9	64.6	

RRH		Radio 4480 B71+B85		
	FFRONT	FSIDE	WT	E
<i>No Ice</i>	128.6	64.0	93.0	8.1
<i>0.88 inch Ice</i>	22.9	12.6	31.4	

RRH		Radio 4460 B25+B66		
	FFRONT	FSIDE	WT	E
<i>No Ice</i>	113.9	89.7	104.0	9.0
<i>0.88 inch Ice</i>	20.5	16.6	36.6	



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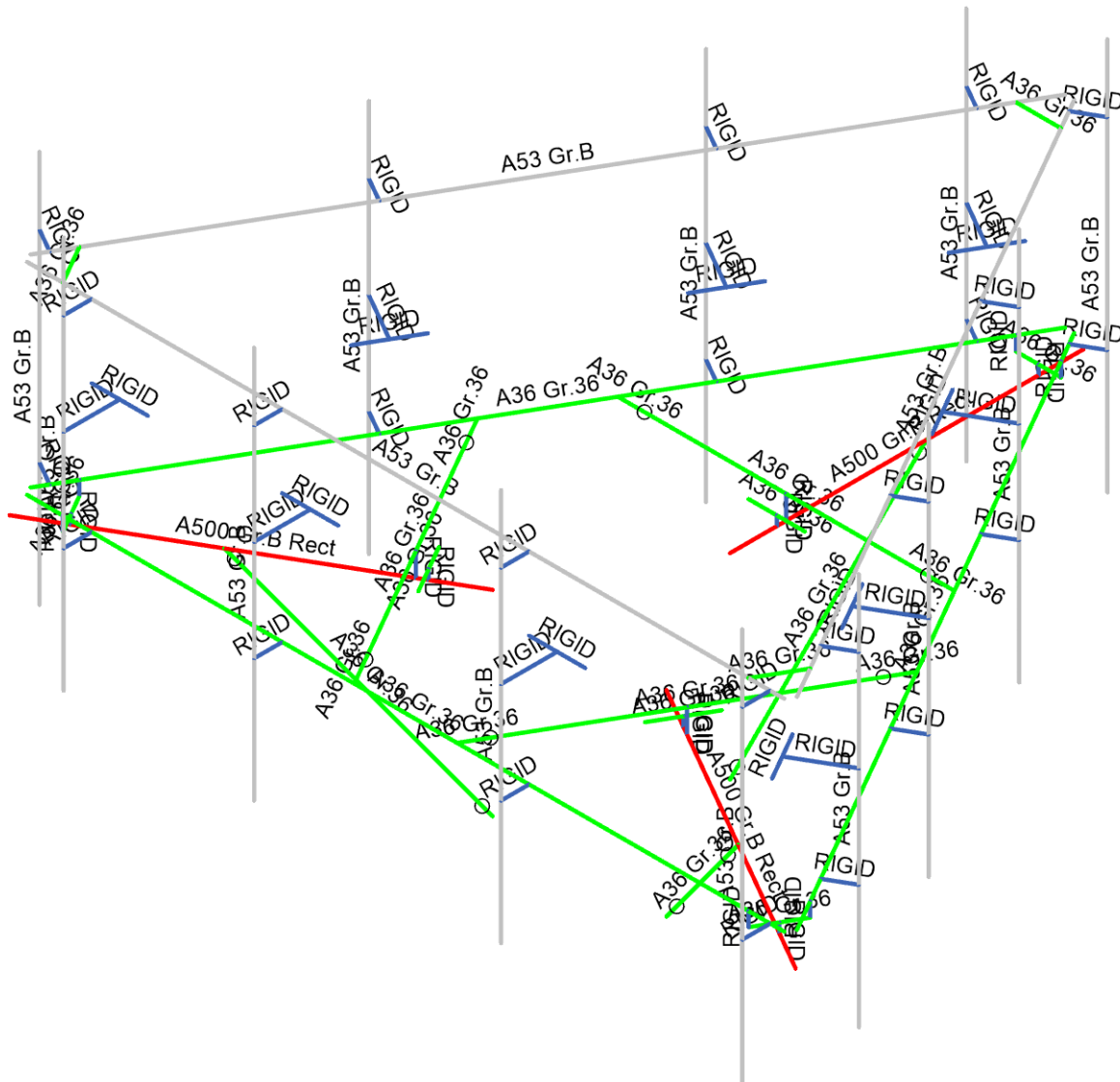
SK-1

Dec 03, 2021

CTNL149A_Mount Analysis_R1.R3D



Member Material Sets	
■	RIGID
■	A36 Gr.36
■	A500 Gr.B Rect
■	A53 Gr.B



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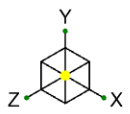
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CTNL149A

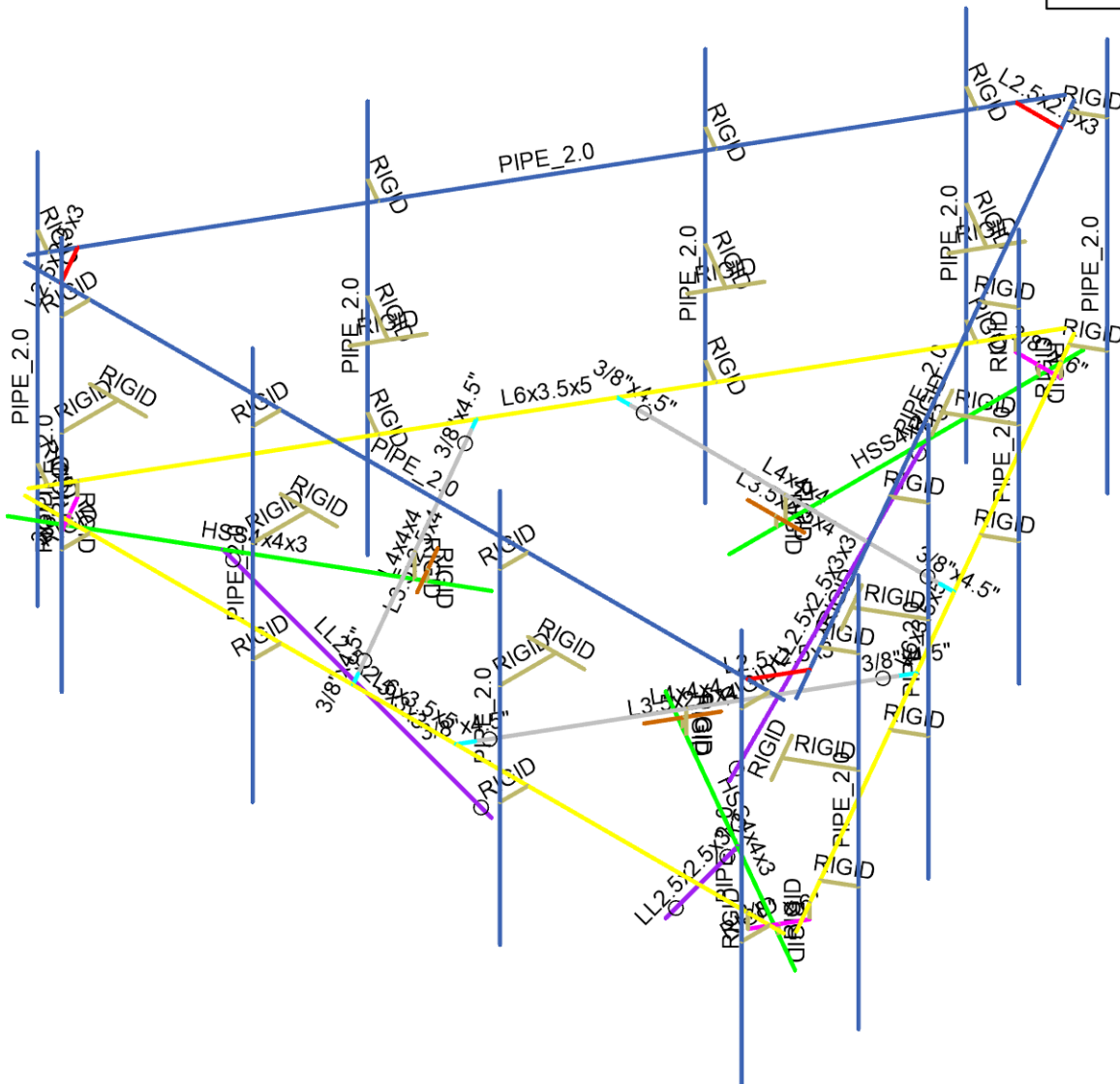
SK-2

Dec 03, 2021

CTNL149A_Mount Analysis_R1.R3D



Section Sets	
■	PIPE_2.0
■	HSS4x4x3
■	L2.5x2.5x3
■	L4x4x4
■	3/8" x 6"
■	3/8"x4.5"
■	L3.5x2.5x4
■	L6x3.5x5
■	LL2.5x2.5x3x3
■	RIGID



Envelope Only Solution

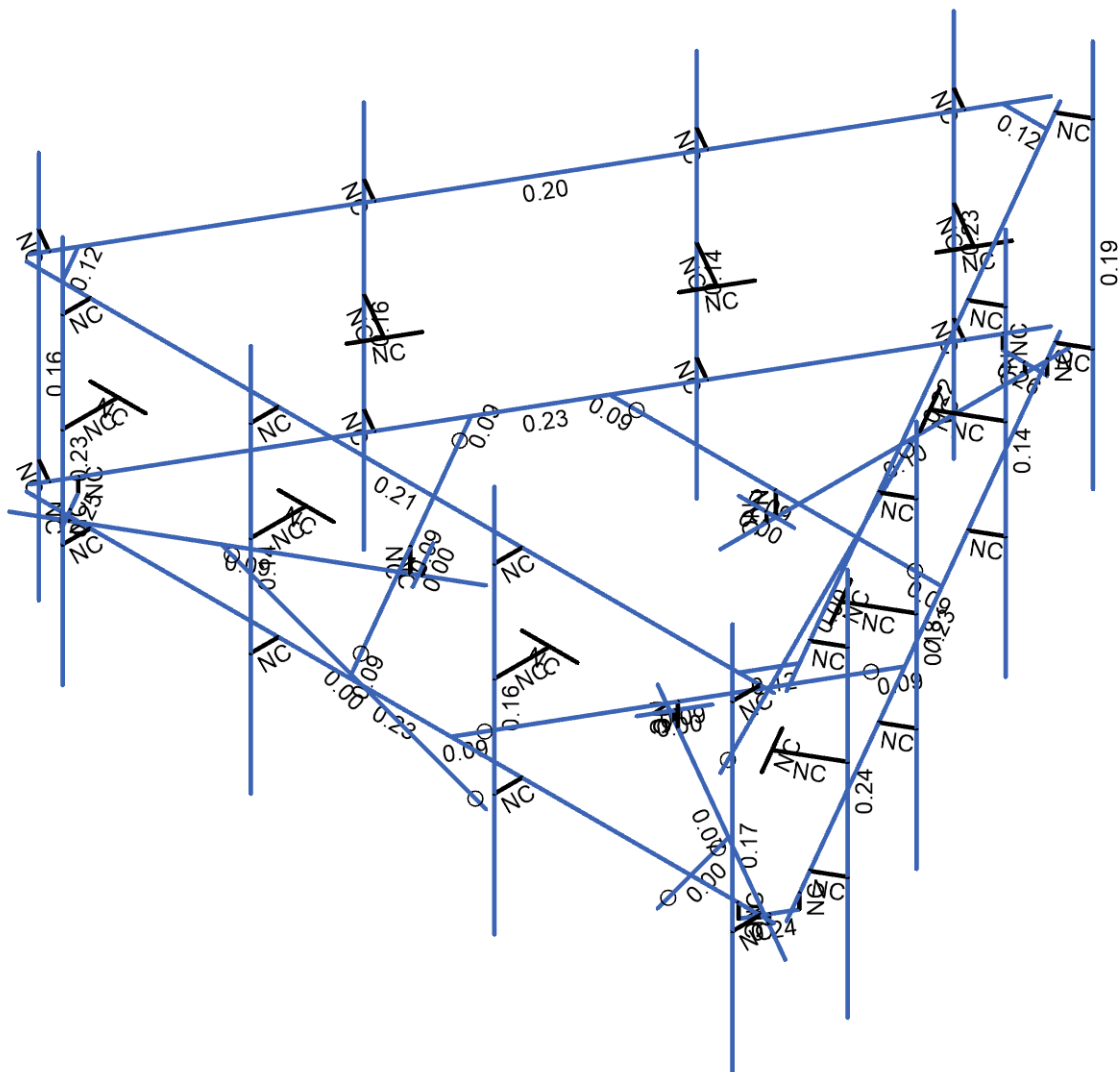
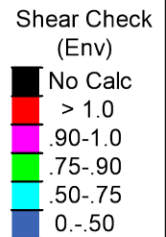
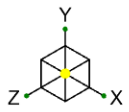
GeoStructural, LLC
Fathullah Zamani

CTNL149A

SK-3

Dec 03, 2021

CTNL149A_Mount Analysis_R1.R3D



Member Shear Checks Displayed (Enveloped)
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GeoStructural, LLC

Fathullah Zamani

CTNL149A

SK-2

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CTNL149A_Mount Analysis_R1....



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Distributed	Area(Member)
1	Self Weight	DL		-1.1		18		6
2	Wind Load AZI 000	WLZ				18	101	
3	Wind Load AZI 090	WLX				18	101	
4	Ice Weight	OL1				18	101	6
5	Wind + Ice Load AZI 000	OL2				18	101	
6	Wind + Ice Load AZI 090	OL3				18	101	
7	Service Lm1	LL				3		
8	Service Lm2	OL4				3		
9	Service Lm3	OL5				3		
10	Service Lm4	OL6				3		
11	Service Lv 1	OL8				3		
12	Service Lv 2	OL9				3		
13	Service Lv 3	OL10				3		
14	Seismic Load AZI 000	ELZ			-0.09	18		
15	Seismic Load AZI 090	ELX	-0.09			18		
16	BLC 1 Transient Area Loads	None					104	
17	BLC 4 Transient Area Loads	None					104	

Load Combination Design

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



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
35	1D + 0.6W AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	1D + 0.6W AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	1D + 0.6W AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	0.6D + 0.6W AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	0.6D + 0.6W AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	0.6D + 0.6W AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	0.6D + 0.6W AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	0.6D + 0.6W AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	0.6D + 0.6W AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	0.6D + 0.6W AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	0.6D + 0.6W AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	0.6D + 0.6W AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	0.6D + 0.6W AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	0.6D + 0.6W AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	0.6D + 0.6W AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	1D + 1Di		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	1D + 1Di + 1Wi AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	1D + 1Di + 1Wi AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	1D + 1Di + 1Wi AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	1D + 1Di + 1Wi AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	1D + 1Di + 1Wi AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	1D + 1Di + 1Wi AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	1D + 1Di + 1Wi AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	1D + 1Di + 1Wi AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	1D + 1Di + 1Wi AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	1D + 1Di + 1Wi AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	1D + 1Di + 1Wi AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	1D + 1Di + 1Wi AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	1D + 1.5LM1 + 0.052WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	1D + 1.5LM1 + 0.052WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	1D + 1.5LM1 + 0.052WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	1D + 1.5LM1 + 0.052WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	1D + 1.5LM1 + 0.052WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	1D + 1.5LM1 + 0.052WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	1D + 1.5LM1 + 0.052WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	1D + 1.5LM1 + 0.052WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	1D + 1.5LM1 + 0.052WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	1D + 1.5LM1 + 0.052WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	1D + 1.5LM1 + 0.052WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	1D + 1.5LM1 + 0.052WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
75	1D + 1.5LM2 + 0.052WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
76	1D + 1.5LM2 + 0.052WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
77	1D + 1.5LM2 + 0.052WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
78	1D + 1.5LM2 + 0.052WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
79	1D + 1.5LM2 + 0.052WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
80	1D + 1.5LM2 + 0.052WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
81	1D + 1.5LM2 + 0.052WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
82	1D + 1.5LM2 + 0.052WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
83	1D + 1.5LM2 + 0.052WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
84	1D + 1.5LM2 + 0.052WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
85	1D + 1.5LM2 + 0.052WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
86	1D + 1.5LM2 + 0.052WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
87	1D + 1.5LM3 + 0.052WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
88	1D + 1.5LM3 + 0.052WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
89	1D + 1.5LM3 + 0.052WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
90	1D + 1.5LM3 + 0.052WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
91	1D + 1.5LM3 + 0.052WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
92	1D + 1.5LM3 + 0.052WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
93	1D + 1.5LM3 + 0.052WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
94	1D + 1.5LM3 + 0.052WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
95	1D + 1.5LM3 + 0.052WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
96	1D + 1.5LM3 + 0.052WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
97	1D + 1.5LM3 + 0.052WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
98	1D + 1.5LM3 + 0.052WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
99	1D + 1.5LM4 + 0.052WL (30 mph) AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
100	1D + 1.5LM4 + 0.052WL (30 mph) AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
101	1D + 1.5LM4 + 0.052WL (30 mph) AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
102	1D + 1.5LM4 + 0.052WL (30 mph) AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
103	1D + 1.5LM4 + 0.052WL (30 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
104	1D + 1.5LM4 + 0.052WL (30 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
105	1D + 1.5LM4 + 0.052WL (30 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
106	1D + 1.5LM4 + 0.052WL (30 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
107	1D + 1.5LM4 + 0.052WL (30 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
108	1D + 1.5LM4 + 0.052WL (30 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
109	1D + 1.5LM4 + 0.052WL (30 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
110	1D + 1.5LM4 + 0.052WL (30 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
111	1D + 1.5Lv1		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
112	1D + 1.5Lv2		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
113	1D + 1.5Lv3		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
114	(1.0+0.14Sds)D + 0.7E AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
115	(1.0+0.14Sds)D + 0.7E AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
116	(1.0+0.14Sds)D + 0.7E AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
117	(1.0+0.14Sds)D + 0.7E AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
118	(1.0+0.14Sds)D + 0.7E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
119	(1.0+0.14Sds)D + 0.7E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
120	(1.0+0.14Sds)D + 0.7E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
121	(1.0+0.14Sds)D + 0.7E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
122	(1.0+0.14Sds)D + 0.7E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
123	(1.0+0.14Sds)D + 0.7E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
124	(1.0+0.14Sds)D + 0.7E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
125	(1.0+0.14Sds)D + 0.7E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
126	(0.6-0.2Sds)D + 0.7E AZI 000		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
127	(0.6-0.2Sds)D + 0.7E AZI 030		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
128	(0.6-0.2Sds)D + 0.7E AZI 060		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
129	(0.6-0.2Sds)D + 0.7E AZI 090		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
130	(0.6-0.2Sds)D + 0.7E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
131	(0.6-0.2Sds)D + 0.7E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
132	(0.6-0.2Sds)D + 0.7E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
133	(0.6-0.2Sds)D + 0.7E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
134	(0.6-0.2Sds)D + 0.7E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
135	(0.6-0.2Sds)D + 0.7E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
136	(0.6-0.2Sds)D + 0.7E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
137	(0.6-0.2Sds)D + 0.7E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.49	42	1.4	58	1.3



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [$10^{-6}/^{\circ}\text{F}$]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A500 Gr.B RND 1	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
8	A500 Gr.B Rect 1	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
9	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
1	PIPE 1.5	PIPE 1.5	Beam	Pipe	A53 Gr.B	Typical	0.749	0.293	0.293	0.586
2	PIPE 2.0	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	PIPE 2.5	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE 3.0	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE 3.5	PIPE 3.5	Beam	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE 4.0	PIPE 4.0	Beam	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE 5.0	PIPE 5.0	Beam	Pipe	A53 Gr.B	Typical	4.01	14.3	14.3	28.6
8	HSS2x2x3	HSS2X2X3	Beam	Tube	A500 Gr.B Rect	Typical	1.19	0.641	0.641	1.09
9	HSS3x3x3	HSS3X3X3	Beam	Tube	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03
10	HSS4x4x3	HSS4X4X3	Beam	Tube	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5X5X4	Beam	Tube	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3X3.5	Beam	Channel	A36 Gr.36	Typical	1.09	0.169	1.57	0.023
14	C4x4.5	C4X4.5 HRA	Beam	Channel	A36 Gr.36	Typical	1.38	0.289	3.65	0.032
15	C5x6.7	C5X6.7	Beam	Channel	A36 Gr.36	Typical	1.97	0.47	7.48	0.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	0.901	0.535	0.535	0.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
18	L3x3x3	L3X3X3	Beam	Single Angle	A36 Gr.36	Typical	1.09	0.948	0.948	0.014
19	L3x3x4	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
20	L3x3x6	L3X3X6	Beam	Single Angle	A36 Gr.36	Typical	2.11	1.75	1.75	0.101
21	L3.5x3.5x4	L3.5X3.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.7	2	2	0.039
22	L4x4x4	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	0.044
23	3/8" x 6"	3/8"x6"	Beam	BAR	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
24	3/8"x4.5"	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical	1.688	0.02	2.848	0.075
25	L3.5x2.5x4	L3.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.45	0.775	1.81	0.032
26	L6x3.5x5	L6X3.5X5	Beam	Single Angle	A36 Gr.36	Typical	2.89	2.84	10.9	0.099
27	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical	1.8	2.46	1.07	0.023

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N85	N89	90	3/8" x 6"	Beam	BAR	A36 Gr.36	Typical
2	M2	N1	N2	180	L4x4x4	Beam	Single Angle	A36 Gr.36	Typical
3	M3	N67	N71	90	3/8" x 6"	Beam	BAR	A36 Gr.36	Typical
4	M4	N3	N4	180	L4x4x4	Beam	Single Angle	A36 Gr.36	Typical
5	M5	N51	N55	90	3/8" x 6"	Beam	BAR	A36 Gr.36	Typical
6	M6	N5	N6	180	L4x4x4	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N7	N8	90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N9	N10	90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N11	N12	90	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical
10	M13	N13	N14		RIGID	None	None	RIGID	Typical
11	M14	N15	N16	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
12	M15	N17	N18		RIGID	None	None	RIGID	Typical
13	M19	N19	N20	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
14	M24	N21	N22	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
15	M28	N23	N24		RIGID	None	None	RIGID	Typical



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Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
16	M29	N25	N26	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
17	M30	N27	N28		RIGID	None	None	RIGID	Typical
18	M34	N29	N30	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
19	M43	N31	N32		RIGID	None	None	RIGID	Typical
20	M44	N33	N34	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
21	M45	N35	N36		RIGID	None	None	RIGID	Typical
22	M49	N37	N38	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
23	M55	N39	N40	180	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
24	M56	N41	N42	180	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
25	M57	N43	N44	180	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
26	M58	N45	N5	180	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical
27	M59	N46	N6	180	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical
28	M60	N47	N48		RIGID	None	None	RIGID	Typical
29	M61	N49	N50		RIGID	None	None	RIGID	Typical
30	M62	N51	N52		RIGID	None	None	RIGID	Typical
31	M63	N53	N54		RIGID	None	None	RIGID	Typical
32	M64	N55	N56		RIGID	None	None	RIGID	Typical
33	M65	N57	N58		L3.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
34	M66	N59	N60		HSS4x4x3	Beam	Tube	A500 Gr.B Rect	Typical
35	M67	N61	N62	180	L6x3.5x5	Beam	Single Angle	A36 Gr.36	Typical
36	M68	N63	N3	180	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical
37	M69	N64	N4	180	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical
38	M70	N65	N66		RIGID	None	None	RIGID	Typical
39	M72	N67	N68		RIGID	None	None	RIGID	Typical
40	M73	N69	N70		RIGID	None	None	RIGID	Typical
41	M74	N71	N72		RIGID	None	None	RIGID	Typical
42	M75	N73	N74		L3.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
43	M76	N75	N76		HSS4x4x3	Beam	Tube	A500 Gr.B Rect	Typical
44	M77	N77	N78	180	L6x3.5x5	Beam	Single Angle	A36 Gr.36	Typical
45	M78	N79	N1	180	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical
46	M79	N80	N2	180	3/8"x4.5"	Beam	BAR	A36 Gr.36	Typical
47	M80	N81	N82		RIGID	None	None	RIGID	Typical
48	M81	N83	N84		RIGID	None	None	RIGID	Typical
49	M82	N85	N86		RIGID	None	None	RIGID	Typical
50	M83	N87	N88		RIGID	None	None	RIGID	Typical
51	M84	N89	N90		RIGID	None	None	RIGID	Typical
52	M85	N91	N92		L3.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
53	M86	N93	N94		HSS4x4x3	Beam	Tube	A500 Gr.B Rect	Typical
54	M87	N95	N96	180	L6x3.5x5	Beam	Single Angle	A36 Gr.36	Typical
55	M92	N97	N98		RIGID	None	None	RIGID	Typical
56	M93	N99	N100		RIGID	None	None	RIGID	Typical
57	M96	N101	N102		RIGID	None	None	RIGID	Typical
58	M97	N103	N104		RIGID	None	None	RIGID	Typical
59	M104	N105	N106		RIGID	None	None	RIGID	Typical
60	M105	N107	N108		RIGID	None	None	RIGID	Typical
61	M108	N109	N110		RIGID	None	None	RIGID	Typical
62	M109	N111	N112		RIGID	None	None	RIGID	Typical
63	M112	N113	N114		RIGID	None	None	RIGID	Typical
64	M113	N115	N116		RIGID	None	None	RIGID	Typical
65	M116	N117	N118		RIGID	None	None	RIGID	Typical
66	M117	N119	N120		RIGID	None	None	RIGID	Typical
67	M120	N121	N122		RIGID	None	None	RIGID	Typical
68	M121	N123	N124		RIGID	None	None	RIGID	Typical
69	M78A	N128	N129		RIGID	None	None	RIGID	Typical
70	M79A	N130	N131		RIGID	None	None	RIGID	Typical



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Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
71	M71	N132	N133	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
72	M72A	N134	N135		RIGID	None	None	RIGID	Typical
73	M73A	N136	N137		RIGID	None	None	RIGID	Typical
74	M74A	N140	N141		RIGID	None	None	RIGID	Typical
75	M75A	N142	N143		RIGID	None	None	RIGID	Typical
76	M76A	N144	N145	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
77	M77A	N146	N147		RIGID	None	None	RIGID	Typical
78	M78B	N148	N149		RIGID	None	None	RIGID	Typical
79	M79B	N152	N153		RIGID	None	None	RIGID	Typical
80	M80A	N154	N155		RIGID	None	None	RIGID	Typical
81	M81A	N156	N157		RIGID	None	None	RIGID	Typical
82	M82A	N158	N159	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
83	M83A	N160	N161		RIGID	None	None	RIGID	Typical
84	M84A	N162	N163		RIGID	None	None	RIGID	Typical
85	M85A	N164	N165		RIGID	None	None	RIGID	Typical
86	M86A	N166	N167		RIGID	None	None	RIGID	Typical
87	M87A	N168	N169	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
88	M88	N170	N171		RIGID	None	None	RIGID	Typical
89	M89	N172	N173		RIGID	None	None	RIGID	Typical
90	M90	N174	N175		RIGID	None	None	RIGID	Typical
91	M91	N176	N177		RIGID	None	None	RIGID	Typical
92	M92A	N178	N179	90	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
93	M93A	N180	N181		RIGID	None	None	RIGID	Typical
94	M94	N182	N183		RIGID	None	None	RIGID	Typical
95	M95	N184	N185		RIGID	None	None	RIGID	Typical
96	M96A	N205	N204		LL2.5x2.5x3x3	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical
97	M97A	N207	N206		LL2.5x2.5x3x3	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical
98	M98	N209	N208		LL2.5x2.5x3x3	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical
99	M99	N127	N220	240	RIGID	None	None	RIGID	Typical
100	M100	N49	N50	120	RIGID	None	None	RIGID	Typical
101	M101	N83	N84		RIGID	None	None	RIGID	Typical

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N75	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N59	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N93	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N204	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N205						
6	N206	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N207						
8	N208	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
9	N209						

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	Y	-0.064
2	N195	L	Y	-0.064
3	N125	L	Y	-0.052
4	N126	L	Y	-0.052
5	N17	L	Y	-0.093
6	N18	L	Y	-0.104
7	N190	L	Y	-0.064



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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
8	N199	L	Y	-0.064
9	N150	L	Y	-0.052
10	N151	L	Y	-0.052
11	N35	L	Y	-0.093
12	N36	L	Y	-0.104
13	N188	L	Y	-0.064
14	N197	L	Y	-0.064
15	N138	L	Y	-0.052
16	N139	L	Y	-0.052
17	N27	L	Y	-0.093
18	N28	L	Y	-0.104

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	Z	-0.539
2	N195	L	Z	-0.539
3	N125	L	Z	-0.151
4	N126	L	Z	-0.151
5	N17	L	Z	-0.129
6	N18	L	Z	-0.114
7	N190	L	Z	-0.237
8	N199	L	Z	-0.237
9	N150	L	Z	-0.064
10	N151	L	Z	-0.064
11	N35	L	Z	-0.064
12	N36	L	Z	-0.09
13	N188	L	Z	-0.237
14	N197	L	Z	-0.237
15	N138	L	Z	-0.064
16	N139	L	Z	-0.064
17	N27	L	Z	-0.064
18	N28	L	Z	-0.09

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	X	-0.237
2	N195	L	X	-0.237
3	N125	L	X	-0.064
4	N126	L	X	-0.064
5	N17	L	X	-0.064
6	N18	L	X	-0.09
7	N190	L	X	-0.539
8	N199	L	X	-0.539
9	N150	L	X	-0.151
10	N151	L	X	-0.151
11	N35	L	X	-0.129
12	N36	L	X	-0.114
13	N188	L	X	-0.539
14	N197	L	X	-0.539
15	N138	L	X	-0.151
16	N139	L	X	-0.151
17	N27	L	X	-0.129
18	N28	L	X	-0.114


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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	Y	-0.096
2	N195	L	Y	-0.096
3	N125	L	Y	-0.032
4	N126	L	Y	-0.032
5	N17	L	Y	-0.031
6	N18	L	Y	-0.037
7	N190	L	Y	-0.096
8	N199	L	Y	-0.096
9	N150	L	Y	-0.032
10	N151	L	Y	-0.032
11	N35	L	Y	-0.031
12	N36	L	Y	-0.037
13	N188	L	Y	-0.096
14	N197	L	Y	-0.096
15	N138	L	Y	-0.032
16	N139	L	Y	-0.032
17	N27	L	Y	-0.031
18	N28	L	Y	-0.037

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	Z	-0.086
2	N195	L	Z	-0.086
3	N125	L	Z	-0.025
4	N126	L	Z	-0.025
5	N17	L	Z	-0.023
6	N18	L	Z	-0.02
7	N190	L	Z	-0.042
8	N199	L	Z	-0.042
9	N150	L	Z	-0.012
10	N151	L	Z	-0.012
11	N35	L	Z	-0.013
12	N36	L	Z	-0.017
13	N188	L	Z	-0.042
14	N197	L	Z	-0.042
15	N138	L	Z	-0.012
16	N139	L	Z	-0.012
17	N27	L	Z	-0.013
18	N28	L	Z	-0.017

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	X	-0.042
2	N195	L	X	-0.042
3	N125	L	X	-0.012
4	N126	L	X	-0.012
5	N17	L	X	-0.013
6	N18	L	X	-0.017
7	N190	L	X	-0.086
8	N199	L	X	-0.086
9	N150	L	X	-0.025
10	N151	L	X	-0.025


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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
11	N35	L	X	-0.023
12	N36	L	X	-0.02
13	N188	L	X	-0.086
14	N197	L	X	-0.086
15	N138	L	X	-0.025
16	N139	L	X	-0.025
17	N27	L	X	-0.023
18	N28	L	X	-0.02

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N118	L	Y	-0.5
2	N98	L	Y	-0.5
3	N106	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N163	L	Y	-0.5
2	N183	L	Y	-0.5
3	N173	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N122	L	Y	-0.5
2	N102	L	Y	-0.5
3	N110	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N114	L	Y	-0.5
2	N147	L	Y	-0.5
3	N135	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N78	L	Y	-0.25
2	N96	L	Y	-0.25
3	N62	L	Y	-0.25

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N223	L	Y	-0.25
2	N224	L	Y	-0.25
3	N225	L	Y	-0.25


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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N77	L	Y	-0.25
2	N95	L	Y	-0.25
3	N61	L	Y	-0.25

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	Z	-0.006
2	N195	L	Z	-0.006
3	N125	L	Z	-0.005
4	N126	L	Z	-0.005
5	N17	L	Z	-0.008
6	N18	L	Z	-0.009
7	N190	L	Z	-0.006
8	N199	L	Z	-0.006
9	N150	L	Z	-0.005
10	N151	L	Z	-0.005
11	N35	L	Z	-0.008
12	N36	L	Z	-0.009
13	N188	L	Z	-0.006
14	N197	L	Z	-0.006
15	N138	L	Z	-0.005
16	N139	L	Z	-0.005
17	N27	L	Z	-0.008
18	N28	L	Z	-0.009

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	N186	L	X	-0.006
2	N195	L	X	-0.006
3	N125	L	X	-0.005
4	N126	L	X	-0.005
5	N17	L	X	-0.008
6	N18	L	X	-0.009
7	N190	L	X	-0.006
8	N199	L	X	-0.006
9	N150	L	X	-0.005
10	N151	L	X	-0.005
11	N35	L	X	-0.008
12	N36	L	X	-0.009
13	N188	L	X	-0.006
14	N197	L	X	-0.006
15	N138	L	X	-0.005
16	N139	L	X	-0.005
17	N27	L	X	-0.008
18	N28	L	X	-0.009

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M87	SZ	-0.05	-0.05	0	%100
2	M67	SZ	-0.05	-0.05	0	%100
3	M77	SZ	-0.05	-0.05	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
4	M101	SZ	-0.014	-0.014	0	%100
5	M99	SZ	-0.014	-0.014	0	%100
6	M2	SZ	-0.014	-0.014	0	%100
7	M4	SZ	-0.014	-0.014	0	%100
8	M6	SZ	-0.014	-0.014	0	%100
9	M98	SZ	-0.014	-0.014	0	%100
10	M97A	SZ	-0.014	-0.014	0	%100
11	M96A	SZ	-0.014	-0.014	0	%100
12	M95	SZ	-0.014	-0.014	0	%100
13	M94	SZ	-0.014	-0.014	0	%100
14	M93A	SZ	-0.014	-0.014	0	%100
15	M92A	SZ	-0.014	-0.014	0	%100
16	M91	SZ	-0.014	-0.014	0	%100
17	M89	SZ	-0.014	-0.014	0	%100
18	M88	SZ	-0.014	-0.014	0	%100
19	M86A	SZ	-0.014	-0.014	0	%100
20	M85A	SZ	-0.014	-0.014	0	%100
21	M84A	SZ	-0.014	-0.014	0	%100
22	M81A	SZ	-0.014	-0.014	0	%100
23	M80A	SZ	-0.014	-0.014	0	%100
24	M79B	SZ	-0.014	-0.014	0	%100
25	M78B	SZ	-0.014	-0.014	0	%100
26	M77A	SZ	-0.014	-0.014	0	%100
27	M74A	SZ	-0.014	-0.014	0	%100
28	M72A	SZ	-0.014	-0.014	0	%100
29	M71	SZ	-0.014	-0.014	0	%100
30	M79A	SZ	-0.014	-0.014	0	%100
31	M78A	SZ	-0.014	-0.014	0	%100
32	M121	SZ	-0.014	-0.014	0	%100
33	M120	SZ	-0.014	-0.014	0	%100
34	M117	SZ	-0.014	-0.014	0	%100
35	M116	SZ	-0.014	-0.014	0	%100
36	M90	SZ	-0.014	-0.014	0	%100
37	M105	SZ	-0.014	-0.014	0	%100
38	M104	SZ	-0.014	-0.014	0	%100
39	M92	SZ	-0.014	-0.014	0	%100
40	M86	SZ	-0.014	-0.014	0	%100
41	M85	SZ	-0.014	-0.014	0	%100
42	M84	SZ	-0.014	-0.014	0	%100
43	M82A	SZ	-0.014	-0.014	0	%100
44	M83	SZ	-0.014	-0.014	0	%100
45	M81	SZ	-0.014	-0.014	0	%100
46	M78	SZ	-0.014	-0.014	0	%100
47	M96	SZ	-0.014	-0.014	0	%100
48	M76	SZ	-0.014	-0.014	0	%100
49	M93	SZ	-0.014	-0.014	0	%100
50	M75	SZ	-0.014	-0.014	0	%100
51	M73	SZ	-0.014	-0.014	0	%100
52	M75A	SZ	-0.014	-0.014	0	%100
53	M72	SZ	-0.014	-0.014	0	%100
54	M87A	SZ	-0.014	-0.014	0	%100
55	M70	SZ	-0.014	-0.014	0	%100
56	M100	SZ	-0.014	-0.014	0	%100
57	M65	SZ	-0.014	-0.014	0	%100
58	M64	SZ	-0.014	-0.014	0	%100


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

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
59	M63	SZ	-0.014	0	%100
60	M109	SZ	-0.014	0	%100
61	M61	SZ	-0.014	0	%100
62	M60	SZ	-0.014	0	%100
63	M73A	SZ	-0.014	0	%100
64	M76A	SZ	-0.014	0	%100
65	M59	SZ	-0.014	0	%100
66	M58	SZ	-0.014	0	%100
67	M56	SZ	-0.014	0	%100
68	M55	SZ	-0.014	0	%100
69	M68	SZ	-0.014	0	%100
70	M45	SZ	-0.014	0	%100
71	M43	SZ	-0.014	0	%100
72	M113	SZ	-0.014	0	%100
73	M29	SZ	-0.014	0	%100
74	M28	SZ	-0.014	0	%100
75	M66	SZ	-0.014	0	%100
76	M24	SZ	-0.014	0	%100
77	M19	SZ	-0.014	0	%100
78	M34	SZ	-0.014	0	%100
79	M83A	SZ	-0.014	0	%100
80	M57	SZ	-0.014	0	%100
81	M69	SZ	-0.014	0	%100
82	M108	SZ	-0.014	0	%100
83	M14	SZ	-0.014	0	%100
84	M13	SZ	-0.014	0	%100
85	M80	SZ	-0.014	0	%100
86	M74	SZ	-0.014	0	%100
87	M9	SZ	-0.014	0	%100
88	M8	SZ	-0.014	0	%100
89	M49	SZ	-0.014	0	%100
90	M62	SZ	-0.014	0	%100
91	M7	SZ	-0.014	0	%100
92	M44	SZ	-0.014	0	%100
93	M3	SZ	-0.014	0	%100
94	M5	SZ	-0.014	0	%100
95	M79	SZ	-0.014	0	%100
96	M112	SZ	-0.014	0	%100
97	M1	SZ	-0.014	0	%100
98	M82	SZ	-0.014	0	%100
99	M15	SZ	-0.014	0	%100
100	M97	SZ	-0.014	0	%100
101	M30	SZ	-0.014	0	%100

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

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M77	SX	-0.05	0	%100
2	M67	SX	-0.05	0	%100
3	M87	SX	-0.05	0	%100
4	M99	SX	-0.014	0	%100
5	M2	SX	-0.014	0	%100
6	M4	SX	-0.014	0	%100
7	M6	SX	-0.014	0	%100
8	M98	SX	-0.014	0	%100
9	M97A	SX	-0.014	0	%100

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

Member Label Direction Start Magnitude [k/ft, F, ksf, k-ft/ft] End Magnitude [k/ft, F, ksf, k-ft/ft] Start Location [(ft, %)] End Location [(ft, %)]						
10	M96A	SX	-0.014	-0.014	0	%100
11	M95	SX	-0.014	-0.014	0	%100
12	M94	SX	-0.014	-0.014	0	%100
13	M93A	SX	-0.014	-0.014	0	%100
14	M92A	SX	-0.014	-0.014	0	%100
15	M91	SX	-0.014	-0.014	0	%100
16	M89	SX	-0.014	-0.014	0	%100
17	M88	SX	-0.014	-0.014	0	%100
18	M86A	SX	-0.014	-0.014	0	%100
19	M85A	SX	-0.014	-0.014	0	%100
20	M84A	SX	-0.014	-0.014	0	%100
21	M81A	SX	-0.014	-0.014	0	%100
22	M80A	SX	-0.014	-0.014	0	%100
23	M79B	SX	-0.014	-0.014	0	%100
24	M78B	SX	-0.014	-0.014	0	%100
25	M77A	SX	-0.014	-0.014	0	%100
26	M74A	SX	-0.014	-0.014	0	%100
27	M72A	SX	-0.014	-0.014	0	%100
28	M71	SX	-0.014	-0.014	0	%100
29	M79A	SX	-0.014	-0.014	0	%100
30	M78A	SX	-0.014	-0.014	0	%100
31	M121	SX	-0.014	-0.014	0	%100
32	M120	SX	-0.014	-0.014	0	%100
33	M117	SX	-0.014	-0.014	0	%100
34	M116	SX	-0.014	-0.014	0	%100
35	M90	SX	-0.014	-0.014	0	%100
36	M105	SX	-0.014	-0.014	0	%100
37	M104	SX	-0.014	-0.014	0	%100
38	M92	SX	-0.014	-0.014	0	%100
39	M86	SX	-0.014	-0.014	0	%100
40	M85	SX	-0.014	-0.014	0	%100
41	M84	SX	-0.014	-0.014	0	%100
42	M82A	SX	-0.014	-0.014	0	%100
43	M83	SX	-0.014	-0.014	0	%100
44	M81	SX	-0.014	-0.014	0	%100
45	M78	SX	-0.014	-0.014	0	%100
46	M96	SX	-0.014	-0.014	0	%100
47	M76	SX	-0.014	-0.014	0	%100
48	M93	SX	-0.014	-0.014	0	%100
49	M75	SX	-0.014	-0.014	0	%100
50	M73	SX	-0.014	-0.014	0	%100
51	M75A	SX	-0.014	-0.014	0	%100
52	M72	SX	-0.014	-0.014	0	%100
53	M87A	SX	-0.014	-0.014	0	%100
54	M70	SX	-0.014	-0.014	0	%100
55	M100	SX	-0.014	-0.014	0	%100
56	M65	SX	-0.014	-0.014	0	%100
57	M64	SX	-0.014	-0.014	0	%100
58	M63	SX	-0.014	-0.014	0	%100
59	M109	SX	-0.014	-0.014	0	%100
60	M61	SX	-0.014	-0.014	0	%100
61	M60	SX	-0.014	-0.014	0	%100
62	M73A	SX	-0.014	-0.014	0	%100
63	M76A	SX	-0.014	-0.014	0	%100
64	M59	SX	-0.014	-0.014	0	%100


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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
65	M58	SX	-0.014	-0.014	0	%100
66	M56	SX	-0.014	-0.014	0	%100
67	M55	SX	-0.014	-0.014	0	%100
68	M68	SX	-0.014	-0.014	0	%100
69	M45	SX	-0.014	-0.014	0	%100
70	M43	SX	-0.014	-0.014	0	%100
71	M30	SX	-0.014	-0.014	0	%100
72	M113	SX	-0.014	-0.014	0	%100
73	M29	SX	-0.014	-0.014	0	%100
74	M28	SX	-0.014	-0.014	0	%100
75	M66	SX	-0.014	-0.014	0	%100
76	M24	SX	-0.014	-0.014	0	%100
77	M19	SX	-0.014	-0.014	0	%100
78	M34	SX	-0.014	-0.014	0	%100
79	M83A	SX	-0.014	-0.014	0	%100
80	M57	SX	-0.014	-0.014	0	%100
81	M69	SX	-0.014	-0.014	0	%100
82	M108	SX	-0.014	-0.014	0	%100
83	M14	SX	-0.014	-0.014	0	%100
84	M13	SX	-0.014	-0.014	0	%100
85	M80	SX	-0.014	-0.014	0	%100
86	M74	SX	-0.014	-0.014	0	%100
87	M9	SX	-0.014	-0.014	0	%100
88	M8	SX	-0.014	-0.014	0	%100
89	M49	SX	-0.014	-0.014	0	%100
90	M62	SX	-0.014	-0.014	0	%100
91	M7	SX	-0.014	-0.014	0	%100
92	M44	SX	-0.014	-0.014	0	%100
93	M3	SX	-0.014	-0.014	0	%100
94	M5	SX	-0.014	-0.014	0	%100
95	M79	SX	-0.014	-0.014	0	%100
96	M112	SX	-0.014	-0.014	0	%100
97	M1	SX	-0.014	-0.014	0	%100
98	M82	SX	-0.014	-0.014	0	%100
99	M15	SX	-0.014	-0.014	0	%100
100	M97	SX	-0.014	-0.014	0	%100
101	M101	SX	-0.014	-0.014	0	%100

Member Distributed Loads (BLC 4 : Ice Weight)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M92A	SY	-0.007	-0.007	0	%100
2	M71	SY	-0.007	-0.007	0	%100
3	M49	SY	-0.007	-0.007	0	%100
4	M44	SY	-0.007	-0.007	0	%100
5	M24	SY	-0.007	-0.007	0	%100
6	M19	SY	-0.007	-0.007	0	%100
7	M29	SY	-0.007	-0.007	0	%100
8	M14	SY	-0.007	-0.007	0	%100
9	M98	SY	-0.007	-0.007	0	%100
10	M97A	SY	-0.007	-0.007	0	%100
11	M96A	SY	-0.007	-0.007	0	%100
12	M87	SY	-0.007	-0.007	0	%100
13	M86	SY	-0.007	-0.007	0	%100
14	M85	SY	-0.007	-0.007	0	%100
15	M79	SY	-0.007	-0.007	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
16	M78	SY	-0.007	-0.007	0	%100
17	M77	SY	-0.007	-0.007	0	%100
18	M76	SY	-0.007	-0.007	0	%100
19	M75	SY	-0.007	-0.007	0	%100
20	M69	SY	-0.007	-0.007	0	%100
21	M67	SY	-0.007	-0.007	0	%100
22	M66	SY	-0.007	-0.007	0	%100
23	M65	SY	-0.007	-0.007	0	%100
24	M59	SY	-0.007	-0.007	0	%100
25	M58	SY	-0.007	-0.007	0	%100
26	M57	SY	-0.007	-0.007	0	%100
27	M56	SY	-0.007	-0.007	0	%100
28	M55	SY	-0.007	-0.007	0	%100
29	M9	SY	-0.007	-0.007	0	%100
30	M8	SY	-0.007	-0.007	0	%100
31	M7	SY	-0.007	-0.007	0	%100
32	M6	SY	-0.007	-0.007	0	%100
33	M5	SY	-0.007	-0.007	0	%100
34	M4	SY	-0.007	-0.007	0	%100
35	M3	SY	-0.007	-0.007	0	%100
36	M2	SY	-0.007	-0.007	0	%100
37	M1	SY	-0.007	-0.007	0	%100
38	M101	SY	-0.007	-0.007	0	%100
39	M99	SY	-0.007	-0.007	0	%100
40	M95	SY	-0.007	-0.007	0	%100
41	M94	SY	-0.007	-0.007	0	%100
42	M93A	SY	-0.007	-0.007	0	%100
43	M91	SY	-0.007	-0.007	0	%100
44	M89	SY	-0.007	-0.007	0	%100
45	M88	SY	-0.007	-0.007	0	%100
46	M86A	SY	-0.007	-0.007	0	%100
47	M85A	SY	-0.007	-0.007	0	%100
48	M84A	SY	-0.007	-0.007	0	%100
49	M81A	SY	-0.007	-0.007	0	%100
50	M80A	SY	-0.007	-0.007	0	%100
51	M79B	SY	-0.007	-0.007	0	%100
52	M78B	SY	-0.007	-0.007	0	%100
53	M77A	SY	-0.007	-0.007	0	%100
54	M74A	SY	-0.007	-0.007	0	%100
55	M72A	SY	-0.007	-0.007	0	%100
56	M79A	SY	-0.007	-0.007	0	%100
57	M78A	SY	-0.007	-0.007	0	%100
58	M121	SY	-0.007	-0.007	0	%100
59	M120	SY	-0.007	-0.007	0	%100
60	M117	SY	-0.007	-0.007	0	%100
61	M116	SY	-0.007	-0.007	0	%100
62	M90	SY	-0.007	-0.007	0	%100
63	M105	SY	-0.007	-0.007	0	%100
64	M104	SY	-0.007	-0.007	0	%100
65	M92	SY	-0.007	-0.007	0	%100
66	M84	SY	-0.007	-0.007	0	%100
67	M82A	SY	-0.007	-0.007	0	%100
68	M83	SY	-0.007	-0.007	0	%100
69	M81	SY	-0.007	-0.007	0	%100
70	M96	SY	-0.007	-0.007	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
71	M93	SY	-0.007	-0.007	0	%100
72	M73	SY	-0.007	-0.007	0	%100
73	M75A	SY	-0.007	-0.007	0	%100
74	M72	SY	-0.007	-0.007	0	%100
75	M87A	SY	-0.007	-0.007	0	%100
76	M70	SY	-0.007	-0.007	0	%100
77	M100	SY	-0.007	-0.007	0	%100
78	M64	SY	-0.007	-0.007	0	%100
79	M63	SY	-0.007	-0.007	0	%100
80	M109	SY	-0.007	-0.007	0	%100
81	M61	SY	-0.007	-0.007	0	%100
82	M60	SY	-0.007	-0.007	0	%100
83	M73A	SY	-0.007	-0.007	0	%100
84	M76A	SY	-0.007	-0.007	0	%100
85	M45	SY	-0.007	-0.007	0	%100
86	M68	SY	-0.007	-0.007	0	%100
87	M43	SY	-0.007	-0.007	0	%100
88	M30	SY	-0.007	-0.007	0	%100
89	M113	SY	-0.007	-0.007	0	%100
90	M28	SY	-0.007	-0.007	0	%100
91	M83A	SY	-0.007	-0.007	0	%100
92	M34	SY	-0.007	-0.007	0	%100
93	M108	SY	-0.007	-0.007	0	%100
94	M13	SY	-0.007	-0.007	0	%100
95	M80	SY	-0.007	-0.007	0	%100
96	M74	SY	-0.007	-0.007	0	%100
97	M62	SY	-0.007	-0.007	0	%100
98	M112	SY	-0.007	-0.007	0	%100
99	M82	SY	-0.007	-0.007	0	%100
100	M15	SY	-0.007	-0.007	0	%100
101	M97	SY	-0.007	-0.007	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M77	SZ	-0.01	-0.01	0	%100
2	M67	SZ	-0.01	-0.01	0	%100
3	M87	SZ	-0.01	-0.01	0	%100
4	M97	SZ	-0.004	-0.004	0	%100
5	M15	SZ	-0.004	-0.004	0	%100
6	M82	SZ	-0.004	-0.004	0	%100
7	M1	SZ	-0.004	-0.004	0	%100
8	M112	SZ	-0.004	-0.004	0	%100
9	M79	SZ	-0.004	-0.004	0	%100
10	M5	SZ	-0.004	-0.004	0	%100
11	M3	SZ	-0.004	-0.004	0	%100
12	M44	SZ	-0.004	-0.004	0	%100
13	M7	SZ	-0.004	-0.004	0	%100
14	M62	SZ	-0.004	-0.004	0	%100
15	M49	SZ	-0.004	-0.004	0	%100
16	M8	SZ	-0.004	-0.004	0	%100
17	M9	SZ	-0.004	-0.004	0	%100
18	M74	SZ	-0.004	-0.004	0	%100
19	M80	SZ	-0.004	-0.004	0	%100
20	M13	SZ	-0.004	-0.004	0	%100
21	M14	SZ	-0.004	-0.004	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
22	M108	SZ	-0.004	-0.004	0	%100
23	M69	SZ	-0.004	-0.004	0	%100
24	M57	SZ	-0.004	-0.004	0	%100
25	M83A	SZ	-0.004	-0.004	0	%100
26	M34	SZ	-0.004	-0.004	0	%100
27	M19	SZ	-0.004	-0.004	0	%100
28	M24	SZ	-0.004	-0.004	0	%100
29	M66	SZ	-0.004	-0.004	0	%100
30	M28	SZ	-0.004	-0.004	0	%100
31	M29	SZ	-0.004	-0.004	0	%100
32	M113	SZ	-0.004	-0.004	0	%100
33	M30	SZ	-0.004	-0.004	0	%100
34	M43	SZ	-0.004	-0.004	0	%100
35	M45	SZ	-0.004	-0.004	0	%100
36	M68	SZ	-0.004	-0.004	0	%100
37	M55	SZ	-0.004	-0.004	0	%100
38	M56	SZ	-0.004	-0.004	0	%100
39	M58	SZ	-0.004	-0.004	0	%100
40	M59	SZ	-0.004	-0.004	0	%100
41	M76A	SZ	-0.004	-0.004	0	%100
42	M73A	SZ	-0.004	-0.004	0	%100
43	M60	SZ	-0.004	-0.004	0	%100
44	M61	SZ	-0.004	-0.004	0	%100
45	M109	SZ	-0.004	-0.004	0	%100
46	M63	SZ	-0.004	-0.004	0	%100
47	M64	SZ	-0.004	-0.004	0	%100
48	M65	SZ	-0.004	-0.004	0	%100
49	M100	SZ	-0.004	-0.004	0	%100
50	M70	SZ	-0.004	-0.004	0	%100
51	M87A	SZ	-0.004	-0.004	0	%100
52	M72	SZ	-0.004	-0.004	0	%100
53	M75A	SZ	-0.004	-0.004	0	%100
54	M73	SZ	-0.004	-0.004	0	%100
55	M75	SZ	-0.004	-0.004	0	%100
56	M93	SZ	-0.004	-0.004	0	%100
57	M76	SZ	-0.004	-0.004	0	%100
58	M96	SZ	-0.004	-0.004	0	%100
59	M78	SZ	-0.004	-0.004	0	%100
60	M81	SZ	-0.004	-0.004	0	%100
61	M83	SZ	-0.004	-0.004	0	%100
62	M82A	SZ	-0.004	-0.004	0	%100
63	M84	SZ	-0.004	-0.004	0	%100
64	M85	SZ	-0.004	-0.004	0	%100
65	M86	SZ	-0.004	-0.004	0	%100
66	M92	SZ	-0.004	-0.004	0	%100
67	M104	SZ	-0.004	-0.004	0	%100
68	M105	SZ	-0.004	-0.004	0	%100
69	M90	SZ	-0.004	-0.004	0	%100
70	M116	SZ	-0.004	-0.004	0	%100
71	M117	SZ	-0.004	-0.004	0	%100
72	M120	SZ	-0.004	-0.004	0	%100
73	M121	SZ	-0.004	-0.004	0	%100
74	M78A	SZ	-0.004	-0.004	0	%100
75	M79A	SZ	-0.004	-0.004	0	%100
76	M71	SZ	-0.004	-0.004	0	%100


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

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
77	M72A	SZ	-0.004	0	%100
78	M74A	SZ	-0.004	0	%100
79	M77A	SZ	-0.004	0	%100
80	M78B	SZ	-0.004	0	%100
81	M79B	SZ	-0.004	0	%100
82	M80A	SZ	-0.004	0	%100
83	M81A	SZ	-0.004	0	%100
84	M84A	SZ	-0.004	0	%100
85	M85A	SZ	-0.004	0	%100
86	M86A	SZ	-0.004	0	%100
87	M88	SZ	-0.004	0	%100
88	M89	SZ	-0.004	0	%100
89	M91	SZ	-0.004	0	%100
90	M92A	SZ	-0.004	0	%100
91	M93A	SZ	-0.004	0	%100
92	M94	SZ	-0.004	0	%100
93	M95	SZ	-0.004	0	%100
94	M96A	SZ	-0.004	0	%100
95	M97A	SZ	-0.004	0	%100
96	M98	SZ	-0.004	0	%100
97	M6	SZ	-0.004	0	%100
98	M4	SZ	-0.004	0	%100
99	M2	SZ	-0.004	0	%100
100	M99	SZ	-0.004	0	%100
101	M101	SZ	-0.004	0	%100

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

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M77	SX	-0.01	0	%100
2	M67	SX	-0.01	0	%100
3	M87	SX	-0.01	0	%100
4	M97	SX	-0.004	0	%100
5	M15	SX	-0.004	0	%100
6	M82	SX	-0.004	0	%100
7	M1	SX	-0.004	0	%100
8	M112	SX	-0.004	0	%100
9	M79	SX	-0.004	0	%100
10	M5	SX	-0.004	0	%100
11	M3	SX	-0.004	0	%100
12	M44	SX	-0.004	0	%100
13	M7	SX	-0.004	0	%100
14	M62	SX	-0.004	0	%100
15	M49	SX	-0.004	0	%100
16	M8	SX	-0.004	0	%100
17	M9	SX	-0.004	0	%100
18	M74	SX	-0.004	0	%100
19	M80	SX	-0.004	0	%100
20	M13	SX	-0.004	0	%100
21	M14	SX	-0.004	0	%100
22	M108	SX	-0.004	0	%100
23	M69	SX	-0.004	0	%100
24	M57	SX	-0.004	0	%100
25	M83A	SX	-0.004	0	%100
26	M34	SX	-0.004	0	%100
27	M19	SX	-0.004	0	%100



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
28	M24	SX	-0.004	-0.004	0	%100
29	M66	SX	-0.004	-0.004	0	%100
30	M28	SX	-0.004	-0.004	0	%100
31	M29	SX	-0.004	-0.004	0	%100
32	M113	SX	-0.004	-0.004	0	%100
33	M30	SX	-0.004	-0.004	0	%100
34	M43	SX	-0.004	-0.004	0	%100
35	M45	SX	-0.004	-0.004	0	%100
36	M68	SX	-0.004	-0.004	0	%100
37	M55	SX	-0.004	-0.004	0	%100
38	M56	SX	-0.004	-0.004	0	%100
39	M58	SX	-0.004	-0.004	0	%100
40	M59	SX	-0.004	-0.004	0	%100
41	M76A	SX	-0.004	-0.004	0	%100
42	M73A	SX	-0.004	-0.004	0	%100
43	M60	SX	-0.004	-0.004	0	%100
44	M61	SX	-0.004	-0.004	0	%100
45	M109	SX	-0.004	-0.004	0	%100
46	M63	SX	-0.004	-0.004	0	%100
47	M64	SX	-0.004	-0.004	0	%100
48	M65	SX	-0.004	-0.004	0	%100
49	M100	SX	-0.004	-0.004	0	%100
50	M70	SX	-0.004	-0.004	0	%100
51	M87A	SX	-0.004	-0.004	0	%100
52	M72	SX	-0.004	-0.004	0	%100
53	M75A	SX	-0.004	-0.004	0	%100
54	M73	SX	-0.004	-0.004	0	%100
55	M75	SX	-0.004	-0.004	0	%100
56	M93	SX	-0.004	-0.004	0	%100
57	M76	SX	-0.004	-0.004	0	%100
58	M96	SX	-0.004	-0.004	0	%100
59	M78	SX	-0.004	-0.004	0	%100
60	M81	SX	-0.004	-0.004	0	%100
61	M83	SX	-0.004	-0.004	0	%100
62	M82A	SX	-0.004	-0.004	0	%100
63	M84	SX	-0.004	-0.004	0	%100
64	M85	SX	-0.004	-0.004	0	%100
65	M86	SX	-0.004	-0.004	0	%100
66	M92	SX	-0.004	-0.004	0	%100
67	M104	SX	-0.004	-0.004	0	%100
68	M105	SX	-0.004	-0.004	0	%100
69	M90	SX	-0.004	-0.004	0	%100
70	M116	SX	-0.004	-0.004	0	%100
71	M117	SX	-0.004	-0.004	0	%100
72	M120	SX	-0.004	-0.004	0	%100
73	M121	SX	-0.004	-0.004	0	%100
74	M78A	SX	-0.004	-0.004	0	%100
75	M79A	SX	-0.004	-0.004	0	%100
76	M71	SX	-0.004	-0.004	0	%100
77	M72A	SX	-0.004	-0.004	0	%100
78	M74A	SX	-0.004	-0.004	0	%100
79	M77A	SX	-0.004	-0.004	0	%100
80	M78B	SX	-0.004	-0.004	0	%100
81	M79B	SX	-0.004	-0.004	0	%100
82	M80A	SX	-0.004	-0.004	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
83	M81A	SX	-0.004	-0.004	0	%100
84	M84A	SX	-0.004	-0.004	0	%100
85	M85A	SX	-0.004	-0.004	0	%100
86	M86A	SX	-0.004	-0.004	0	%100
87	M88	SX	-0.004	-0.004	0	%100
88	M89	SX	-0.004	-0.004	0	%100
89	M91	SX	-0.004	-0.004	0	%100
90	M92A	SX	-0.004	-0.004	0	%100
91	M93A	SX	-0.004	-0.004	0	%100
92	M94	SX	-0.004	-0.004	0	%100
93	M95	SX	-0.004	-0.004	0	%100
94	M96A	SX	-0.004	-0.004	0	%100
95	M97A	SX	-0.004	-0.004	0	%100
96	M98	SX	-0.004	-0.004	0	%100
97	M6	SX	-0.004	-0.004	0	%100
98	M4	SX	-0.004	-0.004	0	%100
99	M2	SX	-0.004	-0.004	0	%100
100	M99	SX	-0.004	-0.004	0	%100
101	M101	SX	-0.004	-0.004	0	%100

Member Distributed Loads (BLC 16 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M87	Y	-0.01	-0.013	9.45	10.8
2	M87	Y	-0.013	-0.009	10.8	12.15
3	M87	Y	-0.009	-0.0004534	12.15	13.5
4	M2	Y	-0.008	-0.013	0	0.44
5	M2	Y	-0.013	-0.014	0.44	0.88
6	M2	Y	-0.014	-0.009	0.88	1.32
7	M2	Y	-0.009	-0.003	1.32	1.76
8	M2	Y	-0.003	-0.0002948	1.76	2.2
9	M6	Y	-0.0003443	-0.003	3.3	3.74
10	M6	Y	-0.003	-0.008	3.74	4.18
11	M6	Y	-0.008	-0.014	4.18	4.62
12	M6	Y	-0.014	-0.013	4.62	5.06
13	M6	Y	-0.013	-0.006	5.06	5.5
14	M59	Y	-0.0004226	-0.002	0	0.125
15	M59	Y	-0.002	-0.003	0.125	0.25
16	M67	Y	-0.000151	-0.006	5.4	6.21
17	M67	Y	-0.006	-0.008	6.21	7.02
18	M67	Y	-0.008	-0.003	7.02	7.83
19	M67	Y	-0.003	-0.000151	7.83	8.64
20	M67	Y	-0.000151	-0.000151	8.64	9.45
21	M78	Y	-0.001	-0.001	0	0.25
22	M2	Y	-0.0002731	-0.003	3.3	3.74
23	M2	Y	-0.003	-0.01	3.74	4.18
24	M2	Y	-0.01	-0.014	4.18	4.62
25	M2	Y	-0.014	-0.013	4.62	5.06
26	M2	Y	-0.013	-0.007	5.06	5.5
27	M4	Y	-0.004	-0.014	0	0.44
28	M4	Y	-0.014	-0.015	0.44	0.88
29	M4	Y	-0.015	-0.008	0.88	1.32
30	M4	Y	-0.008	-0.003	1.32	1.76
31	M4	Y	-0.003	-0.0004972	1.76	2.2
32	M68	Y	-0.002	-0.002	0	0.25
33	M79	Y	-0.009	-0.009	0.131	0.191

**Member Distributed Loads (BLC 16 : BLC 1 Transient Area Loads) (Continued)**

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
34	M87	Y	-7.686e-05	-7.686e-05	4.05	4.86
35	M87	Y	-7.686e-05	-0.002	4.86	5.67
36	M87	Y	-0.002	-0.008	5.67	6.48
37	M87	Y	-0.008	-0.007	6.48	7.29
38	M87	Y	-0.007	-7.686e-05	7.29	8.1
39	M4	Y	-0.0002731	-0.003	3.3	3.74
40	M4	Y	-0.003	-0.01	3.74	4.18
41	M4	Y	-0.01	-0.014	4.18	4.62
42	M4	Y	-0.014	-0.013	4.62	5.06
43	M4	Y	-0.013	-0.007	5.06	5.5
44	M6	Y	-0.004	-0.014	0	0.44
45	M6	Y	-0.014	-0.015	0.44	0.88
46	M6	Y	-0.015	-0.008	0.88	1.32
47	M6	Y	-0.008	-0.003	1.32	1.76
48	M6	Y	-0.003	-0.0004972	1.76	2.2
49	M58	Y	-0.002	-0.002	0	0.25
50	M69	Y	-0.009	-0.009	0.131	0.191
51	M77	Y	-7.686e-05	-7.686e-05	4.05	4.86
52	M77	Y	-7.686e-05	-0.002	4.86	5.67
53	M77	Y	-0.002	-0.008	5.67	6.48
54	M77	Y	-0.008	-0.007	6.48	7.29
55	M77	Y	-0.007	-7.686e-05	7.29	8.1
56	M6	Y	-0.003	-0.008	0	1.1
57	M6	Y	-0.008	-0.014	1.1	2.2
58	M6	Y	-0.014	-0.014	2.2	3.3
59	M6	Y	-0.014	-0.008	3.3	4.4
60	M6	Y	-0.008	-0.003	4.4	5.5
61	M58	Y	-0.001	-0.001	0.029	0.219
62	M59	Y	-0.001	-0.001	0.031	0.22
63	M67	Y	-0.0004035	-0.008	0	1.35
64	M67	Y	-0.008	-0.013	1.35	2.7
65	M67	Y	-0.013	-0.01	2.7	4.05
66	M67	Y	-0.01	-0.004	4.05	5.4
67	M67	Y	-0.004	-0.0004035	5.4	6.75
68	M77	Y	-0.0004611	-0.004	6.75	8.1
69	M77	Y	-0.004	-0.011	8.1	9.45
70	M77	Y	-0.011	-0.015	9.45	10.8
71	M77	Y	-0.015	-0.01	10.8	12.15
72	M77	Y	-0.01	-0.0004611	12.15	13.5
73	M73A	Y	-0.001	-0.001	0	0.5
74	M2	Y	-0.003	-0.008	0	1.1
75	M2	Y	-0.008	-0.014	1.1	2.2
76	M2	Y	-0.014	-0.014	2.2	3.3
77	M2	Y	-0.014	-0.008	3.3	4.4
78	M2	Y	-0.008	-0.003	4.4	5.5
79	M67	Y	-0.0004445	-0.004	6.75	8.1
80	M67	Y	-0.004	-0.01	8.1	9.45
81	M67	Y	-0.01	-0.013	9.45	10.8
82	M67	Y	-0.013	-0.009	10.8	12.15
83	M67	Y	-0.009	-0.0004445	12.15	13.5
84	M78	Y	-0.001	-0.001	0.029	0.219
85	M79	Y	-0.001	-0.001	0.031	0.22
86	M87	Y	-0.000462	-0.01	0	1.35
87	M87	Y	-0.01	-0.015	1.35	2.7
88	M87	Y	-0.015	-0.011	2.7	4.05



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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Member Distributed Loads (BLC 16 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
89	M87	Y	-0.011	-0.004	4.05	5.4
90	M87	Y	-0.004	-0.000462	5.4	6.75
91	M4	Y	-0.003	-0.008	0	1.1
92	M4	Y	-0.008	-0.013	1.1	2.2
93	M4	Y	-0.013	-0.014	2.2	3.3
94	M4	Y	-0.014	-0.01	3.3	4.4
95	M4	Y	-0.01	-0.002	4.4	5.5
96	M68	Y	-0.001	-0.001	0.029	0.219
97	M69	Y	-0.001	-0.001	0.029	0.219
98	M77	Y	-0.0004683	-0.01	0	1.35
99	M77	Y	-0.01	-0.015	1.35	2.7
100	M77	Y	-0.015	-0.011	2.7	4.05
101	M77	Y	-0.011	-0.004	4.05	5.4
102	M77	Y	-0.004	-0.0004683	5.4	6.75
103	M87	Y	-0.0004474	-0.004	6.75	8.1
104	M87	Y	-0.004	-0.01	8.1	9.45

Member Distributed Loads (BLC 17 : BLC 4 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	M6	Y	-0.001	-0.003	0	1.1
2	M6	Y	-0.003	-0.006	1.1	2.2
3	M6	Y	-0.006	-0.006	2.2	3.3
4	M6	Y	-0.006	-0.003	3.3	4.4
5	M6	Y	-0.003	-0.001	4.4	5.5
6	M58	Y	-0.0004082	-0.0004082	0.029	0.219
7	M59	Y	-0.0004232	-0.0004232	0.031	0.22
8	M67	Y	-0.0001614	-0.003	0	1.35
9	M67	Y	-0.003	-0.005	1.35	2.7
10	M67	Y	-0.005	-0.004	2.7	4.05
11	M67	Y	-0.004	-0.002	4.05	5.4
12	M67	Y	-0.002	-0.0001614	5.4	6.75
13	M77	Y	-0.0001845	-0.001	6.75	8.1
14	M77	Y	-0.001	-0.004	8.1	9.45
15	M77	Y	-0.004	-0.006	9.45	10.8
16	M77	Y	-0.006	-0.004	10.8	12.15
17	M77	Y	-0.004	-0.0001845	12.15	13.5
18	M73A	Y	-0.0004617	-0.0004617	0	0.5
19	M2	Y	-0.001	-0.003	0	1.1
20	M2	Y	-0.003	-0.006	1.1	2.2
21	M2	Y	-0.006	-0.006	2.2	3.3
22	M2	Y	-0.006	-0.003	3.3	4.4
23	M2	Y	-0.003	-0.001	4.4	5.5
24	M67	Y	-0.0001778	-0.002	6.75	8.1
25	M67	Y	-0.002	-0.004	8.1	9.45
26	M67	Y	-0.004	-0.005	9.45	10.8
27	M67	Y	-0.005	-0.003	10.8	12.15
28	M67	Y	-0.003	-0.0001778	12.15	13.5
29	M78	Y	-0.0004082	-0.0004082	0.029	0.219
30	M79	Y	-0.0004232	-0.0004232	0.031	0.22
31	M87	Y	-0.0001848	-0.004	0	1.35
32	M87	Y	-0.004	-0.006	1.35	2.7
33	M87	Y	-0.006	-0.004	2.7	4.05
34	M87	Y	-0.004	-0.001	4.05	5.4
35	M87	Y	-0.001	-0.0001848	5.4	6.75
36	M4	Y	-0.001	-0.003	0	1.1



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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Member Distributed Loads (BLC 17 : BLC 4 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
37	M4	Y	-0.003	-0.005	1.1	2.2
38	M4	Y	-0.005	-0.006	2.2	3.3
39	M4	Y	-0.006	-0.004	3.3	4.4
40	M4	Y	-0.004	-0.0008237	4.4	5.5
41	M68	Y	-0.0004082	-0.0004082	0.029	0.219
42	M69	Y	-0.0004083	-0.0004083	0.029	0.219
43	M77	Y	-0.0001873	-0.004	0	1.35
44	M77	Y	-0.004	-0.006	1.35	2.7
45	M77	Y	-0.006	-0.004	2.7	4.05
46	M77	Y	-0.004	-0.001	4.05	5.4
47	M77	Y	-0.001	-0.0001873	5.4	6.75
48	M87	Y	-0.000179	-0.002	6.75	8.1
49	M87	Y	-0.002	-0.004	8.1	9.45
50	M87	Y	-0.004	-0.005	9.45	10.8
51	M87	Y	-0.005	-0.004	10.8	12.15
52	M87	Y	-0.004	-0.0001814	12.15	13.5
53	M2	Y	-0.003	-0.005	0	0.44
54	M2	Y	-0.005	-0.006	0.44	0.88
55	M2	Y	-0.006	-0.003	0.88	1.32
56	M2	Y	-0.003	-0.001	1.32	1.76
57	M2	Y	-0.001	-0.0001179	1.76	2.2
58	M6	Y	-0.0001377	-0.001	3.3	3.74
59	M6	Y	-0.001	-0.003	3.74	4.18
60	M6	Y	-0.003	-0.006	4.18	4.62
61	M6	Y	-0.006	-0.005	4.62	5.06
62	M6	Y	-0.005	-0.003	5.06	5.5
63	M59	Y	-0.0001691	-0.0007122	0	0.125
64	M59	Y	-0.0007122	-0.001	0.125	0.25
65	M67	Y	-6.04e-05	-0.002	5.4	6.21
66	M67	Y	-0.002	-0.003	6.21	7.02
67	M67	Y	-0.003	-0.001	7.02	7.83
68	M67	Y	-0.001	-6.04e-05	7.83	8.64
69	M67	Y	-6.04e-05	-6.04e-05	8.64	9.45
70	M78	Y	-0.0004201	-0.0004201	0	0.25
71	M2	Y	-0.0001092	-0.001	3.3	3.74
72	M2	Y	-0.001	-0.004	3.74	4.18
73	M2	Y	-0.004	-0.006	4.18	4.62
74	M2	Y	-0.006	-0.005	4.62	5.06
75	M2	Y	-0.005	-0.003	5.06	5.5
76	M4	Y	-0.001	-0.005	0	0.44
77	M4	Y	-0.005	-0.006	0.44	0.88
78	M4	Y	-0.006	-0.003	0.88	1.32
79	M4	Y	-0.003	-0.001	1.32	1.76
80	M4	Y	-0.001	-0.0001989	1.76	2.2
81	M68	Y	-0.0008073	-0.0008073	0	0.25
82	M79	Y	-0.003	-0.003	0.131	0.191
83	M87	Y	-3.074e-05	-3.074e-05	4.05	4.86
84	M87	Y	-3.074e-05	-0.000704	4.86	5.67
85	M87	Y	-0.000704	-0.003	5.67	6.48
86	M87	Y	-0.003	-0.003	6.48	7.29
87	M87	Y	-0.003	-3.074e-05	7.29	8.1
88	M4	Y	-0.0001092	-0.001	3.3	3.74
89	M4	Y	-0.001	-0.004	3.74	4.18
90	M4	Y	-0.004	-0.006	4.18	4.62
91	M4	Y	-0.006	-0.005	4.62	5.06

**Member Distributed Loads (BLC 17 : BLC 4 Transient Area Loads) (Continued)**

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
92	M4	Y	-0.005	-0.003	5.06	5.5
93	M6	Y	-0.001	-0.005	0	0.44
94	M6	Y	-0.005	-0.006	0.44	0.88
95	M6	Y	-0.006	-0.003	0.88	1.32
96	M6	Y	-0.003	-0.001	1.32	1.76
97	M6	Y	-0.001	-0.0001989	1.76	2.2
98	M58	Y	-0.0008073	-0.0008073	0	0.25
99	M69	Y	-0.003	-0.003	0.131	0.191
100	M77	Y	-3.074e-05	-3.074e-05	4.05	4.86
101	M77	Y	-3.074e-05	-0.000704	4.86	5.67
102	M77	Y	-0.000704	-0.003	5.67	6.48
103	M77	Y	-0.003	-0.003	6.48	7.29
104	M77	Y	-0.003	-3.074e-05	7.29	8.1

Member Area Loads (BLC 1 : Self Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N78	N45	N46	N61	Y	Two Way	-0.01
2	N79	N80	N95	N62	Y	Two Way	-0.01
3	N77	N96	N63	N64	Y	Two Way	-0.01
4	N214	N217	N79	N221	Y	Two Way	-0.01
5	N215	N63	N80	N218	Y	Two Way	-0.01
6	N64	N216	N213	N45	Y	Two Way	-0.01

Member Area Loads (BLC 4 : Ice Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	N78	N45	N46	N61	Y	Two Way	-0.004
2	N79	N80	N95	N62	Y	Two Way	-0.004
3	N77	N96	N63	N64	Y	Two Way	-0.004
4	N214	N217	N79	N221	Y	Two Way	-0.004
5	N215	N63	N80	N218	Y	Two Way	-0.004
6	N64	N216	N213	N45	Y	Two Way	-0.004

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N75	max	1.704	30	0.475	36	1.746	13	0.157	3	0.921	13	0.364	6
2		min	-1.255	12	-0.332	6	-1.995	31	-0.21	33	-0.94	31	-0.38	36
3	N59	max	1.961	5	0.476	28	0.733	4	0.257	35	0.355	7	0.289	28
4		min	-2.398	35	-0.334	10	-0.996	34	-0.25	5	-0.377	37	-0.242	10
5	N93	max	1.179	5	0.413	32	2.201	27	0.301	32	1.2	11	0.264	11
6		min	-1.189	35	-0.273	2	-1.691	9	-0.266	2	-1.221	29	-0.301	29
7	N204	max	0.004	5	1.926	63	0.678	8	0	137	0	101	0	71
8		min	-0.004	11	-0.684	8	-1.909	63	0	1	0	71	0	101
9	N206	max	0.701	12	1.938	67	0.961	67	0	3	0	33	0	33
10		min	-1.664	67	-0.816	12	-0.404	12	0	33	0	3	0	3
11	N208	max	1.664	71	1.938	71	0.96	71	0	36	0	36	0	36
12		min	-0.705	4	-0.821	4	-0.407	4	0	6	0	6	0	6
13	Totals:	max	3.039	29	5.529	91	2.581	26						
14		min	-3.039	11	0	12	-2.581	8						



Company : GeoStructural, LLC
 Designer : Fathullah Zamani
 Job Number :
 Model Name : CTNL149A

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 Checked By : DWG

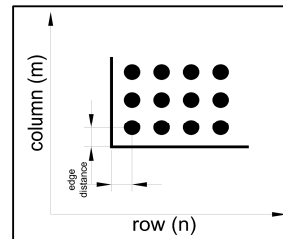
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Envelope AISC 14TH (360-10): ASD Member Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1	M1	3/8"x6"	0.661	0.402	101	0.261	0.804	y	35	31.892	48.503	0.379	6.063	1.272	H1-1b
2	M3	3/8"x6"	0.661	0.402	104	0.25	0.402	y	26	31.892	48.503	0.379	6.063	1.274	H1-1b
3	M5	3/8"x6"	0.659	0.402	108	0.243	0.402	y	30	31.892	48.503	0.379	6.063	1.27	H1-1b
4	M9	L2.5x2.5x3	0.62	0	35	0.122	0	y	36	18.718	19.423	0.581	1.312	1.339	H2-1
5	M8	L2.5x2.5x3	0.612	0	31	0.119	0	y	32	18.718	19.423	0.581	1.312	1.293	H2-1
6	M4	L4X4X4	0.545	2.75	88	0.095	2.75	y	93	26.968	41.605	2.088	4.175	1.346	H2-1
7	M6	L4X4X4	0.543	2.75	91	0.095	2.75	y	97	26.968	41.605	2.088	4.176	1.348	H2-1
8	M2	L4X4X4	0.541	2.75	96	0.095	2.75	y	89	26.968	41.605	2.088	4.173	1.344	H2-1
9	M29	PIPE 2.0	0.502	2.26	28	0.175	4.01		35	11.88	21.377	1.245	1.245	2.574	H1-1b
10	M14	PIPE 2.0	0.464	2.26	87	0.139	4.01		31	11.88	21.377	1.245	1.245	2.283	H1-1b
11	M56	PIPE 2.0	0.464	4.5	32	0.208	1.266		26	3.591	21.377	1.245	1.245	3	H1-1b
12	M44	PIPE 2.0	0.462	2.26	95	0.139	2.26		29	11.88	21.377	1.245	1.245	2.278	H1-1b
13	M55	PIPE 2.0	0.461	4.5	35	0.215	1.266		35	3.591	21.377	1.245	1.245	3	H1-1b
14	M7	L2.5x2.5x3	0.447	0	28	0.125	0.804	y	29	18.718	19.423	0.581	1.312	1.5	H2-1
15	M57	PIPE 2.0	0.426	4.5	28	0.195	1.266		34	3.591	21.377	1.245	1.245	3	H1-1b
16	M92A	PIPE 2.0	0.409	2.26	30	0.16	2.26		29	11.88	21.377	1.245	1.245	2.258	H1-1b
17	M82A	PIPE 2.0	0.373	2.26	35	0.155	2.26		32	11.88	21.377	1.245	1.245	2.471	H1-1b
18	M71	PIPE 2.0	0.371	2.26	34	0.236	5.76		36	11.88	21.377	1.245	1.245	2.235	H1-1b
19	M67	L6X3.5X5	0.367	4.641	90	0.229	7.734	y	89	39.461	62.299	2.26	6.314	1.5	H2-1
20	M77	L6X3.5X5	0.367	4.5	88	0.229	7.734	y	97	39.461	62.299	2.26	6.314	1.5	H2-1
21	M87A	PIPE 2.0	0.365	2.26	77	0.137	2.26		29	11.88	21.377	1.245	1.245	1.612	H1-1b
22	M87	L6X3.5X5	0.365	4.5	96	0.229	7.734	y	93	39.461	62.299	2.26	6.314	1.5	H2-1
23	M24	PIPE 2.0	0.36	2.26	29	0.231	5.76		32	11.88	21.377	1.245	1.245	2.348	H1-1b
24	M76A	PIPE 2.0	0.355	2.26	37	0.23	2.26		35	11.88	21.377	1.245	1.245	2.163	H1-1b
25	M34	PIPE 2.0	0.32	2.26	72	0.186	2.26		29	11.88	21.377	1.245	1.245	2.406	H1-1b
26	M49	PIPE 2.0	0.319	2.26	65	0.16	2.26		33	11.88	21.377	1.245	1.245	2.491	H1-1b
27	M19	PIPE 2.0	0.319	2.26	69	0.173	2.26		36	11.88	21.377	1.245	1.245	2.439	H1-1b
28	M68	3/8"x4.5"	0.269	0	91	0.086	0.25	y	78	34.936	36.377	0.284	3.41	1.665	H1-1b
29	M78	3/8"x4.5"	0.267	0	88	0.086	0.25	y	85	34.936	36.377	0.284	3.41	1.665	H1-1b
30	M58	3/8"x4.5"	0.266	0	95	0.086	0.25	y	81	34.936	36.377	0.284	3.41	1.665	H1-1b
31	M59	3/8"x4.5"	0.256	0	84	0.089	0.25	y	96	34.936	36.377	0.284	3.41	1.665	H1-1b
32	M79	3/8"x4.5"	0.254	0	86	0.089	0.25	y	89	34.936	36.377	0.284	3.41	1.665	H1-1b
33	M69	3/8"x4.5"	0.253	0	79	0.089	0.25	y	93	34.936	36.377	0.284	3.41	1.665	H1-1b
34	M66	HSS4X4X3	0.237	3.478	34	0.068	3.544	y	108	60.575	71.066	8.424	8.424	1.684	H1-1b
35	M76	HSS4X4X3	0.226	3.478	30	0.088	0	z	31	60.575	71.066	8.424	8.424	1.687	H1-1b
36	M86	HSS4X4X3	0.221	3.544	99	0.101	0	z	29	60.575	71.066	8.424	8.424	1.827	H1-1b
37	M97A	LL2.5x2.5x3x3	0.097	4.95	67	0.002	4.95	y	32	28.055	38.802	2.631	1.696	1.136	H1-1b*
38	M98	LL2.5x2.5x3x3	0.097	4.95	71	0.003	4.95	y	36	28.055	38.802	2.631	1.696	1.136	H1-1b*
39	M96A	LL2.5x2.5x3x3	0.097	4.95	63	0.002	4.95	y	52	28.055	38.802	2.631	1.696	1	H1-1b*
40	M85	L3.5X2.5X4	0.001	0.5	51	0	0.5	y	52	29.422	31.257	0.873	2.409	1.5	H2-1
41	M75	L3.5X2.5X4	0.001	0.5	54	0	0.5	y	54	29.422	31.257	0.873	2.409	1.5	H2-1
42	M65	L3.5X2.5X4	0.001	0.5	60	0	0.5	y	57	29.422	31.257	0.873	2.409	1.5	H2-1

Bolt Calculator

Capacity Input:	N	4/3 Increase	N
Analysis/Design:	Analysis		
ASD/LRFD:	ASD		
Data	Auto Calc Capacity		
Bolt Properties			
Nominal Diameter (d)	5/8	inches	
Steel Grade	A307		
Threads Excluded?	N		
Yield Strength (Fyb)	36	ksi	
Ultimate Strength (Fub)	60	ksi	
Threads/in (n)	11		
Gross Area (Agb)	0.307	in ²	
Net Area (Anb)	0.226	in ²	



Bolt Group Properties	
No. of Column	2
No. of Rows	3
Bolt Spacing per Row	4 inches
Bolt Spacing per Column	6 inches
Edge Distance	1 inches
Parallel along	Y-Axis

Pu_x	1961.0	lbs
Pu_y	1938.0	lbs
Pu_z	2201.0	lbs

Mu_x	301.0	lbs-ft
Mu_y	1200.0	lbs-ft
Mu_z	364.0	lbs-ft

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

Interaction Check	
V / ϕV_n	35.2%
T / ϕT_n	11.2%
≤ 1.0	13.6%
	Pass

Exhibit F

Power Density/RF Emissions Report



Radio Frequency Emissions Analysis Report

February 22, 2022

Centerline Communications on behalf of T-Mobile

Site Name: CT23XC501

Site Address: 292 Plain Hill Road, Norwich, CT 06360

Site Compliance Summary

Compliance Status:	Compliant
Carrier MPE%	4.58748300%
of FCC General Population Allowable Limit:	
Composite MPE%	4.58806800%
of FCC General Population Allowable Limit:	

750 West Center St. Suite 301 | West Bridgewater, MA 02379



February 22, 2022

Attn: T-Mobile

Emissions Analysis for Site: **CT23XC501**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed T-Mobile facility to be located a monopole near **292 Plain Hill Road, Norwich CT 06360** for the purpose of determining whether the emissions from the proposed facility 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.

Population 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 is $400 \mu\text{W}/\text{cm}^2$, the 700 MHz is $467 \mu\text{W}/\text{cm}^2$, and the 1900 MHz, 2100 MHz, and 2500 MHz bands is $1000 \mu\text{W}/\text{cm}^2$.

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



Calculations

Calculations were performed for the proposed facility using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing focused omnidirectional 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 manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. This is a very conservative estimate since the gain reduction in actual applications is typically greater than 10 dB in the direction of ground immediately surrounding the facility. Real world emissions values from this facility are expected to be lower than values listed in this report at ground level. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
1	2100	LTE	4	40
2	700	LTE	4	40
2	600	LTE	2	40
2	600	NR	2	30
3	1900	LTE	4	40
4	1900	GSM	1	15
5	2500	LTE	1	90
5	2500	NR	1	90
5	2500	LTE	1	30
5	2500	NR	1	30
6	2100	LTE	4	40
7	700	LTE	4	40
7	600	LTE	2	40
7	600	NR	2	30
8	1900	LTE	4	40
9	1900	GSM	1	15
10	2500	LTE	1	90
10	2500	NR	1	90
10	2500	LTE	1	30
10	2500	NR	1	30



11	2100	LTE	4	40
12	700	LTE	4	40
12	600	LTE	2	40
12	600	NR	2	30
13	1900	LTE	4	40
14	1900	GSM	1	15
15	2500	LTE	1	90
15	2500	NR	1	90
15	2500	LTE	1	30
15	2500	NR	1	30
16	850	CDMA	7	20
17	700	LTE	2	40
17	850	LTE	2	40
18	1900	LTE	4	40
17	700	LTE	2	40
17	850	LTE	2	40
18	2100	LTE	4	40
19	3700	NR	4	50
20	850	CDMA	7	20
21	700	LTE	2	40
21	850	LTE	2	40
22	1900	LTE	4	40
21	700	LTE	2	40
21	850	LTE	2	40
22	2100	LTE	4	40
23	3700	NR	4	50
24	850	CDMA	7	20
25	700	LTE	2	40
25	850	LTE	2	40
26	1900	LTE	4	40
25	700	LTE	2	40
25	850	LTE	2	40
26	2100	LTE	4	40
27	3700	NR	4	50
28	850	LTE	1	40
29	700	LTE	4	40
30	1900	LTE	4	40
29	850	LTE	4	40
30	2100	LTE	4	40
31	2300	LTE	4	25



32	850	LTE	1	40
33	700	LTE	4	40
34	1900	LTE	4	40
33	850	LTE	4	40
34	2100	LTE	4	40
35	2300	LTE	4	25
36	850	LTE	1	40
37	700	LTE	4	40
38	1900	LTE	4	40
37	850	LTE	4	40
38	2100	LTE	4	40
39	2300	LTE	4	25
40	600	NR	4	40
41	2007	NR	4	40
41	2100	NR	4	40
42	600	NR	4	40
43	2007	NR	4	40
43	2100	NR	4	40
44	600	NR	4	40
45	2007	NR	4	40
45	2100	NR	4	40
46	2400	LTE	1	5

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Table 1: Channel Data Table



The following antennas listed in Table 2 were used in the modeling for transmission in the 600 MHz, the 700 MHz, and the 1900 MHz, 2100 MHz, and 2500 MHz frequency bands. This is based on information from the carrier with regard to anticipated antenna selection.

Sector	Antenna Number	Make / Model	Centerline (ft)
A	1	RFS APX16DWV-16DWVS-E-A20	170.6
A	2	RFS APXVAALL24 43-U-NA20	170.6
A	2	RFS APXVAALL24 43-U-NA20	170.6
A	2	RFS APXVAALL24 43-U-NA20	170.6
A	2	RFS APXVAALL24 43-U-NA20	170.6
A	2	RFS APXVAALL24 43-U-NA20	170.6
A	3	ERICSSON AIR6449	170.6
A	3	ERICSSON AIR6449	170.6
A	3	ERICSSON AIR6449	170.6
A	3	ERICSSON AIR6449	170.6
B	4	RFS APX16DWV-16DWVS-E-A20	170.6
B	5	RFS APXVAALL24 43-U-NA20	170.6
B	5	RFS APXVAALL24 43-U-NA20	170.6
B	5	RFS APXVAALL24 43-U-NA20	170.6
B	5	RFS APXVAALL24 43-U-NA20	170.6
B	5	RFS APXVAALL24 43-U-NA20	170.6
B	6	ERICSSON AIR6449	170.6
B	6	ERICSSON AIR6449	170.6
B	6	ERICSSON AIR6449	170.6
B	6	ERICSSON AIR6449	170.6
C	7	RFS APX16DWV-16DWVS-E-A20	170.6
C	8	RFS APXVAALL24 43-U-NA20	170.6
C	8	RFS APXVAALL24 43-U-NA20	170.6
C	8	RFS APXVAALL24 43-U-NA20	170.6
C	8	RFS APXVAALL24 43-U-NA20	170.6
C	8	RFS APXVAALL24 43-U-NA20	170.6
C	9	ERICSSON AIR6449	170.6
C	9	ERICSSON AIR6449	170.6
C	9	ERICSSON AIR6449	170.6
C	9	ERICSSON AIR6449	170.6
A	10	ANTEL BXA-80040-4CF-EDIN-0	157.5
A	11	COMMSCOPE SBNHH-1D65B	157.5
A	11	COMMSCOPE SBNHH-1D65B	157.5



A	11	COMMSCOPE SBNHH-1D65B	157.5
A	12	COMMSCOPE SBNHH-1D65B	157.5
A	12	COMMSCOPE SBNHH-1D65B	157.5
A	12	COMMSCOPE SBNHH-1D65B	157.5
A	13	SAMSUNG MT6407	157.5
B	14	ANTEL BXA-80040-4CF-EDIN-0	157.5
B	15	COMMSCOPE SBNHH-1D65B	157.5
B	15	COMMSCOPE SBNHH-1D65B	157.5
B	15	COMMSCOPE SBNHH-1D65B	157.5
B	16	COMMSCOPE SBNHH-1D65B	157.5
B	16	COMMSCOPE SBNHH-1D65B	157.5
B	16	COMMSCOPE SBNHH-1D65B	157.5
B	17	SAMSUNG MT6407	157.5
C	18	ANTEL BXA-80040-4CF-EDIN-0	157.5
C	19	COMMSCOPE SBNHH-1D65B	157.5
C	19	COMMSCOPE SBNHH-1D65B	157.5
C	19	COMMSCOPE SBNHH-1D65B	157.5
C	20	COMMSCOPE SBNHH-1D65B	157.5
C	20	COMMSCOPE SBNHH-1D65B	157.5
C	20	COMMSCOPE SBNHH-1D65B	157.5
C	21	SAMSUNG MT6407	157.5
A	22	POWERWAVE 7770 00	147.6
A	23	CCI DMP65R-BU6D	147.6
A	23	CCI DMP65R-BU6D	147.6
A	24	CCI DMP65R-BU6D	147.6
A	24	CCI DMP65R-BU6D	147.6
A	24	CCI DMP65R-BU6D	147.6
B	25	POWERWAVE 7770 00	147.6
B	26	CCI DMP65R-BU8D	147.6
B	26	CCI DMP65R-BU8D	147.6
B	27	CCI DMP65R-BU8D	147.6
B	27	CCI DMP65R-BU8D	147.6
B	27	CCI DMP65R-BU8D	147.6
C	28	POWERWAVE 7770 00	147.6
C	29	CCI DMP65R-BU8D	147.6
C	29	CCI DMP65R-BU8D	147.6
C	30	CCI DMP65R-BU8D	147.6



C	30	CCI DMP65R-BU8D	147.6
C	30	CCI DMP65R-BU8D	147.6
A	31	JMA MX08FRO665-21	137.8
A	31	JMA MX08FRO665-21	137.8
A	31	JMA MX08FRO665-21	137.8
B	32	JMA MX08FRO665-21	137.8
B	32	JMA MX08FRO665-21	137.8
B	32	JMA MX08FRO665-21	137.8
C	33	JMA MX08FRO665-21	137.8
C	33	JMA MX08FRO665-21	137.8
C	33	JMA MX08FRO665-21	137.8
A	34	Generic Omni	128

Table 2: Antenna Data

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



Results

Per the calculations completed for the proposed T-Mobile configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

ID	Make / Model	Frequency Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
T-Mobile 1	RFS APX16DWV-16DWVS-E-A20	2100	16.25	170.6	4	40	6747.1441	0.000006000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	700	13.65	170.6	4	40	3707.8314	0.000012000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	600	12.95	170.6	2	40	1577.9382	0.000006000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	600	12.95	170.6	2	30	1183.4536	0.000004000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	1900	15.45	170.6	4	40	5612.0300	0.000005000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	1900	15.45	170.6	1	15	526.1278	0.000000000
T-Mobile 3	ERICSSON AIR6449	2500	22.35	170.6	1	90	15461.1755	0.764609000
T-Mobile 3	ERICSSON AIR6449	2500	22.35	170.6	1	90	15461.1755	0.764609000
T-Mobile 3	ERICSSON AIR6449	2500	15.15	170.6	1	30	982.0221	0.000001000
T-Mobile 3	ERICSSON AIR6449	2500	15.15	170.6	1	30	982.0221	0.000001000
T-Mobile 4	RFS APX16DWV-16DWVS-E-A20	2100	16.25	170.6	4	40	6747.1441	0.000006000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	700	13.65	170.6	4	40	3707.8314	0.000012000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	600	12.95	170.6	2	40	1577.9382	0.000006000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	600	12.95	170.6	2	30	1183.4536	0.000004000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	1900	15.45	170.6	4	40	5612.0300	0.000005000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	1900	15.45	170.6	1	15	526.1278	0.000000000
T-Mobile 6	ERICSSON AIR6449	2500	22.35	170.6	1	90	15461.1755	0.764484000
T-Mobile 6	ERICSSON AIR6449	2500	22.35	170.6	1	90	15461.1755	0.764484000
T-Mobile 6	ERICSSON AIR6449	2500	15.15	170.6	1	30	982.0221	0.000001000
T-Mobile 6	ERICSSON AIR6449	2500	15.15	170.6	1	30	982.0221	0.000001000
T-Mobile 7	RFS APX16DWV-16DWVS-E-A20	2100	16.25	170.6	4	40	6747.1441	0.000006000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	700	13.65	170.6	4	40	3707.8314	0.000012000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	600	12.95	170.6	2	40	1577.9382	0.000006000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	600	12.95	170.6	2	30	1183.4536	0.000004000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	1900	15.45	170.6	4	40	5612.0300	0.000005000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	1900	15.45	170.6	1	15	526.1278	0.000000000
T-Mobile 9	ERICSSON AIR6449	2500	22.35	170.6	1	90	15461.1755	0.764596000
T-Mobile 9	ERICSSON AIR6449	2500	22.35	170.6	1	90	15461.1755	0.764596000
T-Mobile 9	ERICSSON AIR6449	2500	15.15	170.6	1	30	982.0221	0.000001000
T-Mobile 9	ERICSSON AIR6449	2500	15.15	170.6	1	30	982.0221	0.000001000
T-Mobile MPE%								4.587483000
Verizon 10	ANTEL BXA-80040-4CF-EDIN-0	850	14.5	157.5	7	20	3945.7361	0.000015000
Verizon 11	COMMSCOPE SBNHH-1D65B	700	12.38	157.5	2	40	1383.8531	0.000006000
Verizon 11	COMMSCOPE SBNHH-1D65B	850	12.67	157.5	2	40	1479.4149	0.000005000
Verizon 11	COMMSCOPE SBNHH-1D65B	1900	15.89	157.5	4	40	6210.4059	0.000006000
Verizon 12	COMMSCOPE SBNHH-1D65B	700	12.38	157.5	2	40	1383.8531	0.000006000
Verizon 12	COMMSCOPE SBNHH-1D65B	850	12.67	157.5	2	40	1479.4149	0.000005000
Verizon 12	COMMSCOPE SBNHH-1D65B	2100	16.44	157.5	4	40	7048.8778	0.000006000
Verizon 13	SAMSUNG MT6407	3700	23.05	157.5	4	50	40367.3273	0.000044000
Verizon 14	ANTEL BXA-80040-4CF-EDIN-0	850	14.5	157.5	7	20	3945.7361	0.000015000
Verizon 15	COMMSCOPE SBNHH-1D65B	700	12.38	157.5	2	40	1383.8531	0.000006000
Verizon 15	COMMSCOPE SBNHH-1D65B	850	12.67	157.5	2	40	1479.4149	0.000005000
Verizon 15	COMMSCOPE SBNHH-1D65B	1900	15.89	157.5	4	40	6210.4059	0.000006000
Verizon 16	COMMSCOPE SBNHH-1D65B	700	12.38	157.5	2	40	1383.8531	0.000006000
Verizon 16	COMMSCOPE SBNHH-1D65B	850	12.67	157.5	2	40	1479.4149	0.000005000
Verizon 16	COMMSCOPE SBNHH-1D65B	2100	16.44	157.5	4	40	7048.8778	0.000006000
Verizon 17	SAMSUNG MT6407	3700	23.05	157.5	4	50	40367.3273	0.000044000



Verizon 18	ANTEL BXA-80040-4CF-EDIN-0	850	14.5	157.5	7	20	3945.7361	0.000015000
Verizon 19	COMMSCOPE SBNHH-1D65B	700	12.38	157.5	2	40	1383.8531	0.000006000
Verizon 19	COMMSCOPE SBNHH-1D65B	850	12.67	157.5	2	40	1479.4149	0.000005000
Verizon 19	COMMSCOPE SBNHH-1D65B	1900	15.89	157.5	4	40	6210.4059	0.000006000
Verizon 20	COMMSCOPE SBNHH-1D65B	700	12.38	157.5	2	40	1383.8531	0.000006000
Verizon 20	COMMSCOPE SBNHH-1D65B	850	12.67	157.5	2	40	1479.4149	0.000005000
Verizon 20	COMMSCOPE SBNHH-1D65B	2100	16.44	157.5	4	40	7048.8778	0.000006000
Verizon 21	SAMSUNG MT6407	3700	23.05	157.5	4	50	40367.3273	0.000044000
Verizon MPE%								0.000279000
AT&T 22	POWERWAVE 7770 00	850	11.35	147.6	1	40	545.8333	0.000002000
AT&T 23	CCI DMP65R-BU6D	700	11.75	147.6	4	40	2393.9770	0.000019000
AT&T 23	CCI DMP65R-BU6D	1900	14.05	147.6	4	40	4065.5563	0.000007000
AT&T 24	CCI DMP65R-BU6D	850	11.45	147.6	4	40	2234.1894	0.000013000
AT&T 24	CCI DMP65R-BU6D	2100	14.75	147.6	4	40	4776.6122	0.000006000
AT&T 24	CCI DMP65R-BU6D	2300	14.15	147.6	4	25	2600.1596	0.000005000
AT&T 25	POWERWAVE 7770 00	850	11.35	147.6	1	40	545.8333	0.000002000
AT&T 26	CCI DMP65R-BU8D	700	12.25	147.6	4	40	2686.0864	0.000021000
AT&T 26	CCI DMP65R-BU8D	1900	14.15	147.6	4	40	4160.2553	0.000007000
AT&T 27	CCI DMP65R-BU8D	850	12.55	147.6	4	40	2878.1935	0.000016000
AT&T 27	CCI DMP65R-BU8D	2100	15.15	147.6	4	40	5237.4511	0.000007000
AT&T 27	CCI DMP65R-BU8D	2300	14.25	147.6	4	25	2660.7251	0.000005000
AT&T 28	POWERWAVE 7770 00	850	11.35	147.6	1	40	545.8333	0.000002000
AT&T 29	CCI DMP65R-BU8D	700	12.25	147.6	4	40	2686.0864	0.000021000
AT&T 29	CCI DMP65R-BU8D	1900	14.15	147.6	4	40	4160.2553	0.000007000
AT&T 30	CCI DMP65R-BU8D	850	12.55	147.6	4	40	2878.1935	0.000016000
AT&T 30	CCI DMP65R-BU8D	2100	15.15	147.6	4	40	5237.4511	0.000007000
AT&T 30	CCI DMP65R-BU8D	2300	14.25	147.6	4	25	2660.7251	0.000005000
AT&T 34	Generic Omni	2400	2.85	128.0	1	5	9.6376	0.000000000
AT&T MPE%								0.000168000
Dish 31	JMA MX08FRO665-21	600	11.35	137.8	4	40	2183.3330	0.000027000
Dish 31	JMA MX08FRO665-21	2007	15.75	137.8	4	40	6013.3985	0.000010000
Dish 31	JMA MX08FRO665-21	2100	16.75	137.8	4	40	7570.4201	0.000009000
Dish 32	JMA MX08FRO665-21	600	11.35	137.8	4	40	2183.3330	0.000027000
Dish 32	JMA MX08FRO665-21	2007	15.75	137.8	4	40	6013.3985	0.000010000
Dish 32	JMA MX08FRO665-21	2100	16.75	137.8	4	40	7570.4201	0.000009000
Dish 33	JMA MX08FRO665-21	600	11.35	137.8	4	40	2183.3330	0.000027000
Dish 33	JMA MX08FRO665-21	2007	15.75	137.8	4	40	6013.3985	0.000010000
Dish 33	JMA MX08FRO665-21	2100	16.75	137.8	4	40	7570.4201	0.000009000
Dish MPE%								0.000138000

Table 3: T-Mobile Antenna Inventory & Power Level



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	MPE %
2100	LTE	170.6	4	1686.786014	0.0000630	1000	0.00000600
700	LTE	170.6	4	926.95786	0.0000540	467	0.00001200
600	LTE	170.6	2	788.9690944	0.0000240	400	0.00000600
600	NR	170.6	2	591.7268208	0.0000180	400	0.00000400
1900	LTE	170.6	4	1403.007496	0.0000520	1000	0.00000500
1900	GSM	170.6	1	526.1278109	0.0000050	1000	0.00000000
2500	LTE	170.6	1	15461.17548	7.6460870	1000	0.76460900
2500	NR	170.6	1	15461.17548	7.6460870	1000	0.76460900
2500	LTE	170.6	1	982.0220846	0.0000120	1000	0.00000100
2500	NR	170.6	1	982.0220846	0.0000120	1000	0.00000100
2100	LTE	170.6	4	1686.786014	0.0000630	1000	0.00000600
700	LTE	170.6	4	926.95786	0.0000540	467	0.00001200
600	LTE	170.6	2	788.9690944	0.0000240	400	0.00000600
600	NR	170.6	2	591.7268208	0.0000180	400	0.00000400
1900	LTE	170.6	4	1403.007496	0.0000520	1000	0.00000500
1900	GSM	170.6	1	526.1278109	0.0000050	1000	0.00000000
2500	LTE	170.6	1	15461.17548	7.6448360	1000	0.76448400
2500	NR	170.6	1	15461.17548	7.6448360	1000	0.76448400
2500	LTE	170.6	1	982.0220846	0.0000120	1000	0.00000100
2500	NR	170.6	1	982.0220846	0.0000120	1000	0.00000100
2100	LTE	170.6	4	1686.786014	0.0000630	1000	0.00000600
700	LTE	170.6	4	926.95786	0.0000550	467	0.00001200
600	LTE	170.6	2	788.9690944	0.0000240	400	0.00000600
600	NR	170.6	2	591.7268208	0.0000180	400	0.00000400
1900	LTE	170.6	4	1403.007496	0.0000520	1000	0.00000500
1900	GSM	170.6	1	526.1278109	0.0000050	1000	0.00000000
2500	LTE	170.6	1	15461.17548	7.6459590	1000	0.76459600
2500	NR	170.6	1	15461.17548	7.6459590	1000	0.76459600
2500	LTE	170.6	1	982.0220846	0.0000120	1000	0.00000100
2500	NR	170.6	1	982.0220846	0.0000120	1000	0.00000100
T-Mobile MPE%							4.58748300 %

Table 4: T-Mobile Maximum Sector MPE Power Values



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:

Carrier	Predicted MPE %
T-Mobile	4.58748300%
Verizon	0.00027900%
AT&T	0.00016800%
Dish	0.00013800%
Composite	4.58806800%

Table 5: Total Predicted MPE(%) by Carrier

Compliance Status:

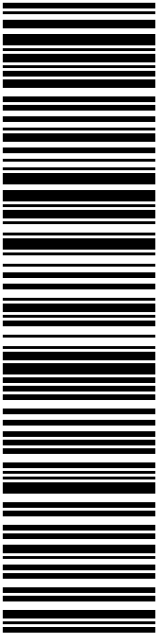
The anticipated composite MPE value for this site assuming all carriers present is **4.58806800%** of the allowable FCC established general population limit sampled at the ground level.

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.

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Exhibit G

Recipient Mailings

 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 04/25/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 1-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/26/22 Ref#: SBCT-NL149 0006
R005	
SHIP TO: KRI PELLETIER SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
USPS TRACKING #	
	
9405 5036 9930 0231 9231 22	
Electronic Rate Approved #038555749	

✂ ————— Cut on dotted line.

Instructions

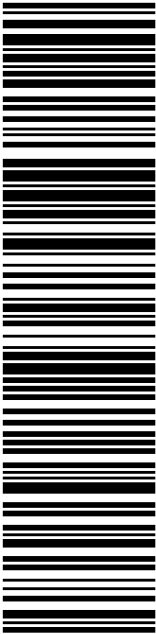
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- 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.
- Mail your package on the "Ship Date" you selected when creating this label.

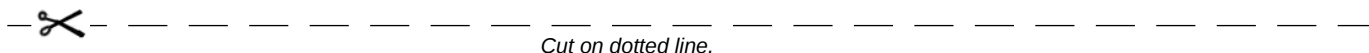
Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0231 9231 22	
Trans. #: 562064867 Print Date: 04/25/2022 Ship Date: 04/25/2022 Expected Delivery Date: 04/26/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: KRI PELLETIER SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
Ref#: SBCT-NL149	
* 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.	



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 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 04/25/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/28/22 Ref#: SBCT-NL149 0006
C004	
SHIP TO: PETER A NYSTROM MAYOR- NORWICH 100 BROADWAY NORWICH CT 06360-4431	
USPS TRACKING #	
	
9405 5036 9930 0231 9231 46	
Electronic Rate Approved #038555749	



Instructions

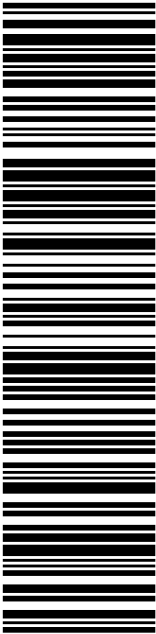
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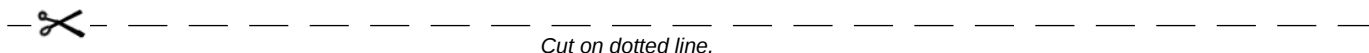
Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0231 9231 46	
Trans. #: 562064867 Print Date: 04/25/2022 Ship Date: 04/25/2022 Expected Delivery Date: 04/28/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: PETER A NYSTROM MAYOR- NORWICH 100 BROADWAY NORWICH CT 06360-4431	
Ref#: SBCT-NL149	
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P	usps.com US POSTAGE Flat Rate Env 04/25/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/28/22 Ref#: SBCT-NL149 0006
SHIP TO: JOHN SALOMONE CITY MANAGER 100 BROADWAY NORWICH CT 06360-4431	
USPS TRACKING #  9405 5036 9930 0231 9231 60	
Electronic Rate Approved #038555749	



Instructions

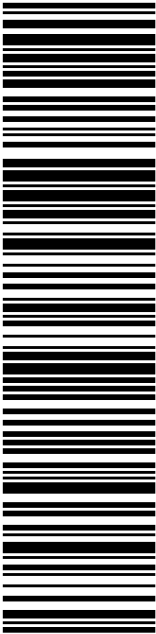
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Trans. #: 562064867 Print Date: 04/25/2022 Ship Date: 04/25/2022 Expected Delivery Date: 04/28/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: JOHN SALOMONE CITY MANAGER 100 BROADWAY NORWICH CT 06360-4431	
Ref#: SBCT-NL149	
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P	usps.com US POSTAGE Flat Rate Env 04/25/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/28/22 Ref#: SBCT-NL149 0006
SHIP TO: DEANNA RHODES TOWN PLANNER- NORWICH 100 BROADWAY NORWICH CT 06360-4431	
USPS TRACKING #  9405 5036 9930 0231 9231 84	
Electronic Rate Approved #038555749	

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Instructions

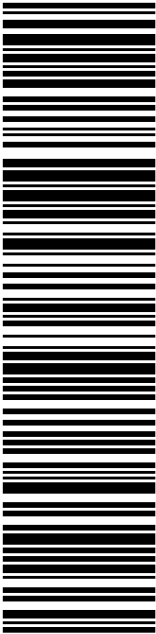
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USPS TRACKING # : 9405 5036 9930 0231 9231 84	
Trans. #: 562064867 Print Date: 04/25/2022 Ship Date: 04/25/2022 Expected Delivery Date: 04/28/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: DEANNA RHODES TOWN PLANNER- NORWICH 100 BROADWAY NORWICH CT 06360-4431	
Ref#: SBCT-NL149	
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P	usps.com US POSTAGE Flat Rate Env 04/25/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Expected Delivery Date: 04/28/22 Ref#: SBCT-NL149 0006
SHIP TO: KELVIN & FRANCES STOTT 292R PLAIN HILL RD NORWICH CT 06360-9416	
R007	
USPS TRACKING # 	
9405 5036 9930 0231 9231 91	
Electronic Rate Approved #038555749	

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Instructions

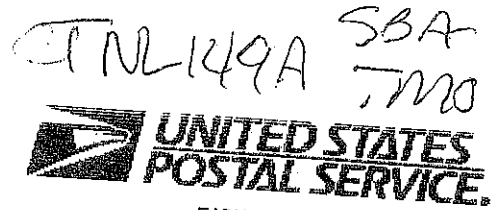
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Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0231 9231 91	
Trans. #: 562064867 Print Date: 04/25/2022 Ship Date: 04/25/2022 Expected Delivery Date: 04/28/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: KELVIN & FRANCES STOTT 292R PLAIN HILL RD NORWICH CT 06360-9416	
Ref#: SBCT-NL149	
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FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

04/25/2022

04:32 PM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
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Westborough, MA 01581

Weight: 0 lb 1.90 oz

Acceptance Date:

Mon 04/25/2022

Tracking #:

9405 5036 9930 0231 9231 22

Prepaid Mail	1		\$0.00
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Norwich, CT 06360

Weight: 0 lb 13.20 oz

Acceptance Date:

Mon 04/25/2022

Tracking #:

9405 5036 9930 0231 9231 46

Prepaid Mail	1		\$0.00
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Norwich, CT 06360

Weight: 0 lb 13.20 oz

Acceptance Date:

Mon 04/25/2022

Tracking #:

9405 5036 9930 0231 9231 60

Prepaid Mail	1		\$0.00
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Norwich, CT 06360

Weight: 0 lb 13.20 oz

Acceptance Date:

Mon 04/25/2022

Tracking #:

9405 5036 9930 0231 9231 84

Prepaid Mail	1		\$0.00
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Norwich, CT 06360

Weight: 0 lb 13.20 oz

Acceptance Date:

Mon 04/25/2022

Tracking #:

9405 5036 9930 0231 9231 91

Grand Total:			\$0.00
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Every household in the U.S. is now
eligible to receive a second set
of 4 free test kits.
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Track your Packages
Sign up for FREE @
<https://informedelivery.usps.com>