



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

August 4, 2022

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

RE: Exempt Modification Application
12 Carpenter Road, Bolton, CT 06043
Latitude: 41.779083
Longitude: -72.465305
Site #: CT11558-A_CTHA076D_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 12 Carpenter Road (a/k/a 14 Carpenter Road), Bolton, CT 06043. T-Mobile currently maintains nine (9) antennas at the 127-foot level of the existing 149-foot monopole tower. The property is owned by Terry Veo, and the tower is owned by SBA. T-Mobile now intends to replace three (3) antennas. The new antennas would be installed at the 127-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 the attached TES Mount Analysis dated July 13, 2022.

T-Mobile Planned Modifications:

Remove:

None

Remove and Replace:

- (3) ANDREW LNX-6515DS-A1M Antennas (REMOVE) - (3) RFS APXVAALL24_43-U_NA20 Antennas (REPLACE)
- (3) ERICSSON RRUS-11 B12 RRU (REMOVE) - (3) ERICSSON 4480 B71+B85 RRU (REPLACE)

Install New:

- (1) Hybrid Line - 1.9"

Existing to Remain:

- (3) ERICSSON AIR21 B2A B4P Antennas
- (3) ERICSSON AIR21 B4A B2P Antennas
- (3) ERICSSON KRY 112 144/1 TMAs
- (1) Hybrid Line - 1-5/8"
- (6) Coax 1-5/8"
- (6) Coax 1-5/8" *

*Equipment shown for entitlement purposes only



The facility was approved by the Connecticut Siting Council, Docket No. 323 on May 22, 2007. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-72(b)(2), 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 Pamela Z. Sawyer, First Selectman and Mike D'Amato, Zoning Enforcement Officer for the Town of Bolton, as well as the property owner and the tower owner.

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

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

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

Sincerely,

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



NSS

NORTHEAST
SITE SOLUTIONS

Turnkey Wireless Development

Attachments

Cc: Pamela Z. Sawyer, First Selectman
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

Jennifer Roy, Zoning Enforcement Officer
Town of Bolton
222 Bolton Center Road
Bolton, CT 06043

Terry Veo – Property Owner
23 Bolton Center Road
Bolton, CT 06043

SBA - Tower Owner

Exhibit A

Original Facility Approval

DOCKET NO. 323 - MCF Communications bg, Inc. and } Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the } construction, maintenance and operation of a telecommunications facility located at 12 Carpenter Road, Bolton, Connecticut. }	Connecticut Siting Council May 22, 2007
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Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to MCF Communications bg, Inc. and Omnipoint Communications, Inc., hereinafter referred to as the Certificate Holders, for a telecommunications facility at 12 Carpenter Road, Bolton, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 140 feet above ground level. The height at the top of the antennas shall not exceed 140 feet above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Bolton for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Bolton public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Bolton. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Hartford Courant and the Journal Inquirer.

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

The parties and intervenors to this proceeding are:

Applicant

MCF Communications bg, Inc. and
Omnipoint Communications, Inc.

Representative

Julie Kohler, Esq.
Carrie Larson, Esq.
Cohen and Wolf, P.C.
1115 Broad Street
Bridgeport, CT 06604

Intervenor

Sprint Nextel Corporation

Representative

Thomas Regan
Brown Rudnick Berlack Israels LLP
City Place I, 185 Asylum Avenue
Hartford, CT 06103-3402

Intervenor

Cellco Partnership d/b/a Verizon Wireless

Representative

Kenneth C. Baldwin
Robinson and Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

Exhibit B

Property Card

14 CARPENTER RD

Location

14 CARPENTER RD

Mblu

07 / / 5 / /

Owner

VEO TERRY L

Assessment

\$535,400

Appraisal

\$932,600

PID

1129

Building Count

2

Current Value

Appraisal	
Valuation Year	Total
2018	\$932,600
Assessment	
Valuation Year	Total
2018	\$535,400

Owner of Record

Owner

VEO TERRY L

Sale Price

\$0

Co-Owner

VEO TERRY L TRUSTEE

Certificate

salemaster

Address

23 BOLTON CENTER RD
BOLTON, CT 06043

Book & Page

0088/1041

Sale Date

10/21/1996

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
VEO TERRY L	\$0	salemaster	0088/1041	10/21/1996

Building Information

Building 1 : Section 1

Year Built:

1760

Living Area:

4,135

Building Percent Good:

52

Building Attributes	
Field	Description
STYLE	Apartments

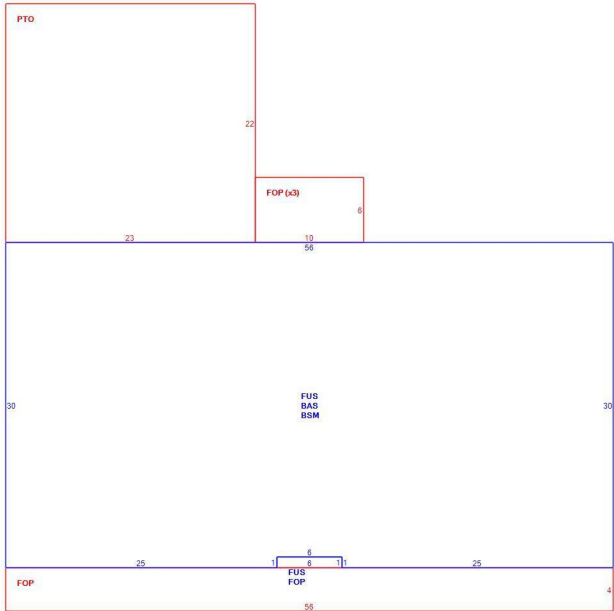
Building Percent Good: 61

Building Attributes : Bldg 2 of 2	
Field	Description
STYLE	Apartments
MODEL	Comm/Ind
Grade	C-
Stories:	2
Occupancy	4.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick
Roof Structure	Gable
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	Plaster
Interior Floor 1	Concrete
Interior Floor 2	Hardwood
Heating Fuel	Oil
Heating Type	Hot Water
% Central Air	0
Frame Type	WOOD FRAME
Fin. Bsmt. Area	
Wall Height	8.00



(PhotoHandler.ashx?pid=1129&bid=3037)

Building Layout



(ParcelSketch.ashx?pid=1129&bid=3037)

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
FUS	Finished Upper Story	1,680	1,680
BAS	First Floor	1,674	1,674
BSM	Basement	1,674	0
FOP	Open Porch	410	0
PTO	Patio	506	0
		5,944	3,354

Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

Land Use		Land Line Valuation	
Zone	R-2	Size (Acres)	33.00
		Depth	
		Assessed Value	\$288,000
		Appraised Value	\$579,400

Outbuildings

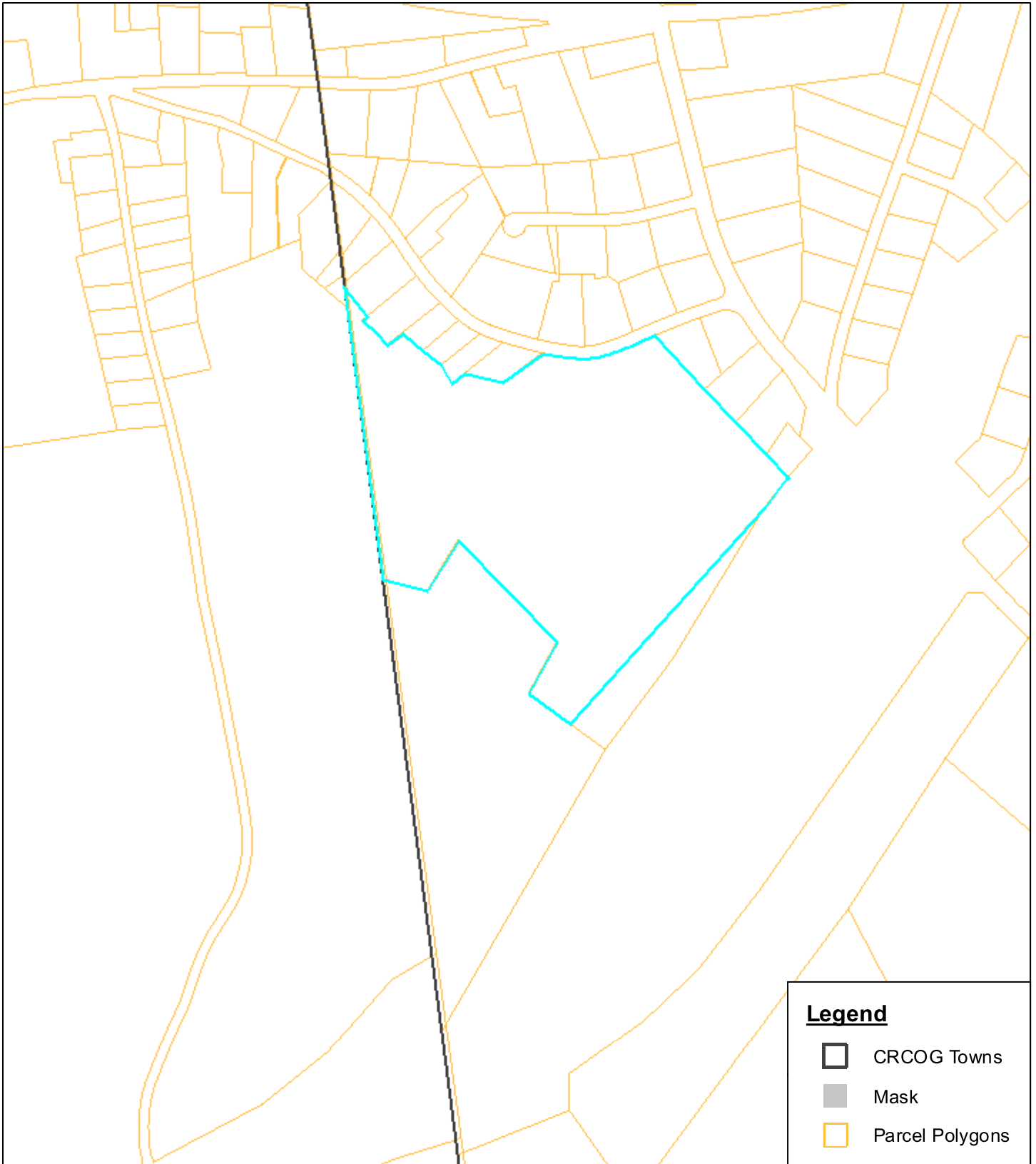
Outbuildings					<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Bldg #
FN1	Fence			280.00 L.F.	1
SHD1	Shed	FR	Frame	144.00 S.F.	1
CELL	Cell Tower	FR		140.00 FEET	1
SHD1	Shed	MS	Masonry	360.00 S.F.	1
SHD1	Shed	MS	Masonry	360.00 S.F.	1
PAV1	Paving	CN	Concrete	1332.00 S.F.	1
PAV1	Paving	AS	Asphalt	1632.00 S.F.	1
PAV1	Paving	AS	Asphalt	981.00 S.F.	2

Valuation History

Appraisal	
Valuation Year	Total
2020	\$932,600
2019	\$932,600

Assessment	
Valuation Year	Total
2020	\$535,400
2019	\$535,400

14 CARPENTER ROAD



Legend

-  CRCOG Towns
-  Mask
-  Parcel Polygons



CRCOG **CAPITOL REGION**
COUNCIL OF GOVERNMENTS
Working together for a better region.

CRCOG makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Scale
1:9,028
Created: 8/4/2022

Exhibit C

Construction Drawings

HA076/MCF_CARPENTER RD_FT

12 CARPENTER ROAD
BOLTON, CT 06043
TOLLAND COUNTY

SITE NO.: CTHA076D

SITE TYPE: 150'± MONOPOLE

RF DESIGN GUIDELINE: 67E05F ODE+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

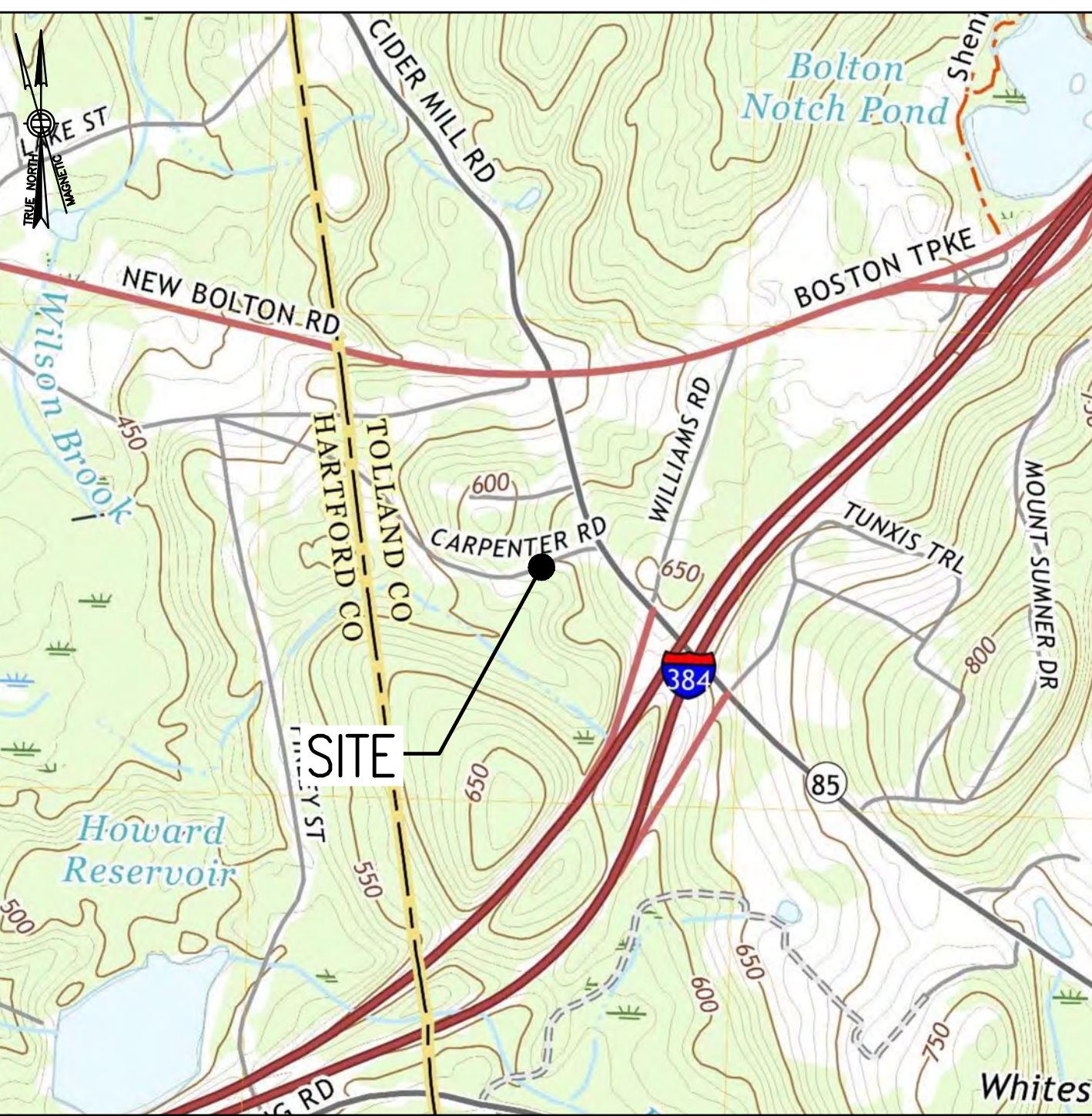
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT 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 OMPPOINT 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"



DIRECTIONS

FROM COMMERCE WAY GET ON I-495 N. FOLLOW I-495 N, I-90 W AND I-84 TO STATE HWY 542 IN VERNON. TAKE EXIT 66 FROM I-84. TURN LEFT ONTO STATE HWY 542. TURN LEFT ONTO STATE HWY 533. TURN LEFT ONTO STATE HWY 533/LAKE ST. SLIGHT LEFT ONTO STATE HWY 533. CONTINUE ONTO CT-85 S. TURN RIGHT ONTO CARPENTER RD. DESTINATION WILL BE ON THE LEFT.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	TOWER ELEVATIONS & ANTENNA PLANS	1
A-3	FEEDLINE CHARTS & SITE DETAILS	1
S-1	ANTENNA & RADIO MOUNTING DETAILS	1
E-1	ELECTRIC & GROUNDING DETAILS	1

DO NOT SCALE DRAWINGS

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

SCOPE OF WORK

- | | |
|--------------------|---------------------|
| REMOVE: | INSTALL: |
| • 3 ANTENNAS | • 3 ANTENNAS |
| • 3 RADIOS | • 3 RADIOS |
| • 1 60A-2P BREAKER | • 1 HYBRID CABLE |
| | • 1 125A-2P BREAKER |

SITE NOTES

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

PROJECT SUMMARY

SITE NUMBER:	CTHA076D
SITE NAME:	HA076/MCF_CARPENTER RD_FT
SBA SITE NUMBER:	CT11558-A
SBA SITE NAME:	BOLTON 2, CT
SITE ADDRESS:	12 CARPENTER ROAD BOLTON, CT 06043
PROPERTY OWNER:	TERRY L. VEO AND TERRY L. VEO TRUSTEE 23 BOLTON CENTER ROAD BOLTON, CT 06043
TOWER OWNER:	SBA INFRASTRUCTURE, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	TOLLAND
ZONING DISTRICT:	R-2, RESIDENTIAL DISTRICT
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	150'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.779444 ° (41°-46'-46.00") LONGITUDE W.-72.464722 ° (72°-27'-53.00")

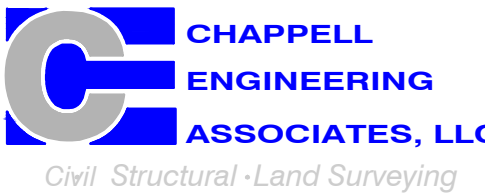
SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS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

T-MOBILE NORTHEAST LLC

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



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



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
1	06/24/22	ISSUED FOR CONSTRUCTION	BDJ
0	04/13/22	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTHA076D

SITE ADDRESS:
12 CARPENTER ROAD
BOLTON, CT 06043

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – T-MOBILE
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T-MOBILE
OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
15. CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS1½ IN.
5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T-MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

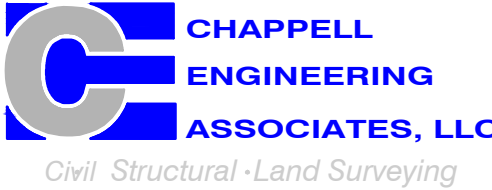
1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATINGS, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	06/24/22	ISSUED FOR CONSTRUCTION	BDJ
0	04/13/22	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTHA076D

SITE ADDRESS:
12 CARPENTER ROAD
BOLTON, CT 06043

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

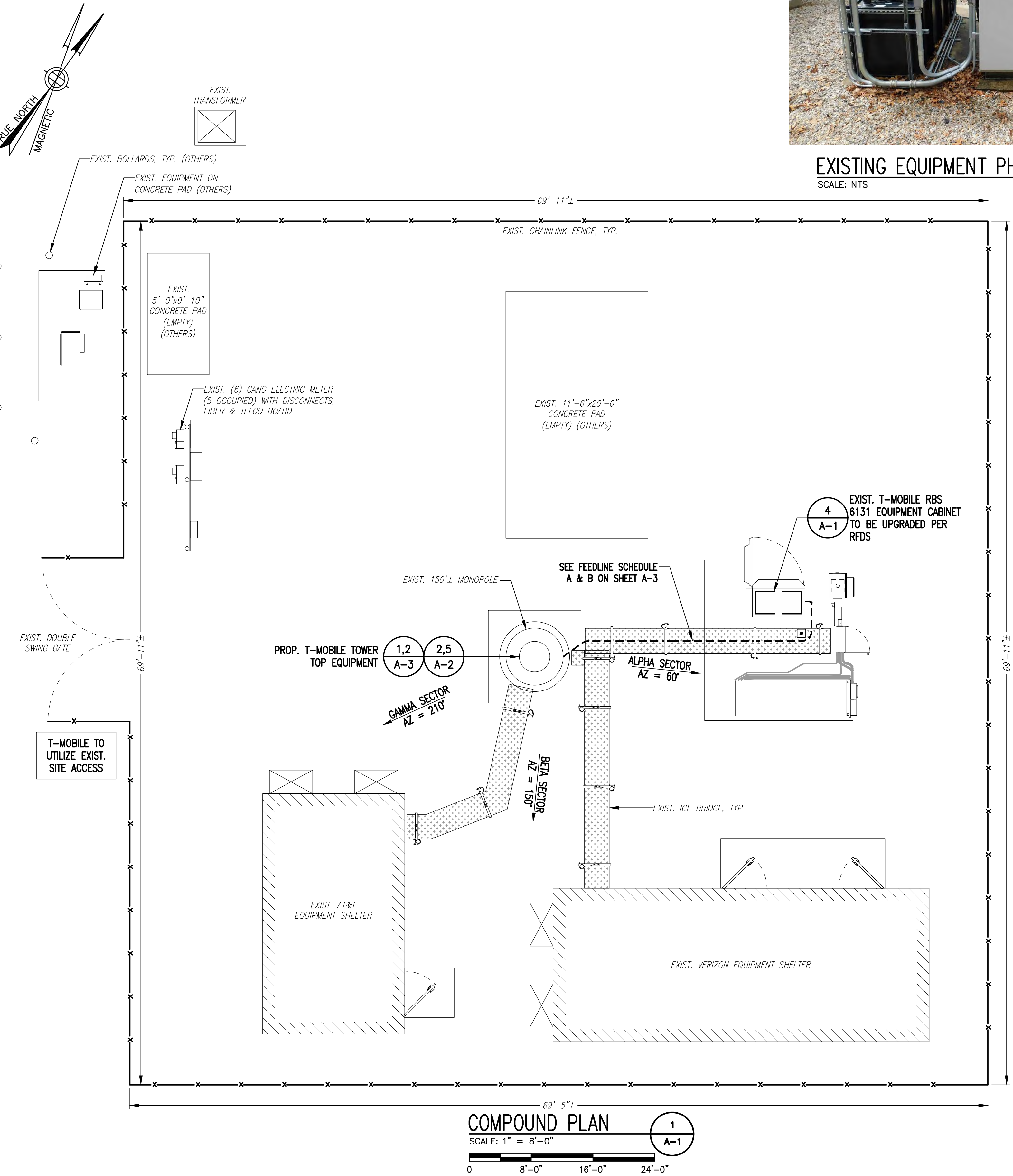
GN-1

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
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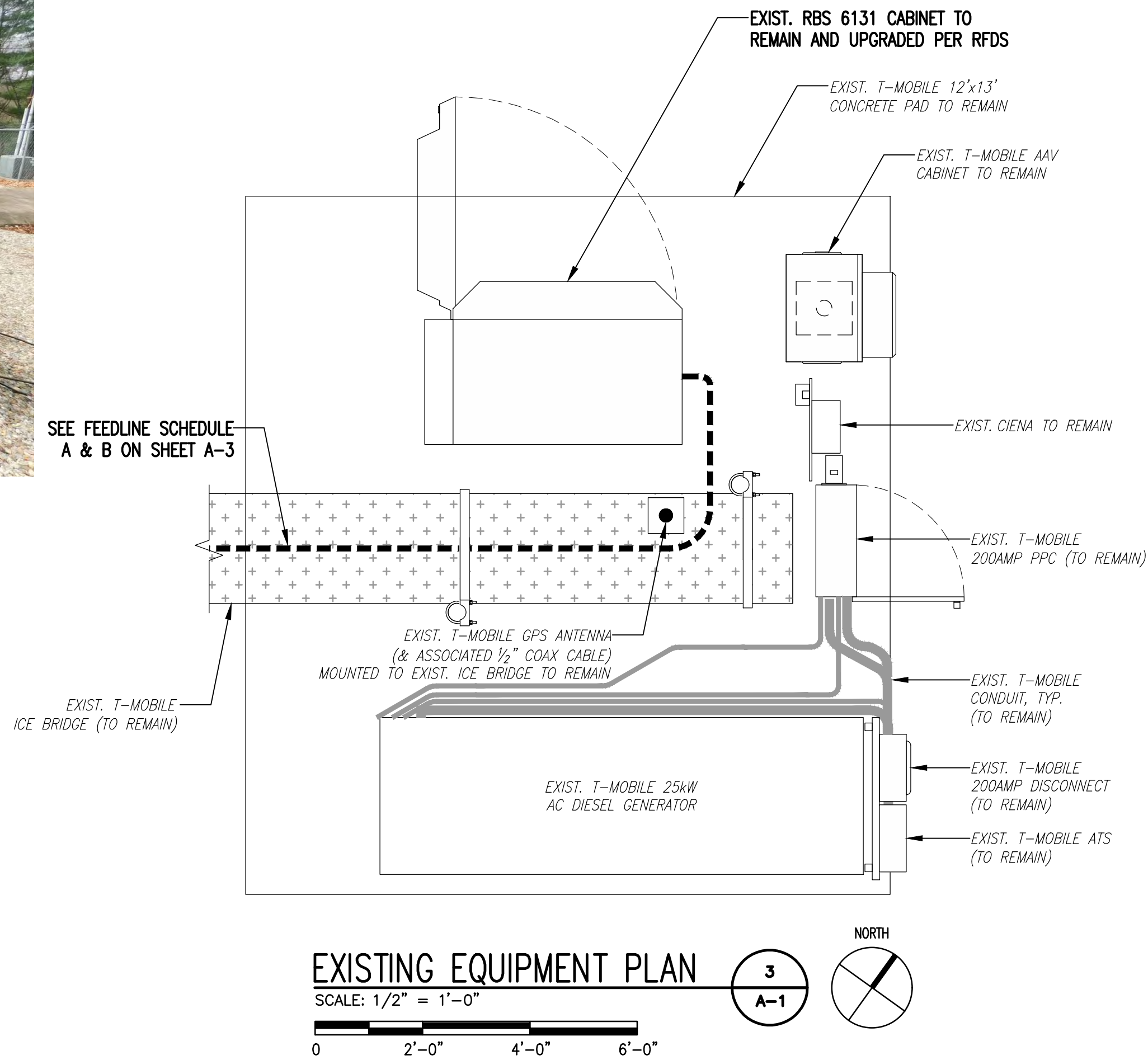
EXISTING EQUIPMENT PHOTO DETAIL
SCALE: NTS

2
A-1



COMPOUND PLAN
SCALE: 1" = 8'-0"

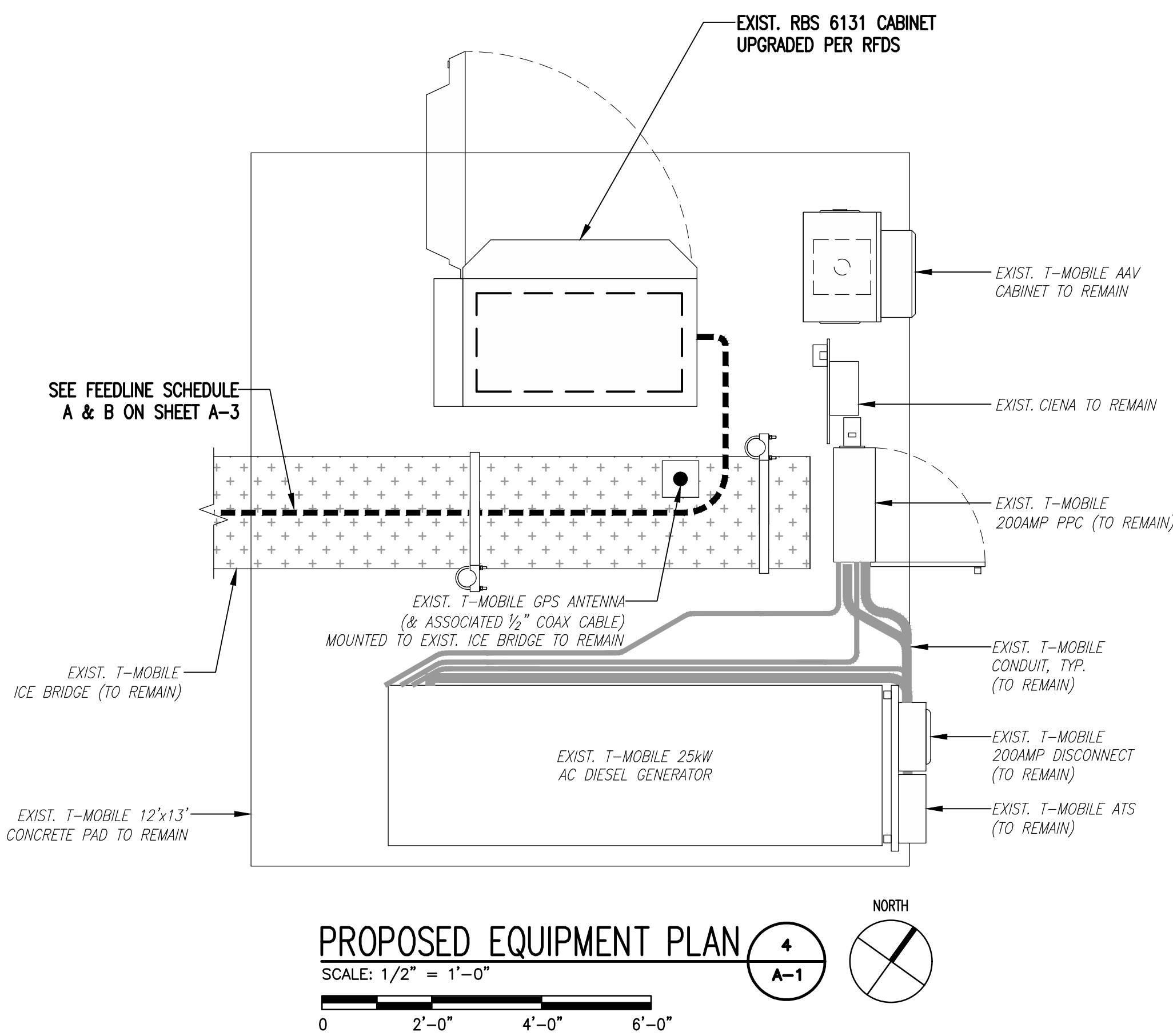
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A-1



EXISTING EQUIPMENT PLAN

SCALE: 1/2" = 1'-0"

3
A-1



PROPOSED EQUIPMENT PLAN

SCALE: 1/2" = 1'-0"

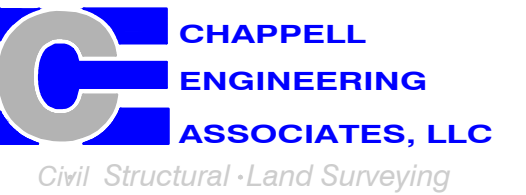
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T-MOBILE NORTHEAST LLC

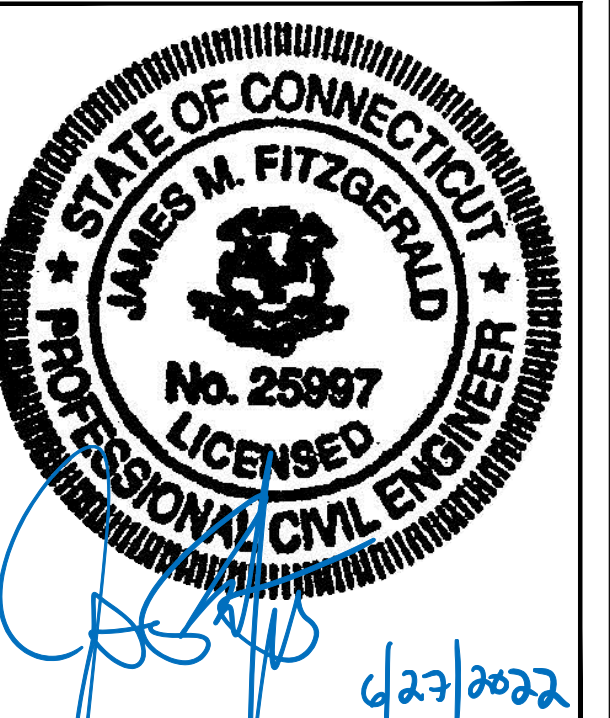
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SHEET TITLE
**COMPOUND &
EQUIPMENT PLAN**

SHEET NUMBER
A-1

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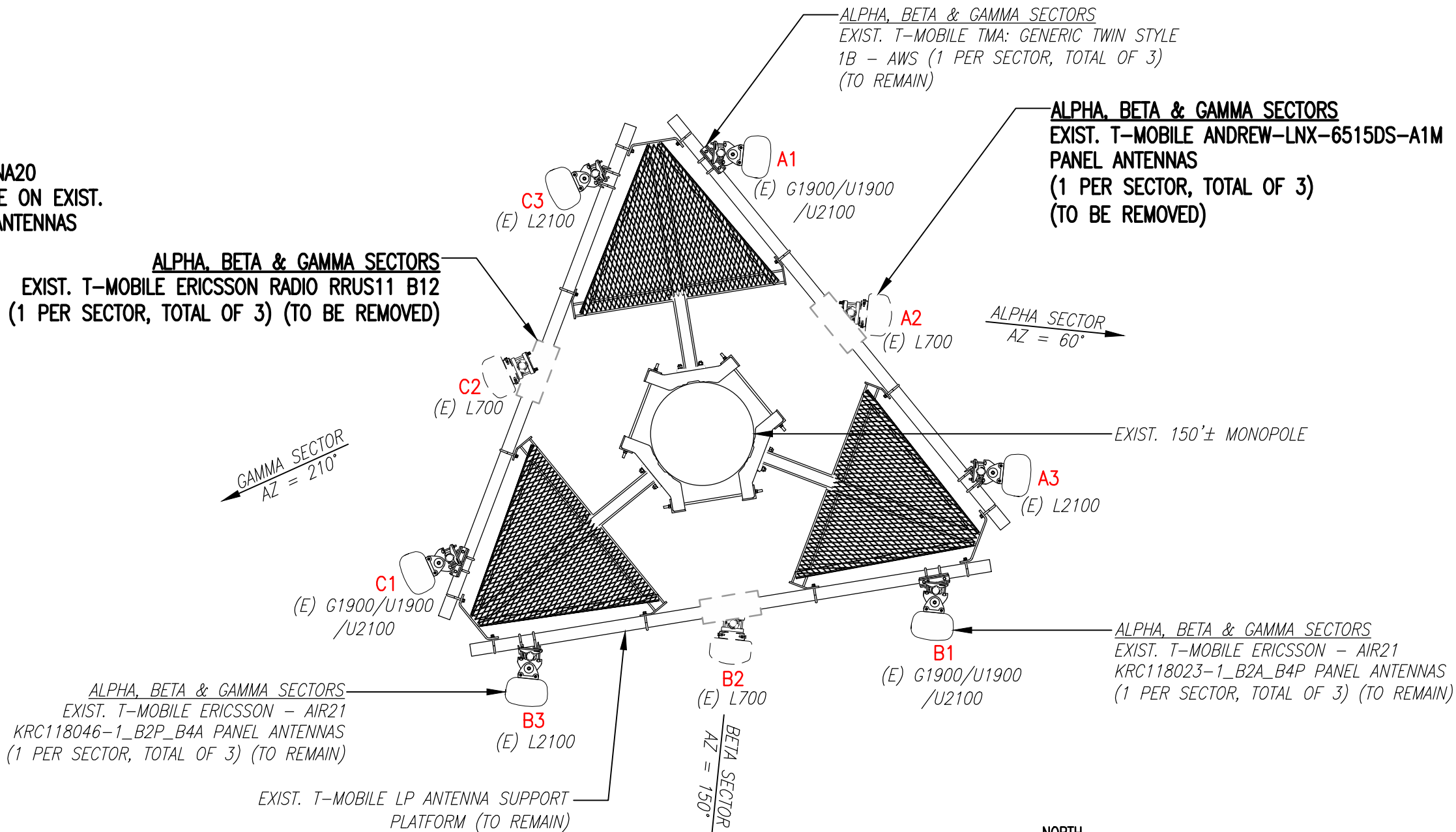
RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION
APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD
CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.



EXISTING ANTENNA PHOTO

SCALE: N.T.S.

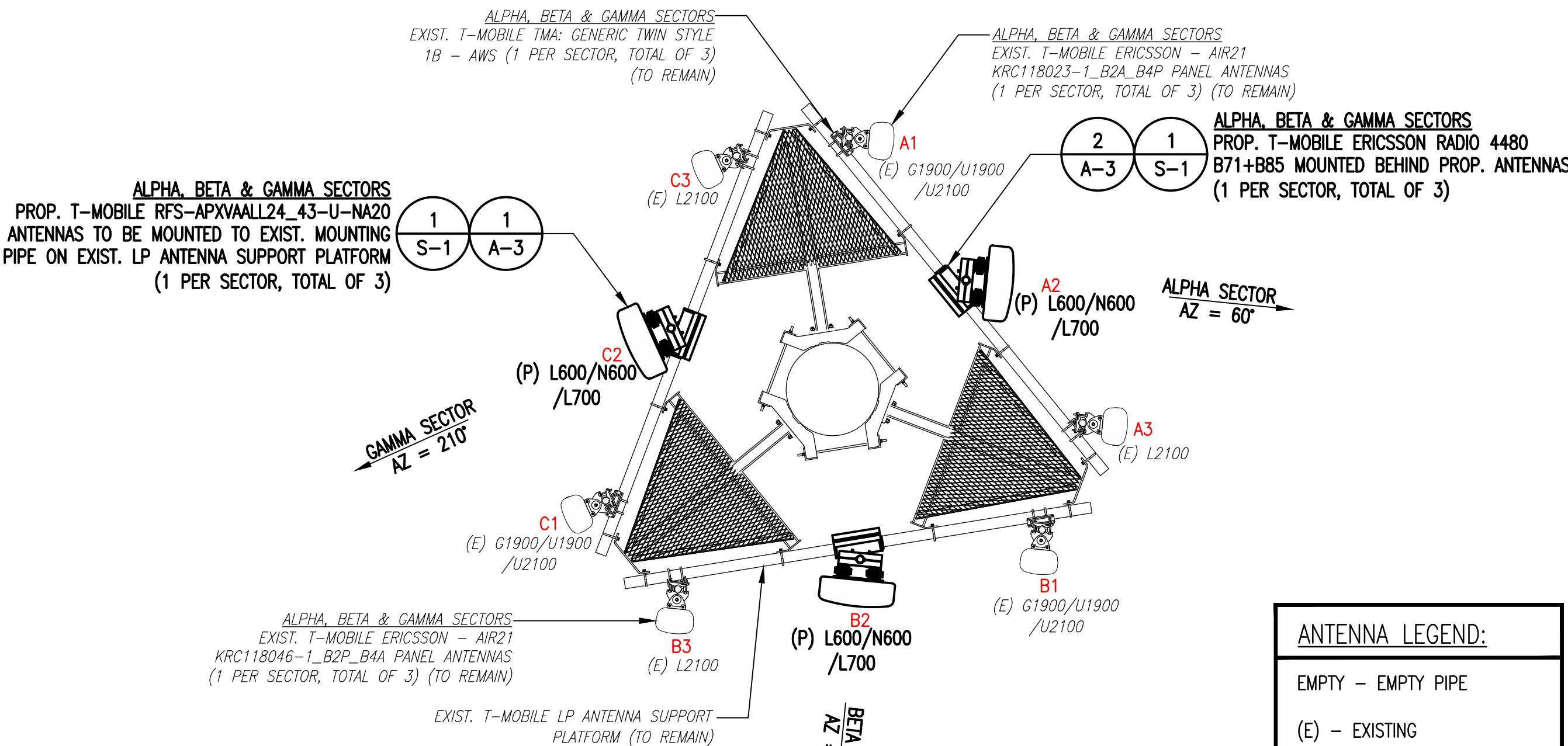
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A-2



EXISTING ANTENNA PLAN

SCALE: N.T.S.

4
A-2



PROPOSED ANTENNA PLAN

SCALE: N.T.S.

5
A-2

ANTENNA LEGEND:

EMPTY - EMPTY PIPE
(E) - EXISTING
(P) - INSTALL

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



EXISTING ELEVATION PHOTO DETAIL

SCALE: N.T.S.

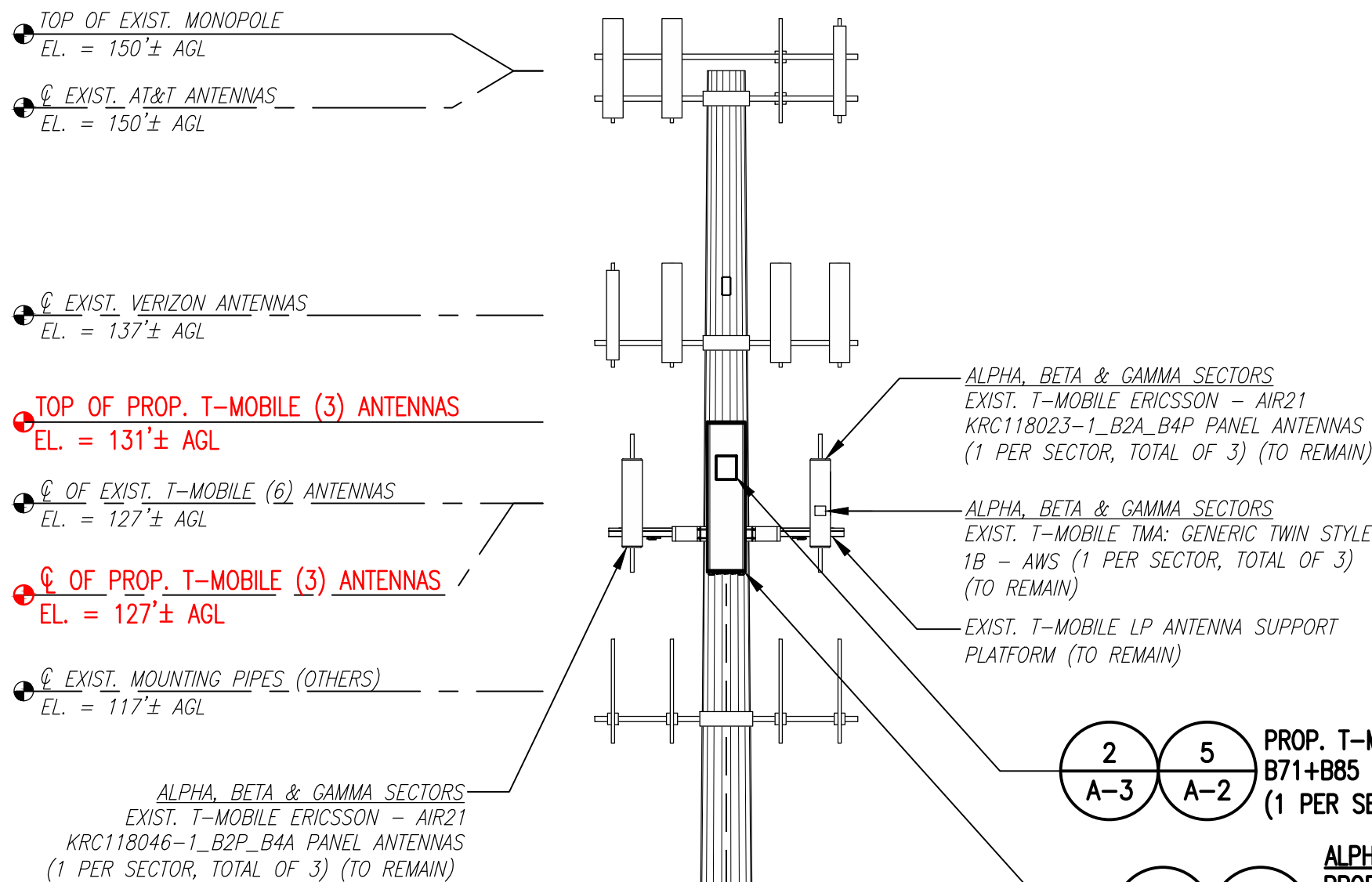
1
A-2

TOWER ELEVATION

SCALE: 1" = 8'-0"

0 4' 8' 16' 24'

2
A-2



SEE FEEDLINE SCHEDULE
A & B ON SHEET A-3

EXIST. 150'± MONOPOLE

NOTE:
GROUND EQUIPMENT NOT
SHOWN, FOR CLARITY.

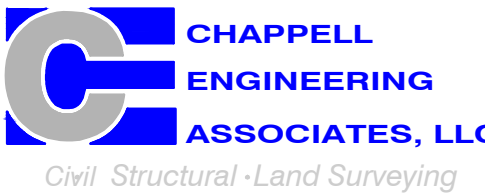
GROUND LEVEL
EL. = 0'-0"± AGL

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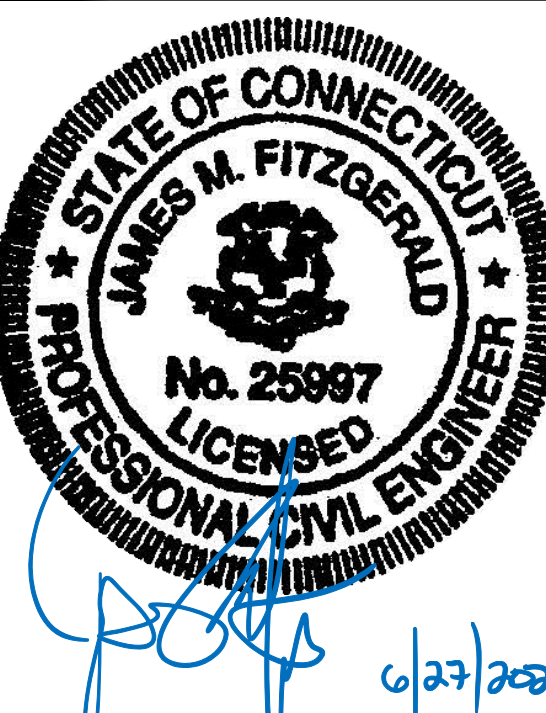
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www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	06/24/22	ISSUED FOR CONSTRUCTION	BDJ
0	04/13/22	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CTHA076D

SITE ADDRESS:
12 CARPENTER ROAD
BOLTON, CT 06043

SHEET TITLE

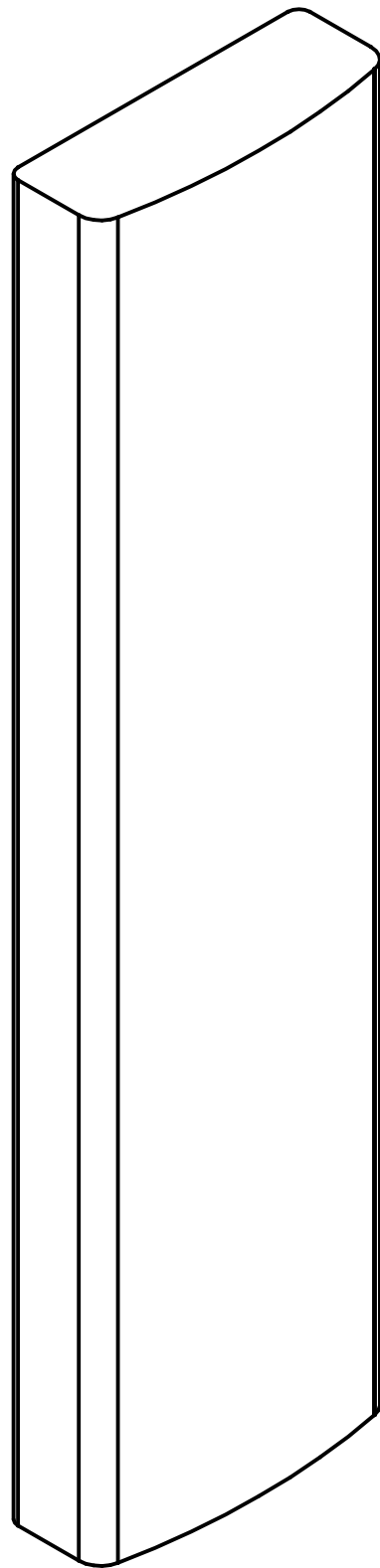
TOWER ELEVATIONS &
ANTENNA PLANS

SHEET NUMBER

A-2

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 ERICSSON AIR21 KRC118023-1_B2A_B4P	127'± AGL	60°	0°	2°	L1900/G1900	—	(P) (1) 1-¾" (6x24) HCS FIBER CABLE (E) (1) 1-⅝" (6x12) HCS FIBER CABLE (E) (6) 1-⅝" COAX CABLES
	A2 RFS - APXVAALL24_43-U-NA20	127'± AGL	60°	0°	2°	U2100	GENERIC TWIN STYLE 1B AWS TMA	
	A3 ERICSSON AIR21 KRC118046-1_B2P_B4A	127'± AGL	60°	0°	2°	L2100	—	
	B1 ERICSSON AIR21 KRC118023-1_B2A_B4P	127'± AGL	150°	0°	2°	L1900/G1900	—	
BETA	B2 RFS - APXVAALL24_43-U-NA20	127'± AGL	150°	0°	2°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
	B3 ERICSSON AIR21 KRC118046-1_B2P_B4A	127'± AGL	150°	0°	2°	L2100	—	
	C1 ERICSSON AIR21 KRC118023-1_B2A_B4P	127'± AGL	210°	0°	2°	L1900/G1900	—	
GAMMA	C2 RFS - APXVAALL24_43-U-NA20	127'± AGL	210°	0°	2°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
	C3 ERICSSON AIR21 KRC118046-1_B2P_B4A	127'± AGL	210°	0°	2°	L2100	—	
	CABLE NOTE: EXISTING T-MOBILE (6) 1-⅝" COAX CABLES, (1) 1-¾" HCS FIBER CABLE AND (1) 1/2" COAX CABLE USED FOR GPS ANTENNA TO REMAIN. SEE FEEDLINE SCHEDULE A & B.							

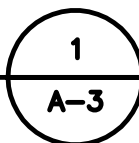
NOTE: RFDS REV6 - 03/17/22



RFS-APXVAALL24_43-U-NA20 PANEL ANTENNA
DIMENSIONS: 95.9"H X 24.0"W X 8.5"D
WEIGHT: 122.8 LBS
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAIL

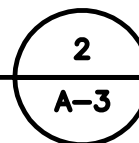
SCALE: N.T.S.



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 DETAIL

SCALE: N.T.S.



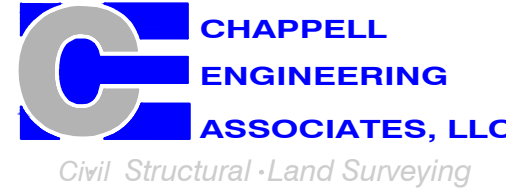
FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) ½" COAX CABLE FOR GPS ANTENNA (1) 1-5/8" (6x12) HCS FIBER CABLE (6) 1-5/8" COAX CABLES EXISTING TO BE REMOVED: NONE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1-3/4" (6x24) HCS FIBER CABLE	
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.		

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
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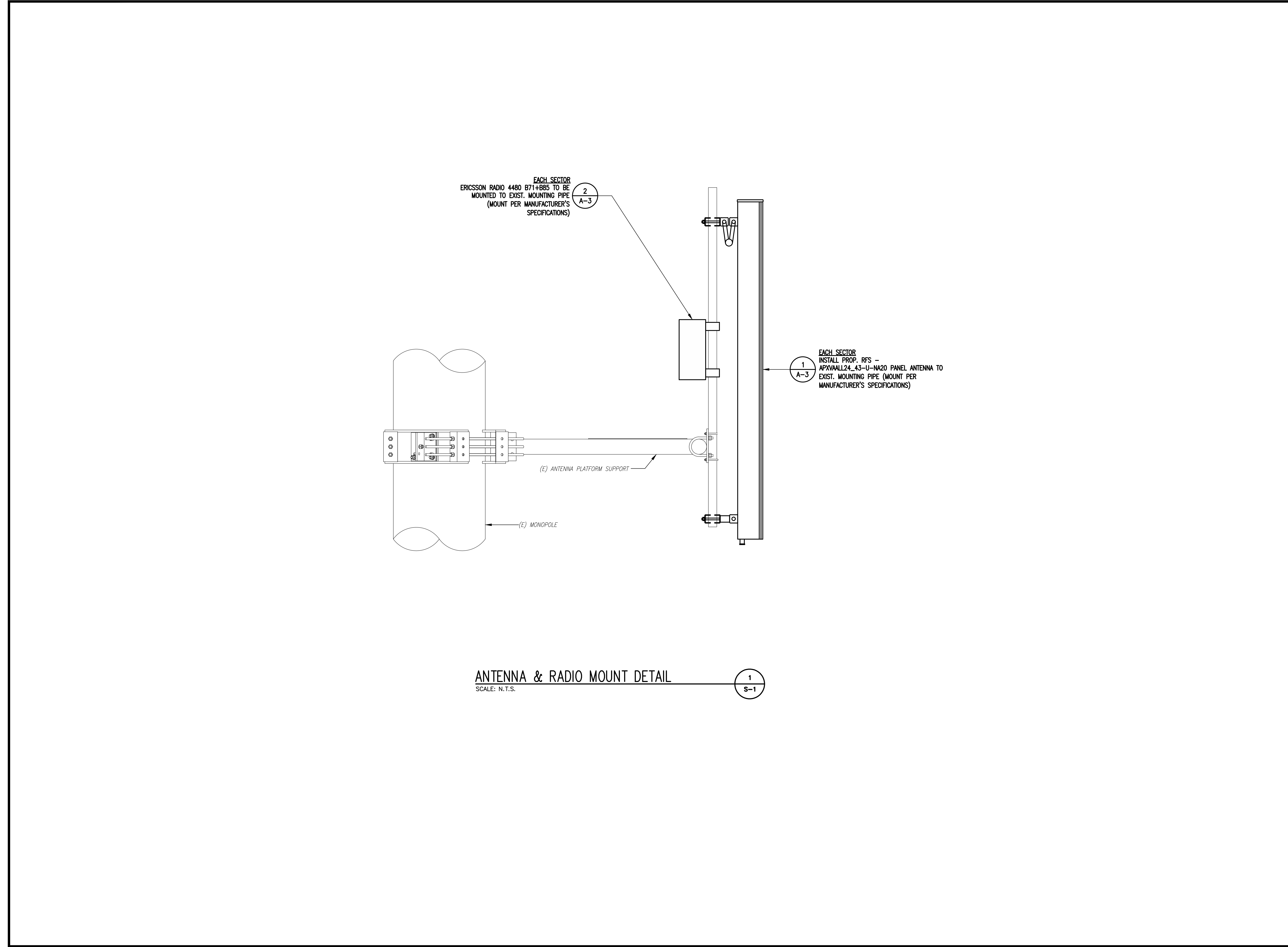
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12 CARPENTER ROAD
BOLTON, CT 06043

SHEET TITLE

FEEDLINE CHARTS
& SITE DETAILS

SHEET NUMBER

A-3



ANTENNA & RADIO MOUNT DETAIL
SCALE: N.T.S.

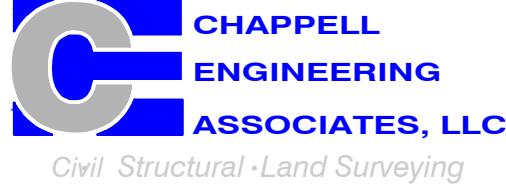
1
S-1

T-MOBILE
NORTHEAST LLC

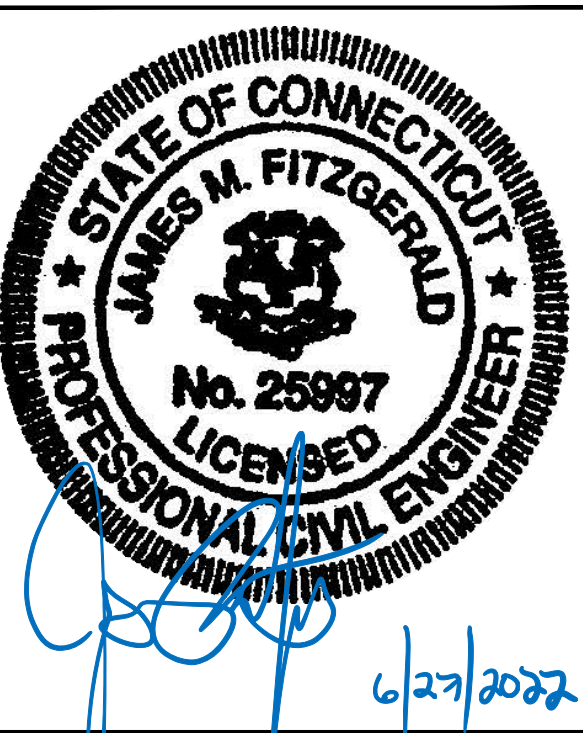
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ANTENNA & RADIO
MOUNTING DETAILS

SHEET NUMBER

S-1



PPC PHOTO DETAIL

SCALE: NOT TO SCALE

1
E-1

ONE LINE DIAGRAM

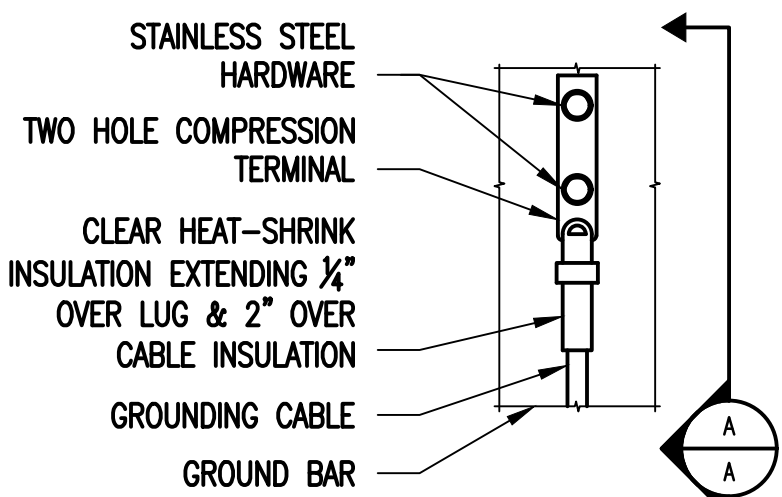
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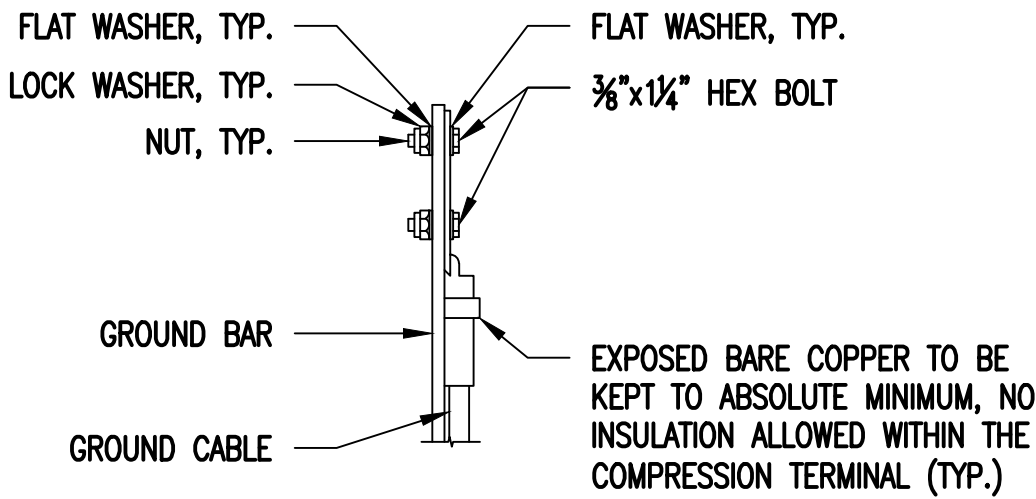
GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

3
E-1



ELEVATION



SECTION A-A

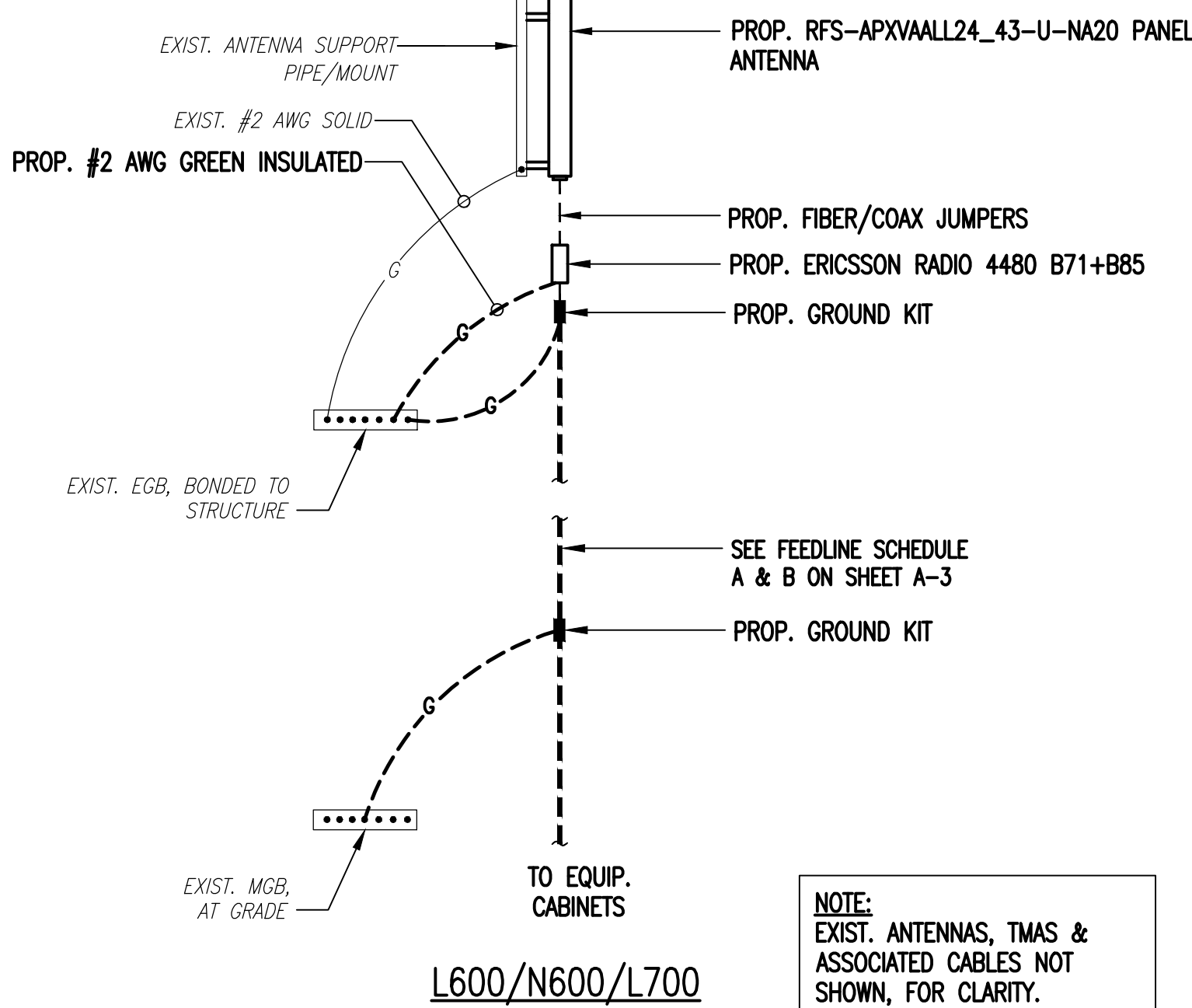
NOTES:

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

TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE

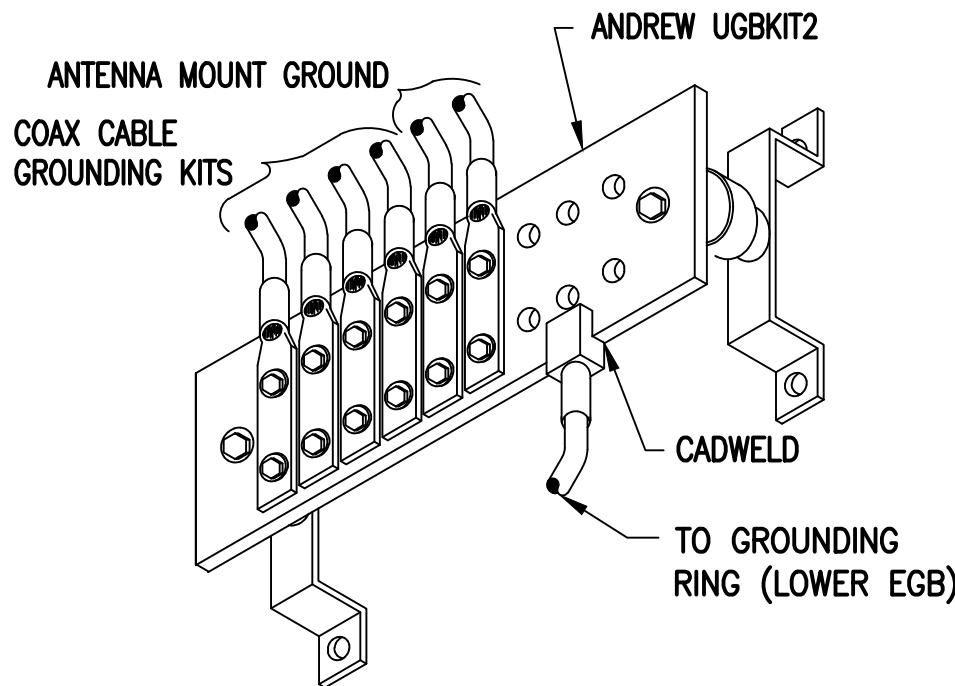
4
E-1



COAX CABLE CONNECTION AND GROUNDING DETAIL

SCALE: NOT TO SCALE

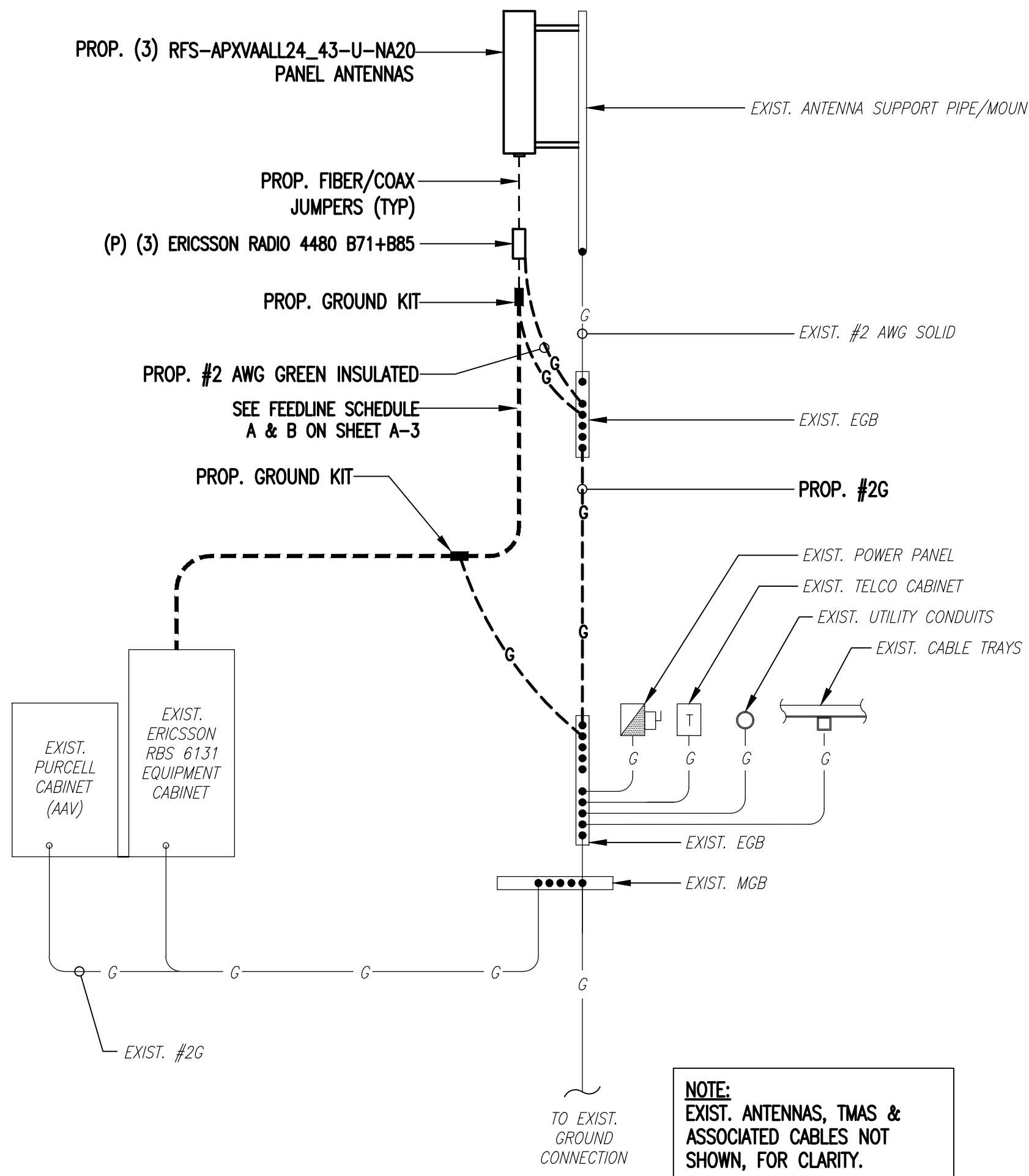
5
E-1



GROUND BAR (EGB)

SCALE: NOT TO SCALE

6
E-1



ELECTRICAL AND GROUNDING NOTES

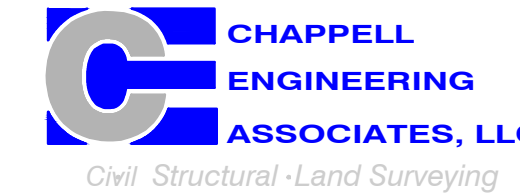
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED 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, THINW, OR THININSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE 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

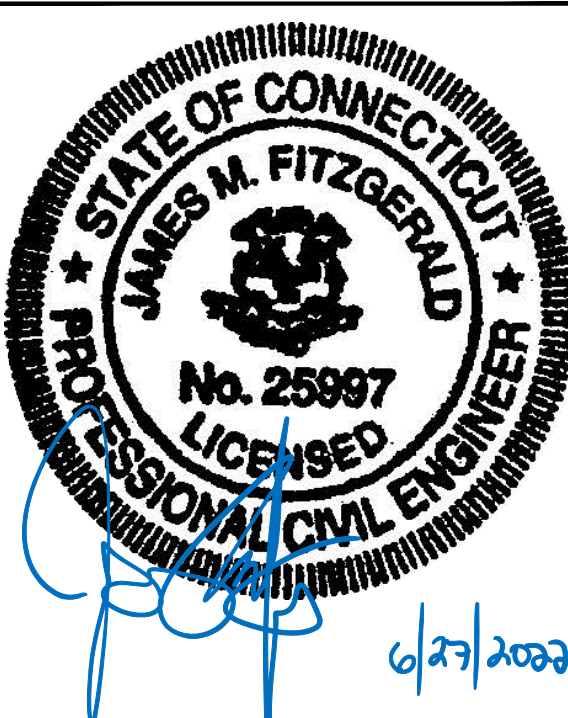
15 COMMERCE WAY, SUITE B
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SITE ADDRESS:
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BOLTON, CT 06043

SHEET TITLE

ELECTRICAL &
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 149 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT11558-A

Customer Site Name: Bolton 2, CT

Carrier Name: T-Mobile (App#: 194470, V#1)

Carrier Site ID / Name: CTHA076D / HA076/MCF_Carpenter Rd_FT

Site Location: 12 Carpenter Road

Bolton, Connecticut

Tolland County

Latitude: 41.779083

Longitude: -72.465303

Analysis Result:

Max Structural Usage: 94.2% [Pass]

Max Foundation Usage: 94.0% [Pass]

Additional Usage Caused by Mount Modification: +3.2%



Report Prepared By: Ikram Efaz



Tower Engineering Solutions

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

Structural Analysis Report

Existing 149 ft Nudd Corporation Monopole

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Customer Site Number: CT11558-A

Customer Site Name: Bolton 2, CT

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Bolton, Connecticut

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Analysis Result:

Max Structural Usage: 94.2% [Pass]

Max Foundation Usage: 94.0% [Pass]

Additional Usage Caused by Mount Modification: +3.2%

Report Prepared By: Ikram Efaz

Introduction

The purpose of this report is to summarize the analysis results on the 149 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A Nudd Corporation Project #207-13312, dated September 5, 2007
Foundation Drawing	Fred A Nudd Corporation Project #207-13312, dated September 5, 2007
Geotechnical Report	Subsurface Drilling & Remediation Co., Project # 02910, dated 7/24/07 & Original design soil parameters from Fred A. Nudd Corporation
Modification Drawings	TES, Job # 88988, dated 2/11/2020
Mount Analysis	TES, Project #130611, dated 07/01/2022

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 125.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 97.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" 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:	$S_S = 0.178$, $S_1 = 0.063$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	150.0	3	Cci HPA65R-BU8A Panel	(1) Low Profile Platform [SitePro 1 RMQP-496-HK]	(12) 1 5/8" (1) 3" Conduit [House (1) 1/2" Fiber & (2) 3/4" DC] (4) 3/4" DC (1) 1/2" Fiber	AT&T
2		3	Cci TPA65R-BU8DA-K Panel			
3		3	Cci DMP65R-BU8DA Panel			
4		12	Powerwave LGP21401 TMA			
5		3	Ericsson RRUS 4478 B14			
6		3	Ericsson RRUS 4449 B5/B12			
7		3	Ericsson RRUS 8843 B2 B66A			
8		3	Raycap DC6-48-60-18-8F COVP			
9		1	Nokia 469358A GPS			
10	137.0	3	Commscope NHH-65B-R2B - Panel	Low Profile Platform w/ (1) Support Rail Kit [VZWSMART VZWSMART-PLK1], (3) Crossover Plate [VZWSMART VZWSMART-MSK2], (3) New Mount Pipe & (3) Side by Side Bracket [Commscope BSAMNT-SBS-1-2]	(12) 1 5/8" (3) 1 5/8" Hybrid (1) 1"	Verizon
11		3	Commscope NHHSS-65B-R2B - Panel			
12		3	Samsung MT6407-77A - Panel			
13		2	Antel - Ante BXA-70080-6BF-EDIN-O - Panel			
14		1	Antel - BXA-70063-4CF-EDIN-O-FP - Panel			
15		3	Samsung LTE AWS/PCS RF4439D 25A - RRU			
16		3	Samsung LTE 700/850 MHz RF4440d-13A - RRU			
17		3	Samsung LTE CBR5 RT4401 48A - RRU			
18		2	RFS DB-T1-6Z-8AB-OZ - OVP			
-	126.5	3	Ericsson - AIR 21, 1.3M, B2A B4P - Panel	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Hybrid	T-Mobile
-		3	Ericsson - AIR 21, 1.3M, B4A B2P - Panel			
-		3	KRY 112 144/1			
-		3	Andrew - LNX-6515DS-A1M - Panel			
-		3	S11B12			

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
19	127.0	3	Ericsson - AIR 21 B2A B4P - Panel	(1) Low Profile Platform with mods: (1) Support rail Kit with end connections, (1) Kicker Kit with light collar mount, (1) Mount Pipe-pipe connections	(12) 1 5/8" Coax (1) 1 5/8" Fiber (1) 1.9" Fiber	T-Mobile
20		3	Ericsson - AIR 21 B4A/B2P - Panel			
21		3	RFS- APXVAALL24_43-U-NA20 - Panel			
22		3	Ericsson- KRY 112 144/1- TMA			
23		3	Ericsson- 4480 B71 + B85 -RRU			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate	Flange
Max. Usage:	94.2%	66.9%	65.6%	48.1%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4117.5	34.9	48.6

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.7805 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 94.21% at 50.0ft

Structure: CT11558-A-SBA
Site Name: Bolton 2, CT
Height: 149.00 (ft)
Base Elev: 1.000 (ft)

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

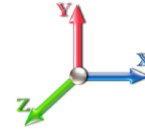
7/15/2022

Page: 1



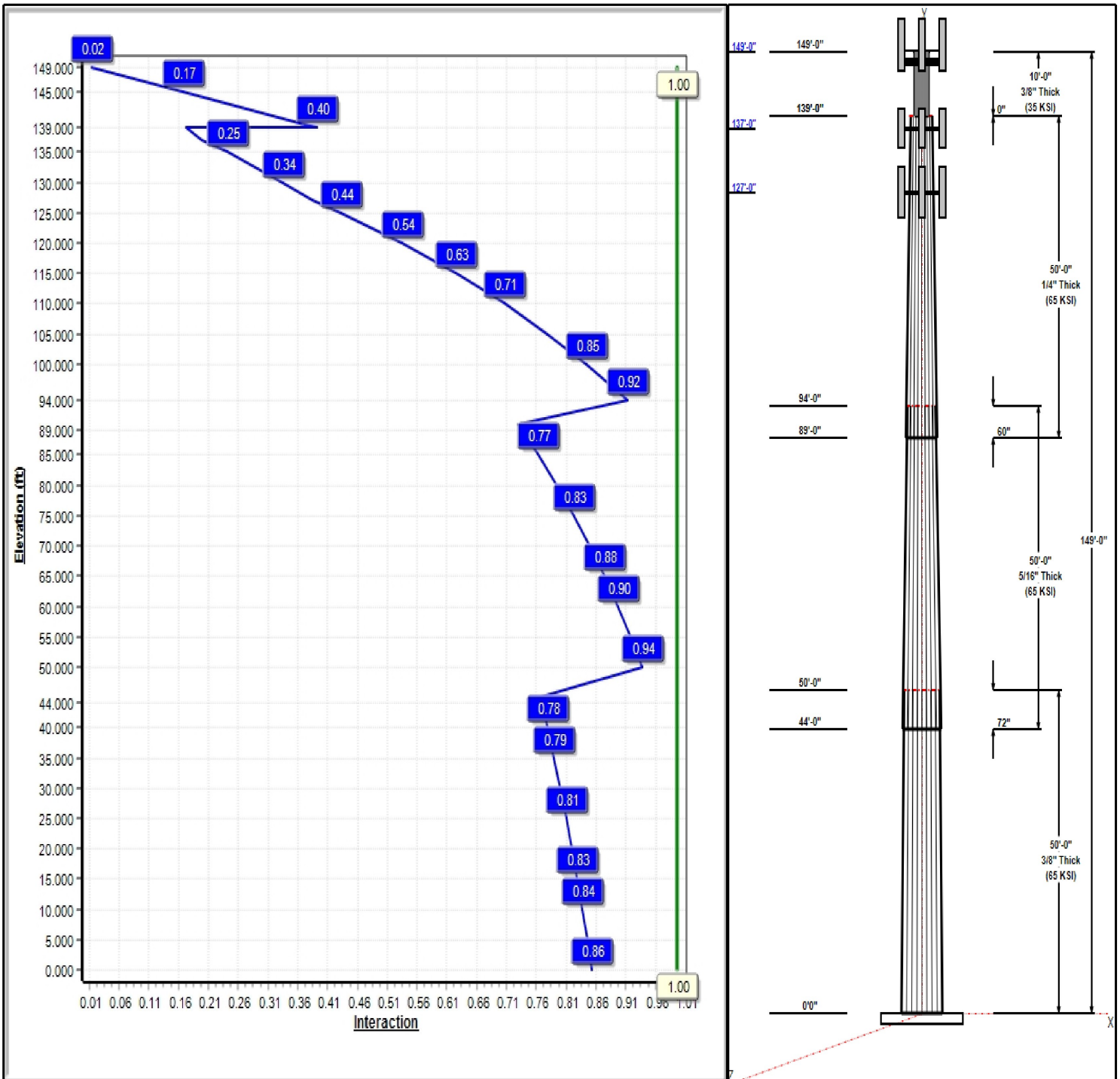
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 97 mph Wind



Iterations: 24

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Structure: CT11558-A-SBA

Type: Custom
Site Name: Bolton 2, CT
Height: 149.00 (ft)
Base Elev: 1.00 (ft)

Base Shape: 18 Sided
Taper: 0.23561

7/15/2022

Page: 2



Shaft Properties

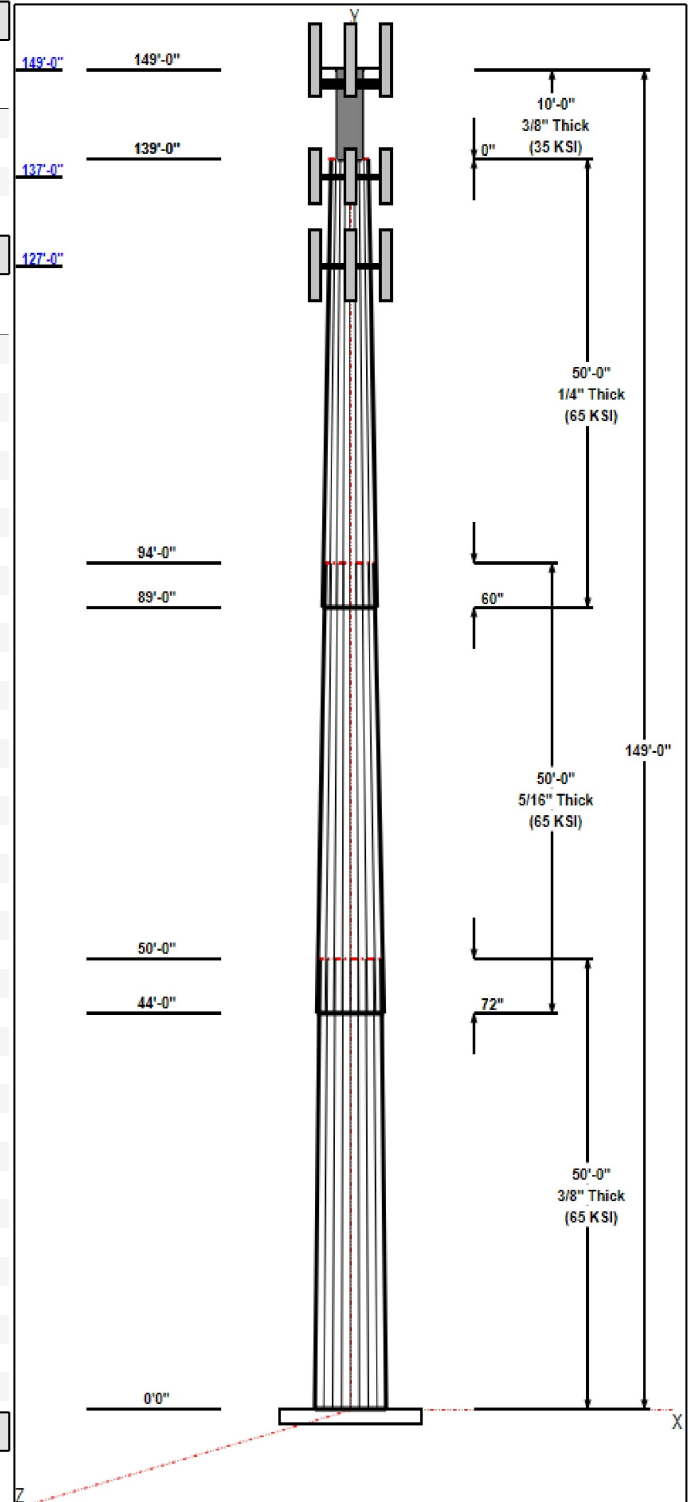
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	50.00	43.84	55.63	0.375		0.23561	65
2	50.00	34.10	45.88	0.313	Slip	0.23561	65
3	50.00	24.00	35.78	0.250	Slip	0.23561	65
4	10.00	18.00	18.00	0.375	Butt	0.00000	35

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	150.00	12	LGP21401	AT&T
149.00	150.00	3	Raycap DC6-48-60-18-8F	AT&T
149.00	152.00	1	Lightning Rod	
149.00	150.00	3	HPA65R-BU8A	AT&T
149.00	150.00	3	TPA65R-BU8DA-K	AT&T
149.00	150.00	3	DMP65R-BU8DA	AT&T
149.00	150.00	3	RRUS 4478 B14	AT&T
149.00	150.00	3	RRUS 4449 B5/B12	AT&T
149.00	150.00	3	RRUS 8843 B2 B66A	AT&T
149.00	150.00	1	Nokia 469358A GPS	AT&T
149.00	149.00	1	MTC38523L (Kicker Kit)	T-Mobile
149.00	149.00	1	MT-195-14 (Handrail Kit)	T-Mobile
149.00	149.00	1	MT-195-14 (Handrail Kit)	T-Mobile
149.00	149.00	1	MT-195-14 (Handrail Kit)	T-Mobile
149.00	149.00	1	MT-195-14 (Handrail Kit)	T-Mobile
149.00	149.00	1	MT-195-14 (Handrail Kit)	T-Mobile
149.00	149.00	1	Low Profile Platform	AT&T
137.00	137.00	3	NHH-65B-R2B	Verizon
137.00	137.00	3	NHHSS-65B-R2B	Verizon
137.00	137.00	3	MT6407-77A	Verizon
137.00	137.00	1	MS-HRECP	Verizon
137.00	137.00	3	LTE AWS/PCS RF4439D	Verizon
137.00	137.00	3	LTE 700/850 MHz	Verizon
137.00	137.00	3	Samsung LTE CBRS	Verizon
137.00	137.00	2	DB-T1-6Z-8AB-OZ	Verizon
137.00	137.00	2	BXA-70080-6BF	Verizon
137.00	137.00	1	BXA-70063-4CF-EDIN-X	Verizon
137.00	137.00	1	Low Profile Platform-flat	Verizon
127.00	127.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
127.00	127.00	3	AIR 21, 1.3M, B4A B2P	T-Mobile
127.00	127.00	3	KRY 112 144/1	T-Mobile
127.00	127.00	1	MT-195-14 (Handrail Kit)	T-Mobile
127.00	127.00	1	MTC38523L (Kicker Kit)	T-Mobile
127.00	127.00	1	MS-1436 (Light Collar)	T-Mobile
127.00	127.00	3	APXVAALL24_43-U-NA20	T-Mobile
127.00	127.00	3	4480 B71 + B85	T-Mobile
127.00	127.00	1	Low Profile Platform-flat	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	150.00	Inside	1 5/8" Coax	AT&T
0.00	150.00	Inside	1/2" Fiber	AT&T
0.00	150.00	Inside	3" Conduit	AT&T
0.00	150.00	Inside	3/4" DC	AT&T
0.00	139.00	Inside	Safety Cable	



Structure: CT11558-A-SBA

Type: Custom	Base Shape: 18 Sided	7/15/2022
Site Name: Bolton 2, CT	Taper: 0.00000	
Height: 149.00 (ft)		
Base Elev: 1.00 (ft)		Page: 3



0.00	139.00	Inside	Step bolts (ladder)	
0.00	137.00	Inside	1 5/8" Coax	Verizon
0.00	137.00	Inside	1 5/8" Hybrid	Verizon
0.00	137.00	Inside	1"	Verizon
0.00	127.00	Inside	1 5/8" Coax	T-Mobile
0.00	127.00	Inside	1 5/8" Fiber	T-Mobile
0.00	127.00	Inside	1.9" Fiber	T-Mobile

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.00" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.5000	68.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	4117.5	34.9	48.6
0.9D + 1.6W 97 mph Wind	4058.8	34.9	36.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1262.0	10.3	87.2
1.2D + 1.0E	349.1	2.6	48.7
0.9D + 1.0E	343.7	2.6	36.5
1.0D + 1.0W 60 mph Wind	977.8	8.3	40.6

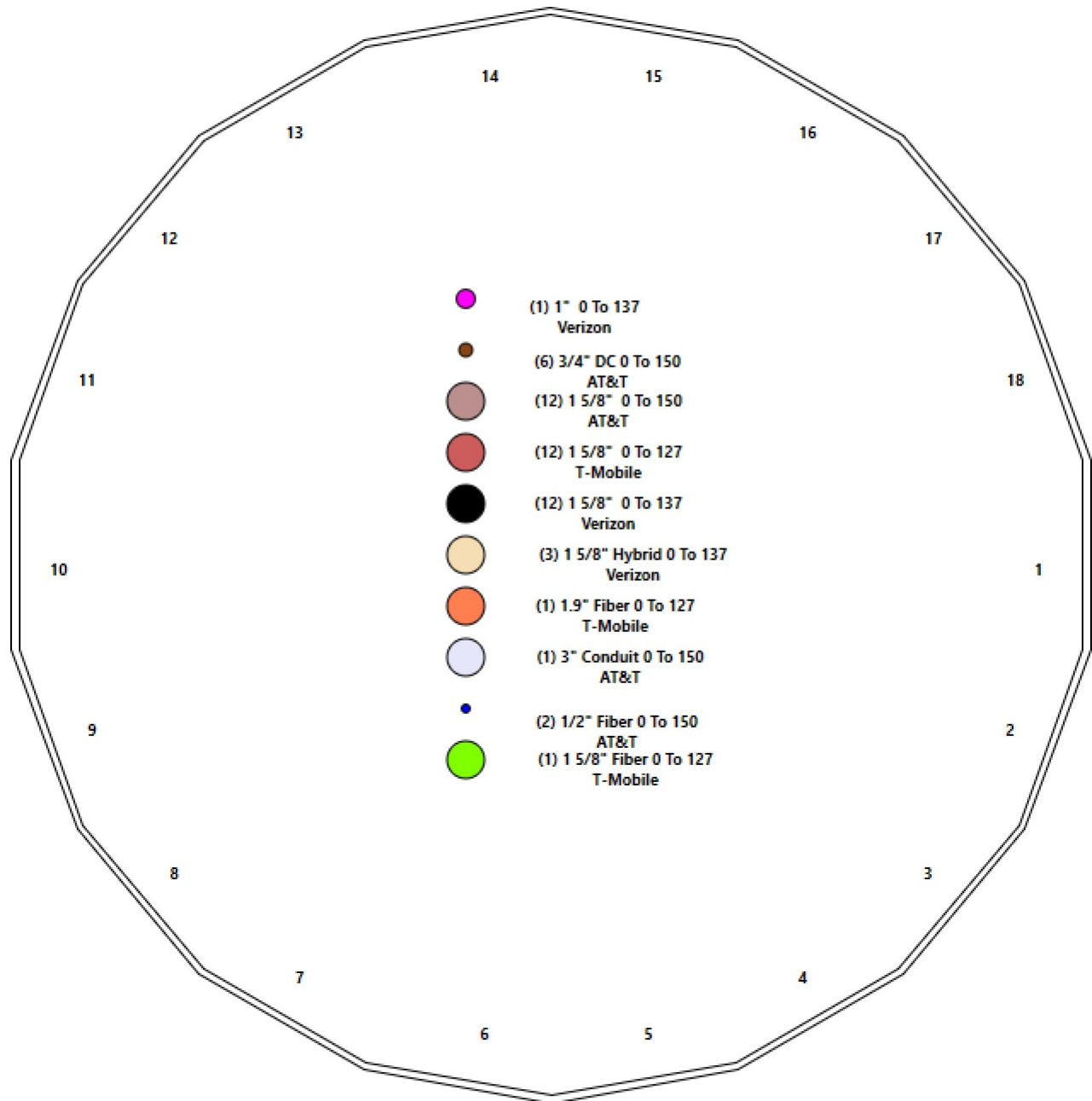
Structure: CT11558-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Bolton 2, CT
Height: 149.00 (ft)

7/15/2022



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Shaft Properties

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (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	18	50.000	0.3750	65		0.00	9,995
2	18	50.000	0.3125	65	Slip	72.00	6,696
3	18	50.000	0.2500	65	Slip	60.00	4,001
4	R	10.000	0.3750	35	Flange	0.00	707
Total Shaft Weight:							21,399

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	55.63	0.00	65.76	25361.36	24.74	148.33	43.84	50.00	51.74	12351.7	19.21	116.9	0.235612
2	45.88	44.00	45.20	11859.01	24.48	146.83	34.10	94.00	33.51	4834.59	17.83	109.1	0.235612
3	35.78	89.00	28.19	4496.67	23.83	143.12	24.00	139.00	18.84	1343.00	15.52	96.00	0.235612
4	18.00	139.0	20.76	806.88	0.00	48.00	18.00	149.00	20.76	806.88	0.00	48.00	0.000000

Load Summary

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	149.00	LGP21401	12	14.10	1.29	0.50	47.44	2.404	0.50	0.00	1.00
2	149.00	Raycap DC6-48-60-18-8F COVP	3	32.80	0.92	0.67	117.83	1.504	0.67	0.00	1.00
3	149.00	Lightning Rod	1	5.00	0.50	1.00	32.92	2.827	1.00	0.00	3.00
4	149.00	HPA65R-BU8A	3	54.00	11.23	0.86	431.05	13.464	0.86	0.00	1.00
5	149.00	TPA65R-BU8DA-K	3	87.10	15.87	0.72	612.92	20.335	0.72	0.00	1.00
6	149.00	DMP65R-BU8DA	3	95.70	16.30	0.83	621.52	20.335	0.83	0.00	1.00
7	149.00	RRUS 4478 B14	3	59.40	1.65	0.67	114.69	2.341	0.67	0.00	1.00
8	149.00	RRUS 4449 B5/B12	3	73.00	1.97	0.67	146.18	2.700	0.67	0.00	1.00
9	149.00	RRUS 8843 B2 B66A	3	72.00	1.64	0.67	134.46	2.303	0.67	0.00	1.00
10	149.00	Nokia 469358A GPS	1	1.30	0.06	1.00	5.80	0.276	1.00	0.00	1.00
11	149.00	MTC38523L (Kicker Kit)	1	544.00	6.30	0.00	1303.52	8.059	0.00	0.00	0.00
12	149.00	MT-195-14 (Handrail Kit)	1	256.00	7.10	0.00	732.56	13.305	0.00	0.00	0.00
13	149.00	MT-195-14 (Handrail Kit)	1	256.00	7.10	0.00	732.56	13.305	0.00	0.00	0.00
14	149.00	MT-195-14 (Handrail Kit)	1	256.00	7.10	0.00	732.56	13.305	0.00	0.00	0.00
15	149.00	MT-195-14 (Handrail Kit)	1	256.00	7.10	0.00	732.56	13.305	0.00	0.00	0.00
16	149.00	MT-195-14 (Handrail Kit)	1	256.00	7.10	0.00	732.56	13.305	0.00	0.00	0.00
17	149.00	Low Profile Platform [RMQP-496-HK]	1	2380.00	43.00	1.00	5702.89	83.024	1.00	0.00	0.00
18	137.00	NHH-65B-R2B	3	43.70	8.08	0.83	326.95	9.826	0.83	0.00	0.00
19	137.00	NHHSS-65B-R2B	3	48.10	8.08	0.83	331.35	9.826	0.83	0.00	0.00
20	137.00	MT6407-77A	3	79.40	4.69	0.70	248.37	5.962	0.70	0.00	0.00
21	137.00	MS-HRECP	1	514.00	12.25	1.00	1320.56	28.080	1.00	0.00	0.00
22	137.00	LTE AWS/PCS RF4439D 25A	3	74.70	1.87	0.67	184.02	2.652	0.67	0.00	0.00
23	137.00	LTE 700/850 MHz RF4440d-13A	3	70.30	1.87	0.67	174.96	2.652	0.67	0.00	0.00
24	137.00	Samsung LTE CBRS RT4401 48A	3	18.60	0.99	0.67	55.22	1.547	0.67	0.00	0.00
25	137.00	DB-T1-6Z-8AB-OZ	2	44.00	4.80	0.67	245.17	5.980	0.67	0.00	0.00
26	137.00	BXA-70080-6BF	2	18.00	5.76	0.87	185.51	8.897	0.87	0.00	0.00
27	137.00	BXA-70063-4CF-EDIN-X	1	9.90	4.72	0.73	144.57	7.164	0.73	0.00	0.00
28	137.00	Low Profile Platform-flat	1	1100.00	25.00	1.00	2369.20	52.692	1.00	0.00	0.00
29	127.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.09	0.86	326.75	7.560	0.86	0.00	0.00
30	127.00	AIR 21, 1.3M, B4A B2P	3	90.40	6.09	0.86	325.65	7.560	0.86	0.00	0.00
31	127.00	KRY 112 144/1	3	11.00	0.41	0.67	25.15	1.034	0.67	0.00	0.00
32	127.00	MT-195-14 (Handrail Kit)	1	256.00	7.10	1.00	725.06	13.208	1.00	0.00	0.00
33	127.00	MTC38523L (Kicker Kit)	1	544.00	6.30	1.00	1291.57	8.031	1.00	0.00	0.00
34	127.00	MS-1436 (Light Collar Mount)	1	65.60	1.50	1.00	185.80	3.561	1.00	0.00	0.00
35	127.00	APXVAALL24_43-U-NA20	3	122.80	20.24	0.73	706.18	22.763	0.73	0.00	0.00
36	127.00	4480 B71 + B85	3	93.00	2.85	0.67	187.40	3.735	0.67	0.00	0.00
37	127.00	Low Profile Platform-flat	1	1100.00	25.00	1.00	2359.69	52.484	1.00	0.00	0.00
Totals:			86	11,745.50			35,746.88				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	150.00	(12) 1 5/8" Coax	0.00	Inside
0.00	150.00	(2) 1/2" Fiber	0.00	Inside
0.00	150.00	(1) 3" Conduit	0.00	Inside
0.00	150.00	(6) 3/4" DC	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	139.00	(1) Safety Cable			0.38	Inside					
0.00	139.00	(1) Step bolts (ladder)			0.63	Inside					
0.00	137.00	(12) 1 5/8" Coax			0.00	Inside					
0.00	137.00	(3) 1 5/8" Hybrid			0.00	Inside					
0.00	137.00	(1) 1"			0.00	Inside					
0.00	127.00	(12) 1 5/8" Coax			0.00	Inside					
0.00	127.00	(1) 1 5/8" Fiber			0.00	Inside					
0.00	127.00	(1) 1.9" Fiber			0.00	Inside					

Shaft Section Properties

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	55.625	65.759	25361.4	24.74	148.33	72.3	898.0	0.0
5.00		0.3750	54.447	64.357	23773.4	24.19	145.19	72.9	860.0	1106.9
10.00		0.3750	53.269	62.955	22253.2	23.64	142.05	73.6	822.8	1083.0
15.00		0.3750	52.091	61.553	20799.2	23.08	138.91	74.3	786.4	1059.2
20.00		0.3750	50.913	60.150	19409.9	22.53	135.77	74.9	750.9	1035.3
25.00		0.3750	49.735	58.748	18084.0	21.97	132.63	75.6	716.2	1011.5
30.00		0.3750	48.557	57.346	16819.8	21.42	129.48	76.2	682.3	987.6
35.00		0.3750	47.379	55.944	15616.0	20.87	126.34	76.9	649.2	963.8
40.00		0.3750	46.201	54.542	14471.0	20.31	123.20	77.5	616.9	939.9
44.00	Bot - Section 2	0.3750	45.258	53.420	13596.4	19.87	120.69	78.0	591.7	734.7
45.00		0.3750	45.022	53.140	13383.4	19.76	120.06	78.2	585.5	334.7
50.00	Top - Section 1	0.3125	44.469	43.797	10789.2	23.68	142.30	0.0	0.0	1647.3
55.00		0.3125	43.291	42.628	9948.5	23.02	138.53	74.3	452.6	735.2
60.00		0.3125	42.113	41.460	9152.7	22.35	134.76	75.1	428.1	715.3
65.00		0.3125	40.935	40.291	8400.4	21.69	130.99	75.9	404.2	695.5
70.00		0.3125	39.757	39.123	7690.6	21.02	127.22	76.7	381.0	675.6
75.00		0.3125	38.579	37.954	7021.9	20.36	123.45	77.5	358.5	655.7
80.00		0.3125	37.401	36.786	6393.2	19.69	119.68	78.2	336.7	635.8
85.00		0.3125	36.223	35.617	5803.1	19.03	115.91	79.0	315.5	615.9
89.00	Bot - Section 3	0.3125	35.281	34.683	5358.1	18.50	112.90	79.6	299.1	478.4
90.00		0.3125	35.045	34.449	5250.5	18.36	112.14	79.8	295.1	213.2
94.00	Top - Section 2	0.2500	34.603	27.258	4064.1	22.99	138.41	0.0	0.0	838.6
95.00		0.2500	34.367	27.071	3981.0	22.83	137.47	74.6	228.2	92.4
100.00		0.2500	33.189	26.136	3582.7	22.00	132.76	75.5	212.6	452.6
105.00		0.2500	32.011	25.201	3211.9	21.17	128.04	76.5	197.6	436.7
110.00		0.2500	30.833	24.267	2867.6	20.34	123.33	77.5	183.2	420.8
115.00		0.2500	29.655	23.332	2548.8	19.51	118.62	78.5	169.3	404.9
120.00		0.2500	28.477	22.397	2254.6	18.67	113.91	79.4	155.9	389.0
125.00		0.2500	27.299	21.462	1983.9	17.84	109.19	80.4	143.1	373.1
127.00		0.2500	26.827	21.088	1882.0	17.51	107.31	80.8	138.2	144.8
130.00		0.2500	26.121	20.528	1735.8	17.01	104.48	81.4	130.9	212.4
135.00		0.2500	24.942	19.593	1509.3	16.18	99.77	82.4	119.2	341.3
137.00		0.2500	24.471	19.219	1424.5	15.85	97.88	82.5	114.7	132.1
139.00	Top - Section 3	0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	129.5
139.00	Bot - Section 4	0.3750	18.000	20.764	806.9	10.34	64.00	35.0	89.7	
140.00		0.3750	18.000	20.764	806.9	0.00	48.00	35.0	89.7	70.7
145.00		0.3750	18.000	20.764	806.9	0.00	48.00	35.0	89.7	353.3
149.00		0.3750	18.000	20.764	806.9	0.00	48.00	35.0	89.7	282.6
										21399.4

Wind Loading - Shaft

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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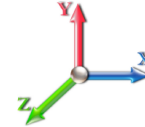


Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	420.94	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	412.02	0.650	0.000	5.00	23.285	15.14	518.1	0.0	1328.3
10.00		1.00	0.85	19.450	21.40	403.11	0.650	0.000	5.00	22.787	14.81	507.0	0.0	1299.6
15.00		1.00	0.86	19.690	21.66	396.62	0.650	0.000	5.00	22.289	14.49	502.1	0.0	1271.0
20.00		1.00	0.91	20.851	22.94	398.91	0.650	0.000	5.00	21.790	14.16	519.8	0.0	1242.4
25.00		1.00	0.95	21.810	23.99	398.54	0.650	0.000	5.00	21.292	13.84	531.2	0.0	1213.8
30.00		1.00	0.99	22.632	24.90	396.37	0.650	0.000	5.00	20.793	13.52	538.4	0.0	1185.1
35.00		1.00	1.02	23.356	25.69	392.89	0.650	0.000	5.00	20.295	13.19	542.3	0.0	1156.5
40.00		1.00	1.05	24.004	26.40	388.40	0.650	0.000	5.00	19.796	12.87	543.6	0.0	1127.9
44.00	Bot - Section 2	1.00	1.07	24.479	26.93	384.22	0.650	0.000	4.00	15.478	10.06	433.5	0.0	881.7
45.00		1.00	1.07	24.593	27.05	383.11	0.650	0.000	1.00	3.873	2.52	109.0	0.0	401.6
50.00	Top - Section 1	1.00	1.10	25.133	27.65	377.16	0.650	0.000	5.00	19.064	12.39	548.1	0.0	1976.7
55.00		1.00	1.12	25.633	28.20	376.08	0.650	0.000	5.00	18.566	12.07	544.4	0.0	882.3
60.00		1.00	1.14	26.099	28.71	369.16	0.650	0.000	5.00	18.067	11.74	539.4	0.0	858.4
65.00		1.00	1.16	26.535	29.19	361.82	0.650	0.000	5.00	17.569	11.42	533.3	0.0	834.5
70.00		1.00	1.18	26.946	29.64	354.12	0.650	0.000	5.00	17.070	11.10	526.2	0.0	810.7
75.00		1.00	1.19	27.335	30.07	346.10	0.650	0.000	5.00	16.572	10.77	518.2	0.0	786.8
80.00		1.00	1.21	27.704	30.47	337.79	0.650	0.000	5.00	16.073	10.45	509.4	0.0	763.0
85.00		1.00	1.23	28.056	30.86	329.22	0.650	0.000	5.00	15.575	10.12	499.9	0.0	739.1
89.00	Bot - Section 3	1.00	1.24	28.325	31.16	322.19	0.650	0.000	4.00	12.101	7.87	392.1	0.0	574.1
90.00		1.00	1.24	28.391	31.23	320.41	0.650	0.000	1.00	3.018	1.96	98.0	0.0	255.9
94.00	Top - Section 2	1.00	1.25	28.650	31.51	313.21	0.650	0.000	4.00	11.872	7.72	389.1	0.0	1006.4
95.00		1.00	1.25	28.713	31.58	315.98	0.650	0.000	1.00	2.918	1.90	95.9	0.0	110.9
100.00		1.00	1.27	29.021	31.92	306.79	0.650	0.000	5.00	14.291	9.29	474.5	0.0	543.2
105.00		1.00	1.28	29.318	32.25	297.41	0.650	0.000	5.00	13.793	8.97	462.6	0.0	524.1
110.00		1.00	1.29	29.604	32.56	287.85	0.650	0.000	5.00	13.294	8.64	450.2	0.0	505.0
115.00		1.00	1.31	29.880	32.87	278.14	0.650	0.000	5.00	12.796	8.32	437.4	0.0	485.9
120.00		1.00	1.32	30.147	33.16	268.28	0.650	0.000	5.00	12.298	7.99	424.1	0.0	466.8
125.00		1.00	1.33	30.405	33.45	258.28	0.650	0.000	5.00	11.799	7.67	410.4	0.0	447.7
127.00	Appurtenance(s)	1.00	1.33	30.506	33.56	254.25	0.650	0.000	2.00	4.580	2.98	159.8	0.0	173.7
130.00		1.00	1.34	30.655	33.72	248.15	0.650	0.000	3.00	6.721	4.37	235.7	0.0	254.9
135.00		1.00	1.35	30.898	33.99	237.90	0.650	0.000	5.00	10.802	7.02	381.8	0.0	409.6
137.00	Appurtenance(s)	1.00	1.35	30.993	34.09	233.76	0.650	0.000	2.00	4.181	2.72	148.3	0.0	158.5
139.00	Top - Section 3	1.00	1.36	31.087	34.20	229.61	0.650	0.000	2.00	4.102	2.67	145.9	0.0	155.4
140.00		1.00	1.36	31.133	34.25	169.72	0.600	0.000	1.00	1.500	0.90	49.3	0.0	84.8
145.00		1.00	1.37	31.362	34.50	170.34	0.600	0.000	5.00	7.500	4.50	248.4	0.0	423.9
149.00	Appurtenance(s)	1.00	1.38	31.541	34.70	170.82	0.600	0.000	4.00	6.000	3.60	199.8	0.0	339.1
Totals:									149.00			14,167.3		25,679.3

Discrete Appurtenance Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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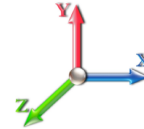


Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.60



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	149.00	RRUS 4449 B5/B12	3	31.586	34.744	0.50	0.75	2.97	262.80	0.000	1.000	165.09	0.00	165.09
2	149.00	LGP21401	12	31.586	34.744	0.38	0.75	5.80	203.04	0.000	1.000	322.70	0.00	322.70
3	149.00	Raycap DC6-48-60-18-8F	3	31.586	34.744	0.50	0.75	1.39	118.08	0.000	1.000	77.10	0.00	77.10
4	149.00	Lightning Rod	1	31.673	34.841	1.00	1.00	0.50	6.00	0.000	3.000	27.87	0.00	83.62
5	149.00	HPA65R-BU8A	3	31.586	34.744	0.65	0.75	21.73	194.40	0.000	1.000	1207.99	0.00	1207.99
6	149.00	TPA65R-BU8DA-K	3	31.586	34.744	0.54	0.75	25.71	313.56	0.000	1.000	1429.20	0.00	1429.20
7	149.00	DMP65R-BU8DA	3	31.586	34.744	0.62	0.75	30.44	344.52	0.000	1.000	1692.19	0.00	1692.19
8	149.00	RRUS 4478 B14	3	31.586	34.744	0.50	0.75	2.49	213.84	0.000	1.000	138.27	0.00	138.27
9	149.00	Low Profile Platform	1	31.541	34.696	1.00	1.00	43.00	2856.00	0.000	0.000	2387.06	0.00	0.00
10	149.00	RRUS 8843 B2 B66A	3	31.586	34.744	0.50	0.75	2.47	259.20	0.000	1.000	137.44	0.00	137.44
11	149.00	Nokia 469358A GPS	1	31.586	34.744	0.75	0.75	0.04	1.56	0.000	1.000	2.50	0.00	2.50
12	149.00	MTC38523L (Kicker Kit)	1	31.541	34.696	0.00	1.00	6.30	652.80	0.000	0.000	349.73	0.00	0.00
13	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	307.20	0.000	0.000	394.14	0.00	0.00
14	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	307.20	0.000	0.000	394.14	0.00	0.00
15	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	307.20	0.000	0.000	394.14	0.00	0.00
16	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	307.20	0.000	0.000	394.14	0.00	0.00
17	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	307.20	0.000	0.000	394.14	0.00	0.00
18	137.00	Low Profile Platform-flat	1	30.993	34.092	1.00	1.00	25.00	1320.00	0.000	0.000	1363.67	0.00	0.00
19	137.00	BXA-70063-4CF-EDIN-X	1	30.993	34.092	0.55	0.75	2.58	11.88	0.000	0.000	140.96	0.00	0.00
20	137.00	MS-HRECP	1	30.993	34.092	1.00	1.00	12.25	616.80	0.000	0.000	668.20	0.00	0.00
21	137.00	NHH-65B-R2B	3	30.993	34.092	0.62	0.75	15.09	157.32	0.000	0.000	823.08	0.00	0.00
22	137.00	NHHSS-65B-R2B	3	30.993	34.092	0.62	0.75	15.09	173.16	0.000	0.000	823.08	0.00	0.00
23	137.00	MT6407-77A	3	30.993	34.092	0.52	0.75	7.39	285.84	0.000	0.000	402.93	0.00	0.00
24	137.00	BXA-70080-6BF	2	30.993	34.092	0.65	0.75	7.52	43.20	0.000	0.000	410.02	0.00	0.00
25	137.00	LTE 700/850 MHz	3	30.993	34.092	0.50	0.75	2.82	253.08	0.000	0.000	153.77	0.00	0.00
26	137.00	Samsung LTE CBRS	3	30.993	34.092	0.50	0.75	1.49	66.96	0.000	0.000	81.41	0.00	0.00
27	137.00	DB-T1-6Z-8AB-0Z	2	30.993	34.092	0.50	0.75	4.82	105.60	0.000	0.000	263.13	0.00	0.00
28	137.00	LTE AWS/PCS RF4439D	3	30.993	34.092	0.50	0.75	2.82	268.92	0.000	0.000	153.77	0.00	0.00
29	127.00	MT-195-14 (Handrail Kit)	1	30.506	33.556	1.00	1.00	7.10	307.20	0.000	0.000	381.20	0.00	0.00
30	127.00	AIR 21, 1.3M, B2A B4P	3	30.506	33.556	0.65	0.75	11.78	329.40	0.000	0.000	632.69	0.00	0.00
31	127.00	AIR 21, 1.3M, B4A B2P	3	30.506	33.556	0.65	0.75	11.78	325.44	0.000	0.000	632.69	0.00	0.00
32	127.00	KRY 112 144/1	3	30.506	33.556	0.50	0.75	0.62	39.60	0.000	0.000	33.18	0.00	0.00
33	127.00	APXVAALL24_43-U-NA20	3	30.506	33.556	0.55	0.75	33.24	442.08	0.000	0.000	1784.88	0.00	0.00
34	127.00	MTC38523L (Kicker Kit)	1	30.506	33.556	1.00	1.00	6.30	652.80	0.000	0.000	338.25	0.00	0.00
35	127.00	MS-1436 (Light Collar)	1	30.506	33.556	1.00	1.00	1.50	78.72	0.000	0.000	80.53	0.00	0.00
36	127.00	4480 B71 + B85	3	30.506	33.556	0.50	0.75	4.30	334.80	0.000	0.000	230.67	0.00	0.00
37	127.00	Low Profile Platform-flat	1	30.506	33.556	1.00	1.00	25.00	1320.00	0.000	0.000	1342.25	0.00	0.00

Totals: 14,094.60

20,648.24

Total Applied Force Summary

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



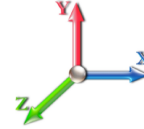
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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60

Iterations 24



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		518.13	1650.96	0.00	0.00
10.00		507.04	1622.34	0.00	0.00
15.00		502.07	1593.71	0.00	0.00
20.00		519.76	1565.08	0.00	0.00
25.00		531.23	1536.46	0.00	0.00
30.00		538.37	1507.83	0.00	0.00
35.00		542.26	1479.20	0.00	0.00
40.00		543.63	1450.57	0.00	0.00
44.00		433.46	1139.85	0.00	0.00
45.00		108.95	466.18	0.00	0.00
50.00		548.13	2299.43	0.00	0.00
55.00		544.42	1204.95	0.00	0.00
60.00		539.43	1181.09	0.00	0.00
65.00		533.32	1157.24	0.00	0.00
70.00		526.21	1133.38	0.00	0.00
75.00		518.22	1109.53	0.00	0.00
80.00		509.42	1085.67	0.00	0.00
85.00		499.89	1061.82	0.00	0.00
89.00		392.13	832.28	0.00	0.00
90.00		98.02	320.42	0.00	0.00
94.00		389.09	1264.51	0.00	0.00
95.00		95.85	175.46	0.00	0.00
100.00		474.48	865.85	0.00	0.00
105.00		462.61	846.77	0.00	0.00
110.00		450.24	827.68	0.00	0.00
115.00		437.40	808.60	0.00	0.00
120.00		424.11	789.51	0.00	0.00
125.00		410.41	770.43	0.00	0.00
127.00	(19) attachments	5616.19	4132.87	0.00	0.00
130.00		235.68	395.67	0.00	0.00
135.00		381.82	644.18	0.00	0.00
137.00	(25) attachments	5432.27	3555.09	0.00	0.00
139.00		145.86	198.92	0.00	0.00
140.00		49.32	104.96	0.00	0.00
145.00		248.39	524.79	0.00	0.00
149.00	(42) attachments	10107.71	7381.63	0.00	5256.11
Totals:		34,815.52	48,684.90	0.00	5,256.11

Calculated Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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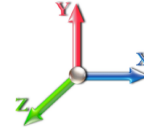


Load Case: 1.2D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-48.61	-34.91	0.00	-4117.5	0.00	4117.50	4278.74	2139.37	9724.09	4869.27	0.00	0.000	0.000	0.857
5.00	-46.83	-34.58	0.00	-3942.9	0.00	3942.94	4225.25	2112.62	9396.38	4705.17	0.12	-0.226	0.000	0.849
10.00	-45.07	-34.25	0.00	-3770.0	0.00	3770.05	4170.10	2085.05	9070.32	4541.90	0.48	-0.457	0.000	0.841
15.00	-43.34	-33.91	0.00	-3598.8	0.00	3598.82	4113.32	2056.66	8746.14	4379.57	1.09	-0.692	0.000	0.833
20.00	-41.64	-33.54	0.00	-3429.2	0.00	3429.29	4054.89	2027.44	8424.08	4218.30	1.94	-0.933	0.000	0.823
25.00	-39.97	-33.16	0.00	-3261.5	0.00	3261.58	3994.82	1997.41	8104.39	4058.22	3.05	-1.178	0.000	0.814
30.00	-38.33	-32.75	0.00	-3095.8	0.00	3095.80	3933.10	1966.55	7787.31	3899.44	4.42	-1.428	0.000	0.804
35.00	-36.72	-32.34	0.00	-2932.0	0.00	2932.04	3869.73	1934.87	7473.08	3742.09	6.05	-1.683	0.000	0.793
40.00	-35.16	-31.89	0.00	-2770.3	0.00	2770.36	3804.73	1902.36	7161.93	3586.29	7.95	-1.943	0.000	0.782
44.00	-33.96	-31.50	0.00	-2642.8	0.00	2642.80	3751.54	1875.77	6915.39	3462.84	9.67	-2.155	0.000	0.773
45.00	-33.41	-31.47	0.00	-2611.3	0.00	2611.30	3738.08	1869.04	6854.11	3432.15	10.13	-2.210	0.000	0.770
50.00	-30.99	-30.97	0.00	-2453.9	0.00	2453.98	2899.02	1449.51	5264.11	2635.97	12.59	-2.480	0.000	0.942
55.00	-29.65	-30.53	0.00	-2299.1	0.00	2299.13	2851.67	1425.83	5039.02	2523.25	15.33	-2.753	0.000	0.922
60.00	-28.33	-30.09	0.00	-2146.5	0.00	2146.50	2802.68	1401.34	4815.72	2411.44	18.38	-3.071	0.000	0.901
65.00	-27.04	-29.64	0.00	-1996.0	0.00	1996.08	2752.04	1376.02	4594.46	2300.64	21.77	-3.393	0.000	0.878
70.00	-25.78	-29.19	0.00	-1847.8	0.00	1847.88	2699.76	1349.88	4375.47	2190.99	25.50	-3.718	0.000	0.853
75.00	-24.54	-28.74	0.00	-1701.9	0.00	1701.91	2645.83	1322.92	4159.00	2082.59	29.56	-4.047	0.000	0.827
80.00	-23.33	-28.29	0.00	-1558.2	0.00	1558.20	2590.26	1295.13	3945.28	1975.57	33.98	-4.377	0.000	0.798
85.00	-22.17	-27.82	0.00	-1416.7	0.00	1416.76	2533.05	1266.52	3734.57	1870.06	38.73	-4.708	0.000	0.767
89.00	-21.29	-27.42	0.00	-1305.4	0.00	1305.46	2486.09	1243.05	3568.32	1786.81	42.79	-4.975	0.000	0.740
90.00	-20.90	-27.36	0.00	-1278.0	0.00	1278.04	2474.19	1237.09	3527.09	1766.17	43.84	-5.043	0.000	0.733
94.00	-19.60	-26.91	0.00	-1168.6	0.00	1168.60	1824.07	912.03	2576.25	1290.04	48.17	-5.309	0.000	0.917
95.00	-19.33	-26.88	0.00	-1141.6	0.00	1141.69	1816.32	908.16	2547.59	1275.69	49.29	-5.377	0.000	0.906
100.00	-18.34	-26.45	0.00	-1007.2	0.00	1007.29	1776.59	888.29	2405.19	1204.38	55.12	-5.761	0.000	0.848
105.00	-17.38	-26.01	0.00	-875.06	0.00	875.06	1735.21	867.61	2264.53	1133.95	61.35	-6.134	0.000	0.783
110.00	-16.45	-25.57	0.00	-745.01	0.00	745.01	1692.20	846.10	2125.83	1064.50	67.95	-6.493	0.000	0.711
115.00	-15.55	-25.13	0.00	-617.15	0.00	617.15	1647.53	823.77	1989.35	996.15	74.92	-6.831	0.000	0.630
120.00	-14.70	-24.69	0.00	-491.49	0.00	491.49	1601.22	800.61	1855.32	929.04	82.23	-7.140	0.000	0.539
125.00	-13.91	-24.23	0.00	-368.04	0.00	368.04	1553.27	776.64	1723.99	863.28	89.84	-7.411	0.000	0.436
127.00	-10.50	-18.15	0.00	-319.58	0.00	319.58	1533.63	766.82	1672.26	837.37	92.96	-7.510	0.000	0.389
130.00	-10.09	-17.89	0.00	-265.14	0.00	265.14	1503.68	751.84	1595.59	798.98	97.71	-7.643	0.000	0.339
135.00	-9.47	-17.44	0.00	-175.71	0.00	175.71	1452.44	726.22	1470.36	736.27	105.79	-7.823	0.000	0.246
137.00	-6.68	-11.58	0.00	-140.82	0.00	140.82	1427.86	713.93	1417.63	709.87	109.07	-7.883	0.000	0.203
139.00	-6.50	-11.41	0.00	-117.66	0.00	117.66	1400.09	700.04	1362.73	682.38	112.38	-7.935	0.000	0.177
139.00	-6.50	-11.41	0.00	-117.66	0.00	117.66	654.06	327.03	470.04	305.83	112.38	-7.935	0.000	0.396
140.00	-6.38	-11.36	0.00	-106.25	0.00	106.25	654.06	327.03	470.04	305.83	114.04	-7.958	0.000	0.358
145.00	-5.88	-11.05	0.00	-49.45	0.00	49.45	654.06	327.03	470.04	305.83	122.43	-8.095	0.000	0.172
149.00	0.00	-10.11	0.00	-5.26	0.00	5.26	654.06	327.03	470.04	305.83	129.21	-8.134	0.000	0.018

Wind Loading - Shaft

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 13

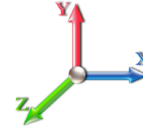


Load Case: 0.9D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 0.90

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	420.94	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	412.02	0.650	0.000	5.00	23.285	15.14	518.1	0.0	996.2
10.00		1.00	0.85	19.450	21.40	403.11	0.650	0.000	5.00	22.787	14.81	507.0	0.0	974.7
15.00		1.00	0.86	19.690	21.66	396.62	0.650	0.000	5.00	22.289	14.49	502.1	0.0	953.3
20.00		1.00	0.91	20.851	22.94	398.91	0.650	0.000	5.00	21.790	14.16	519.8	0.0	931.8
25.00		1.00	0.95	21.810	23.99	398.54	0.650	0.000	5.00	21.292	13.84	531.2	0.0	910.3
30.00		1.00	0.99	22.632	24.90	396.37	0.650	0.000	5.00	20.793	13.52	538.4	0.0	888.8
35.00		1.00	1.02	23.356	25.69	392.89	0.650	0.000	5.00	20.295	13.19	542.3	0.0	867.4
40.00		1.00	1.05	24.004	26.40	388.40	0.650	0.000	5.00	19.796	12.87	543.6	0.0	845.9
44.00	Bot - Section 2	1.00	1.07	24.479	26.93	384.22	0.650	0.000	4.00	15.478	10.06	433.5	0.0	661.3
45.00		1.00	1.07	24.593	27.05	383.11	0.650	0.000	1.00	3.873	2.52	109.0	0.0	301.2
50.00	Top - Section 1	1.00	1.10	25.133	27.65	377.16	0.650	0.000	5.00	19.064	12.39	548.1	0.0	1482.5
55.00		1.00	1.12	25.633	28.20	376.08	0.650	0.000	5.00	18.566	12.07	544.4	0.0	661.7
60.00		1.00	1.14	26.099	28.71	369.16	0.650	0.000	5.00	18.067	11.74	539.4	0.0	643.8
65.00		1.00	1.16	26.535	29.19	361.82	0.650	0.000	5.00	17.569	11.42	533.3	0.0	625.9
70.00		1.00	1.18	26.946	29.64	354.12	0.650	0.000	5.00	17.070	11.10	526.2	0.0	608.0
75.00		1.00	1.19	27.335	30.07	346.10	0.650	0.000	5.00	16.572	10.77	518.2	0.0	590.1
80.00		1.00	1.21	27.704	30.47	337.79	0.650	0.000	5.00	16.073	10.45	509.4	0.0	572.2
85.00		1.00	1.23	28.056	30.86	329.22	0.650	0.000	5.00	15.575	10.12	499.9	0.0	554.3
89.00	Bot - Section 3	1.00	1.24	28.325	31.16	322.19	0.650	0.000	4.00	12.101	7.87	392.1	0.0	430.6
90.00		1.00	1.24	28.391	31.23	320.41	0.650	0.000	1.00	3.018	1.96	98.0	0.0	191.9
94.00	Top - Section 2	1.00	1.25	28.650	31.51	313.21	0.650	0.000	4.00	11.872	7.72	389.1	0.0	754.8
95.00		1.00	1.25	28.713	31.58	315.98	0.650	0.000	1.00	2.918	1.90	95.9	0.0	83.2
100.00		1.00	1.27	29.021	31.92	306.79	0.650	0.000	5.00	14.291	9.29	474.5	0.0	407.4
105.00		1.00	1.28	29.318	32.25	297.41	0.650	0.000	5.00	13.793	8.97	462.6	0.0	393.1
110.00		1.00	1.29	29.604	32.56	287.85	0.650	0.000	5.00	13.294	8.64	450.2	0.0	378.7
115.00		1.00	1.31	29.880	32.87	278.14	0.650	0.000	5.00	12.796	8.32	437.4	0.0	364.4
120.00		1.00	1.32	30.147	33.16	268.28	0.650	0.000	5.00	12.298	7.99	424.1	0.0	350.1
125.00		1.00	1.33	30.405	33.45	258.28	0.650	0.000	5.00	11.799	7.67	410.4	0.0	335.8
127.00	Appurtenance(s)	1.00	1.33	30.506	33.56	254.25	0.650	0.000	2.00	4.580	2.98	159.8	0.0	130.3
130.00		1.00	1.34	30.655	33.72	248.15	0.650	0.000	3.00	6.721	4.37	235.7	0.0	191.2
135.00		1.00	1.35	30.898	33.99	237.90	0.650	0.000	5.00	10.802	7.02	381.8	0.0	307.2
137.00	Appurtenance(s)	1.00	1.35	30.993	34.09	233.76	0.650	0.000	2.00	4.181	2.72	148.3	0.0	118.9
139.00	Top - Section 3	1.00	1.36	31.087	34.20	229.61	0.650	0.000	2.00	4.102	2.67	145.9	0.0	116.6
140.00		1.00	1.36	31.133	34.25	169.72	0.600	0.000	1.00	1.500	0.90	49.3	0.0	63.6
145.00		1.00	1.37	31.362	34.50	170.34	0.600	0.000	5.00	7.500	4.50	248.4	0.0	317.9
149.00	Appurtenance(s)	1.00	1.38	31.541	34.70	170.82	0.600	0.000	4.00	6.000	3.60	199.8	0.0	254.4
Totals:									149.00			14,167.3		19,259.5

Discrete Appurtenance Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

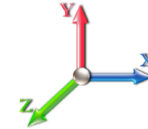
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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	RRUS 4449 B5/B12	3	31.586	34.744	0.50	0.75	2.97	197.10	0.000	1.000	165.09	0.00	165.09
2	149.00	LGP21401	12	31.586	34.744	0.38	0.75	5.80	152.28	0.000	1.000	322.70	0.00	322.70
3	149.00	Raycap DC6-48-60-18-8F	3	31.586	34.744	0.50	0.75	1.39	88.56	0.000	1.000	77.10	0.00	77.10
4	149.00	Lightning Rod	1	31.673	34.841	1.00	1.00	0.50	4.50	0.000	3.000	27.87	0.00	83.62
5	149.00	HPA65R-BU8A	3	31.586	34.744	0.65	0.75	21.73	145.80	0.000	1.000	1207.99	0.00	1207.99
6	149.00	TPA65R-BU8DA-K	3	31.586	34.744	0.54	0.75	25.71	235.17	0.000	1.000	1429.20	0.00	1429.20
7	149.00	DMP65R-BU8DA	3	31.586	34.744	0.62	0.75	30.44	258.39	0.000	1.000	1692.19	0.00	1692.19
8	149.00	RRUS 4478 B14	3	31.586	34.744	0.50	0.75	2.49	160.38	0.000	1.000	138.27	0.00	138.27
9	149.00	Low Profile Platform	1	31.541	34.696	1.00	1.00	43.00	2142.00	0.000	0.000	2387.06	0.00	0.00
10	149.00	RRUS 8843 B2 B66A	3	31.586	34.744	0.50	0.75	2.47	194.40	0.000	1.000	137.44	0.00	137.44
11	149.00	Nokia 469358A GPS	1	31.586	34.744	0.75	0.75	0.04	1.17	0.000	1.000	2.50	0.00	2.50
12	149.00	MTC38523L (Kicker Kit)	1	31.541	34.696	0.00	1.00	6.30	489.60	0.000	0.000	349.73	0.00	0.00
13	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	230.40	0.000	0.000	394.14	0.00	0.00
14	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	230.40	0.000	0.000	394.14	0.00	0.00
15	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	230.40	0.000	0.000	394.14	0.00	0.00
16	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	230.40	0.000	0.000	394.14	0.00	0.00
17	149.00	MT-195-14 (Handrail Kit)	1	31.541	34.696	0.00	1.00	7.10	230.40	0.000	0.000	394.14	0.00	0.00
18	137.00	Low Profile Platform-flat	1	30.993	34.092	1.00	1.00	25.00	990.00	0.000	0.000	1363.67	0.00	0.00
19	137.00	BXA-70063-4CF-EDIN-X	1	30.993	34.092	0.55	0.75	2.58	8.91	0.000	0.000	140.96	0.00	0.00
20	137.00	MS-HRECP	1	30.993	34.092	1.00	1.00	12.25	462.60	0.000	0.000	668.20	0.00	0.00
21	137.00	NHH-65B-R2B	3	30.993	34.092	0.62	0.75	15.09	117.99	0.000	0.000	823.08	0.00	0.00
22	137.00	NHHSS-65B-R2B	3	30.993	34.092	0.62	0.75	15.09	129.87	0.000	0.000	823.08	0.00	0.00
23	137.00	MT6407-77A	3	30.993	34.092	0.52	0.75	7.39	214.38	0.000	0.000	402.93	0.00	0.00
24	137.00	BXA-70080-6BF	2	30.993	34.092	0.65	0.75	7.52	32.40	0.000	0.000	410.02	0.00	0.00
25	137.00	LTE 700/850 MHz	3	30.993	34.092	0.50	0.75	2.82	189.81	0.000	0.000	153.77	0.00	0.00
26	137.00	Samsung LTE CBRS	3	30.993	34.092	0.50	0.75	1.49	50.22	0.000	0.000	81.41	0.00	0.00
27	137.00	DB-T1-6Z-8AB-0Z	2	30.993	34.092	0.50	0.75	4.82	79.20	0.000	0.000	263.13	0.00	0.00
28	137.00	LTE AWS/PCS RF4439D	3	30.993	34.092	0.50	0.75	2.82	201.69	0.000	0.000	153.77	0.00	0.00
29	127.00	MT-195-14 (Handrail Kit)	1	30.506	33.556	1.00	1.00	7.10	230.40	0.000	0.000	381.20	0.00	0.00
30	127.00	AIR 21, 1.3M, B2A B4P	3	30.506	33.556	0.65	0.75	11.78	247.05	0.000	0.000	632.69	0.00	0.00
31	127.00	AIR 21, 1.3M, B4A B2P	3	30.506	33.556	0.65	0.75	11.78	244.08	0.000	0.000	632.69	0.00	0.00
32	127.00	KRY 112 144/1	3	30.506	33.556	0.50	0.75	0.62	29.70	0.000	0.000	33.18	0.00	0.00
33	127.00	APXVAALL24_43-U-NA20	3	30.506	33.556	0.55	0.75	33.24	331.56	0.000	0.000	1784.88	0.00	0.00
34	127.00	MTC38523L (Kicker Kit)	1	30.506	33.556	1.00	1.00	6.30	489.60	0.000	0.000	338.25	0.00	0.00
35	127.00	MS-1436 (Light Collar)	1	30.506	33.556	1.00	1.00	1.50	59.04	0.000	0.000	80.53	0.00	0.00
36	127.00	4480 B71 + B85	3	30.506	33.556	0.50	0.75	4.30	251.10	0.000	0.000	230.67	0.00	0.00
37	127.00	Low Profile Platform-flat	1	30.506	33.556	1.00	1.00	25.00	990.00	0.000	0.000	1342.25	0.00	0.00

Totals: 10,570.95

20,648.24

Total Applied Force Summary

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

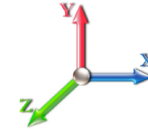


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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		518.13	1238.22	0.00	0.00
10.00		507.04	1216.75	0.00	0.00
15.00		502.07	1195.28	0.00	0.00
20.00		519.76	1173.81	0.00	0.00
25.00		531.23	1152.34	0.00	0.00
30.00		538.37	1130.87	0.00	0.00
35.00		542.26	1109.40	0.00	0.00
40.00		543.63	1087.93	0.00	0.00
44.00		433.46	854.89	0.00	0.00
45.00		108.95	349.64	0.00	0.00
50.00		548.13	1724.57	0.00	0.00
55.00		544.42	903.71	0.00	0.00
60.00		539.43	885.82	0.00	0.00
65.00		533.32	867.93	0.00	0.00
70.00		526.21	850.04	0.00	0.00
75.00		518.22	832.15	0.00	0.00
80.00		509.42	814.25	0.00	0.00
85.00		499.89	796.36	0.00	0.00
89.00		392.13	624.21	0.00	0.00
90.00		98.02	240.32	0.00	0.00
94.00		389.09	948.38	0.00	0.00
95.00		95.85	131.60	0.00	0.00
100.00		474.48	649.39	0.00	0.00
105.00		462.61	635.07	0.00	0.00
110.00		450.24	620.76	0.00	0.00
115.00		437.40	606.45	0.00	0.00
120.00		424.11	592.13	0.00	0.00
125.00		410.41	577.82	0.00	0.00
127.00	(19) attachments	5616.19	3099.65	0.00	0.00
130.00		235.68	296.75	0.00	0.00
135.00		381.82	483.13	0.00	0.00
137.00	(25) attachments	5432.27	2666.32	0.00	0.00
139.00		145.86	149.19	0.00	0.00
140.00		49.32	78.72	0.00	0.00
145.00		248.39	393.59	0.00	0.00
149.00	(42) attachments	10107.71	5536.22	0.00	5256.11
Totals:		34,815.52	36,513.68	0.00	5,256.11

Calculated Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.6W 97 mph Wind

Iterations 24

Dead Load Factor 0.90

Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-36.44	-34.89	0.00	-4058.8	0.00	4058.80	4278.74	2139.37	9724.09	4869.27	0.00	0.000	0.000	0.842
5.00	-35.07	-34.51	0.00	-3884.3	0.00	3884.36	4225.25	2112.62	9396.38	4705.17	0.12	-0.223	0.000	0.834
10.00	-33.72	-34.13	0.00	-3711.8	0.00	3711.84	4170.10	2085.05	9070.32	4541.90	0.48	-0.450	0.000	0.826
15.00	-32.39	-33.75	0.00	-3541.2	0.00	3541.21	4113.32	2056.66	8746.14	4379.57	1.07	-0.682	0.000	0.817
20.00	-31.09	-33.34	0.00	-3372.4	0.00	3372.49	4054.89	2027.44	8424.08	4218.30	1.91	-0.918	0.000	0.807
25.00	-29.81	-32.91	0.00	-3205.8	0.00	3205.80	3994.82	1997.41	8104.39	4058.22	3.00	-1.159	0.000	0.798
30.00	-28.55	-32.47	0.00	-3041.2	0.00	3041.23	3933.10	1966.55	7787.31	3899.44	4.35	-1.405	0.000	0.787
35.00	-27.31	-32.02	0.00	-2878.8	0.00	2878.87	3869.73	1934.87	7473.08	3742.09	5.95	-1.655	0.000	0.777
40.00	-26.11	-31.55	0.00	-2718.7	0.00	2718.76	3804.73	1902.36	7161.93	3586.29	7.83	-1.910	0.000	0.765
44.00	-25.20	-31.15	0.00	-2592.5	0.00	2592.55	3751.54	1875.77	6915.39	3462.84	9.52	-2.119	0.000	0.756
45.00	-24.77	-31.09	0.00	-2561.4	0.00	2561.41	3738.08	1869.04	6854.11	3432.15	9.97	-2.173	0.000	0.753
50.00	-22.93	-30.58	0.00	-2405.9	0.00	2405.94	2899.02	1449.51	5264.11	2635.97	12.38	-2.437	0.000	0.921
55.00	-21.90	-30.11	0.00	-2253.0	0.00	2253.03	2851.67	1425.83	5039.02	2523.25	15.08	-2.705	0.000	0.901
60.00	-20.88	-29.64	0.00	-2102.4	0.00	2102.48	2802.68	1401.34	4815.72	2411.44	18.08	-3.017	0.000	0.880
65.00	-19.88	-29.17	0.00	-1954.2	0.00	1954.28	2752.04	1376.02	4594.46	2300.64	21.40	-3.332	0.000	0.857
70.00	-18.90	-28.70	0.00	-1808.4	0.00	1808.43	2699.76	1349.88	4375.47	2190.99	25.06	-3.651	0.000	0.833
75.00	-17.95	-28.23	0.00	-1664.9	0.00	1664.93	2645.83	1322.92	4159.00	2082.59	29.06	-3.972	0.000	0.807
80.00	-17.02	-27.76	0.00	-1523.7	0.00	1523.78	2590.26	1295.13	3945.28	1975.57	33.39	-4.295	0.000	0.778
85.00	-16.12	-27.28	0.00	-1384.9	0.00	1384.99	2533.05	1266.52	3734.57	1870.06	38.06	-4.618	0.000	0.747
89.00	-15.46	-26.88	0.00	-1275.8	0.00	1275.87	2486.09	1243.05	3568.32	1786.81	42.03	-4.879	0.000	0.721
90.00	-15.15	-26.81	0.00	-1248.9	0.00	1248.98	2474.19	1237.09	3527.09	1766.17	43.06	-4.946	0.000	0.714
94.00	-14.17	-26.38	0.00	-1141.7	0.00	1141.75	1824.07	912.03	2576.25	1290.04	47.31	-5.205	0.000	0.894
95.00	-13.94	-26.32	0.00	-1115.3	0.00	1115.38	1816.32	908.16	2547.59	1275.69	48.41	-5.272	0.000	0.883
100.00	-13.17	-25.88	0.00	-983.76	0.00	983.76	1776.59	888.29	2405.19	1204.38	54.13	-5.647	0.000	0.825
105.00	-12.43	-25.43	0.00	-854.39	0.00	854.39	1735.21	867.61	2264.53	1133.95	60.23	-6.012	0.000	0.761
110.00	-11.71	-24.98	0.00	-727.24	0.00	727.24	1692.20	846.10	2125.83	1064.50	66.70	-6.362	0.000	0.691
115.00	-11.02	-24.54	0.00	-602.32	0.00	602.32	1647.53	823.77	1989.35	996.15	73.53	-6.692	0.000	0.612
120.00	-10.37	-24.10	0.00	-479.62	0.00	479.62	1601.22	800.61	1855.32	929.04	80.69	-6.994	0.000	0.524
125.00	-9.77	-23.65	0.00	-359.11	0.00	359.11	1553.27	776.64	1723.99	863.28	88.15	-7.258	0.000	0.423
127.00	-7.38	-17.70	0.00	-311.80	0.00	311.80	1533.63	766.82	1672.26	837.37	91.20	-7.355	0.000	0.378
130.00	-7.07	-17.45	0.00	-258.70	0.00	258.70	1503.68	751.84	1595.59	798.98	95.85	-7.484	0.000	0.329
135.00	-6.60	-17.02	0.00	-171.45	0.00	171.45	1452.44	726.22	1470.36	736.27	103.77	-7.660	0.000	0.238
137.00	-4.68	-11.28	0.00	-137.41	0.00	137.41	1427.86	713.93	1417.63	709.87	106.98	-7.718	0.000	0.197
139.00	-4.54	-11.12	0.00	-114.84	0.00	114.84	1400.09	700.04	1362.73	682.38	110.22	-7.769	0.000	0.172
139.00	-4.54	-11.12	0.00	-114.84	0.00	114.84	654.06	327.03	470.04	305.83	110.22	-7.769	0.000	0.384
140.00	-4.46	-11.07	0.00	-103.71	0.00	103.71	654.06	327.03	470.04	305.83	111.84	-7.792	0.000	0.347
145.00	-4.08	-10.78	0.00	-48.36	0.00	48.36	654.06	327.03	470.04	305.83	120.06	-7.926	0.000	0.165
149.00	0.00	-10.11	0.00	-5.26	0.00	5.26	654.06	327.03	470.04	305.83	126.70	-7.964	0.000	0.018

Wind Loading - Shaft

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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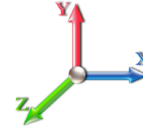


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	1.410	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.687	5.00	24.691	29.63	168.4	587.0	1915.2
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.792	5.00	24.280	29.14	165.6	611.7	1911.3
15.00		1.00	0.86	5.232	5.76	0.00	1.200	1.860	5.00	23.839	28.61	164.6	622.2	1893.3
20.00		1.00	0.91	5.540	6.09	0.00	1.200	1.912	5.00	23.383	28.06	171.0	626.0	1868.4
25.00		1.00	0.95	5.795	6.37	0.00	1.200	1.953	5.00	22.919	27.50	175.3	625.8	1839.5
30.00		1.00	0.99	6.013	6.61	0.00	1.200	1.988	5.00	22.450	26.94	178.2	622.8	1807.9
35.00		1.00	1.02	6.206	6.83	0.00	1.200	2.017	5.00	21.976	26.37	180.0	617.8	1774.3
40.00		1.00	1.05	6.378	7.02	0.00	1.200	2.044	5.00	21.500	25.80	181.0	611.2	1739.1
44.00	Bot - Section 2	1.00	1.07	6.504	7.15	0.00	1.200	2.063	4.00	16.854	20.22	144.7	484.1	1365.8
45.00		1.00	1.07	6.534	7.19	0.00	1.200	2.068	1.00	4.217	5.06	36.4	122.3	524.0
50.00	Top - Section 1	1.00	1.10	6.678	7.35	0.00	1.200	2.089	5.00	20.805	24.97	183.4	602.9	2579.6
55.00		1.00	1.12	6.811	7.49	0.00	1.200	2.109	5.00	20.323	24.39	182.7	593.4	1475.6
60.00		1.00	1.14	6.934	7.63	0.00	1.200	2.127	5.00	19.839	23.81	181.6	583.2	1441.6
65.00		1.00	1.16	7.050	7.76	0.00	1.200	2.144	5.00	19.355	23.23	180.1	572.4	1406.9
70.00		1.00	1.18	7.160	7.88	0.00	1.200	2.159	5.00	18.870	22.64	178.3	561.0	1371.7
75.00		1.00	1.19	7.263	7.99	0.00	1.200	2.174	5.00	18.384	22.06	176.2	549.1	1335.9
80.00		1.00	1.21	7.361	8.10	0.00	1.200	2.188	5.00	17.897	21.48	173.9	536.8	1299.8
85.00		1.00	1.23	7.454	8.20	0.00	1.200	2.201	5.00	17.409	20.89	171.3	524.1	1263.3
89.00	Bot - Section 3	1.00	1.24	7.526	8.28	0.00	1.200	2.211	4.00	13.575	16.29	134.9	411.0	985.1
90.00		1.00	1.24	7.544	8.30	0.00	1.200	2.214	1.00	3.387	4.06	33.7	103.6	359.5
94.00	Top - Section 2	1.00	1.25	7.612	8.37	0.00	1.200	2.223	4.00	13.354	16.02	134.2	405.9	1412.2
95.00		1.00	1.25	7.629	8.39	0.00	1.200	2.225	1.00	3.289	3.95	33.1	100.9	211.9
100.00		1.00	1.27	7.711	8.48	0.00	1.200	2.237	5.00	16.155	19.39	164.4	491.0	1034.2
105.00		1.00	1.28	7.790	8.57	0.00	1.200	2.248	5.00	15.666	18.80	161.1	477.1	1001.2
110.00		1.00	1.29	7.866	8.65	0.00	1.200	2.258	5.00	15.176	18.21	157.6	463.0	968.0
115.00		1.00	1.31	7.939	8.73	0.00	1.200	2.268	5.00	14.686	17.62	153.9	448.6	934.5
120.00		1.00	1.32	8.010	8.81	0.00	1.200	2.277	5.00	14.195	17.03	150.1	434.0	900.8
125.00		1.00	1.33	8.079	8.89	0.00	1.200	2.287	5.00	13.705	16.45	146.1	419.2	866.9
127.00	Appurtenance(s)	1.00	1.33	8.105	8.92	0.00	1.200	2.290	2.00	5.344	6.41	57.2	165.3	339.0
130.00		1.00	1.34	8.145	8.96	0.00	1.200	2.296	3.00	7.868	9.44	84.6	242.5	497.4
135.00		1.00	1.35	8.210	9.03	0.00	1.200	2.304	5.00	12.722	15.27	137.9	388.9	798.5
137.00	Appurtenance(s)	1.00	1.35	8.235	9.06	0.00	1.200	2.308	2.00	4.951	5.94	53.8	153.1	311.6
139.00	Top - Section 3	1.00	1.36	8.260	9.09	0.00	1.200	2.311	2.00	4.872	5.85	53.1	150.7	306.1
140.00		1.00	1.36	8.272	9.10	0.00	1.200	2.313	1.00	1.885	2.26	20.6	57.4	142.2
145.00		1.00	1.37	8.333	9.17	0.00	1.200	2.321	5.00	9.434	11.32	103.8	288.1	712.0
149.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	2.327	4.00	7.551	9.06	83.5	231.2	570.3
Totals:									149.00			4,856.5		41,164.4

Discrete Appurtenance Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

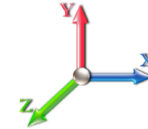
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	RRUS 4449 B5/B12	3	8.392	9.232	0.50	0.75	4.07	447.54	0.000	1.000	37.57	0.00	37.57
2	149.00	LGP21401	12	8.392	9.232	0.38	0.75	10.82	517.86	0.000	1.000	99.88	0.00	99.88
3	149.00	Raycap DC6-48-60-18-8F	3	8.392	9.232	0.50	0.75	2.27	323.06	0.000	1.000	20.93	0.00	20.93
4	149.00	Lightning Rod	1	8.416	9.257	1.00	1.00	2.83	27.92	0.000	3.000	26.17	0.00	78.51
5	149.00	HPA65R-BU8A	3	8.392	9.232	0.65	0.75	26.05	1325.55	0.000	1.000	240.50	0.00	240.50
6	149.00	TPA65R-BU8DA-K	3	8.392	9.232	0.54	0.75	32.94	1891.03	0.000	1.000	304.12	0.00	304.12
7	149.00	DMP65R-BU8DA	3	8.392	9.232	0.62	0.75	37.98	1921.99	0.000	1.000	350.58	0.00	350.58
8	149.00	RRUS 4478 B14	3	8.392	9.232	0.50	0.75	3.53	351.51	0.000	1.000	32.58	0.00	32.58
9	149.00	Low Profile Platform	1	8.381	9.219	1.00	1.00	83.02	5319.89	0.000	0.000	765.37	0.00	0.00
10	149.00	RRUS 8843 B2 B66A	3	8.392	9.232	0.50	0.75	3.47	410.58	0.000	1.000	32.04	0.00	32.04
11	149.00	Nokia 469358A GPS	1	8.392	9.232	0.75	0.75	0.21	5.26	0.000	1.000	1.91	0.00	1.91
12	149.00	MTC38523L (Kicker Kit)	1	8.381	9.219	0.00	1.00	8.06	1956.32	0.000	0.000	74.30	0.00	0.00
13	149.00	MT-195-14 (Handrail Kit)	1	8.381	9.219	0.00	1.00	13.31	670.76	0.000	0.000	122.66	0.00	0.00
14	149.00	MT-195-14 (Handrail Kit)	1	8.381	9.219	0.00	1.00	13.31	670.76	0.000	0.000	122.66	0.00	0.00
15	149.00	MT-195-14 (Handrail Kit)	1	8.381	9.219	0.00	1.00	13.31	670.76	0.000	0.000	122.66	0.00	0.00
16	149.00	MT-195-14 (Handrail Kit)	1	8.381	9.219	0.00	1.00	13.31	670.76	0.000	0.000	122.66	0.00	0.00
17	149.00	MT-195-14 (Handrail Kit)	1	8.381	9.219	0.00	1.00	13.31	670.76	0.000	0.000	122.66	0.00	0.00
18	137.00	Low Profile Platform-flat	1	8.235	9.058	1.00	1.00	52.69	2289.20	0.000	0.000	477.30	0.00	0.00
19	137.00	BXA-70063-4CF-EDIN-X	1	8.235	9.058	0.55	0.75	3.92	117.45	0.000	0.000	35.53	0.00	0.00
20	137.00	MS-HRECP	1	8.235	9.058	1.00	1.00	28.08	1937.36	0.000	0.000	254.36	0.00	0.00
21	137.00	NHH-65B-R2B	3	8.235	9.058	0.62	0.75	18.35	1007.07	0.000	0.000	166.23	0.00	0.00
22	137.00	NHHSS-65B-R2B	3	8.235	9.058	0.62	0.75	18.35	1022.91	0.000	0.000	166.23	0.00	0.00
23	137.00	MT6407-77A	3	8.235	9.058	0.52	0.75	9.39	792.74	0.000	0.000	85.05	0.00	0.00
24	137.00	BXA-70080-6BF	2	8.235	9.058	0.65	0.75	11.61	305.62	0.000	0.000	105.17	0.00	0.00
25	137.00	LTE 700/850 MHz	3	8.235	9.058	0.50	0.75	4.00	567.07	0.000	0.000	36.21	0.00	0.00
26	137.00	Samsung LTE CBRS	3	8.235	9.058	0.50	0.75	2.33	158.22	0.000	0.000	21.13	0.00	0.00
27	137.00	DB-T1-6Z-8AB-0Z	2	8.235	9.058	0.50	0.75	6.01	507.94	0.000	0.000	54.44	0.00	0.00
28	137.00	LTE AWS/PCS RF4439D	3	8.235	9.058	0.50	0.75	4.00	596.88	0.000	0.000	36.21	0.00	0.00
29	127.00	MT-195-14 (Handrail Kit)	1	8.105	8.916	1.00	1.00	13.21	663.26	0.000	0.000	117.76	0.00	0.00
30	127.00	AIR 21, 1.3M, B2A B4P	3	8.105	8.916	0.65	0.75	14.63	1035.14	0.000	0.000	130.43	0.00	0.00
31	127.00	AIR 21, 1.3M, B4A B2P	3	8.105	8.916	0.65	0.75	14.63	1031.18	0.000	0.000	130.43	0.00	0.00
32	127.00	KRY 112 144/1	3	8.105	8.916	0.50	0.75	1.56	72.75	0.000	0.000	13.89	0.00	0.00
33	127.00	APXVAALL24_43-U-NA20	3	8.105	8.916	0.55	0.75	37.39	2192.23	0.000	0.000	333.35	0.00	0.00
34	127.00	MTC38523L (Kicker Kit)	1	8.105	8.916	1.00	1.00	8.03	1944.37	0.000	0.000	71.61	0.00	0.00
35	127.00	MS-1436 (Light Collar)	1	8.105	8.916	1.00	1.00	3.56	170.02	0.000	0.000	31.75	0.00	0.00
36	127.00	4480 B71 + B85	3	8.105	8.916	0.50	0.75	5.63	567.01	0.000	0.000	50.20	0.00	0.00
37	127.00	Low Profile Platform-flat	1	8.105	8.916	1.00	1.00	52.48	2279.69	0.000	0.000	467.95	0.00	0.00

Totals: 37,110.38

5,384.47

Total Applied Force Summary

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

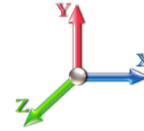


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		168.44	2237.93	0.00	0.00
10.00		165.63	2234.04	0.00	0.00
15.00		164.63	2215.95	0.00	0.00
20.00		171.00	2191.11	0.00	0.00
25.00		175.31	2162.21	0.00	0.00
30.00		178.20	2130.59	0.00	0.00
35.00		180.02	2096.97	0.00	0.00
40.00		181.01	2061.82	0.00	0.00
44.00		144.70	1623.97	0.00	0.00
45.00		36.38	588.49	0.00	0.00
50.00		183.39	2902.31	0.00	0.00
55.00		182.70	1798.34	0.00	0.00
60.00		181.60	1764.28	0.00	0.00
65.00		180.13	1729.59	0.00	0.00
70.00		178.33	1694.36	0.00	0.00
75.00		176.24	1658.64	0.00	0.00
80.00		173.89	1622.49	0.00	0.00
85.00		171.30	1585.96	0.00	0.00
89.00		134.86	1243.27	0.00	0.00
90.00		33.72	424.02	0.00	0.00
94.00		134.18	1670.38	0.00	0.00
95.00		33.12	276.39	0.00	0.00
100.00		164.44	1356.88	0.00	0.00
105.00		161.09	1323.90	0.00	0.00
110.00		157.57	1290.66	0.00	0.00
115.00		153.90	1257.18	0.00	0.00
120.00		150.09	1223.49	0.00	0.00
125.00		146.14	1189.58	0.00	0.00
127.00	(19) attachments	1404.54	10423.73	0.00	0.00
130.00		84.60	638.15	0.00	0.00
135.00		137.87	1033.12	0.00	0.00
137.00	(25) attachments	1491.67	9707.92	0.00	0.00
139.00		53.12	349.58	0.00	0.00
140.00		20.59	162.35	0.00	0.00
145.00		103.77	812.86	0.00	0.00
149.00	(42) attachments	2682.78	18503.26	0.00	1198.62
Totals:		10,240.97	87,185.75	0.00	1,198.62

Calculated Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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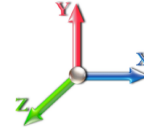


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-87.18	-10.29	0.00	-1262.0	0.00	1262.03	4278.74	2139.37	9724.09	4869.27	0.00	0.000	0.000	0.280
5.00	-84.93	-10.23	0.00	-1210.5	0.00	1210.56	4225.25	2112.62	9396.38	4705.17	0.04	-0.069	0.000	0.277
10.00	-82.68	-10.16	0.00	-1159.4	0.00	1159.42	4170.10	2085.05	9070.32	4541.90	0.15	-0.140	0.000	0.275
15.00	-80.45	-10.09	0.00	-1108.6	0.00	1108.61	4113.32	2056.66	8746.14	4379.57	0.33	-0.213	0.000	0.273
20.00	-78.25	-10.02	0.00	-1058.1	0.00	1058.14	4054.89	2027.44	8424.08	4218.30	0.60	-0.287	0.000	0.270
25.00	-76.08	-9.93	0.00	-1008.0	0.00	1008.07	3994.82	1997.41	8104.39	4058.22	0.94	-0.363	0.000	0.267
30.00	-73.93	-9.84	0.00	-958.42	0.00	958.42	3933.10	1966.55	7787.31	3899.44	1.36	-0.440	0.000	0.265
35.00	-71.83	-9.74	0.00	-909.23	0.00	909.23	3869.73	1934.87	7473.08	3742.09	1.86	-0.519	0.000	0.262
40.00	-69.75	-9.63	0.00	-860.54	0.00	860.54	3804.73	1902.36	7161.93	3586.29	2.45	-0.599	0.000	0.258
44.00	-68.12	-9.51	0.00	-822.02	0.00	822.02	3751.54	1875.77	6915.39	3462.84	2.98	-0.666	0.000	0.256
45.00	-67.53	-9.53	0.00	-812.51	0.00	812.51	3738.08	1869.04	6854.11	3432.15	3.12	-0.683	0.000	0.255
50.00	-64.61	-9.41	0.00	-764.86	0.00	764.86	2899.02	1449.51	5264.11	2635.97	3.88	-0.767	0.000	0.312
55.00	-62.80	-9.30	0.00	-717.82	0.00	717.82	2851.67	1425.83	5039.02	2523.25	4.73	-0.852	0.000	0.307
60.00	-61.03	-9.20	0.00	-671.33	0.00	671.33	2802.68	1401.34	4815.72	2411.44	5.67	-0.951	0.000	0.300
65.00	-59.28	-9.09	0.00	-625.34	0.00	625.34	2752.04	1376.02	4594.46	2300.64	6.72	-1.052	0.000	0.293
70.00	-57.58	-8.98	0.00	-579.88	0.00	579.88	2699.76	1349.88	4375.47	2190.99	7.88	-1.154	0.000	0.286
75.00	-55.91	-8.87	0.00	-534.97	0.00	534.97	2645.83	1322.92	4159.00	2082.59	9.15	-1.257	0.000	0.278
80.00	-54.27	-8.76	0.00	-490.60	0.00	490.60	2590.26	1295.13	3945.28	1975.57	10.52	-1.361	0.000	0.269
85.00	-52.68	-8.64	0.00	-446.79	0.00	446.79	2533.05	1266.52	3734.57	1870.06	12.00	-1.465	0.000	0.260
89.00	-51.43	-8.52	0.00	-412.24	0.00	412.24	2486.09	1243.05	3568.32	1786.81	13.26	-1.550	0.000	0.251
90.00	-51.00	-8.52	0.00	-403.72	0.00	403.72	2474.19	1237.09	3527.09	1766.17	13.59	-1.571	0.000	0.249
94.00	-49.33	-8.38	0.00	-369.65	0.00	369.65	1824.07	912.03	2576.25	1290.04	14.94	-1.655	0.000	0.314
95.00	-49.04	-8.40	0.00	-361.26	0.00	361.26	1816.32	908.16	2547.59	1275.69	15.29	-1.677	0.000	0.310
100.00	-47.67	-8.30	0.00	-319.24	0.00	319.24	1776.59	888.29	2405.19	1204.38	17.11	-1.798	0.000	0.292
105.00	-46.34	-8.19	0.00	-277.75	0.00	277.75	1735.21	867.61	2264.53	1133.95	19.06	-1.917	0.000	0.272
110.00	-45.04	-8.07	0.00	-236.81	0.00	236.81	1692.20	846.10	2125.83	1064.50	21.13	-2.031	0.000	0.249
115.00	-43.77	-7.95	0.00	-196.44	0.00	196.44	1647.53	823.77	1989.35	996.15	23.31	-2.138	0.000	0.224
120.00	-42.54	-7.83	0.00	-156.67	0.00	156.67	1601.22	800.61	1855.32	929.04	25.61	-2.237	0.000	0.195
125.00	-41.35	-7.67	0.00	-117.54	0.00	117.54	1553.27	776.64	1723.99	863.28	28.00	-2.323	0.000	0.163
127.00	-30.99	-5.86	0.00	-102.19	0.00	102.19	1533.63	766.82	1672.26	837.37	28.98	-2.355	0.000	0.142
130.00	-30.35	-5.78	0.00	-84.60	0.00	84.60	1503.68	751.84	1595.59	798.98	30.47	-2.397	0.000	0.126
135.00	-29.32	-5.62	0.00	-55.70	0.00	55.70	1452.44	726.22	1470.36	736.27	33.01	-2.454	0.000	0.096
137.00	-19.69	-3.72	0.00	-44.46	0.00	44.46	1427.86	713.93	1417.63	709.87	34.05	-2.473	0.000	0.076
139.00	-19.34	-3.65	0.00	-37.03	0.00	37.03	1400.09	700.04	1362.73	682.38	35.09	-2.490	0.000	0.068
139.00	-19.34	-3.65	0.00	-37.03	0.00	37.03	654.06	327.03	470.04	305.83	35.09	-2.490	0.000	0.151
140.00	-19.17	-3.63	0.00	-33.38	0.00	33.38	654.06	327.03	470.04	305.83	35.61	-2.497	0.000	0.139
145.00	-18.37	-3.50	0.00	-15.21	0.00	15.21	654.06	327.03	470.04	305.83	38.25	-2.540	0.000	0.078
149.00	0.00	-2.68	0.00	-1.20	0.00	1.20	654.06	327.03	470.04	305.83	40.38	-2.551	0.000	0.004

Seismic Segment Forces (Factored)

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 21



Load Case: 1.2D + 1.0E

Iterations 22

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

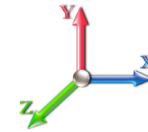
Sd1 0.10

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.34

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.01	0.00	0.00	
5.00		1106.8	0.00	0.04	0.02	22.75	
10.00		1083.0	0.01	0.06	0.03	29.95	
15.00		1059.1	0.02	0.06	0.04	33.02	
20.00		1035.3	0.04	0.07	0.04	34.17	
25.00		1011.4	0.06	0.07	0.04	34.50	
30.00		987.61	0.08	0.07	0.04	34.56	
35.00		963.75	0.11	0.07	0.04	34.54	
40.00		939.90	0.14	0.07	0.03	34.44	
44.00	Bot - Section 2	734.74	0.17	0.07	0.03	27.25	
45.00		334.70	0.18	0.07	0.03	12.43	
50.00	Top - Section 1	1647.2	0.22	0.06	0.02	60.86	
55.00		735.21	0.26	0.05	0.02	26.04	
60.00		715.33	0.31	0.04	0.01	22.75	
65.00		695.45	0.37	0.03	0.01	17.64	
70.00		675.57	0.42	0.01	0.01	10.59	
75.00		655.69	0.49	-0.01	0.01	2.10	
80.00		635.81	0.55	-0.03	0.01	-6.66	
85.00		615.93	0.62	-0.06	0.02	-14.14	
89.00	Bot - Section 3	478.43	0.68	-0.08	0.03	-14.65	
90.00		213.23	0.70	-0.09	0.03	-6.85	
94.00	Top - Section 2	838.63	0.76	-0.10	0.04	-30.30	
95.00		92.43	0.77	-0.11	0.05	-3.39	
100.00		452.63	0.86	-0.12	0.07	-16.32	
105.00		436.72	0.94	-0.12	0.11	-13.24	
110.00		420.82	1.03	-0.10	0.15	-8.22	
115.00		404.92	1.13	-0.05	0.21	-1.52	
120.00		389.01	1.23	0.03	0.28	6.60	
125.00		373.11	1.33	0.17	0.37	15.93	
127.00	Appurtenance(s)	3336.4	1.38	0.24	0.41	181.51	
130.00		212.41	1.44	0.37	0.48	15.61	
135.00		341.30	1.55	0.64	0.61	37.36	
137.00	Appurtenance(s)	2884.3	1.60	0.78	0.67	361.44	
139.00	Top - Section 3	129.52	1.65	0.93	0.73	18.39	
140.00		70.66	1.67	1.01	0.77	10.65	
145.00		353.28	1.79	1.50	0.96	69.72	
149.00	Appurtenance(s)	6084.1	1.89	1.98	1.14	1451.89	
Totals:		33,144.9				2,491.4	Total Wind: 34,815.5

Calculated Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 22



Load Case: 1.2D + 1.0E

Iterations 22

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.10

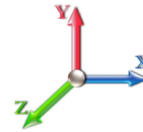
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.34

SA 0.03

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-48.68	-2.61	0.00	-349.10	0.00	349.10	4278.74	2139.37	9724.09	4869.27	0.00	0.00	0.00	0.083
5.00	-47.03	-2.61	0.00	-336.03	0.00	336.03	4225.25	2112.62	9396.38	4705.17	0.01	-0.02	0.083	
10.00	-45.41	-2.59	0.00	-323.00	0.00	323.00	4170.10	2085.05	9070.32	4541.90	0.04	-0.04	0.082	
15.00	-43.81	-2.57	0.00	-310.04	0.00	310.04	4113.32	2056.66	8746.14	4379.57	0.09	-0.06	0.081	
20.00	-42.25	-2.55	0.00	-297.17	0.00	297.17	4054.89	2027.44	8424.08	4218.30	0.17	-0.08	0.081	
25.00	-40.71	-2.53	0.00	-284.40	0.00	284.40	3994.82	1997.41	8104.39	4058.22	0.26	-0.10	0.080	
30.00	-39.20	-2.51	0.00	-271.75	0.00	271.75	3933.10	1966.55	7787.31	3899.44	0.38	-0.12	0.080	
35.00	-37.72	-2.49	0.00	-259.20	0.00	259.20	3869.73	1934.87	7473.08	3742.09	0.52	-0.15	0.079	
40.00	-36.27	-2.46	0.00	-246.77	0.00	246.77	3804.73	1902.36	7161.93	3586.29	0.68	-0.17	0.078	
44.00	-35.13	-2.44	0.00	-236.93	0.00	236.93	3751.54	1875.77	6915.39	3462.84	0.83	-0.19	0.078	
45.00	-34.66	-2.43	0.00	-234.49	0.00	234.49	3738.08	1869.04	6854.11	3432.15	0.87	-0.19	0.078	
50.00	-32.36	-2.38	0.00	-222.33	0.00	222.33	2899.02	1449.51	5264.11	2635.97	1.09	-0.22	0.096	
55.00	-31.16	-2.36	0.00	-210.44	0.00	210.44	2851.67	1425.83	5039.02	2523.25	1.33	-0.24	0.094	
60.00	-29.98	-2.35	0.00	-198.64	0.00	198.64	2802.68	1401.34	4815.72	2411.44	1.60	-0.27	0.093	
65.00	-28.82	-2.34	0.00	-186.90	0.00	186.90	2752.04	1376.02	4594.46	2300.64	1.90	-0.30	0.092	
70.00	-27.68	-2.34	0.00	-175.20	0.00	175.20	2699.76	1349.88	4375.47	2190.99	2.23	-0.33	0.090	
75.00	-26.57	-2.34	0.00	-163.50	0.00	163.50	2645.83	1322.92	4159.00	2082.59	2.59	-0.36	0.089	
80.00	-25.49	-2.35	0.00	-151.78	0.00	151.78	2590.26	1295.13	3945.28	1975.57	2.99	-0.39	0.087	
85.00	-24.42	-2.36	0.00	-140.03	0.00	140.03	2533.05	1266.52	3734.57	1870.06	3.42	-0.43	0.085	
89.00	-23.59	-2.36	0.00	-130.60	0.00	130.60	2486.09	1243.05	3568.32	1786.81	3.79	-0.45	0.083	
90.00	-23.27	-2.36	0.00	-128.24	0.00	128.24	2474.19	1237.09	3527.09	1766.17	3.89	-0.46	0.082	
94.00	-22.00	-2.36	0.00	-118.80	0.00	118.80	1824.07	912.03	2576.25	1290.04	4.28	-0.49	0.104	
95.00	-21.83	-2.36	0.00	-116.44	0.00	116.44	1816.32	908.16	2547.59	1275.69	4.39	-0.49	0.103	
100.00	-20.96	-2.37	0.00	-104.62	0.00	104.62	1776.59	888.29	2405.19	1204.38	4.93	-0.53	0.099	
105.00	-20.11	-2.38	0.00	-92.76	0.00	92.76	1735.21	867.61	2264.53	1133.95	5.51	-0.57	0.093	
110.00	-19.28	-2.38	0.00	-80.88	0.00	80.88	1692.20	846.10	2125.83	1064.50	6.13	-0.61	0.087	
115.00	-18.47	-2.38	0.00	-68.97	0.00	68.97	1647.53	823.77	1989.35	996.15	6.79	-0.65	0.080	
120.00	-17.68	-2.38	0.00	-57.05	0.00	57.05	1601.22	800.61	1855.32	929.04	7.49	-0.68	0.072	
125.00	-16.91	-2.36	0.00	-45.16	0.00	45.16	1553.27	776.64	1723.99	863.28	8.22	-0.72	0.063	
127.00	-12.78	-2.13	0.00	-40.44	0.00	40.44	1533.63	766.82	1672.26	837.37	8.52	-0.73	0.057	
130.00	-12.38	-2.11	0.00	-34.05	0.00	34.05	1503.68	751.84	1595.59	798.98	8.99	-0.75	0.051	
135.00	-11.74	-2.07	0.00	-23.49	0.00	23.49	1452.44	726.22	1470.36	736.27	9.78	-0.77	0.040	
137.00	-8.19	-1.66	0.00	-19.35	0.00	19.35	1427.86	713.93	1417.63	709.87	10.11	-0.78	0.033	
139.00	-7.99	-1.64	0.00	-16.02	0.00	16.02	1400.09	700.04	1362.73	682.38	10.43	-0.78	0.029	
139.00	-7.99	-1.64	0.00	-16.02	0.00	16.02	654.06	327.03	470.04	305.83	10.43	-0.78	0.065	
140.00	-7.88	-1.63	0.00	-14.38	0.00	14.38	654.06	327.03	470.04	305.83	10.60	-0.79	0.059	
145.00	-7.36	-1.56	0.00	-6.22	0.00	6.22	654.06	327.03	470.04	305.83	11.43	-0.81	0.032	
149.00	0.00	-1.45	0.00	0.00	0.00	0.00	654.06	327.03	470.04	305.83	12.11	-0.81	0.000	

Seismic Segment Forces (Factored)

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 23



Load Case: 0.9D + 1.0E

Iterations 22

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

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

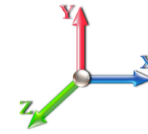
Sd1 0.10

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.34

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.01	0.00	0.00	
5.00		1106.8	0.00	0.04	0.02	22.75	
10.00		1083.0	0.01	0.06	0.03	29.95	
15.00		1059.1	0.02	0.06	0.04	33.02	
20.00		1035.3	0.04	0.07	0.04	34.17	
25.00		1011.4	0.06	0.07	0.04	34.50	
30.00		987.61	0.08	0.07	0.04	34.56	
35.00		963.75	0.11	0.07	0.04	34.54	
40.00		939.90	0.14	0.07	0.03	34.44	
44.00	Bot - Section 2	734.74	0.17	0.07	0.03	27.25	
45.00		334.70	0.18	0.07	0.03	12.43	
50.00	Top - Section 1	1647.2	0.22	0.06	0.02	60.86	
55.00		735.21	0.26	0.05	0.02	26.04	
60.00		715.33	0.31	0.04	0.01	22.75	
65.00		695.45	0.37	0.03	0.01	17.64	
70.00		675.57	0.42	0.01	0.01	10.59	
75.00		655.69	0.49	-0.01	0.01	2.10	
80.00		635.81	0.55	-0.03	0.01	-6.66	
85.00		615.93	0.62	-0.06	0.02	-14.14	
89.00	Bot - Section 3	478.43	0.68	-0.08	0.03	-14.65	
90.00		213.23	0.70	-0.09	0.03	-6.85	
94.00	Top - Section 2	838.63	0.76	-0.10	0.04	-30.30	
95.00		92.43	0.77	-0.11	0.05	-3.39	
100.00		452.63	0.86	-0.12	0.07	-16.32	
105.00		436.72	0.94	-0.12	0.11	-13.24	
110.00		420.82	1.03	-0.10	0.15	-8.22	
115.00		404.92	1.13	-0.05	0.21	-1.52	
120.00		389.01	1.23	0.03	0.28	6.60	
125.00		373.11	1.33	0.17	0.37	15.93	
127.00	Appurtenance(s)	3336.4	1.38	0.24	0.41	181.51	
130.00		212.41	1.44	0.37	0.48	15.61	
135.00		341.30	1.55	0.64	0.61	37.36	
137.00	Appurtenance(s)	2884.3	1.60	0.78	0.67	361.44	
139.00	Top - Section 3	129.52	1.65	0.93	0.73	18.39	
140.00		70.66	1.67	1.01	0.77	10.65	
145.00		353.28	1.79	1.50	0.96	69.72	
149.00	Appurtenance(s)	6084.1	1.89	1.98	1.14	1451.89	
Totals:		33,144.9				2,491.4	Total Wind: 34,815.5

Calculated Forces

Structure: CT11558-A-SBA **Code:** TIA-222-G 7/15/2022
Site Name: Bolton 2, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 1.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II Page: 24



Load Case: 0.9D + 1.0E

Iterations 22

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

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

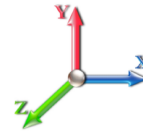
Sd1 0.10

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.34

SA 0.03

Seismic Importance Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-36.51	-2.61	0.00	-343.67	0.00	343.67	4278.74	2139.37	9724.09	4869.27	0.00	0.00	0.00	0.079
5.00	-35.27	-2.60	0.00	-330.61	0.00	330.61	4225.25	2112.62	9396.38	4705.17	0.01	-0.02	0.079	
10.00	-34.06	-2.58	0.00	-317.61	0.00	317.61	4170.10	2085.05	9070.32	4541.90	0.04	-0.04	0.078	
15.00	-32.86	-2.56	0.00	-304.70	0.00	304.70	4113.32	2056.66	8746.14	4379.57	0.09	-0.06	0.078	
20.00	-31.69	-2.54	0.00	-291.90	0.00	291.90	4054.89	2027.44	8424.08	4218.30	0.16	-0.08	0.077	
25.00	-30.53	-2.51	0.00	-279.22	0.00	279.22	3994.82	1997.41	8104.39	4058.22	0.26	-0.10	0.076	
30.00	-29.40	-2.48	0.00	-266.67	0.00	266.67	3933.10	1966.55	7787.31	3899.44	0.37	-0.12	0.076	
35.00	-28.29	-2.46	0.00	-254.24	0.00	254.24	3869.73	1934.87	7473.08	3742.09	0.51	-0.14	0.075	
40.00	-27.20	-2.43	0.00	-241.95	0.00	241.95	3804.73	1902.36	7161.93	3586.29	0.67	-0.17	0.075	
44.00	-26.35	-2.41	0.00	-232.23	0.00	232.23	3751.54	1875.77	6915.39	3462.84	0.82	-0.18	0.074	
45.00	-26.00	-2.40	0.00	-229.82	0.00	229.82	3738.08	1869.04	6854.11	3432.15	0.86	-0.19	0.074	
50.00	-24.27	-2.34	0.00	-217.82	0.00	217.82	2899.02	1449.51	5264.11	2635.97	1.07	-0.21	0.091	
55.00	-23.37	-2.32	0.00	-206.11	0.00	206.11	2851.67	1425.83	5039.02	2523.25	1.31	-0.24	0.090	
60.00	-22.48	-2.31	0.00	-194.48	0.00	194.48	2802.68	1401.34	4815.72	2411.44	1.57	-0.27	0.089	
65.00	-21.61	-2.30	0.00	-182.94	0.00	182.94	2752.04	1376.02	4594.46	2300.64	1.86	-0.30	0.087	
70.00	-20.76	-2.29	0.00	-171.45	0.00	171.45	2699.76	1349.88	4375.47	2190.99	2.19	-0.33	0.086	
75.00	-19.93	-2.30	0.00	-159.98	0.00	159.98	2645.83	1322.92	4159.00	2082.59	2.55	-0.36	0.084	
80.00	-19.11	-2.30	0.00	-148.49	0.00	148.49	2590.26	1295.13	3945.28	1975.57	2.94	-0.39	0.083	
85.00	-18.31	-2.31	0.00	-136.97	0.00	136.97	2533.05	1266.52	3734.57	1870.06	3.36	-0.42	0.080	
89.00	-17.69	-2.31	0.00	-127.75	0.00	127.75	2486.09	1243.05	3568.32	1786.81	3.72	-0.44	0.079	
90.00	-17.45	-2.31	0.00	-125.44	0.00	125.44	2474.19	1237.09	3527.09	1766.17	3.81	-0.45	0.078	
94.00	-16.50	-2.31	0.00	-116.20	0.00	116.20	1824.07	912.03	2576.25	1290.04	4.20	-0.48	0.099	
95.00	-16.37	-2.31	0.00	-113.89	0.00	113.89	1816.32	908.16	2547.59	1275.69	4.30	-0.48	0.098	
100.00	-15.71	-2.32	0.00	-102.33	0.00	102.33	1776.59	888.29	2405.19	1204.38	4.83	-0.52	0.094	
105.00	-15.08	-2.32	0.00	-90.74	0.00	90.74	1735.21	867.61	2264.53	1133.95	5.40	-0.56	0.089	
110.00	-14.46	-2.32	0.00	-79.13	0.00	79.13	1692.20	846.10	2125.83	1064.50	6.01	-0.60	0.083	
115.00	-13.85	-2.33	0.00	-67.51	0.00	67.51	1647.53	823.77	1989.35	996.15	6.66	-0.64	0.076	
120.00	-13.25	-2.32	0.00	-55.88	0.00	55.88	1601.22	800.61	1855.32	929.04	7.34	-0.67	0.068	
125.00	-12.68	-2.30	0.00	-44.27	0.00	44.27	1553.27	776.64	1723.99	863.28	8.06	-0.70	0.059	
127.00	-9.58	-2.09	0.00	-39.66	0.00	39.66	1533.63	766.82	1672.26	837.37	8.36	-0.71	0.054	
130.00	-9.28	-2.07	0.00	-33.41	0.00	33.41	1503.68	751.84	1595.59	798.98	8.81	-0.73	0.048	
135.00	-8.80	-2.03	0.00	-23.06	0.00	23.06	1452.44	726.22	1470.36	736.27	9.59	-0.75	0.037	
137.00	-6.14	-1.63	0.00	-19.00	0.00	19.00	1427.86	713.93	1417.63	709.87	9.91	-0.76	0.031	
139.00	-5.99	-1.61	0.00	-15.74	0.00	15.74	1400.09	700.04	1362.73	682.38	10.23	-0.77	0.027	
139.00	-5.99	-1.61	0.00	-15.74	0.00	15.74	654.06	327.03	470.04	305.83	10.23	-0.77	0.061	
140.00	-5.91	-1.60	0.00	-14.12	0.00	14.12	654.06	327.03	470.04	305.83	10.39	-0.77	0.055	
145.00	-5.52	-1.53	0.00	-6.11	0.00	6.11	654.06	327.03	470.04	305.83	11.21	-0.79	0.028	
149.00	0.00	-1.45	0.00	0.00	0.00	0.00	654.06	327.03	470.04	305.83	11.87	-0.79	0.000	

Wind Loading - Shaft

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

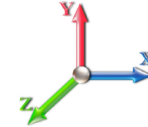
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	260.37	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	254.86	0.650	0.000	5.00	23.285	15.14	123.9	0.0	1106.9
10.00		1.00	0.85	7.442	8.19	249.35	0.650	0.000	5.00	22.787	14.81	121.2	0.0	1083.0
15.00		1.00	0.86	7.534	8.29	245.33	0.650	0.000	5.00	22.289	14.49	120.1	0.0	1059.2
20.00		1.00	0.91	7.978	8.78	246.75	0.650	0.000	5.00	21.790	14.16	124.3	0.0	1035.3
25.00		1.00	0.95	8.345	9.18	246.52	0.650	0.000	5.00	21.292	13.84	127.0	0.0	1011.5
30.00		1.00	0.99	8.659	9.53	245.18	0.650	0.000	5.00	20.793	13.52	128.7	0.0	987.6
35.00		1.00	1.02	8.936	9.83	243.02	0.650	0.000	5.00	20.295	13.19	129.7	0.0	963.8
40.00		1.00	1.05	9.184	10.10	240.25	0.650	0.000	5.00	19.796	12.87	130.0	0.0	939.9
44.00	Bot - Section 2	1.00	1.07	9.366	10.30	237.66	0.650	0.000	4.00	15.478	10.06	103.7	0.0	734.7
45.00		1.00	1.07	9.410	10.35	236.97	0.650	0.000	1.00	3.873	2.52	26.1	0.0	334.7
50.00	Top - Section 1	1.00	1.10	9.616	10.58	233.29	0.650	0.000	5.00	19.064	12.39	131.1	0.0	1647.3
55.00		1.00	1.12	9.807	10.79	232.63	0.650	0.000	5.00	18.566	12.07	130.2	0.0	735.2
60.00		1.00	1.14	9.986	10.98	228.35	0.650	0.000	5.00	18.067	11.74	129.0	0.0	715.3
65.00		1.00	1.16	10.153	11.17	223.81	0.650	0.000	5.00	17.569	11.42	127.5	0.0	695.5
70.00		1.00	1.18	10.310	11.34	219.04	0.650	0.000	5.00	17.070	11.10	125.8	0.0	675.6
75.00		1.00	1.19	10.459	11.50	214.08	0.650	0.000	5.00	16.572	10.77	123.9	0.0	655.7
80.00		1.00	1.21	10.600	11.66	208.94	0.650	0.000	5.00	16.073	10.45	121.8	0.0	635.8
85.00		1.00	1.23	10.734	11.81	203.64	0.650	0.000	5.00	15.575	10.12	119.5	0.0	615.9
89.00	Bot - Section 3	1.00	1.24	10.838	11.92	199.29	0.650	0.000	4.00	12.101	7.87	93.8	0.0	478.4
90.00		1.00	1.24	10.863	11.95	198.19	0.650	0.000	1.00	3.018	1.96	23.4	0.0	213.2
94.00	Top - Section 2	1.00	1.25	10.962	12.06	193.74	0.650	0.000	4.00	11.872	7.72	93.0	0.0	838.6
95.00		1.00	1.25	10.986	12.08	195.45	0.650	0.000	1.00	2.918	1.90	22.9	0.0	92.4
100.00		1.00	1.27	11.104	12.21	189.77	0.650	0.000	5.00	14.291	9.29	113.5	0.0	452.6
105.00		1.00	1.28	11.218	12.34	183.96	0.650	0.000	5.00	13.793	8.97	110.6	0.0	436.7
110.00		1.00	1.29	11.327	12.46	178.05	0.650	0.000	5.00	13.294	8.64	107.7	0.0	420.8
115.00		1.00	1.31	11.432	12.58	172.05	0.650	0.000	5.00	12.796	8.32	104.6	0.0	404.9
120.00		1.00	1.32	11.534	12.69	165.95	0.650	0.000	5.00	12.298	7.99	101.4	0.0	389.0
125.00		1.00	1.33	11.633	12.80	159.76	0.650	0.000	5.00	11.799	7.67	98.1	0.0	373.1
127.00	Appurtenance(s)	1.00	1.33	11.672	12.84	157.27	0.650	0.000	2.00	4.580	2.98	38.2	0.0	144.8
130.00		1.00	1.34	11.729	12.90	153.50	0.650	0.000	3.00	6.721	4.37	56.4	0.0	212.4
135.00		1.00	1.35	11.822	13.00	147.15	0.650	0.000	5.00	10.802	7.02	91.3	0.0	341.3
137.00	Appurtenance(s)	1.00	1.35	11.858	13.04	144.59	0.650	0.000	2.00	4.181	2.72	35.5	0.0	132.1
139.00	Top - Section 3	1.00	1.36	11.894	13.08	142.02	0.650	0.000	2.00	4.102	2.67	34.9	0.0	129.5
140.00		1.00	1.36	11.912	13.10	104.98	0.600	0.000	1.00	1.500	0.90	11.8	0.0	70.7
145.00		1.00	1.37	12.000	13.20	105.36	0.600	0.000	5.00	7.500	4.50	59.4	0.0	353.3
149.00	Appurtenance(s)	1.00	1.38	12.068	13.27	105.66	0.600	0.000	4.00	6.000	3.60	47.8	0.0	282.6
Totals:									149.00			3,387.9		21,399.4

Discrete Appurtenance Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

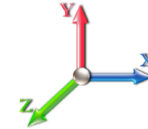
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	RRUS 4449 B5/B12	3	12.085	13.294	0.50	0.75	2.97	219.00	0.000	1.000	39.48	0.00	39.48
2	149.00	LGP21401	12	12.085	13.294	0.38	0.75	5.80	169.20	0.000	1.000	77.17	0.00	77.17
3	149.00	Raycap DC6-48-60-18-8F	3	12.085	13.294	0.50	0.75	1.39	98.40	0.000	1.000	18.44	0.00	18.44
4	149.00	Lightning Rod	1	12.119	13.330	1.00	1.00	0.50	5.00	0.000	3.000	6.67	0.00	20.00
5	149.00	HPA65R-BU8A	3	12.085	13.294	0.65	0.75	21.73	162.00	0.000	1.000	288.87	0.00	288.87
6	149.00	TPA65R-BU8DA-K	3	12.085	13.294	0.54	0.75	25.71	261.30	0.000	1.000	341.77	0.00	341.77
7	149.00	DMP65R-BU8DA	3	12.085	13.294	0.62	0.75	30.44	287.10	0.000	1.000	404.66	0.00	404.66
8	149.00	RRUS 4478 B14	3	12.085	13.294	0.50	0.75	2.49	178.20	0.000	1.000	33.07	0.00	33.07
9	149.00	Low Profile Platform	1	12.068	13.275	1.00	1.00	43.00	2380.00	0.000	0.000	570.82	0.00	0.00
10	149.00	RRUS 8843 B2 B66A	3	12.085	13.294	0.50	0.75	2.47	216.00	0.000	1.000	32.87	0.00	32.87
11	149.00	Nokia 469358A GPS	1	12.085	13.294	0.75	0.75	0.04	1.30	0.000	1.000	0.60	0.00	0.60
12	149.00	MTC38523L (Kicker Kit)	1	12.068	13.275	0.00	1.00	6.30	544.00	0.000	0.000	83.63	0.00	0.00
13	149.00	MT-195-14 (Handrail Kit)	1	12.068	13.275	0.00	1.00	7.10	256.00	0.000	0.000	94.25	0.00	0.00
14	149.00	MT-195-14 (Handrail Kit)	1	12.068	13.275	0.00	1.00	7.10	256.00	0.000	0.000	94.25	0.00	0.00
15	149.00	MT-195-14 (Handrail Kit)	1	12.068	13.275	0.00	1.00	7.10	256.00	0.000	0.000	94.25	0.00	0.00
16	149.00	MT-195-14 (Handrail Kit)	1	12.068	13.275	0.00	1.00	7.10	256.00	0.000	0.000	94.25	0.00	0.00
17	149.00	MT-195-14 (Handrail Kit)	1	12.068	13.275	0.00	1.00	7.10	256.00	0.000	0.000	94.25	0.00	0.00
18	137.00	Low Profile Platform-flat	1	11.858	13.044	1.00	1.00	25.00	1100.00	0.000	0.000	326.10	0.00	0.00
19	137.00	BXA-70063-4CF-EDIN-X	1	11.858	13.044	0.55	0.75	2.58	9.90	0.000	0.000	33.71	0.00	0.00
20	137.00	MS-HRECP	1	11.858	13.044	1.00	1.00	12.25	514.00	0.000	0.000	159.79	0.00	0.00
21	137.00	NHH-65B-R2B	3	11.858	13.044	0.62	0.75	15.09	131.10	0.000	0.000	196.83	0.00	0.00
22	137.00	NHHSS-65B-R2B	3	11.858	13.044	0.62	0.75	15.09	144.30	0.000	0.000	196.83	0.00	0.00
23	137.00	MT6407-77A	3	11.858	13.044	0.52	0.75	7.39	238.20	0.000	0.000	96.35	0.00	0.00
24	137.00	BXA-70080-6BF	2	11.858	13.044	0.65	0.75	7.52	36.00	0.000	0.000	98.05	0.00	0.00
25	137.00	LTE 700/850 MHz	3	11.858	13.044	0.50	0.75	2.82	210.90	0.000	0.000	36.77	0.00	0.00
26	137.00	Samsung LTE CBRS	3	11.858	13.044	0.50	0.75	1.49	55.80	0.000	0.000	19.47	0.00	0.00
27	137.00	DB-T1-6Z-8AB-0Z	2	11.858	13.044	0.50	0.75	4.82	88.00	0.000	0.000	62.92	0.00	0.00
28	137.00	LTE AWS/PCS RF4439D	3	11.858	13.044	0.50	0.75	2.82	224.10	0.000	0.000	36.77	0.00	0.00
29	127.00	MT-195-14 (Handrail Kit)	1	11.672	12.839	1.00	1.00	7.10	256.00	0.000	0.000	91.16	0.00	0.00
30	127.00	AIR 21, 1.3M, B2A B4P	3	11.672	12.839	0.65	0.75	11.78	274.50	0.000	0.000	151.30	0.00	0.00
31	127.00	AIR 21, 1.3M, B4A B2P	3	11.672	12.839	0.65	0.75	11.78	271.20	0.000	0.000	151.30	0.00	0.00
32	127.00	KRY 112 144/1	3	11.672	12.839	0.50	0.75	0.62	33.00	0.000	0.000	7.94	0.00	0.00
33	127.00	APXVAALL24_43-U-NA20	3	11.672	12.839	0.55	0.75	33.24	368.40	0.000	0.000	426.82	0.00	0.00
34	127.00	MTC38523L (Kicker Kit)	1	11.672	12.839	1.00	1.00	6.30	544.00	0.000	0.000	80.89	0.00	0.00
35	127.00	MS-1436 (Light Collar)	1	11.672	12.839	1.00	1.00	1.50	65.60	0.000	0.000	19.26	0.00	0.00
36	127.00	4480 B71 + B85	3	11.672	12.839	0.50	0.75	4.30	279.00	0.000	0.000	55.16	0.00	0.00
37	127.00	Low Profile Platform-flat	1	11.672	12.839	1.00	1.00	25.00	1100.00	0.000	0.000	320.98	0.00	0.00

Totals: 11,745.50

4,937.67

Total Applied Force Summary

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

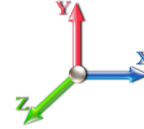


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		123.90	1375.80	0.00	0.00
10.00		121.25	1351.95	0.00	0.00
15.00		120.06	1328.09	0.00	0.00
20.00		124.29	1304.24	0.00	0.00
25.00		127.03	1280.38	0.00	0.00
30.00		128.74	1256.52	0.00	0.00
35.00		129.67	1232.67	0.00	0.00
40.00		130.00	1208.81	0.00	0.00
44.00		103.65	949.87	0.00	0.00
45.00		26.05	388.49	0.00	0.00
50.00		131.08	1916.19	0.00	0.00
55.00		130.19	1004.13	0.00	0.00
60.00		128.99	984.25	0.00	0.00
65.00		127.53	964.37	0.00	0.00
70.00		125.83	944.49	0.00	0.00
75.00		123.92	924.61	0.00	0.00
80.00		121.82	904.73	0.00	0.00
85.00		119.54	884.85	0.00	0.00
89.00		93.77	693.56	0.00	0.00
90.00		23.44	267.02	0.00	0.00
94.00		93.05	1053.76	0.00	0.00
95.00		22.92	146.22	0.00	0.00
100.00		113.46	721.54	0.00	0.00
105.00		110.63	705.64	0.00	0.00
110.00		107.67	689.73	0.00	0.00
115.00		104.60	673.83	0.00	0.00
120.00		101.42	657.93	0.00	0.00
125.00		98.14	642.02	0.00	0.00
127.00	(19) attachments	1343.01	3444.06	0.00	0.00
130.00		56.36	329.72	0.00	0.00
135.00		91.31	536.82	0.00	0.00
137.00	(25) attachments	1299.03	2962.57	0.00	0.00
139.00		34.88	165.77	0.00	0.00
140.00		11.79	87.47	0.00	0.00
145.00		59.40	437.33	0.00	0.00
149.00	(42) attachments	2417.08	6151.36	0.00	1256.91
Totals:		8,325.53	40,570.75	0.00	1,256.91

Calculated Forces

Structure: CT11558-A-SBA

Code: TIA-222-G

7/15/2022

Site Name: Bolton 2, CT

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 1.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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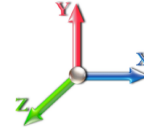


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-40.57	-8.34	0.00	-977.83	0.00	977.83	4278.74	2139.37	9724.09	4869.27	0.00	0.000	0.000	0.210
5.00	-39.18	-8.26	0.00	-936.10	0.00	936.10	4225.25	2112.62	9396.38	4705.17	0.03	-0.054	0.000	0.208
10.00	-37.82	-8.17	0.00	-894.82	0.00	894.82	4170.10	2085.05	9070.32	4541.90	0.11	-0.108	0.000	0.206
15.00	-36.49	-8.08	0.00	-853.97	0.00	853.97	4113.32	2056.66	8746.14	4379.57	0.26	-0.164	0.000	0.204
20.00	-35.18	-7.99	0.00	-813.56	0.00	813.56	4054.89	2027.44	8424.08	4218.30	0.46	-0.221	0.000	0.202
25.00	-33.89	-7.89	0.00	-773.61	0.00	773.61	3994.82	1997.41	8104.39	4058.22	0.72	-0.280	0.000	0.199
30.00	-32.62	-7.79	0.00	-734.15	0.00	734.15	3933.10	1966.55	7787.31	3899.44	1.05	-0.339	0.000	0.197
35.00	-31.38	-7.69	0.00	-695.20	0.00	695.20	3869.73	1934.87	7473.08	3742.09	1.44	-0.399	0.000	0.194
40.00	-30.17	-7.58	0.00	-656.77	0.00	656.77	3804.73	1902.36	7161.93	3586.29	1.89	-0.461	0.000	0.191
44.00	-29.22	-7.48	0.00	-626.46	0.00	626.46	3751.54	1875.77	6915.39	3462.84	2.29	-0.511	0.000	0.189
45.00	-28.82	-7.47	0.00	-618.98	0.00	618.98	3738.08	1869.04	6854.11	3432.15	2.40	-0.524	0.000	0.188
50.00	-26.90	-7.35	0.00	-581.63	0.00	581.63	2899.02	1449.51	5264.11	2635.97	2.99	-0.588	0.000	0.230
55.00	-25.89	-7.24	0.00	-544.87	0.00	544.87	2851.67	1425.83	5039.02	2523.25	3.64	-0.653	0.000	0.225
60.00	-24.90	-7.13	0.00	-508.66	0.00	508.66	2802.68	1401.34	4815.72	2411.44	4.36	-0.728	0.000	0.220
65.00	-23.92	-7.03	0.00	-472.99	0.00	472.99	2752.04	1376.02	4594.46	2300.64	5.17	-0.805	0.000	0.214
70.00	-22.97	-6.92	0.00	-437.86	0.00	437.86	2699.76	1349.88	4375.47	2190.99	6.05	-0.882	0.000	0.208
75.00	-22.04	-6.81	0.00	-403.28	0.00	403.28	2645.83	1322.92	4159.00	2082.59	7.02	-0.960	0.000	0.202
80.00	-21.13	-6.70	0.00	-369.23	0.00	369.23	2590.26	1295.13	3945.28	1975.57	8.06	-1.038	0.000	0.195
85.00	-20.24	-6.59	0.00	-335.74	0.00	335.74	2533.05	1266.52	3734.57	1870.06	9.19	-1.116	0.000	0.188
89.00	-19.54	-6.49	0.00	-309.38	0.00	309.38	2486.09	1243.05	3568.32	1786.81	10.15	-1.179	0.000	0.181
90.00	-19.27	-6.48	0.00	-302.89	0.00	302.89	2474.19	1237.09	3527.09	1766.17	10.40	-1.196	0.000	0.179
94.00	-18.22	-6.38	0.00	-276.97	0.00	276.97	1824.07	912.03	2576.25	1290.04	11.43	-1.259	0.000	0.225
95.00	-18.06	-6.37	0.00	-270.60	0.00	270.60	1816.32	908.16	2547.59	1275.69	11.70	-1.275	0.000	0.222
100.00	-17.34	-6.26	0.00	-238.76	0.00	238.76	1776.59	888.29	2405.19	1204.38	13.08	-1.366	0.000	0.208
105.00	-16.62	-6.16	0.00	-207.44	0.00	207.44	1735.21	867.61	2264.53	1133.95	14.56	-1.454	0.000	0.193
110.00	-15.93	-6.06	0.00	-176.64	0.00	176.64	1692.20	846.10	2125.83	1064.50	16.13	-1.539	0.000	0.175
115.00	-15.25	-5.96	0.00	-146.35	0.00	146.35	1647.53	823.77	1989.35	996.15	17.79	-1.619	0.000	0.156
120.00	-14.59	-5.85	0.00	-116.57	0.00	116.57	1601.22	800.61	1855.32	929.04	19.52	-1.693	0.000	0.135
125.00	-13.94	-5.75	0.00	-87.30	0.00	87.30	1553.27	776.64	1723.99	863.28	21.33	-1.757	0.000	0.110
127.00	-10.54	-4.30	0.00	-75.81	0.00	75.81	1533.63	766.82	1672.26	837.37	22.07	-1.781	0.000	0.097
130.00	-10.21	-4.24	0.00	-62.90	0.00	62.90	1503.68	751.84	1595.59	798.98	23.20	-1.812	0.000	0.086
135.00	-9.68	-4.14	0.00	-41.69	0.00	41.69	1452.44	726.22	1470.36	736.27	25.12	-1.855	0.000	0.063
137.00	-6.76	-2.75	0.00	-33.41	0.00	33.41	1427.86	713.93	1417.63	709.87	25.90	-1.869	0.000	0.052
139.00	-6.59	-2.71	0.00	-27.92	0.00	27.92	1400.09	700.04	1362.73	682.38	26.69	-1.881	0.000	0.046
139.00	-6.59	-2.71	0.00	-27.92	0.00	27.92	654.06	327.03	470.04	305.83	26.69	-1.881	0.000	0.101
140.00	-6.50	-2.69	0.00	-25.22	0.00	25.22	654.06	327.03	470.04	305.83	27.08	-1.887	0.000	0.092
145.00	-6.07	-2.62	0.00	-11.75	0.00	11.75	654.06	327.03	470.04	305.83	29.08	-1.919	0.000	0.048
149.00	0.00	-2.42	0.00	-1.26	0.00	1.26	654.06	327.03	470.04	305.83	30.69	-1.929	0.000	0.004

Final Analysis Summary

Structure: CT11558-A-SBA	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (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 97 mph Wind	34.9	0.00	48.61	0.00	0.00	4117.50
0.9D + 1.6W 97 mph Wind	34.9	0.00	36.44	0.00	0.00	4058.80
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.3	0.00	87.18	0.00	0.00	1262.03
1.2D + 1.0E	2.6	0.00	48.68	0.00	0.00	349.10
0.9D + 1.0E	2.6	0.00	36.51	0.00	0.00	343.67
1.0D + 1.0W 60 mph Wind	8.3	0.00	40.57	0.00	0.00	977.83

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 97 mph Wind	-30.99	-30.97	0.00	-2453.9	0.00	-2453.9	2899.02	1449.5	5264.11	2635.97	50.00	0.942
0.9D + 1.6W 97 mph Wind	-22.93	-30.58	0.00	-2405.9	0.00	-2405.9	2899.02	1449.5	5264.11	2635.97	50.00	0.921
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-49.33	-8.38	0.00	-369.65	0.00	-369.65	1824.07	912.03	2576.25	1290.04	94.00	0.314
1.2D + 1.0E	-22.00	-2.36	0.00	-118.80	0.00	-118.80	1824.07	912.03	2576.25	1290.04	94.00	0.104
0.9D + 1.0E	-16.50	-2.31	0.00	-116.20	0.00	-116.20	1824.07	912.03	2576.25	1290.04	94.00	0.099
1.0D + 1.0W 60 mph Wind	-26.90	-7.35	0.00	-581.63	0.00	-581.63	2899.02	1449.5	5264.11	2635.97	50.00	0.230

Base Plate Summary

Structure: CT11558-A-SB	Code: TIA-222-G	7/15/2022
Site Name: Bolton 2, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions		Base Plate		Anchor Bolts	
Original Design		Yield (ksi):	50.00	Bolt Circle:	62.00
Moment (kip-ft):	3019.20	Width (in):	68.00	Number Bolts:	20.00
Axial (kip):	29.11	Style:	Round	Bolt Type:	2.00" F1554 105
Shear (kip):	49.50	Polygon Sides:	0.00	Bolt Diameter (in):	2.00
Analysis (1.2D + 1.6W)		Clip Length (in):	0.00	Yield (ksi):	105.00
Moment (kip-ft):	4117.50	Effective Len (in):	11.32	Ultimate (ksi):	125.00
Axial (kip):	48.61	Moment (kip-in):	521.94	Arrangement:	Radial
Shear (kip):	34.91	Allow Stress (ksi):	67.50	Cluster Dist (in):	0.00
		Applied Stress (ksi):	44.55	Start Angle (deg):	0.00
		Stress Ratio:	0.66	Compression	
				Force (kip):	163.75
				Allowable (kip):	250.00
				Ratio:	0.67
				Tension	
				Force (kip):	155.03
				Allowable (kip):	250.00
				Ratio:	0.63

	Monopole Mat Foundation Design		Date	
			7/15/2022	
	Customer Name:	T-Mobile	EIA/TIA Standard:	TIA-222-G
	Site Name:		Structure Height (Ft.):	149
	Site Number:	CT11558-A-SBA	Engineer Name:	M. Baker
	Engr. Number:	131604	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	48.6	Shear Force (Kips):	34.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4117.5

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	23	Width of Pad (ft.):	23

Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0
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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 #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	35	Tie Spacing (in):	11.0	
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):	18	Qty. of Rebar in Pad (W):	18
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	18	Qty. of Rebar in Pad (W):	18
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

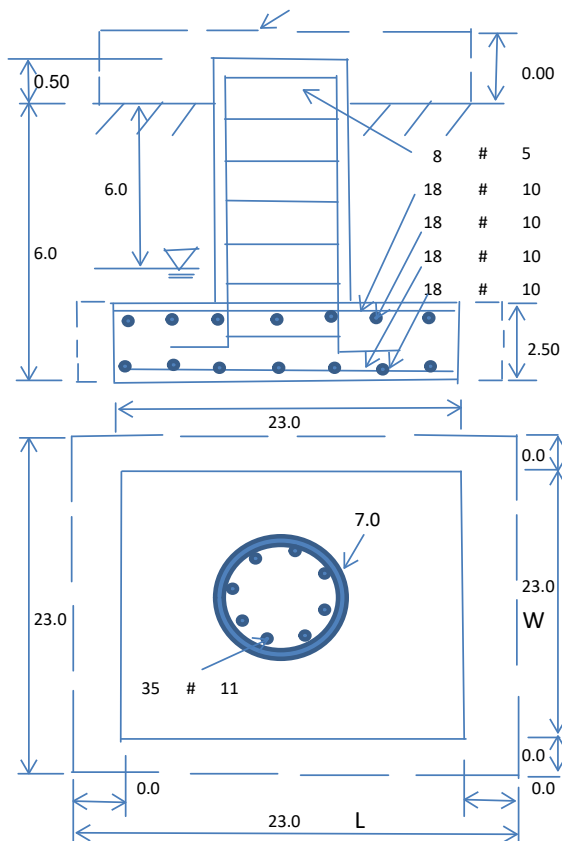
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	6.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	7000	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm 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.):	1716.80	Total Dry Soil Weight (Kips):	206.02
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	206.02	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1476.44	Total Dry Concrete Weight (Kips):	221.47
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	221.47	Total Vertical Load on Base (Kips):	476.08

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	4912	< Allowable Factored Soil Bearing (psf):	5250	0.94	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	4983.3	> Design Factored Momont (kips-ft):	4344	0.87	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.15				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):

1.56

Tie / Stirrup Area (sq. in./each):

0.31

Calculated Moment Capacity (Mn,Kips-Ft):

8781.7

>

Design Factored Moment (Mu, Kips-F

4257.1

0.48

OK!

Calculated Shear Capacity (Kips):

753.0

>

Design Factored Shear (Kips):

34.9

0.05

OK!

Calculated Tension Capacity (Tn, Kips):

2948.4

>

Design Factored Tension (Tu Kips):

0.0

0.00

OK!

Calculated Compression Capacity (Pn, Kips):

9701.3

>

Design Factored Axial Load (Pu Kips):

48.6

0.01

OK!

Moment & Axial Strength Combination:

0.48

OK!

Check Tie Spacing (Design/Required):

0.9167

OK!

Pier Reinforcement Ratio:

0.010

Reinforcement Ratio is satisfied per ACI

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):

690.6

>

One-Way Factored Shear (L-D. Kips):

336.3

0.49

OK!

One-Way Design Shear Capacity (W-Direction, Kips):

690.6

>

One-Way Factored Shear (W-D., Kips)

336.3

0.49

OK!

One-Way Design Shear Capacity (Corner-Corner, Kips):

634.5

>

One-Way Factored Shear (C-C, Kips):

335.9

0.53

OK!

Lower Steel Pad Reinforcement Ratio (L-Direct.):

0.0031

OK!

Lower Steel Pad Reinf. Ratio (W-Direc

0.0031

Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):

2638.0

>

Moment at Bottom (L-Dir. K-Ft):

1562.3

0.59

OK!

Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):

2638.0

>

Moment at Bottom (W-Dir. K-Ft):

1562.3

0.59

OK!

Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):

3701.6

>

Moment at Bottom (C-C Dir. K-Ft):

2209.4

0.60

OK!

Upper Steel Pad Reinforcement Ratio (L-Direct.):

0.0031

OK!

Upper Steel Reinf. Ratio (W-Dir.):

0.0031

Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):

2638.0

>

Moment at the top (L-Dir K-Ft):

612.1

0.23

OK!

Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):

2638.0

>

Moment at the top (W-Dir K-Ft):

612.1

0.23

OK!

Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):

3701.6

>

Moment at the top (C-C Dir. K-Ft):

576.4

0.16

OK!

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

Moment transferred by punching shear:

1647.0

k-ft.

Max. factored shear stress v_{u_CD} :

5.1

Psi

Max. factored shear stress v_{u_AB} :

13.7

Psi

Factored shear Strength ϕv_n :

189.7

Psi

Max. factored shear stress v_u :

13.7

Psi

Check Usage of Punching Shear Capacity:

0.07

OK!

Exhibit E

Mount Analysis



Tower Engineering Solutions

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

Post-Mod Antenna Mount Analysis Report

Existing Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT11558-A-SBA

Customer Site Name: Bolton 2, CT

Carrier Name: T-Mobile (App#: 194470-1, V1)

Carrier Site ID / Name: CTHA076D / HA076/MCF_Carpenter Rd_FT

Site Location: 14 Carpenter Road

Bolton, Connecticut

Tolland County

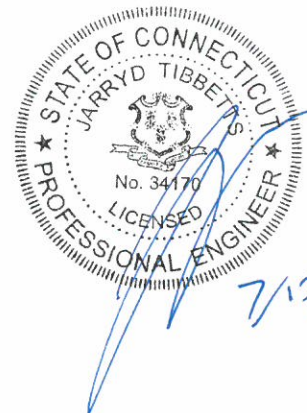
Latitude: 41.779083

Longitude: -72.465303

Analysis Result:

Max Structural Usage: 69.2% [Pass]

Report Prepared By: Progesh Roka





Tower Engineering Solutions

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

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Bolton, Connecticut

Tolland County

Latitude: 41.779083

Longitude: -72.465303

Analysis Result:

Max Structural Usage: 69.2% [Pass]

Report Prepared By: Progesh Roka

Introduction

The purpose of this report is to summarize the analysis results on the (1) Low Profile Platform at 127.00' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

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

Sources of Information

Mount Drawings	Mount mapping by ETS East; dated 6/28/2022
Antenna Loading	Provided by SBA; Application #: 194470, v1; dated 6/15/2022
Existing Modification	N/A
Proposed Modification	TES Project No. 131567

Analysis Criteria

Basic Wind Speed Used in the Analysis: $V_{ULT} = 125$ mph (3-Sec. Gust) / Equivalent to
 $V_{ASD} = 97$ mph (3-Sec. Gust)

Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1.5" radial ice concurrent

Operational Wind Speed: 30 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G/2015 IBC/2018 Connecticut State Building Code

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

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

Mount Information

(1) Low Profile Platform at 127.00' elevation

Final Antenna Configuration

3	Ericsson AIR21 B2A B4P
3	Ericsson AIR21 B4A/B2P
3	RFS APXVAALL24_43-U-NA20
3	Ericsson KRY 112 144/1
3	Ericsson 4480 B71 + B85

Analysis Results

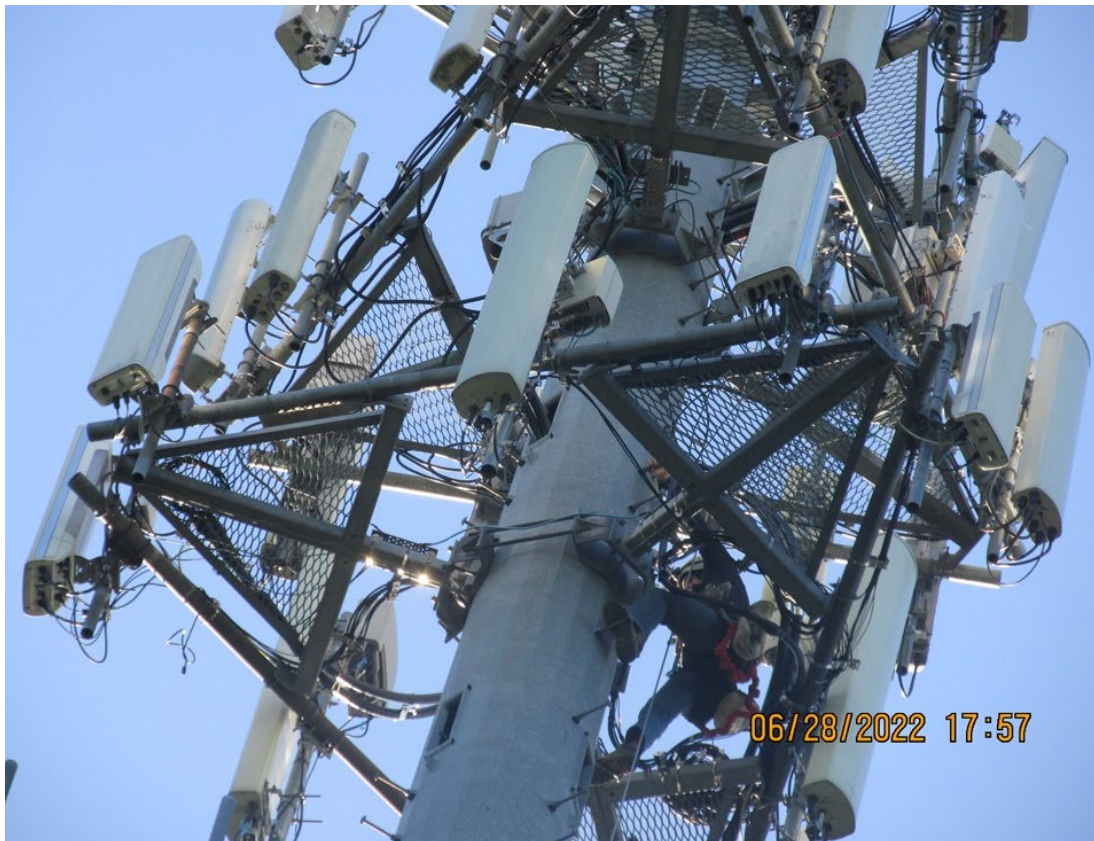
Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 69.2%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

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

Standard Conditions

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



Structure: CT11558-A-SBA - Bolton 2, CT

Sector: A

7/13/2022



Structure Type: Monopole

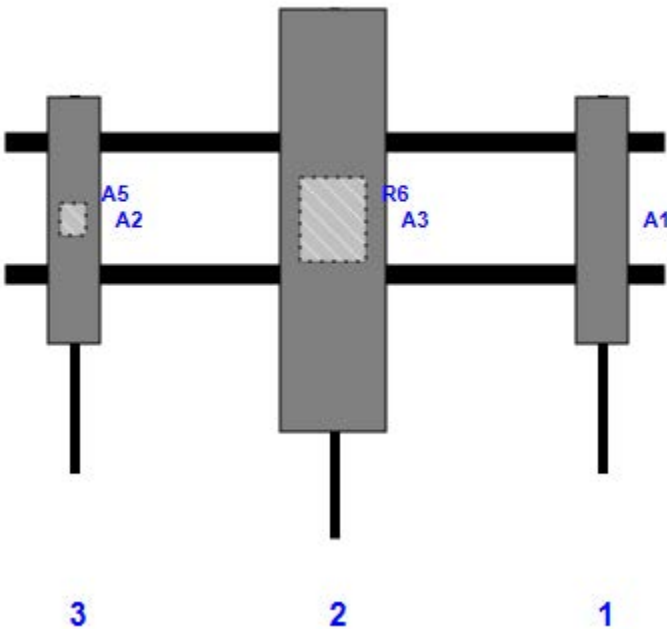
Mount Elev: 127.00

Page: 1

Plan View



Front View
Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR21 B2A B4P	55.90	12.00	136.00	1	a	Front	48.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	75.00	2	a	Front	48.00			
R6	4480 B71 + B85	19.20	15.10	75.00	2	a	Behind	48.00			
A2	AIR21 B4A/B2P	55.90	12.00	16.00	3	a	Front	48.00			
A5	KRY 112 144/1	6.93	6.10	16.00	3	a	Behind	48.00			

Structure: CT11558-A-SBA - Bolton 2, CT

Sector: B

7/13/2022

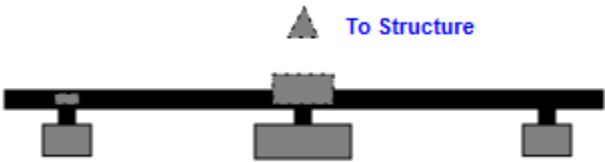


Structure Type: Monopole

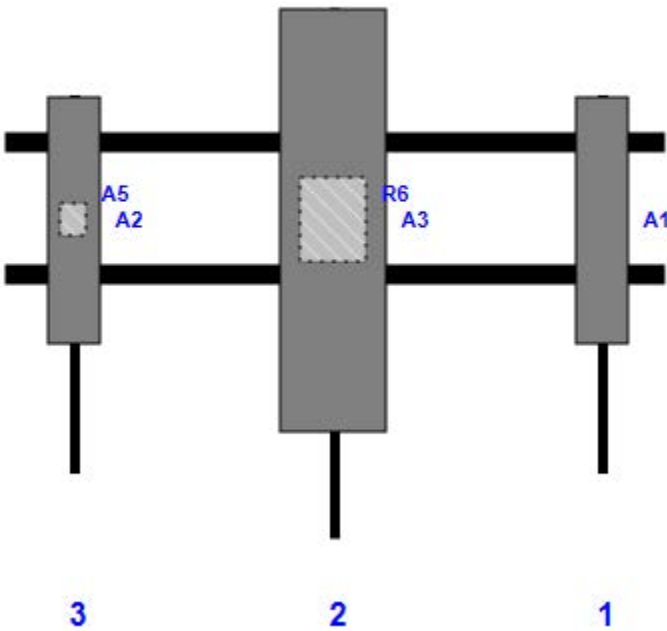
Mount Elev: 127.00

Page: 2

Plan View



Front View
Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR21 B2A B4P	55.90	12.00	136.00	1	a	Front	48.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	75.00	2	a	Front	48.00			
R6	4480 B71 + B85	19.20	15.10	75.00	2	a	Behind	48.00			
A2	AIR21 B4A/B2P	55.90	12.00	16.00	3	a	Front	48.00			
A5	KRY 112 144/1	6.93	6.10	16.00	3	a	Behind	48.00			

Structure: CT11558-A-SBA - Bolton 2, CT

Sector: C

7/13/2022

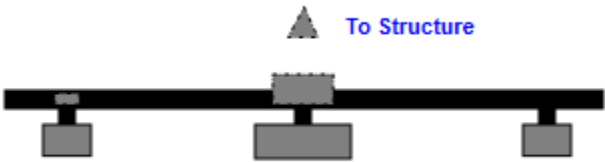


Structure Type: Monopole

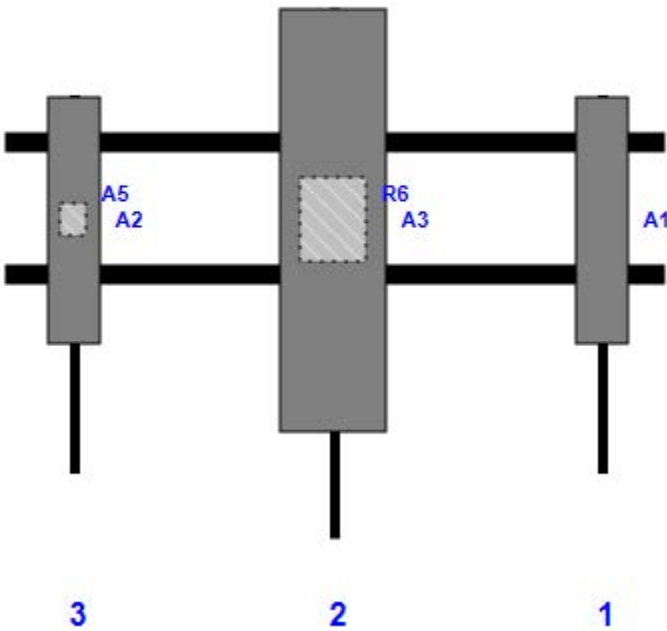
Mount Elev: 127.00

Page: 3

Plan View



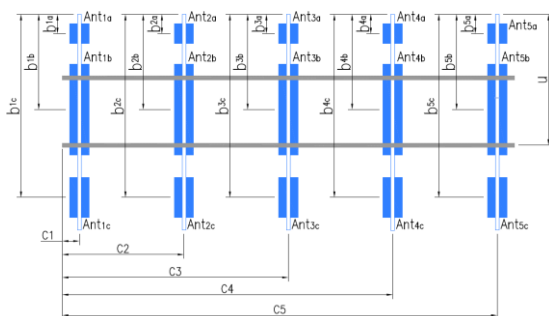
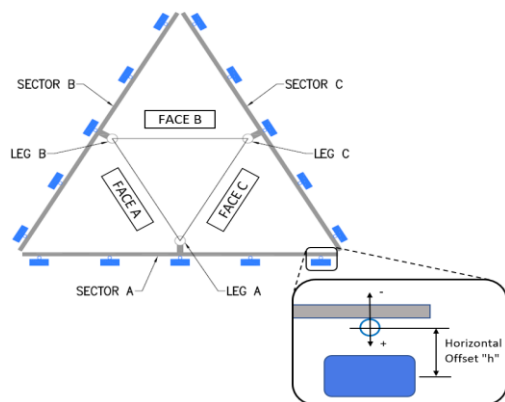
Front View
Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR21 B2A B4P	55.90	12.00	136.00	1	a	Front	48.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	75.00	2	a	Front	48.00			
R6	4480 B71 + B85	19.20	15.10	75.00	2	a	Behind	48.00			
A2	AIR21 B4A/B2P	55.90	12.00	16.00	3	a	Front	48.00			
A5	KRY 112 144/1	6.93	6.10	16.00	3	a	Behind	48.00			

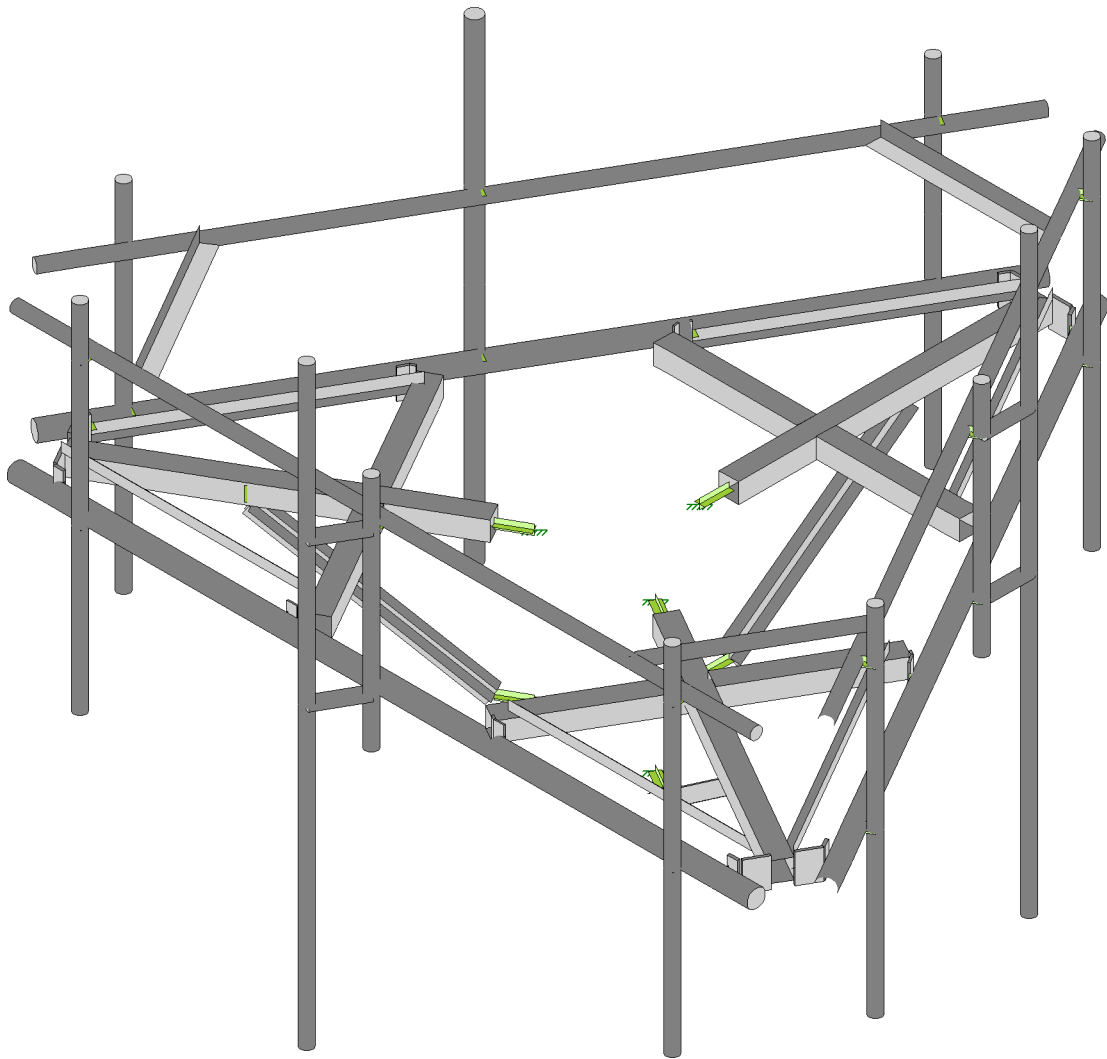
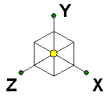
FCC #
1260531

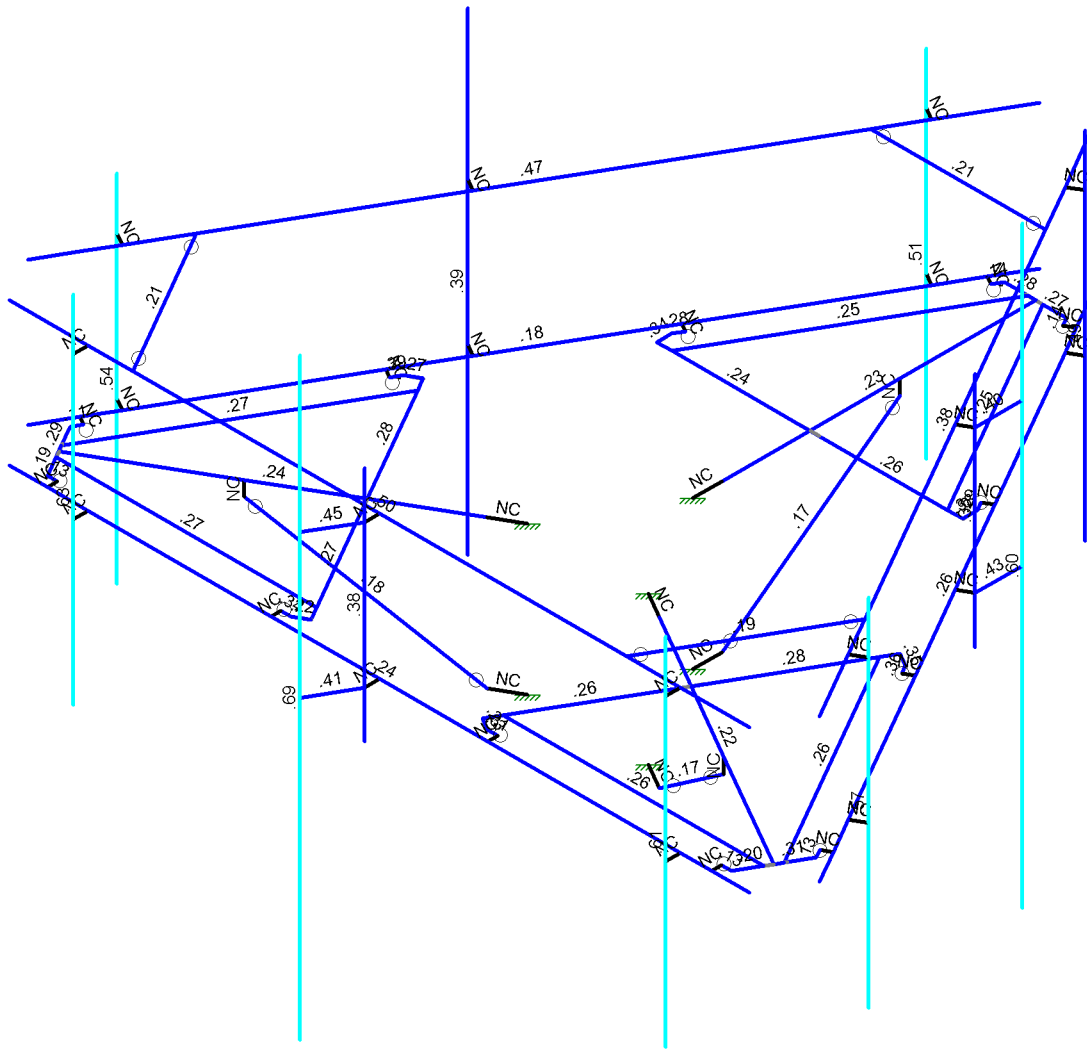
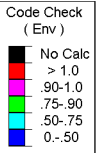
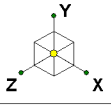
Tower Owner:	SBA	Mapping Date:	6/28/2022
Site Name:	Bolton 2, CT	Tower Type:	Monopole
Site Number or ID:	CT11558-A	Tower Height (Ft.):	140
Mapping Contractor:	ETS East	Mount Elevation (Ft.):	123

[illegible]

Mount Pipe Configuration and Geometries [Unit = Inches]							
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."
A1	2.4"Øx0.153"x72 1/2"	39.50	13.50	C1	2.4"Øx0.153"x72 1/2"	39.50	13.50
A2	2.9"Øx0.203"x96"	47.00	66.00	C2	2.9"Øx0.203"x96"	47.00	66.00
A3	2.4"Øx0.153"x72 1/2"	39.50	134.50	C3	2.4"Øx0.153"x72 1/2"	39.50	134.50
A4				C4			
A5				C5			
A6				C6			
B1	2.4"Øx0.153"x72 1/2"	39.50	13.50	D1			
B2	2.9"Øx0.203"x96"	47.00	66.00	D2			
B3	2.4"Øx0.153"x72 1/2"	39.50	134.50	D3			
B4				D4			
B5				D5			
B6				D6			
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :							8
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :							
Please enter additional information or comments below.							
Coax: (6) 1 5/8 FH, (2) 1 1/2"Ø HYB							
Tower Face Width at Mount Elev. (ft.):				Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):			
						28.3	

[illegible]





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

Tower Engineering Solutio...

Progesh Roka

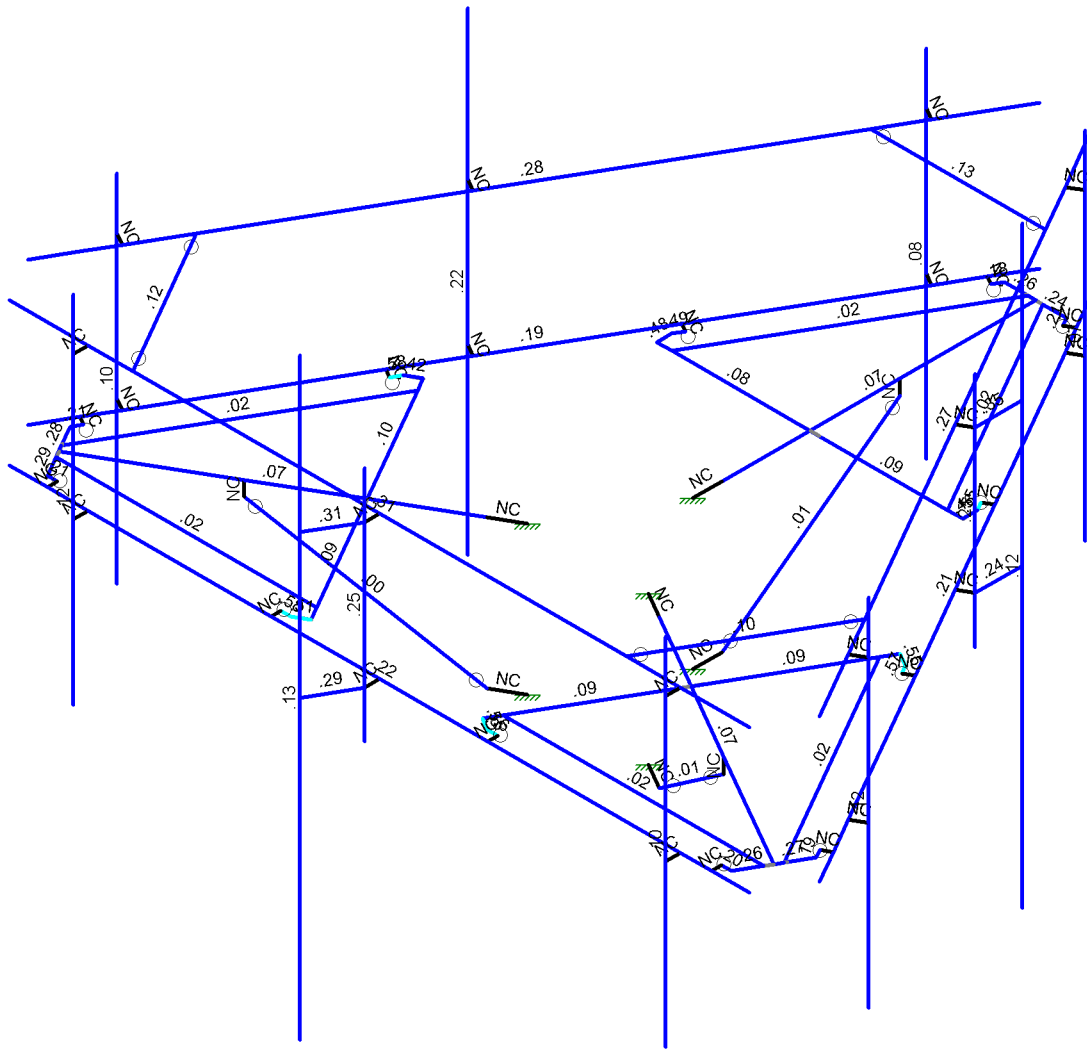
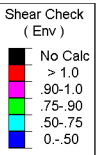
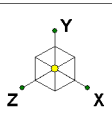
TES Project No. 131567

CT11558-A-SBA_MT_LO_Loads Only_G
UNITY

SK - 5

July 14, 2022 at 1:18 PM

CT11558-A-SBA_131567_G_RISA_...



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

Tower Engineering Solutio...	CT11558-A-SBA_MT_LO_Loads Only_G SHEAR	SK - 6
Progesh Roka		July 14, 2022 at 1:18 PM
TES Project No. 131567		CT11558-A-SBA_131567_G_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Antenna D	None					24			
2	Antenna Di	None					24			
3	Antenna W Front	None					24			
4	Antenna Wi Front	None					24			
5	Antenna W Side	None					24			
6	Antenna Wi Side	None					24			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						66	3	
11	Structure W Front	None						66		
12	Structure Wi Front	None						66		
13	Structure W Side	None						66		
14	Structure Wi Side	None						66		
15	BLC 9 Transient Area Loads	None						57		
16	BLC 10 Transient Area Loads	None						57		

Load Combinations

	Description	So...P...	S...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...
1	1.2D+1.6W (Front)	Yes	Y	1	1.2	9	1.2	3	1.6	11	1.6									
2	1.2D+1.6W (Back)	Yes	Y	1	1.2	9	1.2	3	-1.6	11	-1.6									
3	1.2D+1.6W (Left)	Yes	Y	1	1.2	9	1.2	5	1.6	13	1.6									
4	1.2D+1.6W (Right)	Yes	Y	1	1.2	9	1.2	5	-1.6	13	-1.6									
5	1.2D+1.0Di+1.0Wi (Front)	Yes	Y	1	1.2	9	1.2	2	1	10	1	4	1	12	1					
6	1.2D+1.0Di+1.0Wi (Back)	Yes	Y	1	1.2	9	1.2	2	1	10	1	4	-1	12	-1					
7	1.2D+1.0Di+1.0Wi (Left)	Yes	Y	1	1.2	9	1.2	2	1	10	1	6	1	14	1					
8	1.2D+1.0Di+1.0Wi (Right)	Yes	Y	1	1.2	9	1.2	2	1	10	1	6	-1	14	-1					
9	1.2D+1.5L1+16W (Mai...	Yes	Y	1	1.2	9	1.2	7	1.5	3	.16	11	.16							
10	1.2D+1.5L2+16W (Mai...	Yes	Y	1	1.2	9	1.2	8	1.5	3	.16	11	.16							
11	1.4D	Yes	Y	1	1.4	9	1.4													

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	-0.430472	0	-7.465411	0	
2	N2	-6.680472	0	3.359906	0	
3	N3	0	0	0	0	
4	N4	1.454201	0	0.839583	0	
5	N5	2.735076	0	1.579097	0	
6	N6	6.035583	0	3.484645	0	
7	N7	1.445076	0	3.813442	0	
8	N8	4.025076	0	-0.655249	0	
9	N9	1.661415	0	3.938797	0	
10	N10	4.241806	0	-0.530571	0	
11	N11	1.021188	0	0.589583	0	
12	N12	1.828081	0	3.938797	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
13	N13	1.828081	0	4.105505	0	
14	N14	4.325139	0	-0.386234	0	
15	N15	4.469513	0	-0.469588	0	
16	N16	5.606712	0	4.105505	0	
17	N17	5.606712	0	3.938797	0	
18	N18	6.358828	0	2.802802	0	
19	N19	6.214454	0	2.886156	0	
20	N20	6.297788	0	3.030494	0	
21	N21	5.773378	0	3.938797	0	
22	N22	5.973083	0	3.592899	0	
23	N23	6.098083	0	3.376392	0	
24	N24	1.572407	0	3.592899	0	
25	N25	3.897745	0	-0.434705	0	
26	N26	-1.6e-13	0	-1.679167	0	
27	N27	-1e-14	0	-3.158193	0	
28	N28	-2.8e-13	0	-6.969291	0	
29	N29	2.58	0	-3.158193	0	
30	N30	-2.58	0	-3.158193	0	
31	N31	2.580391	0	-3.408226	0	
32	N32	-2.580391	0	-3.408226	0	
33	N33	-5e-14	0	-1.179167	0	
34	N34	2.497058	0	-3.552563	0	
35	N35	2.641431	0	-3.635918	0	
36	N36	-2.497058	0	-3.552563	0	
37	N37	-2.641431	0	-3.635918	0	
38	N38	0.752116	0	-6.908308	0	
39	N39	0.607743	0	-6.824953	0	
40	N40	-0.752116	0	-6.908308	0	
41	N41	-0.607743	0	-6.824953	0	
42	N42	-0.524409	0	-6.969291	0	
43	N43	0.524409	0	-6.969291	0	
44	N44	0.125	0	-6.969291	0	
45	N45	-0.125	0	-6.969291	0	
46	N46	2.325338	0	-3.158193	0	
47	N47	-2.325338	0	-3.158193	0	
48	N48	-1.454201	0	0.839583	0	
49	N49	-2.735076	0	1.579097	0	
50	N50	-6.035583	0	3.484645	0	
51	N51	-4.025076	0	-0.655249	0	
52	N52	-1.445076	0	3.813442	0	
53	N53	-4.241806	0	-0.530571	0	
54	N54	-1.661415	0	3.938797	0	
55	N55	-1.021188	0	0.589583	0	
56	N56	-4.325139	0	-0.386234	0	
57	N57	-4.469513	0	-0.469588	0	
58	N58	-1.828081	0	3.938797	0	
59	N59	-1.828081	0	4.105505	0	
60	N60	-6.358828	0	2.802802	0	
61	N61	-6.214454	0	2.886156	0	
62	N62	-5.606712	0	4.105505	0	
63	N63	-5.606712	0	3.938797	0	
64	N64	-5.773378	0	3.938797	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
65	N65	-6.297788	0	3.030494	0	
66	N66	-6.098083	0	3.376392	0	
67	N67	-5.973083	0	3.592899	0	
68	N68	-3.897745	0	-0.434705	0	
69	N69	-1.572407	0	3.592899	0	
70	N70	-6.25	0	4.105505	0	
71	N71	6.25	0	4.105505	0	
72	N72	6.680472	0	3.359906	0	
73	N73	0.430472	0	-7.465412	0	
74	N74	-1.097139	0	-6.310711	0	
75	N75	-3.930472	0	-1.403234	0	
76	N76	-6.097139	0	2.349543	0	
77	N77	-1.313645	0	-6.435711	0	
78	N78	-4.146978	0	-1.528234	0	
79	N79	-6.313645	0	2.224543	0	
80	N80	6.230312	3.291667	2.080205	0	
81	N81	1.230312	3.291667	-6.580049	0	
82	N82	6.230312	-2.708333	2.080205	0	
83	N83	1.230312	-2.708333	-6.580049	0	
84	N84	-4.916667	0	4.105505	0	
85	N85	5.083333	0	4.105505	0	
86	N86	-4.916667	0	4.355505	0	
87	N87	5.083333	0	4.355505	0	
88	N88	-1.313645	3.291667	-6.435711	0	
89	N89	-6.313645	3.291667	2.224543	0	
90	N90	-1.313645	-2.708333	-6.435711	0	
91	N91	-6.313645	-2.708333	2.224543	0	
92	N92	-4.146978	4.916667	-1.528234	0	
93	N93	-4.146978	-3.083333	-1.528234	0	
94	N94	6.013805	0	2.205205	0	
95	N95	1.013805	0	-6.455049	0	
96	N96	6.230312	0	2.080205	0	
97	N97	1.230312	0	-6.580049	0	
98	N98	-4.916667	3.291667	4.355505	0	
99	N99	5.083333	3.291667	4.355505	0	
100	N100	-4.916667	-2.708333	4.355505	0	
101	N101	5.083333	-2.708333	4.355505	0	
102	N102	-1.313644	0.961667	-6.435711	0	
103	N103	-4.146978	0.961667	-1.528233	0	
104	N104	-0.430472	2.416667	-7.465411	0	
105	N105	-6.680472	2.416667	3.359906	0	
106	N106	-1.097139	2.416667	-6.310711	0	
107	N107	-3.930472	2.416667	-1.403234	0	
108	N108	-6.097139	2.416667	2.349543	0	
109	N109	-1.313645	2.416667	-6.435711	0	
110	N110	-4.146978	2.416667	-1.528234	0	
111	N111	-6.313645	2.416667	2.224543	0	
112	N112	-6.25	2.416667	4.105505	0	
113	N113	6.25	2.416667	4.105505	0	
114	N114	-4.916667	2.416667	4.105505	0	
115	N115	5.083333	2.416667	4.105505	0	
116	N116	-4.916667	2.416667	4.355505	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
117	N117	5.083333	2.416667	4.355505	0	
118	N118	6.680472	2.416667	3.359906	0	
119	N119	0.430472	2.416667	-7.465412	0	
120	N120	6.013805	2.416667	2.205205	0	
121	N121	1.013805	2.416667	-6.455049	0	
122	N122	6.230312	2.416667	2.080205	0	
123	N123	1.230312	2.416667	-6.580049	0	
124	N125	-6.388805	2.416667	2.854725	0	
125	N126	-4.166667	2.416667	4.105505	0	
126	N127	4.166667	2.416667	4.105505	0	
127	N130	0.	0	4.105505	0	
128	N131	0.	2.416667	4.105505	0	
129	N132	0.	0	4.355505	0	
130	N133	0.	2.416667	4.355505	0	
131	N134	0.	3.208333	4.355505	0	
132	N135	0.	-0.791667	4.355505	0	
133	N136	0.	1.25	4.355505	0	
134	N137	-0.401042	0	5.05013	0	
135	N138	-0.401042	2.416667	5.05013	0	
136	N139	-0.401042	5	5.05013	0	
137	N140	-0.401042	-5	5.05013	0	
138	N141	3.555472	0	-2.052753	0	
139	N142	3.555472	2.416667	-2.052753	0	
140	N143	3.771978	0	-2.177753	0	
141	N144	3.771978	2.416667	-2.177753	0	
142	N145	3.771978	3.208333	-2.177753	0	
143	N146	3.771978	-0.791667	-2.177753	0	
144	N147	3.771978	1.25	-2.177753	0	
145	N148	3.771978	0	-2.979836	0	
146	N149	3.771978	2.416667	-2.979836	0	
147	N150	3.771978	5	-2.979836	0	
148	N151	3.771978	-5	-2.979836	0	
149	N152	-1.6e-13	-.25	-4.679167	0	
150	N153	-1.6e-13	-2.5	-1.679167	0	
151	N154	-5e-14	-2.5	-1.179167	0	
152	N155	-1.6e-13	0	-4.679167	0	
153	N156	-4.052277	-.25	2.339583	0	
154	N157	-1.454201	-2.5	0.839583	0	
155	N158	-1.021188	-2.5	0.589583	0	
156	N159	-4.052277	0	2.339583	0	
157	N160	4.052277	-.25	2.339583	0	
158	N161	1.454201	-2.5	0.839583	0	
159	N162	1.021188	-2.5	0.589583	0	
160	N163	4.052277	0	2.339583	0	
161	N161A	5.638805	2.416667	1.555686	0	
162	N162A	1.472139	2.416667	-5.661192	0	
163	N163A	-1.472139	2.416667	-5.661192	0	
164	N164	-5.638805	2.416667	1.555686	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Footrails	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Grating Angles	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
3	End Connections	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
4	Kickers	LL2.5x2.5x3x3	Beam	Double Angle (3/8 ...	A36 Gr.36	Typical	1.8	2.46	1.07	.023
5	Handrails	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Support Rail	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	MSK3D	0.625 All Thread	Beam	BAR	A36 Gr.36	Typical	.226	.004	.004	.008
8	Standoff Arm	HSS4X4X4	Beam	SquareTube	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
9	Plan Bracing	HSS4X4X4	Beam	SquareTube	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
10	Mount Pipe 2	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
11	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
12	PM1	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
13	Footrail Connection Plat...	PL1/2x6	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237
14	Plan Bracing Connectio...	PL3/8x6	Beam	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	58	1.2
3	A992	29000	11154	.3	.65	.49	50	1.1	58	1.2
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.2	58	1.1
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.5	58	1.2
7	Q235	29000	11154	.3	.65	.49	34	1.5	58	1.2
8	J429-Gr5	29000	11154	.3	.65	.49	92	1.5	120	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N6	N4			Standoff Arm	Beam	SquareTube	A500 Gr...	Typical
2	M2	N8	N5			Plan Bracing	Beam	SquareTube	A500 Gr...	Typical
3	M3	N5	N7			Plan Bracing	Beam	SquareTube	A500 Gr...	Typical
4	M4	N1	N2			Footrails	Beam	Pipe	A53 Gr.B	Typical
5	M5	N7	N9			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
6	M6	N8	N10			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
7	M7	N11	N4			RIGID	None	None	RIGID	Typical
8	M8	N9	N12			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
9	M9	N12	N13			RIGID	None	None	RIGID	Typical
10	M10	N10	N14			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
11	M11	N14	N15			RIGID	None	None	RIGID	Typical
12	M12	N16	N17			RIGID	None	None	RIGID	Typical
13	M13	N18	N19			RIGID	None	None	RIGID	Typical
14	M14	N20	N19			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
15	M15	N21	N17			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
16	M16	N21	N6			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
17	M17	N6	N20			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
18	M18	N22	N24			Grating Angles	Beam	Single Angle	A36 Gr.36	Typical
19	M19	N25	N23			Grating Angles	Beam	Single Angle	A36 Gr.36	Typical
20	M20	N28	N26			Standoff Arm	Beam	SquareTube	A500 Gr...	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
21	M21	N30	N27			Plan Bracing	Beam	SquareTube	A500 Gr...	Typical
22	M22	N27	N29			Plan Bracing	Beam	SquareTube	A500 Gr...	Typical
23	M23	N29	N31			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
24	M24	N30	N32			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
25	M25	N33	N26			RIGID	None	None	RIGID	Typical
26	M26	N31	N34			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
27	M27	N34	N35			RIGID	None	None	RIGID	Typical
28	M28	N32	N36			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
29	M29	N36	N37			RIGID	None	None	RIGID	Typical
30	M30	N38	N39			RIGID	None	None	RIGID	Typical
31	M31	N40	N41			RIGID	None	None	RIGID	Typical
32	M32	N42	N41			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
33	M33	N43	N39			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
34	M34	N43	N28			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
35	M35	N28	N42			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
36	M36	N44	N46			Grating Angles	Beam	Single Angle	A36 Gr.36	Typical
37	M37	N47	N45			Grating Angles	Beam	Single Angle	A36 Gr.36	Typical
38	M38	N50	N48			Standoff Arm	Beam	SquareTube	A500 Gr...	Typical
39	M39	N52	N49			Plan Bracing	Beam	SquareTube	A500 Gr...	Typical
40	M40	N49	N51			Plan Bracing	Beam	SquareTube	A500 Gr...	Typical
41	M41	N51	N53			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
42	M42	N52	N54			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
43	M43	N55	N48			RIGID	None	None	RIGID	Typical
44	M44	N53	N56			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
45	M45	N56	N57			RIGID	None	None	RIGID	Typical
46	M46	N54	N58			Plan Bracing Connection Plates	Beam	RECT	A36 Gr.36	Typical
47	M47	N58	N59			RIGID	None	None	RIGID	Typical
48	M48	N60	N61			RIGID	None	None	RIGID	Typical
49	M49	N62	N63			RIGID	None	None	RIGID	Typical
50	M50	N64	N63			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
51	M51	N65	N61			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
52	M52	N65	N50			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
53	M53	N50	N64			Footrail Connection Plates	Beam	RECT	A36 Gr.36	Typical
54	M54	N66	N68			Grating Angles	Beam	Single Angle	A36 Gr.36	Typical
55	M55	N69	N67			Grating Angles	Beam	Single Angle	A36 Gr.36	Typical
56	M56	N70	N71			Footrails	Beam	Pipe	A53 Gr.B	Typical
57	M57	N72	N73			Footrails	Beam	Pipe	A53 Gr.B	Typical
58	M58	N77	N74			RIGID	None	None	RIGID	Typical
59	M59	N78	N75			RIGID	None	None	RIGID	Typical
60	M60	N79	N76			RIGID	None	None	RIGID	Typical
61	MP3C	N80	N82			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
62	MP1C	N81	N83			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
63	M64	N86	N84			RIGID	None	None	RIGID	Typical
64	M66	N87	N85			RIGID	None	None	RIGID	Typical
65	MP3B	N88	N90		240	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
66	MP1B	N89	N91		240	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
67	MP2B	N92	N93		240	Mount Pipe 2	Beam	Pipe	A53 Gr.B	Typical
68	M70	N96	N94			RIGID	None	None	RIGID	Typical
69	M72	N97	N95			RIGID	None	None	RIGID	Typical
70	MP3A	N98	N100		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
71	MP1A	N99	N101		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
72	M76	N104	N105			Support Rail	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
73	M77	N109	N106			RIGID	None	None	RIGID	Typical
74	M78	N110	N107			RIGID	None	None	RIGID	Typical
75	M79	N111	N108			RIGID	None	None	RIGID	Typical
76	M80	N112	N113			Support Rail	Beam	Pipe	A53 Gr.B	Typical
77	M81	N116	N114			RIGID	None	None	RIGID	Typical
78	M83	N117	N115			RIGID	None	None	RIGID	Typical
79	M84	N118	N119			Support Rail	Beam	Pipe	A53 Gr.B	Typical
80	M85	N122	N120			RIGID	None	None	RIGID	Typical
81	M87	N123	N121			RIGID	None	None	RIGID	Typical
82	M89	N164	N126		270	End Connections	Beam	Single Angle	A36 Gr.36	Typical
83	M85A	N133	N131			RIGID	None	None	RIGID	Typical
84	M86	N132	N130			RIGID	None	None	RIGID	Typical
85	M87A	N134	N135		30	PM1	Beam	Pipe	A53 Gr.B	Typical
86	M88A	N138	N133			PM1	Beam	Pipe	A53 Gr.B	Typical
87	M89A	N137	N132			PM1	Beam	Pipe	A53 Gr.B	Typical
88	MP2A	N139	N140		30	PM1	Beam	Pipe	A53 Gr.B	Typical
89	M91	N144	N142			RIGID	None	None	RIGID	Typical
90	M92	N143	N141			RIGID	None	None	RIGID	Typical
91	M93	N145	N146		180	PM1	Beam	Pipe	A53 Gr.B	Typical
92	M94	N149	N144			PM1	Beam	Pipe	A53 Gr.B	Typical
93	M95	N148	N143			PM1	Beam	Pipe	A53 Gr.B	Typical
94	MP2C	N150	N151		180	PM1	Beam	Pipe	A53 Gr.B	Typical
95	M97	N154	N153			RIGID	None	None	RIGID	Typical
96	M98	N152	N153			Kickers	Beam	Double Angl...	A36 Gr.36	Typical
97	M99	N155	N152			RIGID	None	None	RIGID	Typical
98	M100	N158	N157			RIGID	None	None	RIGID	Typical
99	M101	N156	N157			Kickers	Beam	Double Angl...	A36 Gr.36	Typical
100	M102	N159	N156		240	RIGID	None	None	RIGID	Typical
101	M103	N162	N161			RIGID	None	None	RIGID	Typical
102	M104	N160	N161			Kickers	Beam	Double Angl...	A36 Gr.36	Typical
103	M105	N163	N160		120	RIGID	None	None	RIGID	Typical
104	M104A	N127	N161A		270	End Connections	Beam	Single Angle	A36 Gr.36	Typical
105	M105A	N162A	N163A		270	End Connections	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic ...
1	M1						Yes				None
2	M2				2		Yes				None
3	M3			2			Yes				None
4	M4						Yes				None
5	M5			2			Yes				None
6	M6			2			Yes				None
7	M7						Yes	** NA **			None
8	M8						Yes				None
9	M9		BenPIN				Yes	** NA **			None
10	M10						Yes				None
11	M11		BenPIN				Yes	** NA **			None
12	M12	BenPIN					Yes	** NA **			None
13	M13	BenPIN					Yes	** NA **			None
14	M14						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
15	M15						Yes				None
16	M16				2		Yes				None
17	M17			2			Yes				None
18	M18						Yes		+y+2.1		None
19	M19						Yes		+y+2.1		None
20	M20						Yes				None
21	M21				2		Yes				None
22	M22			2			Yes				None
23	M23			2			Yes				None
24	M24			2			Yes				None
25	M25						Yes	** NA **			None
26	M26						Yes				None
27	M27		BenPIN				Yes	** NA **			None
28	M28						Yes				None
29	M29		BenPIN				Yes	** NA **			None
30	M30	BenPIN					Yes	** NA **			None
31	M31	BenPIN					Yes	** NA **			None
32	M32						Yes				None
33	M33						Yes				None
34	M34				2		Yes				None
35	M35			2			Yes				None
36	M36						Yes		+y+2.1		None
37	M37						Yes		+y+2.1		None
38	M38						Yes				None
39	M39				2		Yes				None
40	M40			2			Yes				None
41	M41			2			Yes				None
42	M42			2			Yes				None
43	M43						Yes	** NA **			None
44	M44						Yes				None
45	M45		BenPIN				Yes	** NA **			None
46	M46						Yes				None
47	M47		BenPIN				Yes	** NA **			None
48	M48	BenPIN					Yes	** NA **			None
49	M49	BenPIN					Yes	** NA **			None
50	M50						Yes				None
51	M51						Yes				None
52	M52				2		Yes				None
53	M53			2			Yes				None
54	M54						Yes		+y+2.1		None
55	M55						Yes		+y+2.1		None
56	M56						Yes				None
57	M57						Yes				None
58	M58						Yes	** NA **			None
59	M59						Yes	** NA **			None
60	M60						Yes	** NA **			None
61	MP3C						Yes				None
62	MP1C						Yes				None
63	M64						Yes	** NA **			None
64	M66						Yes	** NA **			None
65	MP3B						Yes				None
66	MP1B						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
67	MP2B						Yes				None
68	M70						Yes	** NA **			None
69	M72						Yes	** NA **			None
70	MP3A						Yes				None
71	MP1A						Yes				None
72	M76						Yes				None
73	M77						Yes	** NA **			None
74	M78						Yes	** NA **			None
75	M79						Yes	** NA **			None
76	M80						Yes				None
77	M81						Yes	** NA **			None
78	M83						Yes	** NA **			None
79	M84						Yes				None
80	M85						Yes	** NA **			None
81	M87						Yes	** NA **			None
82	M89	OOOOOX	OOOOOX				Yes				None
83	M85A						Yes	** NA **			None
84	M86						Yes	** NA **			None
85	M87A						Yes				None
86	M88A						Yes				None
87	M89A						Yes				None
88	MP2A						Yes				None
89	M91						Yes	** NA **			None
90	M92						Yes	** NA **			None
91	M93						Yes				None
92	M94						Yes				None
93	M95						Yes				None
94	MP2C						Yes				None
95	M97						Yes	** NA **			None
96	M98	BenPIN	BenPIN				Yes				None
97	M99						Yes	** NA **			None
98	M100						Yes	** NA **			None
99	M101	BenPIN	BenPIN				Yes				None
100	M102						Yes	** NA **			None
101	M103						Yes	** NA **			None
102	M104	BenPIN	BenPIN				Yes				None
103	M105						Yes	** NA **			None
104	M104A	OOOOOX	OOOOOX				Yes				None
105	M105A	OOOOOX	OOOOOX				Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Standoff Arm	5.29			Lbyy			2.1	2.1		Lateral
2	M2	Plan Bracing	2.58			Lbyy			1	1		Lateral
3	M3	Plan Bracing	2.58			Lbyy			1	1		Lateral
4	M4	Footrails	12.5			Lbyy			1	1		Lateral
5	M5	Plan Bracin...	.25			Lbyy			.65	.65		Lateral
6	M6	Plan Bracin...	.25			Lbyy			.65	.65		Lateral
7	M8	Plan Bracin...	.167			Lbyy						Lateral
8	M10	Plan Bracin...	.167			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
9	M14	Footrail Con...	.167			Lbyy						Lateral
10	M15	Footrail Con...	.167			Lbyy						Lateral
11	M16	Footrail Con...	.524			Lbyy						Lateral
12	M17	Footrail Con...	.524			Lbyy						Lateral
13	M18	Grating Ang...	4.401			Lbyy						Lateral
14	M19	Grating Ang...	4.401			Lbyy						Lateral
15	M20	Standoff Arm	5.29			Lbyy			2.1	2.1		Lateral
16	M21	Plan Bracing	2.58			Lbyy			1	1		Lateral
17	M22	Plan Bracing	2.58			Lbyy			1	1		Lateral
18	M23	Plan Bracin...	.25			Lbyy			.65	.65		Lateral
19	M24	Plan Bracin...	.25			Lbyy			.65	.65		Lateral
20	M26	Plan Bracin...	.167			Lbyy						Lateral
21	M28	Plan Bracin...	.167			Lbyy						Lateral
22	M32	Footrail Con...	.167			Lbyy						Lateral
23	M33	Footrail Con...	.167			Lbyy						Lateral
24	M34	Footrail Con...	.524			Lbyy						Lateral
25	M35	Footrail Con...	.524			Lbyy						Lateral
26	M36	Grating Ang...	4.401			Lbyy						Lateral
27	M37	Grating Ang...	4.401			Lbyy						Lateral
28	M38	Standoff Arm	5.29			Lbyy			2.1	2.1		Lateral
29	M39	Plan Bracing	2.58			Lbyy			1	1		Lateral
30	M40	Plan Bracing	2.58			Lbyy			1	1		Lateral
31	M41	Plan Bracin...	.25			Lbyy			.65	.65		Lateral
32	M42	Plan Bracin...	.25			Lbyy			.65	.65		Lateral
33	M44	Plan Bracin...	.167			Lbyy						Lateral
34	M46	Plan Bracin...	.167			Lbyy						Lateral
35	M50	Footrail Con...	.167			Lbyy						Lateral
36	M51	Footrail Con...	.167			Lbyy						Lateral
37	M52	Footrail Con...	.524			Lbyy						Lateral
38	M53	Footrail Con...	.524			Lbyy						Lateral
39	M54	Grating Ang...	4.401			Lbyy						Lateral
40	M55	Grating Ang...	4.401			Lbyy						Lateral
41	M56	Footrails	12.5			Lbyy			1	1		Lateral
42	M57	Footrails	12.5			Lbyy			1	1		Lateral
43	MP3C	Mount Pipe	6			Lbyy						Lateral
44	MP1C	Mount Pipe	6			Lbyy						Lateral
45	MP3B	Mount Pipe	6			Lbyy						Lateral
46	MP1B	Mount Pipe	6			Lbyy						Lateral
47	MP2B	Mount Pipe 2	8			Lbyy						Lateral
48	MP3A	Mount Pipe	6			Lbyy						Lateral
49	MP1A	Mount Pipe	6			Lbyy						Lateral
50	M76	Support Rail	12.5			Lbyy						Lateral
51	M80	Support Rail	12.5			Lbyy						Lateral
52	M84	Support Rail	12.5			Lbyy						Lateral
53	M89	End Connec...	2.944			Lbyy						Lateral
54	M87A	PM1	4			Lbyy						Lateral
55	M88A	PM1	.802			Lbyy						Lateral
56	M89A	PM1	.802			Lbyy						Lateral
57	MP2A	PM1	10	Segment	Segment	Lbyy						Lateral
58	M93	PM1	4			Lbyy						Lateral
59	M94	PM1	.802			Lbyy						Lateral
60	M95	PM1	.802			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
61	MP2C	PM1	10			Lbyy						Lateral
62	M98	Kickers	3.75			Lbyy						Lateral
63	M101	Kickers	3.75			Lbyy						Lateral
64	M104	Kickers	3.75			Lbyy						Lateral
65	M104A	End Connec...	2.944			Lbyy						Lateral
66	M105A	End Connec...	2.944			Lbyy						Lateral

Joint Boundary Conditions

	Joint 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	N3						
2	N4						
3	N11	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N26						
5	N33	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N48						
7	N55	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N152						
9	N153						
10	N154	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
11	N155						
12	N156						
13	N157						
14	N158	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
15	N159						
16	N160						
17	N161						
18	N162	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
19	N163						

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N11	max	2446.357	4	1103.778	8	1964.919	1	.121	2	2.415	2	1.651	8
2		min	-5274.373	7	33.357	3	-3233.965	6	-.878	5	-2.429	1	.07	3
3	N33	max	2225.366	4	878.444	6	6048.222	5	1.5	6	4.005	3	.482	8
4		min	-2222.431	3	-80.363	9	-2902.074	2	.03	9	-3.996	4	-.326	9
5	N55	max	5650.657	8	1019.432	7	2208.085	1	.305	10	2.687	1	.007	4
6		min	-2705.794	3	-73.803	10	-3457.239	6	-.878	5	-2.673	2	-1.539	7
7	N154	max	40.263	4	4533.611	5	-64.241	2	2.267	5	.021	3	0	4
8		min	-40.367	3	43.118	2	-5920.959	5	.022	2	-.021	4	0	3
9	N158	max	-150.944	3	4866.801	8	3188.744	8	-.03	3	.017	1	-.051	3
10		min	-5508.944	8	118.34	3	69.687	3	-1.217	8	-.016	2	-2.107	8
11	N162	max	5153.191	7	4558.995	7	2983.465	7	-.029	4	.016	2	1.974	7
12		min	145.987	4	114.046	4	66.819	4	-1.14	7	-.017	1	.049	4
13	Totals:	max	7399.061	4	16035.152	7	7380.973	1						
14		min	-7399.003	3	3133.557	4	-7380.904	2						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Lo.....	LC	phi*...	phi*...	phi*...	phi*...	Cb	Eqn
1	MP2A	PIPE 2.0	.688	5	2	.130	5	3	299...	32130	1.872	1.872	1.443	H1-...
2	MP3A	PIPE 2.0	.629	3.25	4	.124	3....	4	208...	32130	1.872	1.872	1.943	H1-...
3	MP1A	PIPE 2.0	.614	3.25	3	.100	3....	3	208...	32130	1.872	1.872	2.091	H1-...
4	MP2C	PIPE 2.0	.596	5	3	.121	5	2	983...	32130	1.872	1.872	1.445	H1-...
5	MP3C	PIPE 2.0	.574	3.25	2	.117	3....	2	208...	32130	1.872	1.872	2.042	H1-...
6	MP1B	PIPE 2.0	.543	3.25	2	.102	3....	2	208...	32130	1.872	1.872	2.065	H1-...
7	MP3B	PIPE 2.0	.509	3.25	1	.085	2....	1	208...	32130	1.872	1.872	1.931	H1-...
8	M80	PIPE 2.0	.495	10.417	3	.312	10...	3	629...	32130	1.872	1.872	1.518	H3-6
9	MP1C	PIPE 2.0	.493	3.25	1	.070	3....	1	208...	32130	1.872	1.872	2.094	H1-...
10	M76	PIPE 2.0	.466	2.083	2	.280	2....	1	629...	32130	1.872	1.872	2.087	H3-6
11	M88A	PIPE 2.0	.445	0	1	.313	.8...	3	318...	32130	1.872	1.872	2.143	H1-...
12	M95	PIPE 2.0	.429	.802	3	.244	.8...	1	318...	32130	1.872	1.872	2.178	H1-...
13	M89A	PIPE 2.0	.412	0	2	.287	.8...	2	318...	32130	1.872	1.872	2.158	H1-...
14	M94	PIPE 2.0	.402	0	2	.353	.8...	3	318...	32130	1.872	1.872	1.928	H1-...
15	M44	PL3/8x6	.392	.167	3	.577	0 y	8	714...	72900	.57	9.113	1.069	H1-...
16	MP2B	PIPE 2.5	.387	4.917	2	.222	4....	2	300...	50715	3.596	3.596	1.991	H1-...
17	M93	PIPE 2.0	.382	3.208	2	.213	3....	2	265...	32130	1.872	1.872	1.713	H1-...
18	M84	PIPE 2.0	.382	2.083	2	.274	1....	2	629...	32130	1.872	1.872	1.509	H3-6
19	M87A	PIPE 2.0	.378	3.208	3	.245	3....	3	265...	32130	1.872	1.872	1.742	H1-...
20	M10	PL3/8x6	.362	.167	4	.575	0 y	6	714...	72900	.57	9.113	1.063	H1-...
21	M6	PL3/8x6	.352	0	4	.547	0 y	8	726...	72900	.57	9.113	1.047	H1-...
22	M24	PL3/8x6	.340	0	2	.478	0 y	7	726...	72900	.57	9.113	1.018	H1-...
23	M46	PL3/8x6	.337	.167	1	.576	0 y	8	714...	72900	.57	9.113	1.07	H1-...
24	M23	PL3/8x6	.326	0	2	.461	0 y	6	726...	72900	.57	9.113	1.015	H1-...
25	M17	PL1/2x6	.313	0	3	.268	0 y	7	927...	97200	1.012	12.15	1.26	H1-...
26	M8	PL3/8x6	.312	.167	1	.560	0 y	7	714...	72900	.57	9.113	1.133	H1-...
27	M52	PL1/2x6	.292	.358	4	.279	.3...y	8	927...	97200	1.012	12.15	1.274	H1-...
28	M26	PL3/8x6	.286	.167	2	.547	0 y	5	714...	72900	.57	9.113	1.024	H1-...
29	M35	PL1/2x6	.280	0	1	.259	0 y	8	927...	97200	1.012	12.15	1.278	H1-...
30	M28	PL3/8x6	.278	0	2	.486	0 y	5	714...	72900	.57	9.113	1.027	H1-...
31	M40	HSS4X4X4	.276	0	8	.100	0 y	6	136...	139...	16.1...	16.1...	1.679	H1-...
32	M2	HSS4X4X4	.275	2.413	7	.092	2...y	6	136...	139...	16.1...	16.1...	1.66	H1-...
33	M34	PL1/2x6	.274	.358	1	.241	.3...y	7	927...	97200	1.012	12.15	1.286	H1-...
34	M39	HSS4X4X4	.272	2.413	6	.092	2...y	8	136...	139...	16.1...	16.1...	1.664	H1-...
35	M41	PL3/8x6	.268	0	3	.423	0 y	7	726...	72900	.57	9.113	1.054	H1-...
36	M55	L2x2x3	.267	4.401	6	.018	4...y	6	885...	233...	.558	1.239	2.736	H2-1
37	M54	L2x2x3	.266	0	8	.019	0 y	5	885...	233...	.558	1.239	2.79	H2-1
38	M3	HSS4X4X4	.263	0	6	.087	0 y	5	136...	139...	16.1...	16.1...	1.656	H1-...
39	M22	HSS4X4X4	.261	0	5	.089	0 y	8	136...	139...	16.1...	16.1...	1.674	H1-...
40	M19	L2x2x3	.259	4.401	7	.018	4...y	5	885...	233...	.558	1.239	2.826	H2-1
41	M18	L2x2x3	.259	0	6	.018	0 y	6	885...	233...	.558	1.239	2.785	H2-1
42	M57	PIPE 3.0	.256	6.25	5	.207	4....	6	282...	65205	5.749	5.749	1.762	H1-...
43	M37	L2x2x3	.252	4.401	8	.017	4...y	8	885...	233...	.558	1.239	2.888	H2-1
44	M36	L2x2x3	.246	0	7	.017	0 y	7	885...	233...	.558	1.239	2.918	H2-1
45	M38	HSS4X4X4	.242	2.259	8	.071	2...y	6	832...	139...	16.1...	16.1...	2.313	H1-...
46	M56	PIPE 3.0	.241	6.25	7	.215	4....	4	282...	65205	5.749	5.749	1.742	H1-...
47	M21	HSS4X4X4	.241	2.413	5	.077	2...y	7	136...	139...	16.1...	16.1...	1.668	H1-...
48	M5	PL3/8x6	.232	0	4	.547	0 y	8	726...	72900	.57	9.113	1.039	H1-...
49	M20	HSS4X4X4	.226	2.259	5	.071	5...z	4	832...	139...	16.1...	16.1...	2.291	H1-...
50	M1	HSS4X4X4	.223	2.259	7	.066	2...y	6	832...	139...	16.1...	16.1...	2.315	H1-...
51	M42	PL3/8x6	.219	0	3	.510	0 y	5	726...	72900	.57	9.113	1.052	H1-...

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Lo.....	LC	phi*...	phi*...	phi*...	phi*...	Cb	Eqn
52	M89	L3X3X4	.207	0	4	.118	2...z	2	385...	46656	1.688	3.718	1.136	H2-1
53	M105A	L3X3X4	.205	2.944	4	.135	0 z	3	385...	46656	1.688	3.718	1.136	H2-1
54	M16	PL1/2x6	.196	.358	3	.256	.3...y	6	927...	97200	1.012	12.15	1.305	H1-...
55	M104A	L3X3X4	.189	0	2	.102	0 z	2	385...	46656	1.688	3.718	1.136	H2-1
56	M53	PL1/2x6	.186	0	4	.290	0 y	6	927...	97200	1.012	12.15	1.291	H1-...
57	M4	PIPE 3.0	.181	7.031	6	.187	4....	1	282...	65205	5.749	5.749	2.905	H1-...
58	M101	LL2.5x2.5x3x3	.181	3.75	8	.005	0 y	6	442...	58320	3.954	2.55	1.136	H1-...
59	M104	LL2.5x2.5x3x3	.169	3.75	7	.005	0 y	6	442...	58320	3.954	2.55	1.136	H1-...
60	M98	LL2.5x2.5x3x3	.168	3.75	5	.006	3...y	8	442...	58320	3.954	2.55	1	H1-...
61	M32	PL1/2x6	.141	.167	1	.184	0 y	5	962...	97200	1.012	12.15	1.259	H1-...
62	M33	PL1/2x6	.138	.167	1	.209	0 y	5	962...	97200	1.012	12.15	1.295	H1-...
63	M15	PL1/2x6	.135	.167	3	.196	0 y	7	962...	97200	1.012	12.15	1.411	H1-...
64	M50	PL1/2x6	.130	.167	4	.210	0 y	8	962...	97200	1.012	12.15	1.321	H1-...
65	M14	PL1/2x6	.130	.167	3	.195	0 y	6	962...	97200	1.012	12.15	1.203	H1-...
66	M51	PL1/2x6	.111	.167	4	.215	0 y	6	962...	97200	1.012	12.15	1.246	H1-...



Standoff Arm Flange Connection Check

Date

7/13/2022

Customer: SBA

TIA Standard: ANSI/TIA-222-G

Carrier: T-Mobile

Mount Elev. [ft]: 127

Site Name: Bolton2, CT

Engineer Name: Progesh Roka

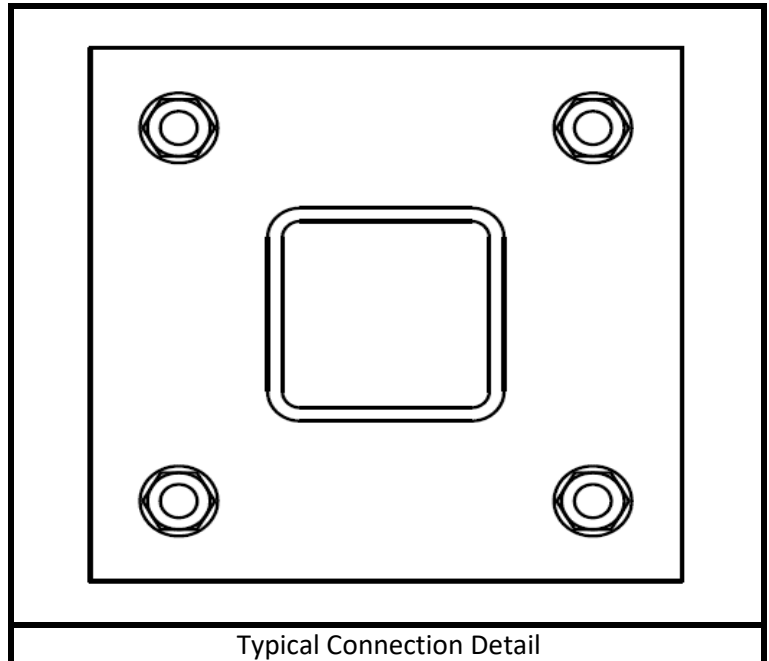
Site Number: CT11558-A-SBA

Project #: 131567

NOTE: The calculations shown below are for a single representative load combination for example purposes. The results for all load combinations are presented in the Results Summary Table.

RISA Member Label =	M1	
I or J End?	J	
Load Combination # =	6	
Plate Width, Wp =	10	[In]
Plate Height, Hp =	10	[In]
Plate Thickness, tp =	0.625	[In]
Plate Fy =	36	[KSI]
Bolt Diameter, db =	0.625	[In]
Bolt Fu =	120	[KSI]
Bolt Horizontal Spacing, Sbh =	7	[In]
Bolt Vertical Spacing, Sbv =	7	[In]
Standoff Member Shape =	Rect Tube	
Member Width, Wm =	4	[In]
Member Depth, Dm =	4	[In]
Member Thickness, tm =	0.23	[In]
Standoff Weld Size =	0.375	[In]
# Standoff Welds =	1	

Length of Stiffener, Ls =		[In]
Width of Stiffener, Ws =		[In]
Width of Notch, Wn =		[In]
Stiffener Dim 1, ds1 =		[In]
Stiffener Dim 2, ds2 =		[In]
Stiffener Fy =		[KSI]
Stiffener Weld Size =		[In]
# Stiffener Welds =		



NOTES

Standoff and Stiffener welds are assumed 0.1875 in.

Capacity Checks:

Max Bolt Shear =	0.300	[Kips]
Bolt Shear Capacity =	13.81	[Kips]
Max Bolt Shear Usage =	2.2%	PASS
Max Bolt Tension =	2.98	[Kips]
Bolt Tension Capacity =	20.34	[Kips]
Max Bolt Tension Usage =	14.7%	PASS
Max Bolt Interaction =	14.8%	PASS
Max Plate Bending Moment =	7.52	[Kip-In]
Length of Yield Line =	7.73	[In]
Plate Moment Capacity =	24.47	[Kip-In]
Max Plate Usage =	28.5%	PASS
Max Weld Usage =	8.8%	PASS

	Standoff Arm Flange Connection Check			Date
				7/13/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-G
	Carrier:	T-Mobile	Mount Elev. [ft]:	127
	Site Name:	Bolton2, CT	Engineer Name:	Progesh Roka
	Site Number:	CT11558-A-SBA	Project #:	131567

Results Summary Table

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
M1	J	1	0.6957	1.2376	5.0%	6.1%	7.7%	11.8%	13.3%
M1	J	2	0.6586	2.2568	4.8%	11.1%	12.0%	21.9%	11.8%
M1	J	3	0.3017	1.2987	2.2%	6.4%	6.7%	13.0%	4.4%
M1	J	4	0.2965	0.0000	2.1%	0.0%	2.1%	0.0%	4.1%
M1	J	5	0.4420	2.6036	3.2%	12.8%	13.0%	24.9%	15.2%
M1	J	6	0.2999	2.9819	2.2%	14.7%	14.8%	28.5%	8.8%
M1	J	7	0.3525	2.6107	2.6%	12.8%	13.1%	27.3%	12.9%
M1	J	8	0.2757	2.0851	2.0%	10.3%	10.4%	21.5%	11.0%
M1	J	9	0.0715	0.4782	0.5%	2.4%	2.4%	4.6%	3.0%
M1	J	10	0.1269	0.4410	0.9%	2.2%	2.3%	4.2%	2.8%
M1	J	11	0.0657	0.5230	0.5%	2.6%	2.6%	5.4%	2.6%
M20	J	1	0.0646	1.3575	0.5%	6.7%	6.7%	13.3%	5.3%
M20	J	2	0.1189	0.0000	0.9%	0.0%	0.9%	0.0%	2.8%
M20	J	3	0.8549	2.4879	6.2%	12.2%	13.6%	24.5%	16.6%
M20	J	4	0.7723	2.4576	5.6%	12.1%	13.2%	23.7%	18.8%
M20	J	5	0.4883	2.4009	3.5%	11.8%	12.3%	24.4%	12.1%
M20	J	6	0.5055	1.7331	3.7%	8.5%	9.1%	17.9%	9.7%
M20	J	7	0.6856	2.6799	5.0%	13.2%	13.6%	25.6%	6.6%
M20	J	8	0.4896	2.7159	3.5%	13.4%	13.6%	25.9%	16.0%
M20	J	9	0.1473	0.7151	1.1%	3.5%	3.7%	7.4%	2.7%
M20	J	10	0.0557	0.5315	0.4%	2.6%	2.6%	5.3%	2.7%
M20	J	11	0.0989	0.4701	0.7%	2.3%	2.4%	4.9%	2.5%
M38	J	1	0.6836	1.1305	5.0%	5.6%	7.2%	10.8%	8.9%
M38	J	2	0.6742	2.1081	4.9%	10.4%	11.4%	20.6%	13.2%
M38	J	3	0.3750	0.0000	2.7%	0.0%	2.7%	0.0%	5.0%
M38	J	4	0.3339	1.3318	2.4%	6.5%	6.9%	12.9%	4.0%
M38	J	5	0.2794	2.4877	2.0%	12.2%	12.4%	23.7%	8.2%
M38	J	6	0.4527	2.7831	3.3%	13.7%	13.8%	26.6%	15.1%
M38	J	7	0.3906	2.0169	2.8%	9.9%	10.1%	20.9%	11.3%
M38	J	8	0.2828	2.5954	2.0%	12.8%	12.9%	26.5%	11.9%
M38	J	9	0.1417	0.5514	1.0%	2.7%	2.8%	5.3%	1.5%
M38	J	10	0.2286	0.7176	1.7%	3.5%	3.9%	6.8%	2.5%
M38	J	11	0.0621	0.5210	0.5%	2.6%	2.6%	5.4%	2.7%

Exhibit F

Power Density/RF Emissions Report



Radio Frequency Emissions Analysis Report



Site ID: CTHA076D

MCF_Carpenter RD_FT
12 Carpenter Road
Bolton, CT 06043

June 7, 2022

Fox Hill Telecom Project Number: 221293

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	15.10 %

June 7, 2022

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CTHA076D – MCF_Carpenter RD_FT**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **12 Carpenter Road, Bolton, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property are within specified federal limits.

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

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

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

General 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 & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **12 Carpenter Road, Bolton, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
UMTS	2100 MHz (AWS)	1	40
LTE	2100 MHz (AWS)	4	40

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	127
A	2	Ericsson AIR21 B2A/B4P	127
A	3	Ericsson AIR21 B4A/B2P	127
B	1	RFS APXVAALL24_43-U-NA20	127
B	2	Ericsson AIR21 B2A/B4P	127
B	3	Ericsson AIR21 B4A/B2P	127
C	1	RFS APXVAALL24_43-U-NA20	127
C	2	Ericsson AIR21 B2A/B4P	127
C	3	Ericsson AIR21 B4A/B2P	127

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.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	1.65
Antenna A2	Ericsson AIR21 B2A/B4P	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	6	215	8,364.47	2.05
Antenna A3	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	4	160	6,224.72	1.53
Sector A Composite MPE%							5.23
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	1.65
Antenna B2	Ericsson AIR21 B2A/B4P	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	6	215	8,364.47	2.05
Antenna B3	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	4	160	6,224.72	1.53
Sector B Composite MPE%							5.23
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	1.65
Antenna C2	Ericsson AIR21 B2A/B4P	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	6	215	8,364.47	2.05
Antenna C3	Ericsson AIR21 B4A/B2P	2100 MHz (AWS)	15.9	4	160	6,224.72	1.53
Sector C Composite MPE%							5.23

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. 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. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE %
T-MOBILE – Max Per Sector Value	5.23 %
Sprint	0.62 %
Verizon Wireless	3.87 %
MetroPCS	0.82 %
AT&T	4.56 %
Site Total MPE %:	15.10 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	5.23 %
T-MOBILE Sector B Total:	5.23 %
T-MOBILE Sector C Total:	5.23 %
Site Total:	15.10 %

Table 5: Site MPE Summary



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 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	926.96	127	4.55	600 MHz	400	1.14%
T-Mobile 700 MHz LTE	2	485.32	127	2.38	700 MHz	467	0.51%
T-Mobile 1900 MHz (PCS) LTE	4	1,556.18	127	15.28	1900 MHz (PCS)	1000	1.53%
T-Mobile 1900 MHz (PCS) GSM	1	583.57	127	1.43	1900 MHz (PCS)	1000	0.14%
T-Mobile 2100 MHz (AWS) UMTS	1	1,556.18	127	3.82	2100 MHz (AWS)	1000	0.38%
T-Mobile 2100 MHz (AWS) LTE	4	1,556.18	127	15.28	2100 MHz (AWS)	1000	1.53%
						Total:	5.23%

Table 6: 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:

T-MOBILE Sector	Power Density Value (%)
Sector A:	5.23 %
Sector B:	5.23 %
Sector C:	5.23 %
T-MOBILE Maximum Total (per sector):	5.23 %
Site Total:	15.10 %
Site Compliance Status:	COMPLIANT

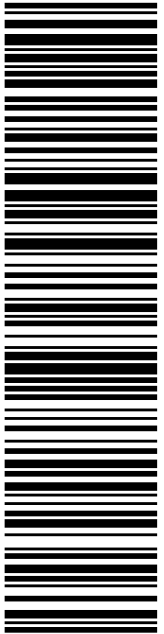
The anticipated composite MPE value for this site assuming all carriers present is **15.10 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G

Recipient Mailings

 UNITED STATES POSTAL SERVICE®		Click-N-Ship®	
		usps.com US POSTAGE Flat Rate Env U.S. POSTAGE PAID Click-N-Ship®	
08/04/2022		Mailed from 01566	
PRIORITY MAIL®		Expected Delivery Date: 08/05/22 Ref#: SBCTHA076 0000	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359			
		SBA COMMUNICATIONS CORPORATION STE 125 13 FLANDERS RD WESTBOROUGH MA 01581	
USPS TRACKING #		9405 5036 9930 0314 2213 67	
Electronic Rate Approved #038555749			

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Trans. #: 569068811
Print Date: 08/04/2022
Ship Date: 08/04/2022
Expected Delivery Date: 08/05/2022

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

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

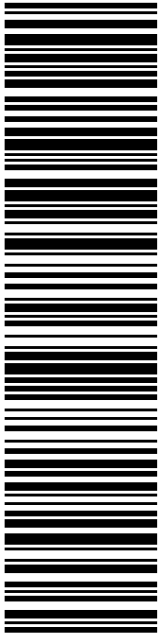
Ref#: SBCTHA076

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

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



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08/04/2022		Mailed from 01566	
PRIORITY MAIL®		Expected Delivery Date: 08/06/22 Ref#: SBCTHA076 0000	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359			
		PAMELA Z SAWYER FIRST SELECTWOMAN 222 BOLTON CENTER RD BOLTON CT 06043-7636	
USPS TRACKING #		9405 5036 9930 0314 2213 98	
Electronic Rate Approved #038555749			

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Expected Delivery Date: 08/06/2022

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

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

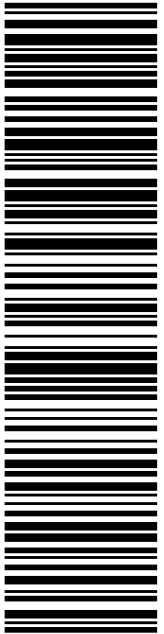
Ref#: SBCTHA076

To: PAMELA Z SAWYER
FIRST SELECTWOMAN
222 BOLTON CENTER RD
BOLTON CT 06043-7636

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DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359		 JENNIFER ROY ZONING ENFORCEMENT OFFICER 222 BOLTON CENTER RD BOLTON CT 06043-7636	
		USPS TRACKING #	
9405 5036 9930 0314 2214 28			
Electronic Rate Approved #038555749			

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Instructions

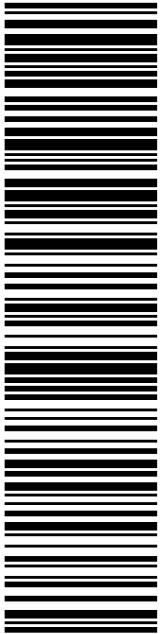
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- Place your label so it does not wrap around the edge of the package.
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USPS TRACKING # : 9405 5036 9930 0314 2214 28	
Trans. #: 569068811 Print Date: 08/04/2022 Ship Date: 08/04/2022 Expected Delivery Date: 08/06/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359	
To: JENNIFER ROY ZONING ENFORCEMENT OFFICER 222 BOLTON CENTER RD BOLTON CT 06043-7636	
Ref#: SBCTHA076	
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PRIORITY MAIL®		Expected Delivery Date: 08/06/22 Ref#: SBCTHA076 0000	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359			
		TERRY VEO 23 BOLTON CENTER RD BOLTON CT 06043-7205	
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USPS TRACKING # : 9405 5036 9930 0314 2214 35	
Trans. #: 569068811 Print Date: 08/04/2022 Ship Date: 08/04/2022 Expected Delivery Date: 08/06/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359	
To: TERRY VEO 23 BOLTON CENTER RD BOLTON CT 06043-7205	
Ref#: SBCTHA076	
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210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

08/04/2022

04:34 PM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 2.20 oz			
Acceptance Date:			
Thu 08/04/2022			
Tracking #:			
9405 5036 9930 0314 2213 67			

Prepaid Mail	1		\$0.00
Bolton, CT 06043			
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Acceptance Date:			
Thu 08/04/2022			
Tracking #:			
9405 5036 9930 0314 2214 28			

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Bolton, CT 06043			
Weight: 0 lb 7.20 oz			
Acceptance Date:			
Thu 08/04/2022			
Tracking #:			
9405 5036 9930 0314 2213 98			

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Thu 08/04/2022			
Tracking #:			
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Grand Total:			\$0.00
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