



Filed by:

G. Scott Shepherd, Sr. Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - GShepherd@sbsite.com

November 9, 2020

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

RE: Notice of Exempt Modification
170 S. East Rd a.k.a 47 Garrett Ridge Court, New Hartford, CT 06057
Latitude: 41.817255
Longitude: -72.970942
T-Mobile Site #: CTNH410A_L600

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 150-foot level of the existing 159-foot Monopole Tower at 170 S. East Rd. a.k.a 47 Garrett Ridge Court, New Hartford, CT. The 159-foot tower is owned by SBA Towers, LLC. The property is owned by the Estate of Paul M. Miano. T-Mobile now intends to remove six (6) 1900/2100 MHz antennas and install six (6) new 600/700/1900/2100 MHz antennas. The new antennas would be installed at the 150-foot level of the tower.

Planned Modifications:

TOWER

Remove:

N/A

Remove and Replace:

- (3) Ericsson - AIR21 B2A/B4P – Panel (Remove) / (3) RFS - APX16DWV-16DWVS-E-A20 - Panel 1900/2100 MHz (Replace)
- (3) Ericsson - AIR21 B4A/B2P – Panel (Remove) / (3) RFS - APXVAARR24_43-U-NA20 – Panel 600/700 MHz (Replace)

Install New:

- (3) Ericsson - KRY 112 489/2 - TMA
- (3) Ericsson - Radio 4449 B71 + B12 – RRU
- T-Arm modifications: support rail and t-arm kit with collar mount
- (1) 1-5/8" fiber

Existing Equipment to Remain:

- (3) Ericsson - KRY 112 144 – TMA
- (3) T-Arm
- (12) 1-5/8" lines

Entitlements:

- (2) 1-5/8" fiber

GROUND

Install New:

- Equipment inside existing 6201 cabinet

This facility was approved by Council on July 22, 2009, under Docket 380. Approval was given for a monopole with height and antennas not to exceed 163-feet above ground level. An RF report was to be provided when RF levels changed. Upon the establishment of any new State or Federal radio frequency standards applicable to the facility, it was to be brought into compliance with same. Public or private entities were to be permitted to share space for fair consideration or be provided with reasons precluding such sharing. Reasonable space was to be provided for no compensation to the Town of New Hartford public safety services provided such use could be accommodate and was compatible with the structural integrity of the tower. Railings were to be installation on the access road bridge. And any non-functioning antenna and associated antenna mounting equipment was to be removed within 60 days. There were no further post construction stipulations set. Please see attached.

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

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

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

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

Sincerely,

G. Scott Shepherd



Sr. Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
508.868.6000 + C
GShepherd@sbsite.com

Attachments

- cc: Daniel V. Jerram, First Selectman / with attachments
Town of New Hartford, 530 Main Street, New Hartford, CT 06057
Michael Lucas, Zoning Enforcement Officer / with attachments
Town of New Hartford, 530 Main Street, New Hartford, CT 06057
The Estate of Paul M. Miano / with attachments
c/o Michael Miano, Executor 211 Bianca Rd. Duxbury MA 02332 (SBA address on file – the address the town has on file is for SBA corporate offices)

Exhibit List

Exhibit 1	Check Copy	To be invoiced at a later per Covid guidelines
Exhibit 2	Notification Receipts	X
Exhibit 3	Property Card	X
Exhibit 4	Property Map	X
Exhibit 5	Original Zoning Approval	CSC Docket 380
Exhibit 6	Construction Drawings	Chappell 8/8/19
Exhibit 7	Mount Mod Drawings	TES 7/1/19
Exhibit 8	Structural Analysis	TES 10/16/20
Exhibit 9	Post Mod Mount Analysis	TES 7/16/19
Exhibit 10	EME Report	Transcom Engineering 6/17/19

EXHIBIT 1

Normally, Exhibit 1 would contain a copy of the check for the filing fee.

EXHIBIT 2

ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 09NOV20
ACTWGT: 1.00 LB
CAD: 105843304/NET4280

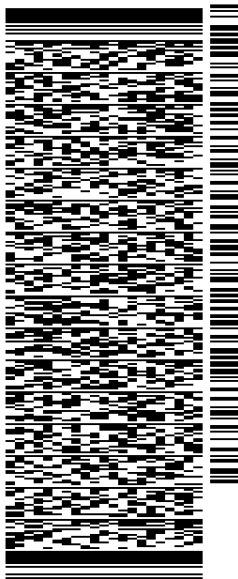
BILL SENDER

TO MELANIE A. BACHMAN EXEC. DIR
CONNECTICUT SITING COUNCIL
TEN FRANKLIN SQUARE

NEW BRITAIN CT 06051

REF: 105692009-6089

(508) 251-0720 X 3807
INV#
PO:
DEPT:



J2020071401uv

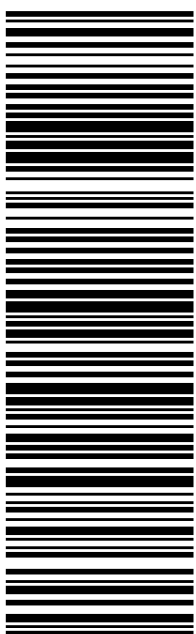
TUE - 10 NOV 10:30A

PRIORITY OVERNIGHT

TRK# 7720 3188 2065
0201

EB BDLA

06051
BDL
CT-US



56B,J5/BAB9/B766

After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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

ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 09NOV20
ACTWGT: 1.00 LB
CAD: 105843304/NET4280
BILL SENDER

TO DANIEL V. JERRAM, FIRST SELECTMAN
TOWN OF NEW HARTFORD
530 MAIN ST.

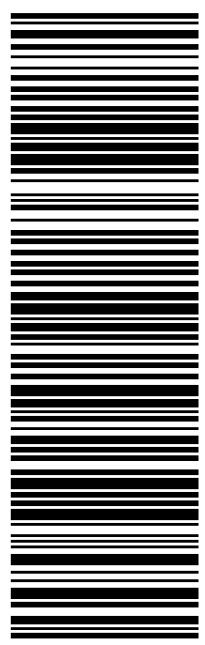
NEW HARTFORD CT 06057

(508) 251-0720 X 3807 REF: 1056920096089
INV. PO. DEPT:



TRK# 7720 3191 9880 TUE - 10 NOV 10:30A
0201 PRIORITY OVERNIGHT

EB HFDA 06057
CT:US BDL



56B,J5/BAB9/B766

After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

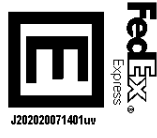
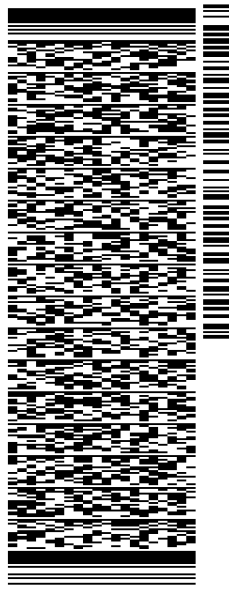
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless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

ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 09NOV20
ACTWGT: 1.00 LB
CAD: 105843304/NET14280
BILL SENDER

TO MICHAEL LUCAS, ZONE ENF. OFFICER
TOWN OF NEW HARTFORD
530 MAIN ST.

NEW HARTFORD CT 06057
(508) 251-0720 X 3807 REF: 1056920096089
INV. PO. DEPT.



TRK# 7720 3193 8451
TUE - 10 NOV 10:30A
PRIORITY OVERNIGHT

EB HFDA
06057
CT:US BDL
Large barcode

56B,J5/BAB9/B766

After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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

ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 09NOV20
ACTWGT: 1.00 LB
CAD: 105843304/NET4280

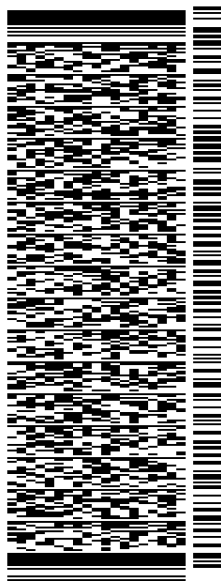
BILL SENDER

TO

THE ESTATE OF PAUL M. MIANO
EXECUTOR 211 BIANCA RD.

DUXBURY MA 02332

(508) 251-0720 X 3807 REF: 1056-92009-6089
INV. PO. DEPT:



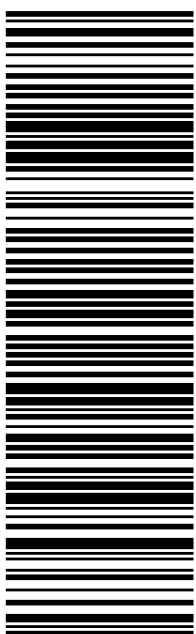
56B,J5/BAB9/B766

TRK# 7720 3199 0397
0201

TUE - 10 NOV 10:30A
PRIORITY OVERNIGHT

01 XPUA

02332
MA-US BOS



After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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

EXHIBIT 3

47 GARRETT RIDGE COURT

Location 47 GARRETT RIDGE COURT

Mblu 034/ 012/ 06A/ /

Acct# 06007431

Owner SBA TOWERS II LLC

PBN

Assessment \$242,760

Appraisal \$346,800

PID 184846

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$22,800	\$324,000	\$346,800

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$15,960	\$226,800	\$242,760

Owner of Record

Owner SBA TOWERS II LLC

Sale Price \$958,500

Co-Owner

Certificate

Address 8051 CONGRESS AVENUE
BOCA RATON, FL 33487

Book & Page 0305/0876

Sale Date 06/30/2020

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
SBA TOWERS II LLC	\$958,500		0305/0876	06/30/2020
MIANO PAUL M ESTATE OF	\$0		0290/0588	06/15/2016
MIANO PAUL M	\$0		0142/0708	02/24/1992

Building Information

Building 1 : Section 1

Year Built:

Living Area:

0

Replacement Cost: \$0

Building Percent Good:

Replacement Cost

Less Depreciation: \$0

Building Attributes

Field	Description
Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Full Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Cndtn	
Extra Kitchens	
Fireplaces	
Extra Openings	
Basement Garage	
Whirlpool	
Num Park	
Fireplaces	
Usrflid 108	
Usrflid 101	
Usrflid 102	
Usrflid 100	

Building Photo



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

Building Layout

(ParcelSketch.ashx?pid=184846&bid=16401)

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

Usrflid 300	
Usrflid 301	

Extra Features

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

Land

Land Use

Use Code 3900
Description COM VACANT
Zone R2
Neighborhood 80
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 0.40
Frontage
Depth
Assessed Value \$226,800
Appraised Value \$324,000

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD2	Shed - Masonry			330.00 S.F.	\$7,400	1
SHD7	PreCast Conc			228.00 S.F.	\$15,400	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$22,800	\$324,000	\$346,800
2018	\$22,800	\$324,000	\$346,800
2017	\$22,800	\$540,000	\$562,800

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$15,960	\$226,800	\$242,760
2018	\$15,960	\$226,800	\$242,760
2017	\$15,960	\$378,000	\$393,960

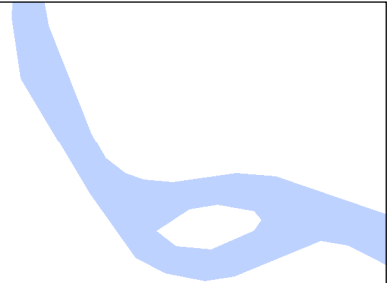
EXHIBIT 4



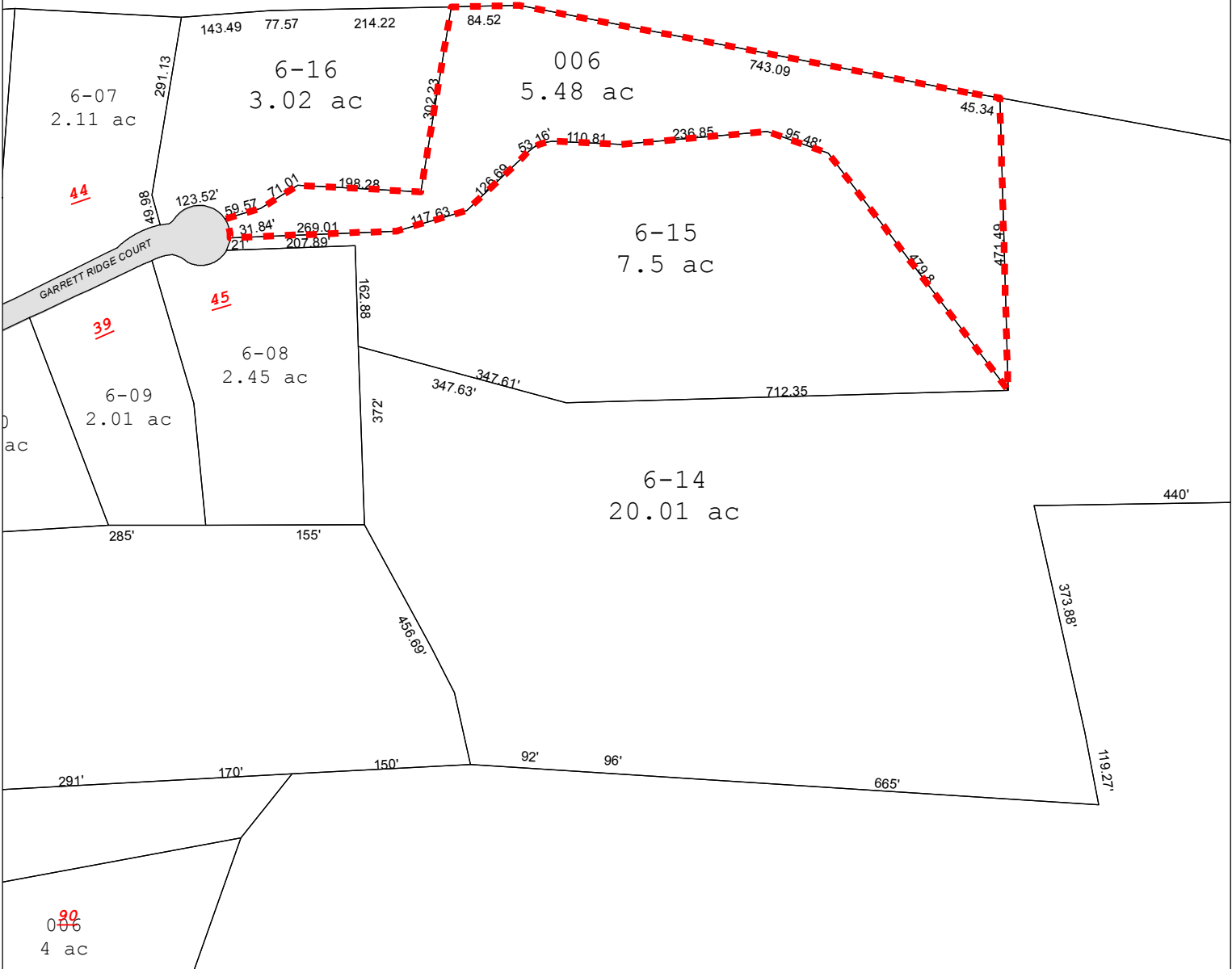
Town of New Hartford, Connecticut - Assessment Parcel Map

Parcel: 034-012-006

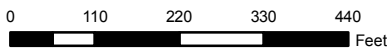
Address: 47 GARRETT RIDGE COURT



001
1696.86 ac



Approximate Scale: 1 inch = 250 feet



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

Map Produced September 2014

EXHIBIT 5

DOCKET NO. 380 - Bay Communications, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 47 Garrett Ridge Drive, New Hartford, Connecticut.	} } }	Connecticut Siting Council July 22, 2009
--	-------------	---

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 Bay Communications, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 47 Garrett Ridge Drive, New Hartford, 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 Celco Partnership d/b/a Verizon Wireless, New Cingular Wireless PCS LLC, Youghioghny Communications-Northeast LLC, Sprint Nextel and other entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level. The height at the top of the antennas shall not exceed 163 feet above ground level.
2. The Certificate Holder shall abide by the Development and Management Plan approved for this site on December 18, 2006 under Docket 314, and shall include all subsequent modifications, including but not limited to the bridge details dated July 9, 2008 and the site plans contained in Attachment 15 of the Docket 380 application.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the 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 the electromagnetic radio frequency power density be 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 New Hartford 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 New Hartford. 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. The Certificate Holder shall install railings on the access road bridge to prevent vehicles from leaving the travel surface and protect public water supply watershed if the town does not specify the installation of railings as part of the subdivision approval process. Design specifications shall conform to applicable local, state and federal regulations concerning such installation and submitted to the Council.
12. 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, the Republican-American, and The Register Citizen.

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

The parties and intervenors to this proceeding are:

Applicant

Bay Communications, LLC

Its Representative

Thomas J. Regan, Esq.
Brown Rudnick LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

Intervenor

Cellco Partnership d/b/a Verizon Wireless

Its Representative

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

EXHIBIT 6

LITCHFIELD BAY COMM

47 GARRETT RIDGE COURT
NEW HARTFORD, CT 06057
LITCHFIELD COUNTY

SITE NO.: CTNH410A

SITE TYPE: 159'± MONOPOLE

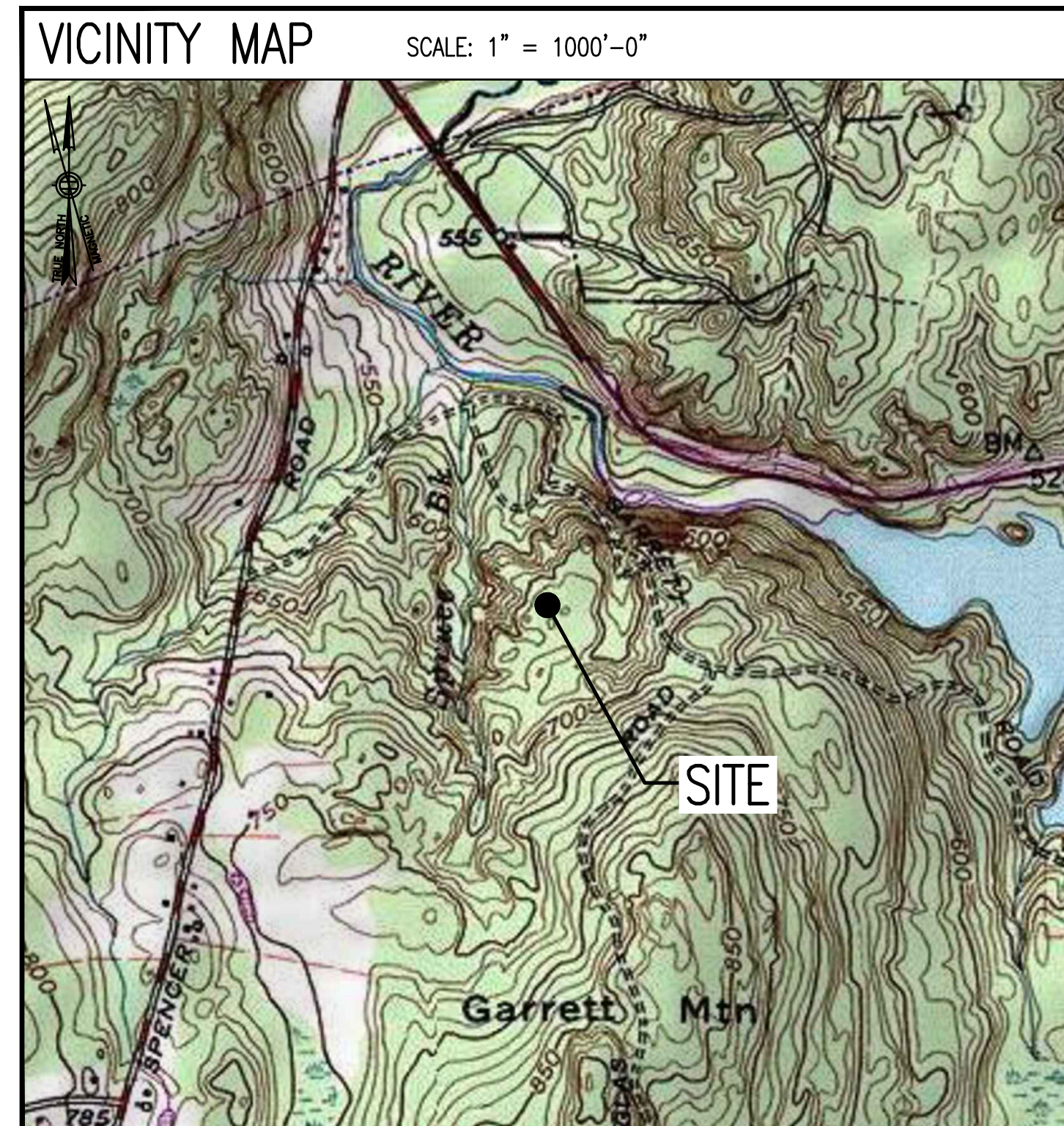
RF DESIGN GUIDELINE: 67D04G

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

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

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

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



DO NOT SCALE DRAWINGS

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

SHEET INDEX		
SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	TOWER ELEVATIONS & ANTENNA PLAN	1
A-3	SITE DETAILS	1
E-1	ELECTRIC & GROUNDING DETAILS	1

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).

- 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.

**T-MOBILE
NORTHEAST LLC**

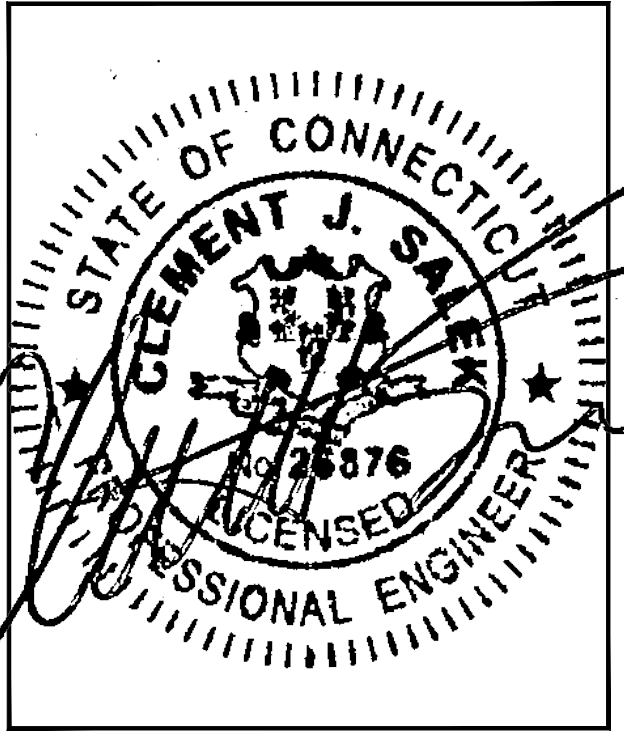
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA

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

**CHAPPELL
ENGINEERING
ASSOCIATES, LLC**
Civil Structural-Land Surveying

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



PROJECT SUMMARY	
SITE NUMBER:	CTNH410A
SBA SITE NUMBER:	CT12219-A
SBA SITE NAME:	NEW HARTFORD 2, CT
SITE ADDRESS:	47 GARRETT RIDGE COURT NEW HARTFORD, CT 06057
PROPERTY OWNER:	THE ESTATE OF PAUL M. MIANO 211 BIANCA ROAD DUXBURY, CT 02332
TOWER OWNER:	SBA TOWERS II, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	FAIRFIELD COUNTY
ZONING DISTRICT:	PS/UD (PUBLIC SERVICE/UTILITY DISTRICT)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	159'
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SROth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.817255° N41°49'02.12" LONGITUDE: -72.970942° W72°58'15.40"

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	06/08/19	ISSUED FOR CONSTRUCTION	CMC
0	06/05/19	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CTNH410A

SITE ADDRESS:
47 GARRETT RIDGE COURT
NEW HARTFORD, CT 06057

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

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

SITE WORK GENERAL NOTES:

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

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
 CONCRETE CAST AGAINST EARTH.....3 IN.
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 AND LARGER2 IN.
 #5 AND SMALLER & WWF1½ IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL¾ IN.
 BEAMS AND COLUMNS½ IN.
- A CHAMFER ¼" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (BC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
 (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIER'S PLANT.
 (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
 FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

ELECTRICAL INSTALLATION NOTES:

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

**T-MOBILE
NORTHEAST LLC**

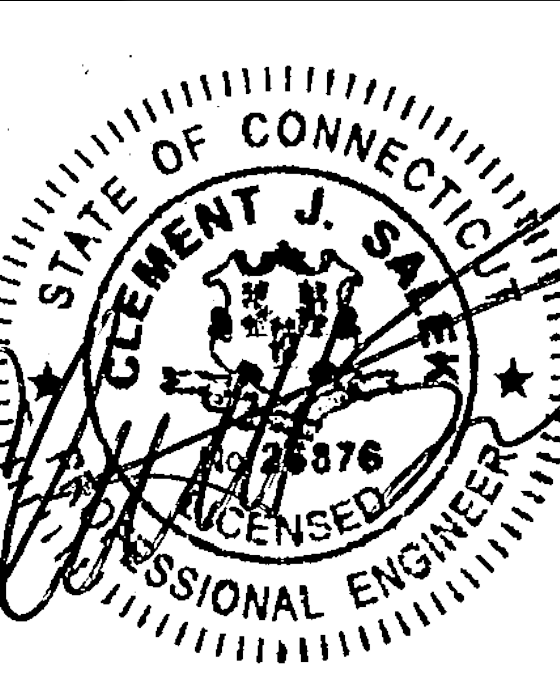
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	06/05/19	ISSUED FOR REVIEW	NMC

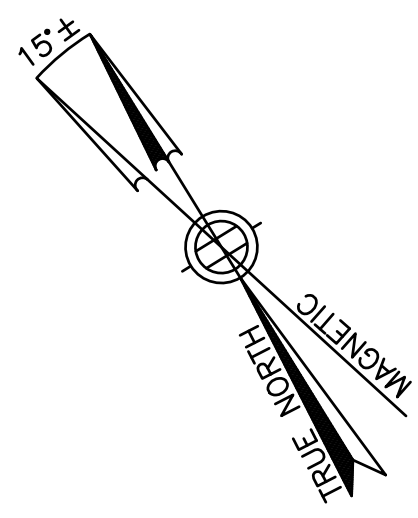
SITE NUMBER:
CTNH410A

SITE ADDRESS:
 47 GARRETT RIDGE COURT
 NEW HARTFORD, CT 06057

SHEET TITLE
GENERAL NOTES

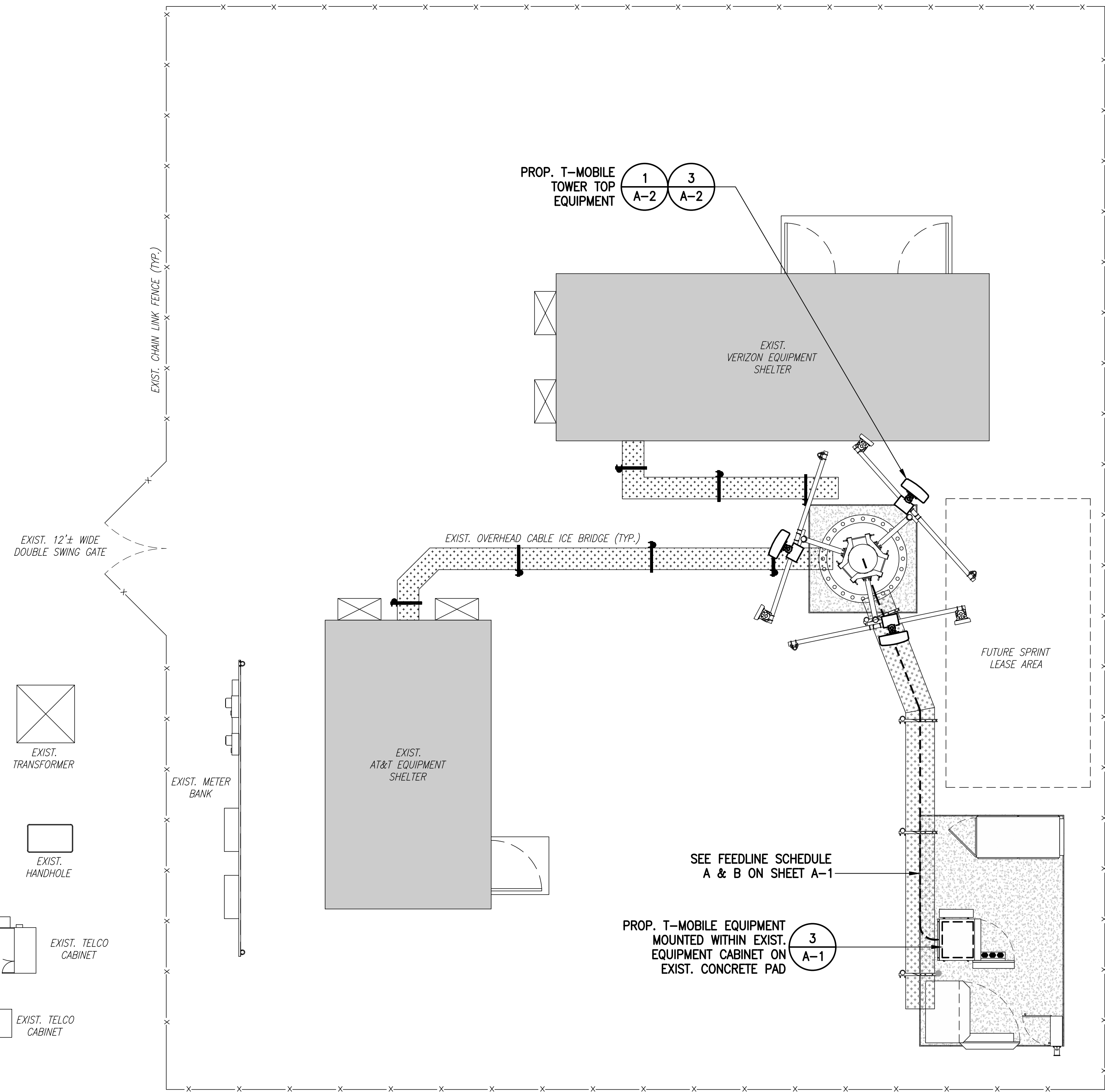
SHEET NUMBER
GN-1

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

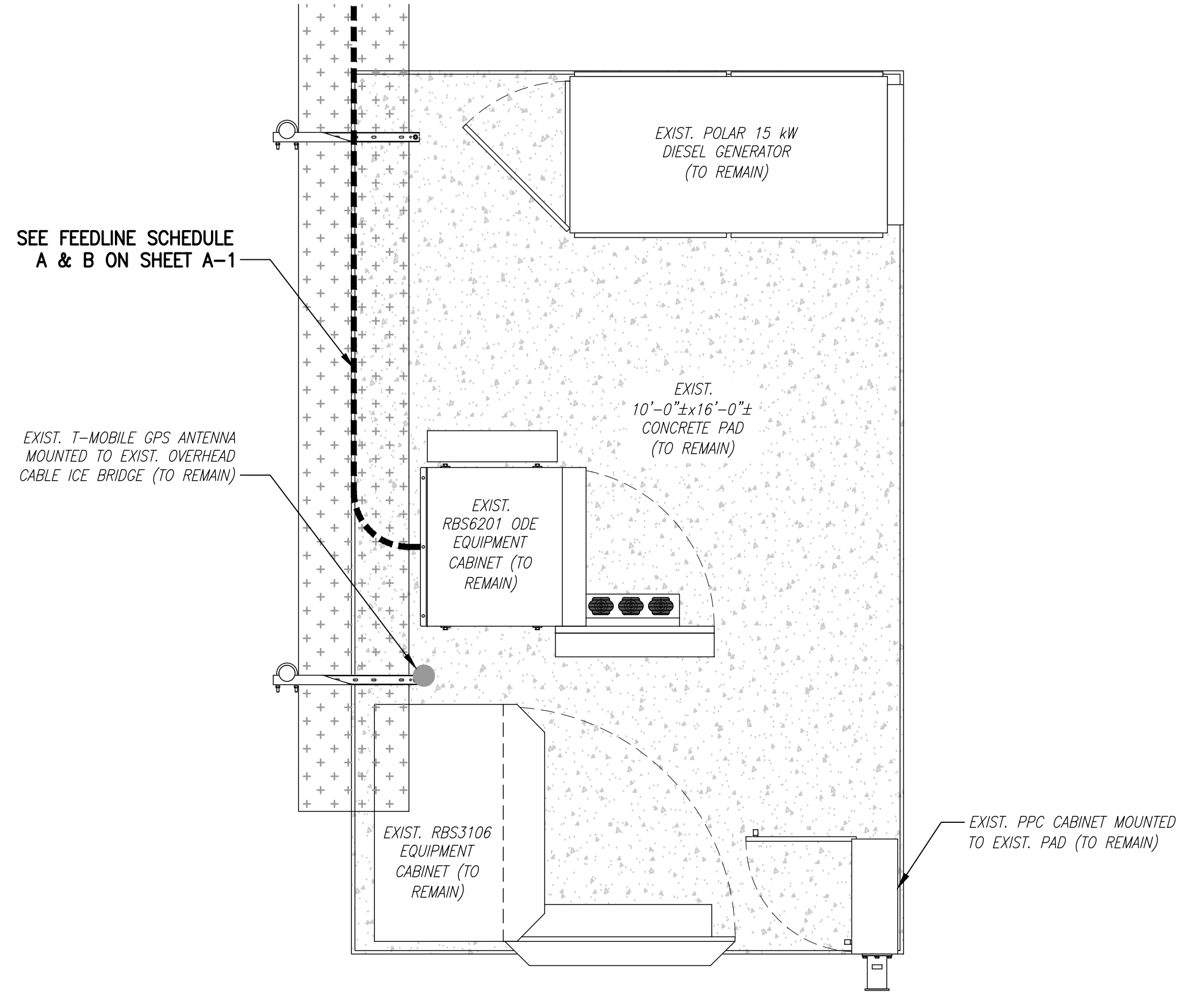


FEEDLINE SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (12) 1-5/8" COAX CABLES	ROUTED PER TOWER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1-5/8" HCS FIBER CABLE	

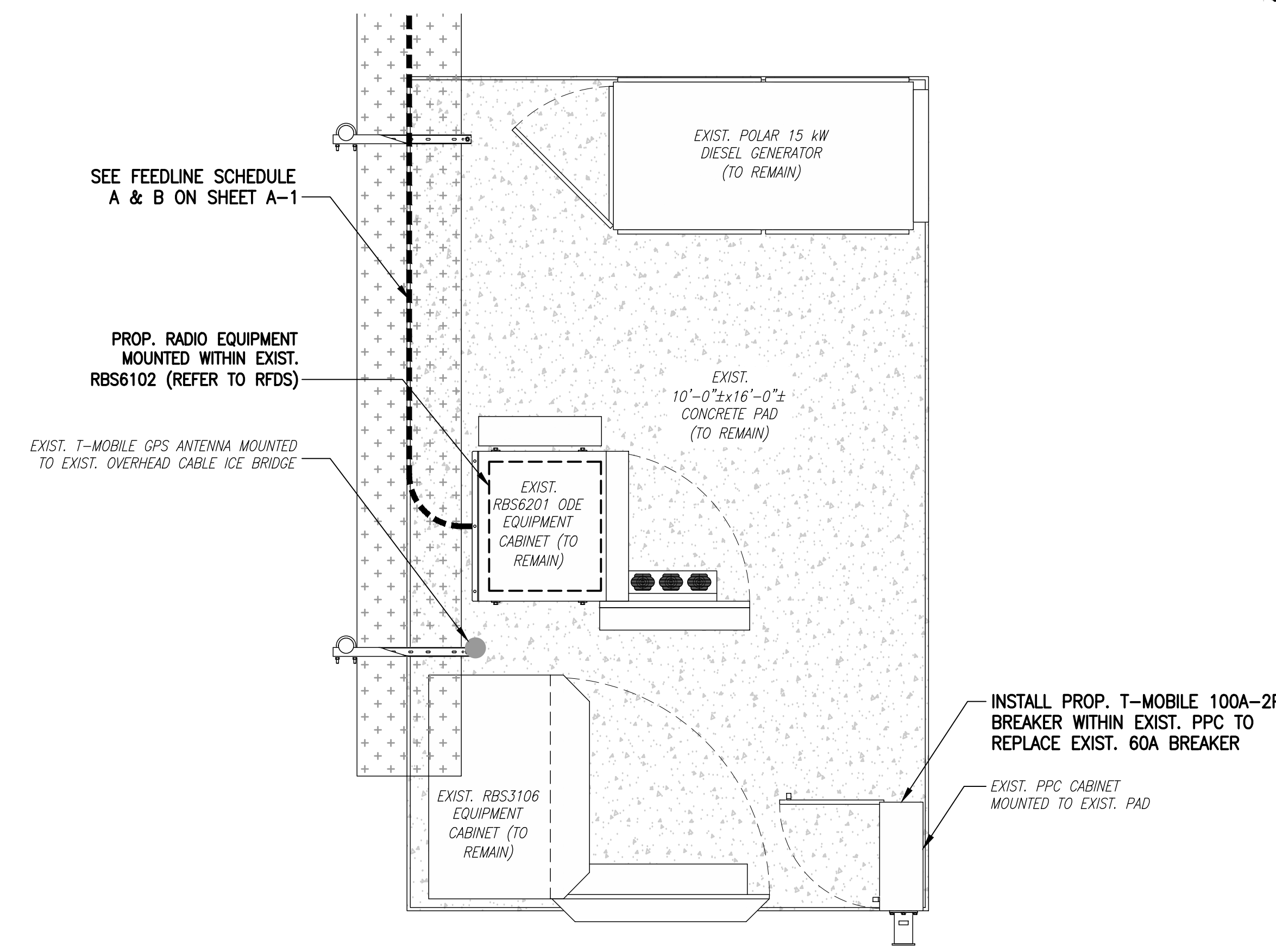
NOTE:
 EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.



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



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



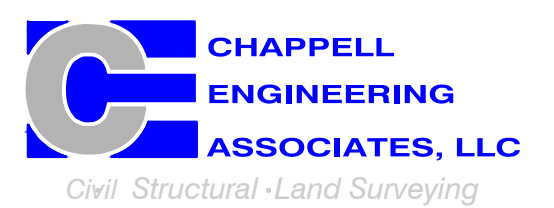
PROPOSED EQUIPMENT PLAN 3 A-1
 SCALE: 1/2" = 1'-0"

T-MOBILE NORTHEAST LLC

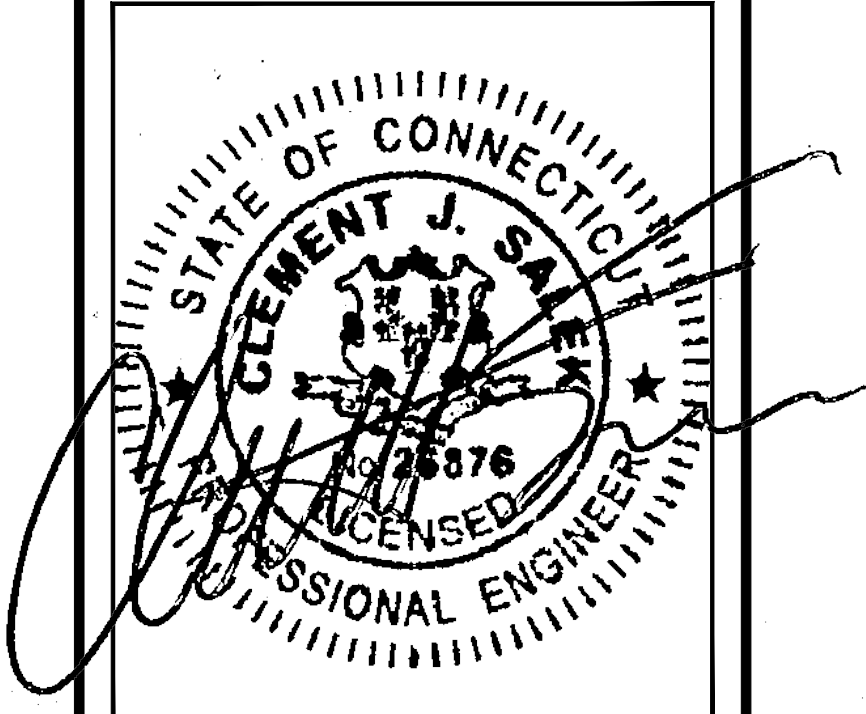
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



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	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	06/05/19	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CTNH410A

SITE ADDRESS:
 47 GARRETT RIDGE COURT
 NEW HARTFORD, CT 06057

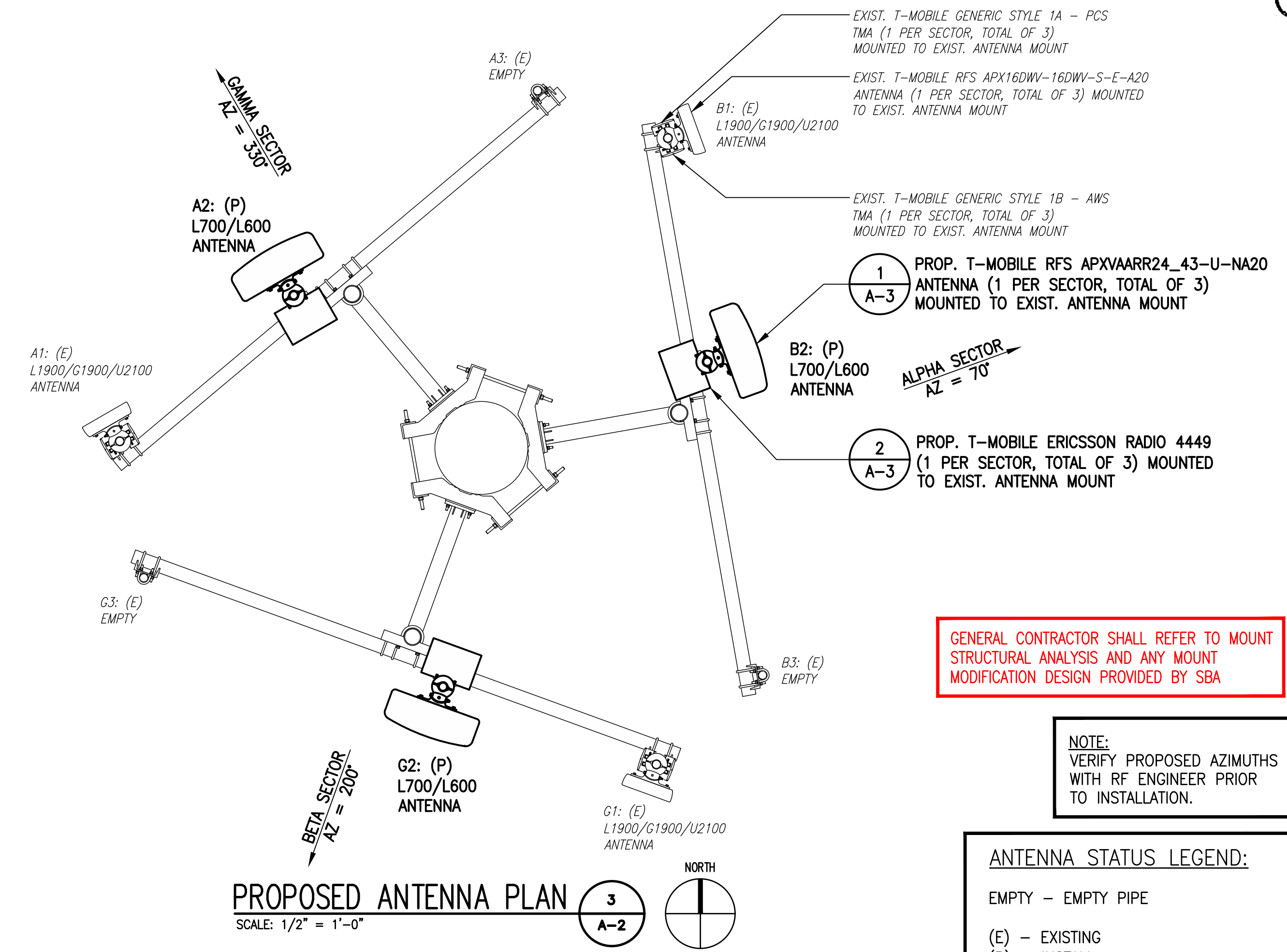
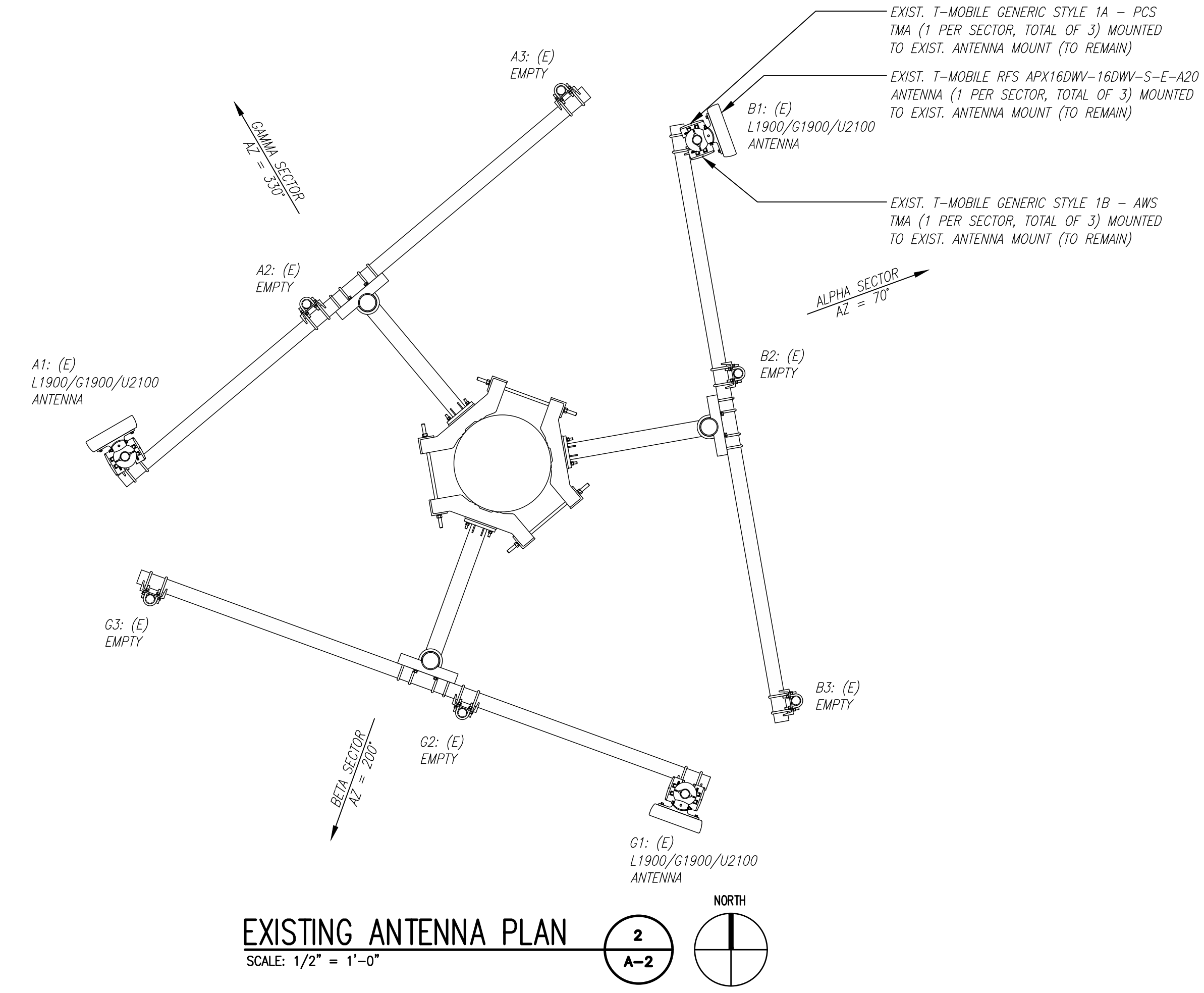
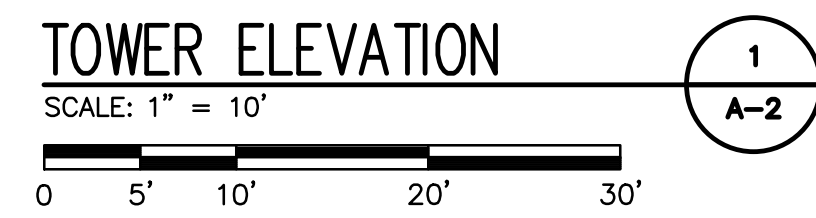
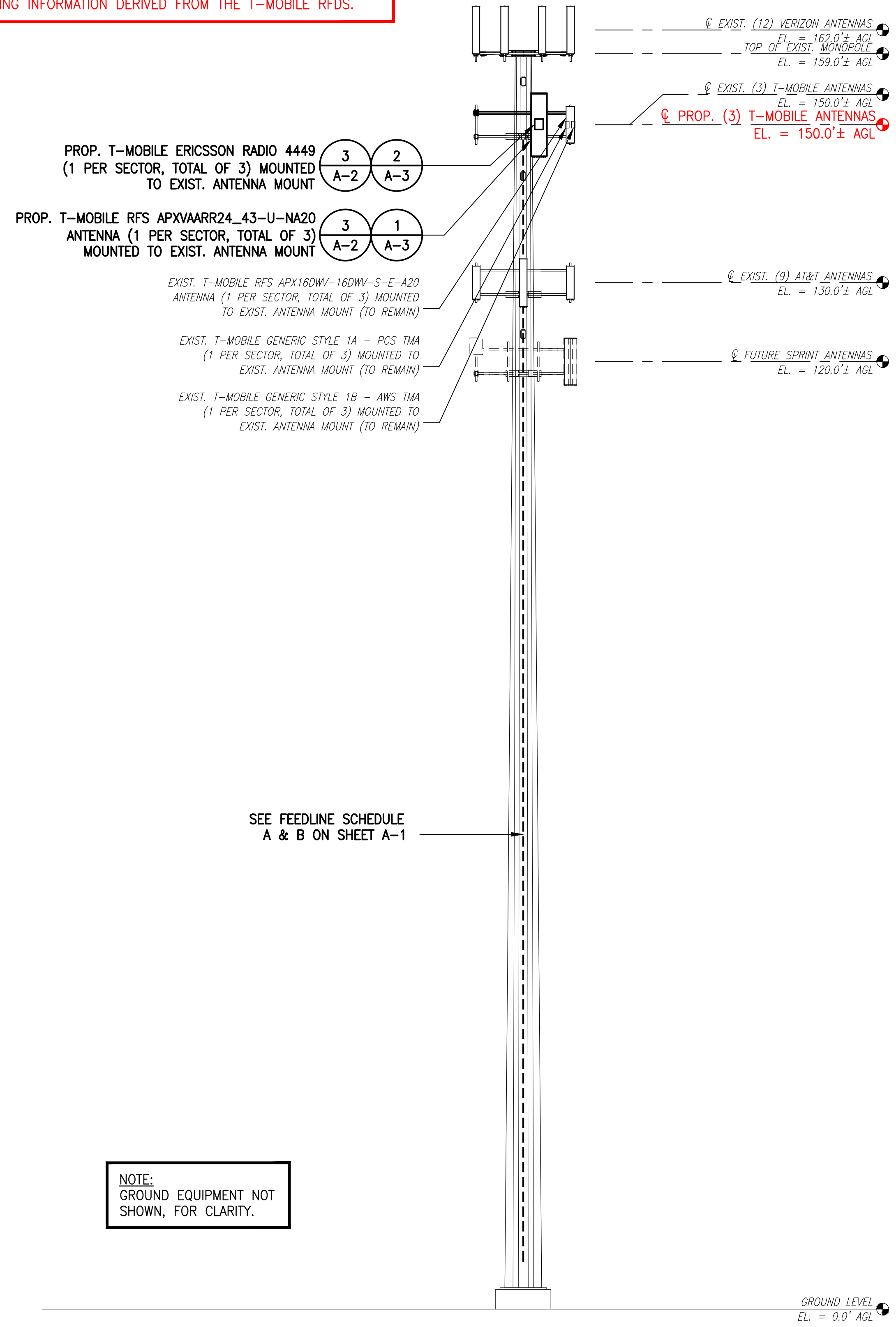
SHEET TITLE
COMPOUND & EQUIPMENT PLAN

SHEET NUMBER
A-1

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

SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):
 GENERAL CONTRACTOR SHALL ORIENT PROPOSED PLATFORM REINFORCEMENT KIT RING-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH EXISTING OR PROPOSED RING-MOUNT HARDWARE. GENERAL CONTRACTOR SHALL INSTALL NEW OR ADDITIONAL SAFETY-CLIMB CABLE GUIDES IF ADDITIONAL CLEARANCE IS REQUIRED. ADDITIONAL CABLE GUIDES SHALL BE ATTACHED SECURELY TO THE POLE USING MECHANICAL FASTENERS OR FIELD WELDED BY A CERTIFIED WELDING TECHNICIAN.

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.



GENERAL CONTRACTOR SHALL REFER TO MOUNT STRUCTURAL ANALYSIS AND ANY MOUNT MODIFICATION DESIGN PROVIDED BY SBA

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

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

**T-MOBILE
 NORTHEAST LLC**

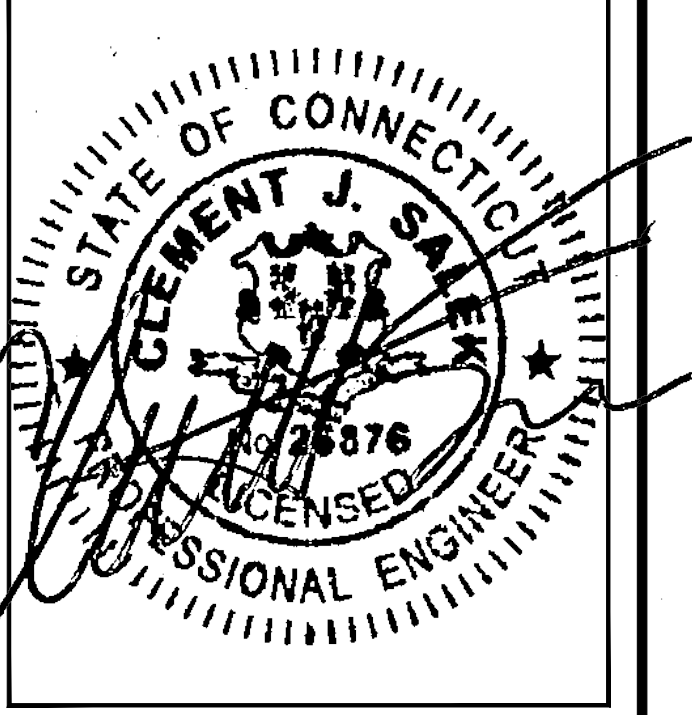
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700

SBA

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

**CHAPPELL
 ENGINEERING
 ASSOCIATES, LLC**
 Civil Structural/Land Surveying

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



CHECKED BY: JMT
 APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	06/05/19	ISSUED FOR REVIEW	NMC

SITE NUMBER:
CTNH410A

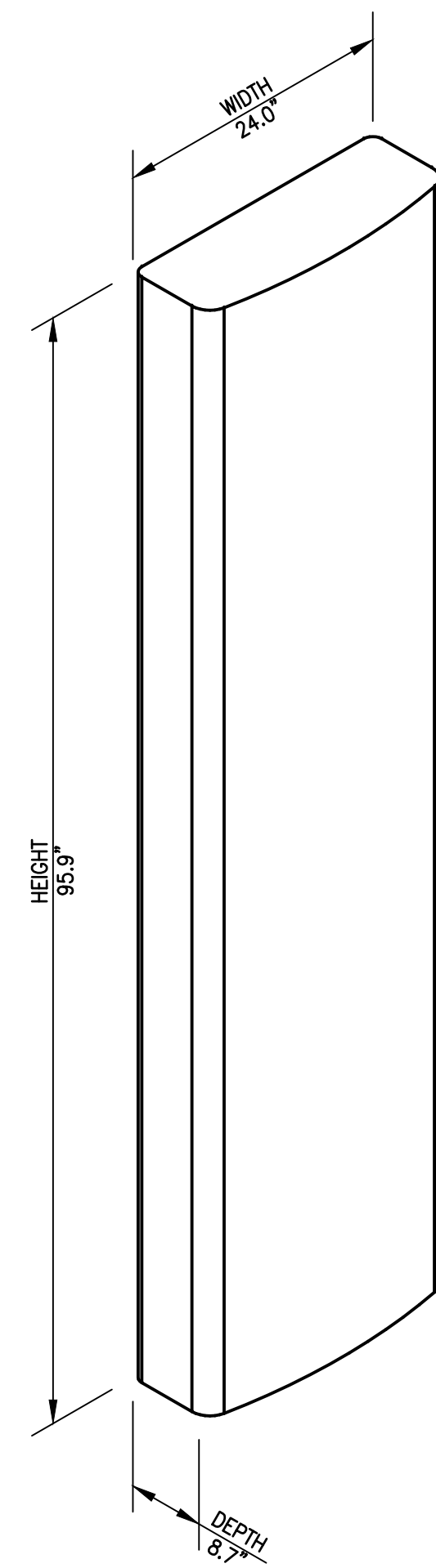
SITE ADDRESS:
 47 GARRETT RIDGE COURT
 NEW HARTFORD, CT 06057

SHEET TITLE
**TOWER ELEVATIONS &
 ANTENNA PLAN**

SHEET NUMBER
A-2

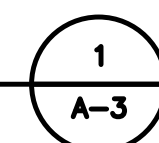
FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	RADIOS/TMAS	CABLES
ALPHA	RFS APX16DWV-16DWV-S-E-A20	150'± AGL	70°	0°	2°	L1900/G1900	GENERIC TWIN STYLE 1A-PCS TMA	(2) 1-5/8" COAXIAL CABLES
						U2100	GENERIC TWIN STYLE 1B-AWS TMA	(2) 1-5/8" COAXIAL CABLES
ALPHA	RFS APXVAARR24_43-U-NA20	150'± AGL	70°	0°	-	L700/L600	RADIO 4449 B71+B12	(1) 6x12 (1-5/8") HCS CABLE (SHARED)
	RFS APX16DWV-16DWV-S-E-A20	150'± AGL	200°	0°	2°	L1900/G1900	GENERIC TWIN STYLE 1A-PCS TMA	(2) 1-5/8" COAXIAL CABLES
BETA						U2100	GENERIC TWIN STYLE 1B-AWS TMA	(2) 1-5/8" COAXIAL CABLES
	RFS APXVAARR24_43-U-NA20	150'± AGL	200°	0°	-	L700/L600	RADIO 4449 B71+B12	(1) 6x12 (1-5/8") HCS CABLE (SHARED)
GAMMA	RFS APX16DWV-16DWV-S-E-A20	150'± AGL	330°	0°	2°	L1900/G1900	GENERIC TWIN STYLE 1A-PCS TMA	(2) 1-5/8" COAXIAL CABLES
						U2100	GENERIC TWIN STYLE 1B-AWS TMA	(2) 1-5/8" COAXIAL CABLES
GAMMA	RFS APXVAARR24_43-U-NA20	150'± AGL	330°	0°	-	L700/L600	RADIO 4449 B71+B12	(1) 6x12 (1-5/8") HCS CABLE (SHARED)

NOTE: RFDS REV3.1 - 05/23/19



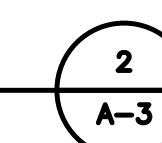
RFS APXVAARR24_43-NA20 PANEL ANTENNA
 DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
 WEIGHT: 128.0 LBS
 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS



ERICSSON RADIO 4449 B12+B71
 DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
 WEIGHT: 74.0 LBS
 1 PER SECTOR, TOTAL OF 3

RRUS DETAILS

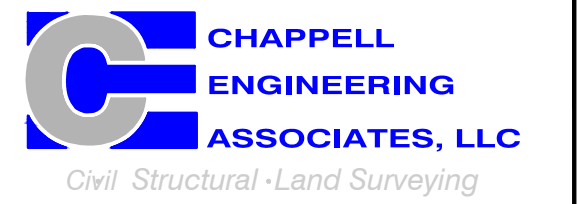


T-MOBILE
 NORTHEAST LLC

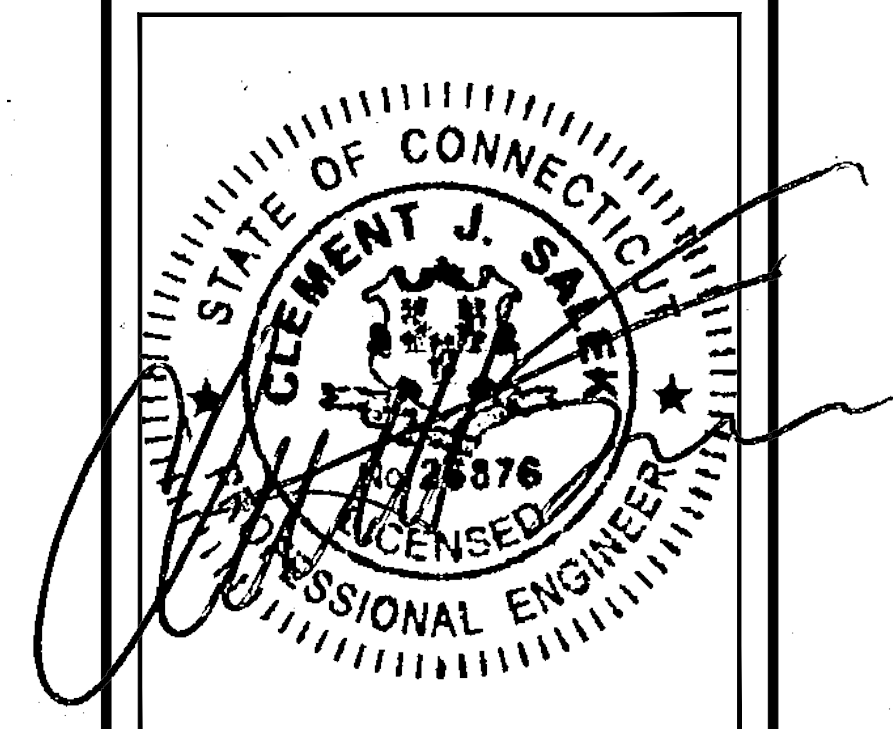
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



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	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	06/05/19	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CTNH410A

SITE ADDRESS:
 47 GARRETT RIDGE COURT
 NEW HARTFORD, CT 06057

SHEET TITLE
 SITE DETAILS

SHEET NUMBER
A-3

T-MOBILE
NORTHEAST LLC

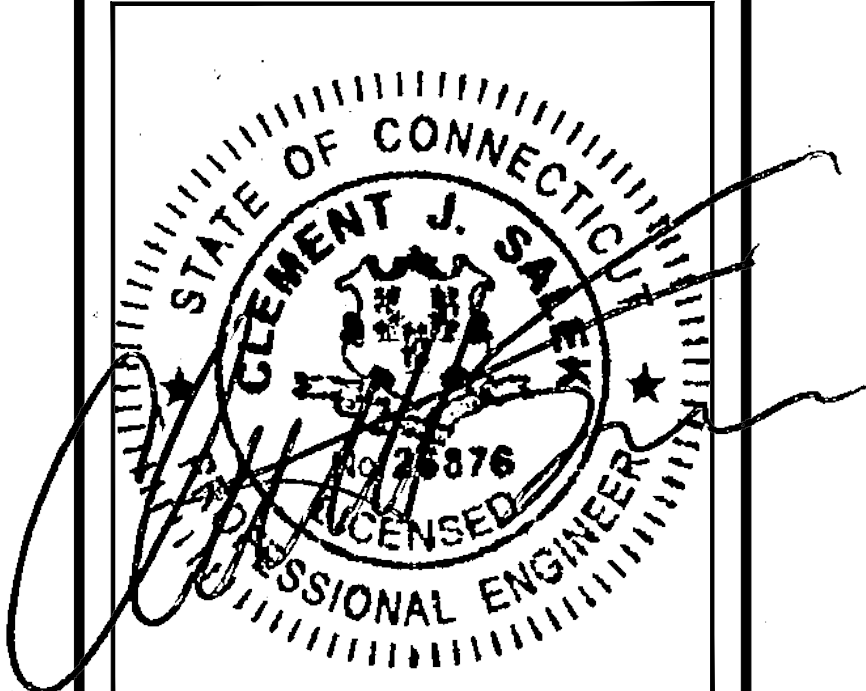
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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

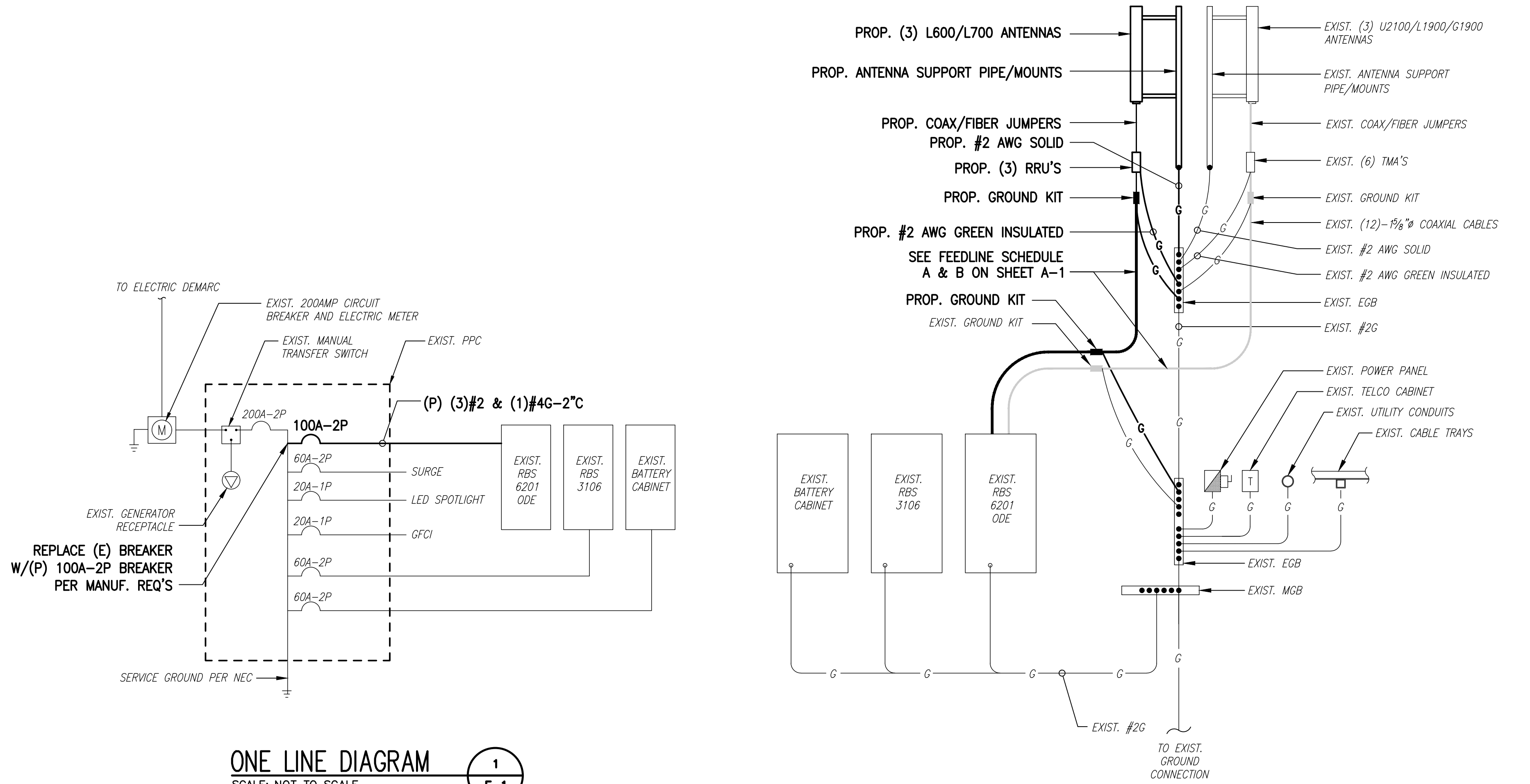
REV.	DATE	DESCRIPTION	BY
1	08/08/19	ISSUED FOR CONSTRUCTION	CMC
0	06/05/19	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CTNH410A

SITE ADDRESS:
47 GARRETT RIDGE COURT
NEW HARTFORD, CT 06057

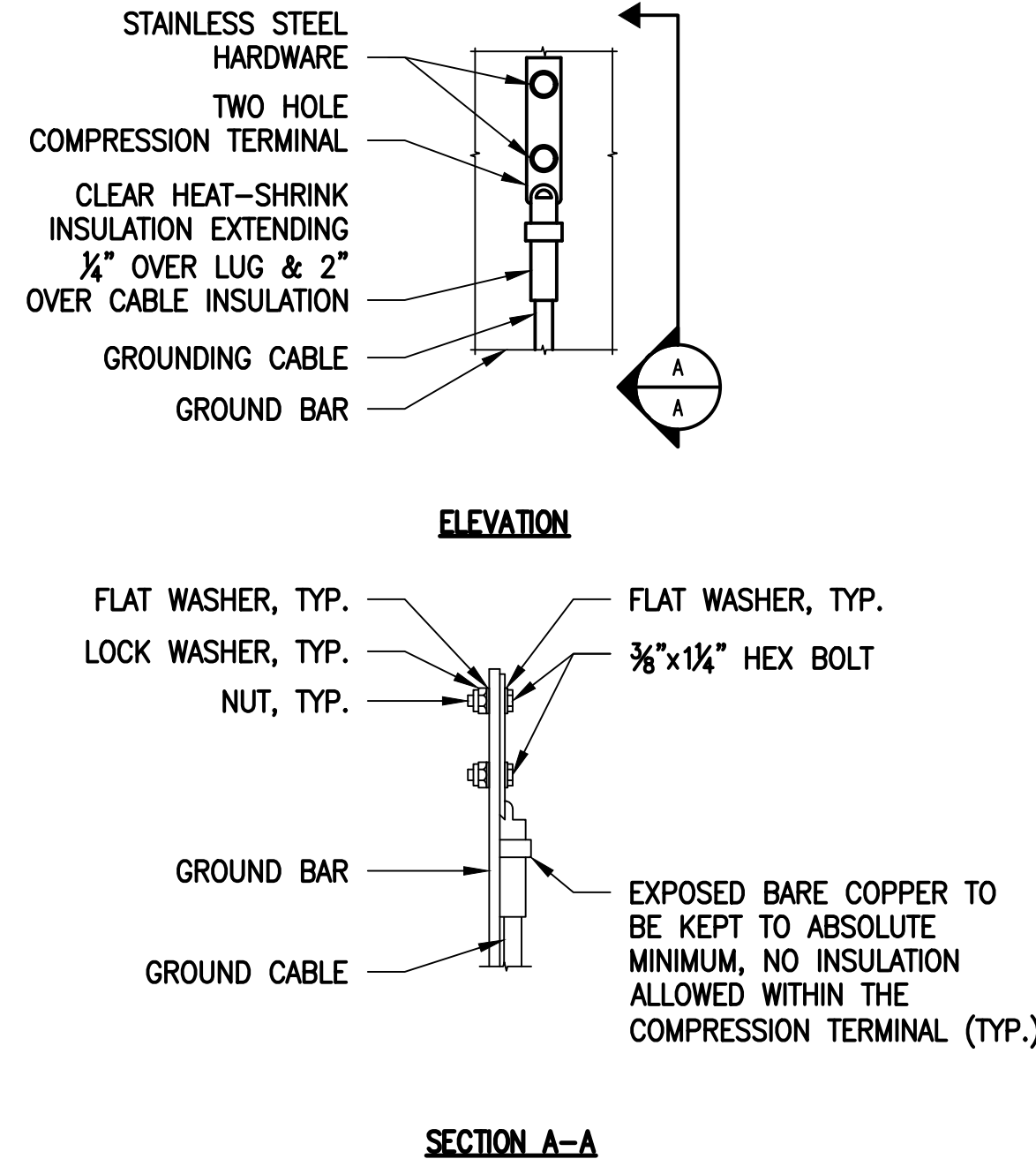
SHEET TITLE
**ELECTRIC & GROUNDING
DETAILS**

SHEET NUMBER
E-1



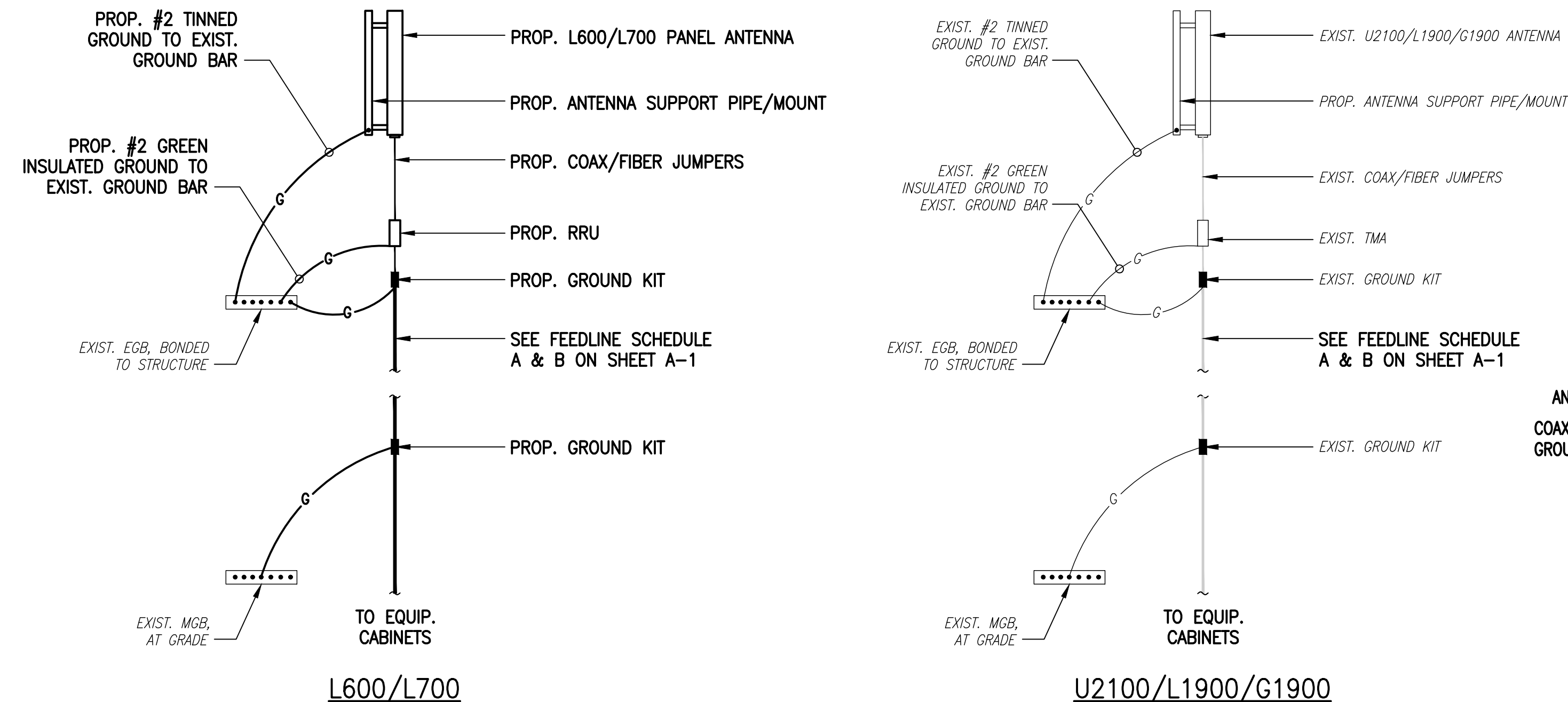
ONE LINE DIAGRAM
SCALE: NOT TO SCALE

GROUNDING RISER DIAGRAM
SCALE: NOT TO SCALE

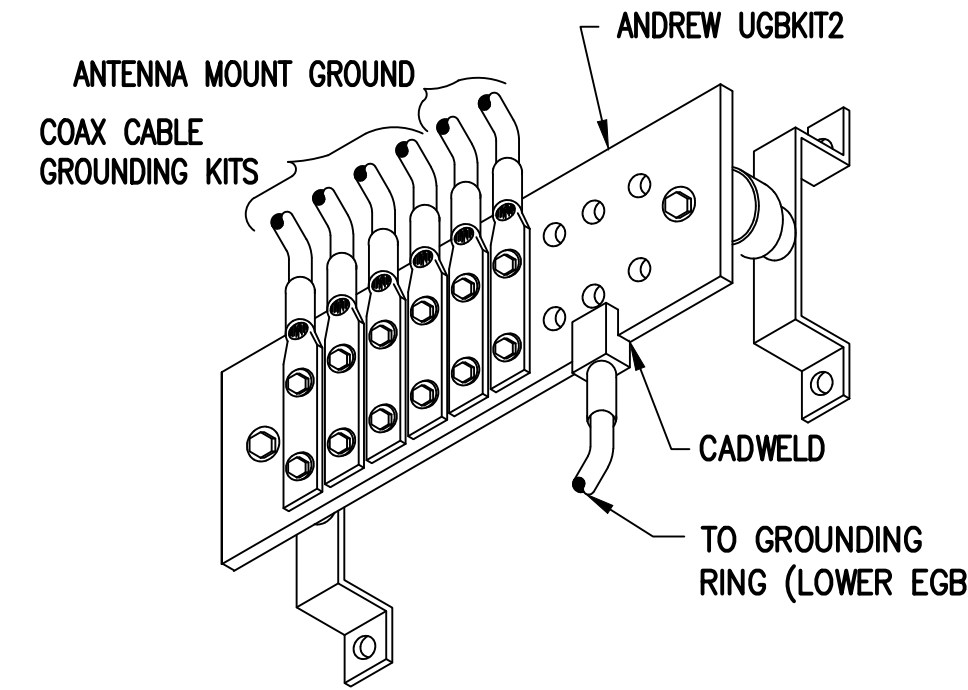


- NOTES:**
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

**TYPICAL GROUND BAR
CONNECTIONS DETAIL**
SCALE: NOT TO SCALE



**COAX CABLE CONNECTION
AND GROUNDING DETAIL**
SCALE: NOT TO SCALE



GROUND BAR (EGB)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNED 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.

EXHIBIT 7

MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS EXISTING MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT12219-A
CARRIER SITE #/NAME: CTNH410A / NEW HARTFORD
COORDINATES (LATITUDE: 41.817258°, LONGITUDE: -72.970947°)

PLEASE NOTE THIS SET OF DRAWINGS ARE FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	0
A-2	ANTENNA MOUNT PHOTOS	0
MS-H1436	METROSITE HEAVY COLLAR MOUNT PLATE ASSEMBLY	
MPHW-1	METROSITE HEAVY COLLAR MOUNT PLATE WELDMENT	
MS-HR35-2375	METROSITE SUPPORT RAIL KIT	
MS-TAW-350R0	METROSITE ROTATABLE T-ARM-KIT	

NOTE:

- THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 78332, DATED 06/17/2019.



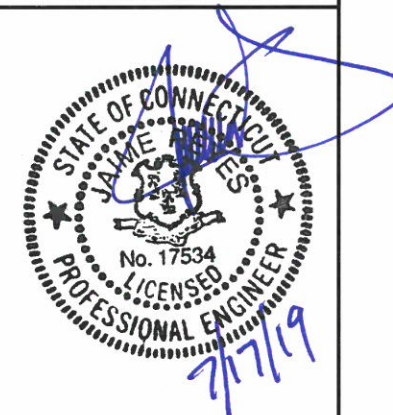
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
81339

CUSTOMER SITE NO:
CT12219-A-SBA
CUSTOMER SITE NAME:
NEW HARTFORD 2, CT
170 S. EAST ROAD
NEW HARTFORD, CT 06057



DRAWN BY: GA CHECKED BY: AL/HMA

REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	GA	07/17/19
△			
△			
△			

SHEET TITLE:

TITLE SHEET

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: T-1 REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	SHEET LIST	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
MATERIAL & HARDWARE							
1	1	MS-H1436	METROSITE HEAVY COLLAR MOUNT PLATE ASSEMBLY	A-1, MS-H1436	138.0	138.0	Galvanized
1	1	MS-HR35-2375	METROSITE SUPPORT RAIL KIT	A-1, MS-HR35-2375	430.0	430.0	Galvanized
FOLLOWING ITEMS ARE "CUSTOM" PARTS							
1	1	MS-TAW-350RO	METROSITE ROTATABLE T-ARM KIT	A-1, MS-TAW-350RO	284.00	284.0	GALVANIZED
<p align="center">ALL METROSITE PARTS ARE AVAILABLE FROM METROSITE, LLC.</p> <p align="center">180 IND PARK BLVD COMMERCE, GA 30529</p> <p align="center">OFFICE: (706) 335-7045</p> <p align="center">FAX: (706) 335-7056</p>					<p align="center">NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.</p>		
TOTAL WEIGHT (LBS) =						852.0	



Tower Engineering Solutions
 1320 GREENWAY DRIVE, SUITE 600
 IRVING, TX 75038
 PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
 BOCA RATON, FL 33487
 (800)-487-SITE

TES JOB NO:
 81339

CUSTOMER SITE NO:
 CT12219-A-SBA
 CUSTOMER SITE NAME:
 NEW HARTFORD 2, CT
 170 S. EAST ROAD
 NEW HARTFORD, CT 06057

DRAWN BY: GA CHECKED BY: AL/HMA

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	GA	07/17/19

SHEET TITLE:

BILL OF MATERIALS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: **BOM** REV #: **0**

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.
7. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES (WITH SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
8. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RSCC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 FOR STEEL CONSTRUCTION AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING^{a,b}

BOLT LENGTH ^f	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 ^d	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS ^d
NOT MORE THAN 4d _b	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d _b BUT NOT MORE THAN 8d _b	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d _b BUT NOT MORE THAN 12d _b	2/3 TURN	5/6 TURN	1 TURN

^a NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

^b APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

^c WHEN THE BOLT LENGTH EXCEEDS 12d_b, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

^d BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

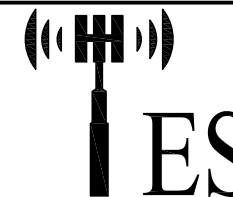
INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
81339

CUSTOMER SITE NO:
CT12219-A-SBA
CUSTOMER SITE NAME:
NEW HARTFORD 2, CT

170 S. EAST ROAD
NEW HARTFORD, CT 06057

DRAWN BY: GA CHECKED BY: AL/HMA

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	GA	07/17/19

SHEET TITLE:

GENERAL NOTES

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER:

GN-1

REV #:

0

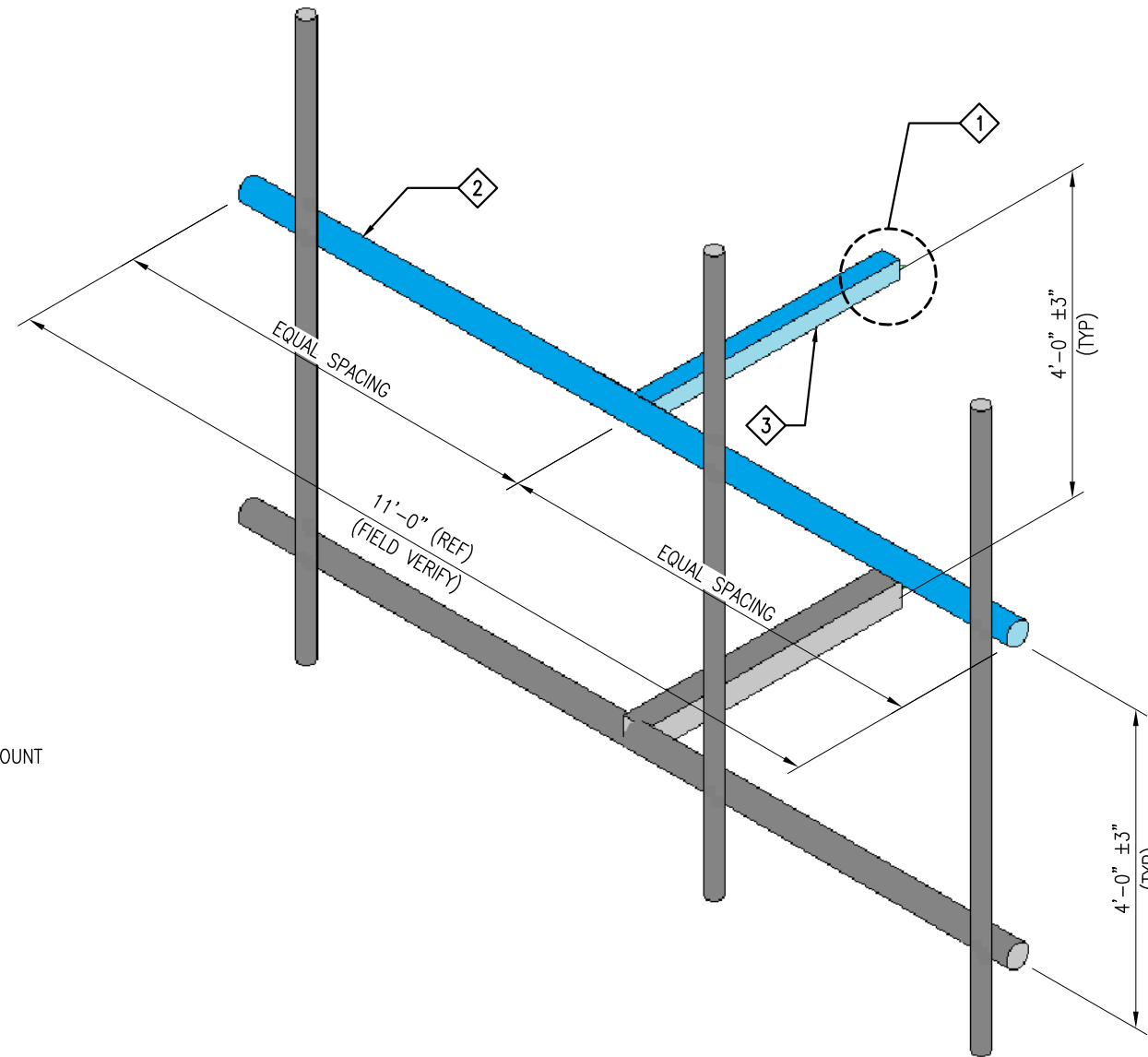
SCOPE OF WORK

- 1 INSTALL NEW HEAVY COLLAR MOUNT (NOT SHOWN FOR CLARITY). SEE SHEET MS-H1436 FOR DETAILS.
- 2 INSTALL NEW SUPPORT RAIL KIT. SEE SHEET MS-HR35-2375 FOR DETAILS.
- 3 INSTALL NEW ROTATABLE T-ARM KIT. SEE SHEET MS-TAW-350RO FOR DETAILS.
- 4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



PHOTO 1

EXISTING ANTENNA MOUNT
@ 150' ELEV.



ISOMETRIC VIEW
EXISTING ANTENNA MOUNT @ 150' ELEV.
(MODIFICATION IS TYPICAL FOR ALL (3) SECTORS)

GC NOTE:

- 1. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES WITH (PORT HOLES, SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
- 2. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US

NOTES:

- 1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE LEGS AND/OR ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
- 2. WHEN FIELD CUTTING AND DRILLING ANGLES, USE SAME GAGE LINES AND EDGE DISTANCES AS INDICATED ON SHOP CUT AND DRILLED ENDS.
- 3. APPLY (2) COATS OF ZINC RICH GALVANIZING COMPOUND AS PER THE MANUFACTURER'S SPECIFICATIONS TO ALL FIELD CUT AND DRILLED AREAS.
- 4. MEMBERS IN BLUE COLOR ARE NEW REINFORCEMENTS.

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	MS-H1436	METROSITE HEAVY COLLAR MOUNT PLATE ASSEMBLY
2	1	MS-HR35-2375	METROSITE SUPPORT RAIL KIT
3	1	MS-TAW-350RO	METROSITE ROTATABLE T-ARM KIT



Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
81339

CUSTOMER SITE NO:
CT12219-A-SBA
CUSTOMER SITE NAME:
NEW HARTFORD 2, CT
170 S. EAST ROAD
NEW HARTFORD, CT 06057

DRAWN BY: GA CHECKED BY: AL/HMA

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	GA	07/17/19

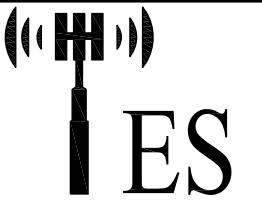
SHEET TITLE:

ANTENNA MOUNT
MODIFICATION DETAILS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: REV #:

A-1 0



Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
81339

CUSTOMER SITE NO:
CT12219-A-SBA
CUSTOMER SITE NAME:
NEW HARTFORD 2, CT
170 S. EAST ROAD
NEW HARTFORD, CT 06057

DRAWN BY: GA CHECKED BY: AL/HMA

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	GA	07/17/19

SHEET TITLE:

ANTENNA MOUNT
PHOTOS

This drawing/document is the property of Tower Engineering Solutions, LLC. Information contained herein is considered confidential in nature and is to be used only for the specific site that it was intended for. Reproduction, transmission, publication or disclosure by any method is prohibited except by express written permission from Tower Engineering Solutions, LLC. Without exception, the information on this drawing/document remains the property of Tower Engineering Solutions, LLC.

SHEET NUMBER: REV #:

A-2 0



PHOTO 1



PHOTO 2



PHOTO 3



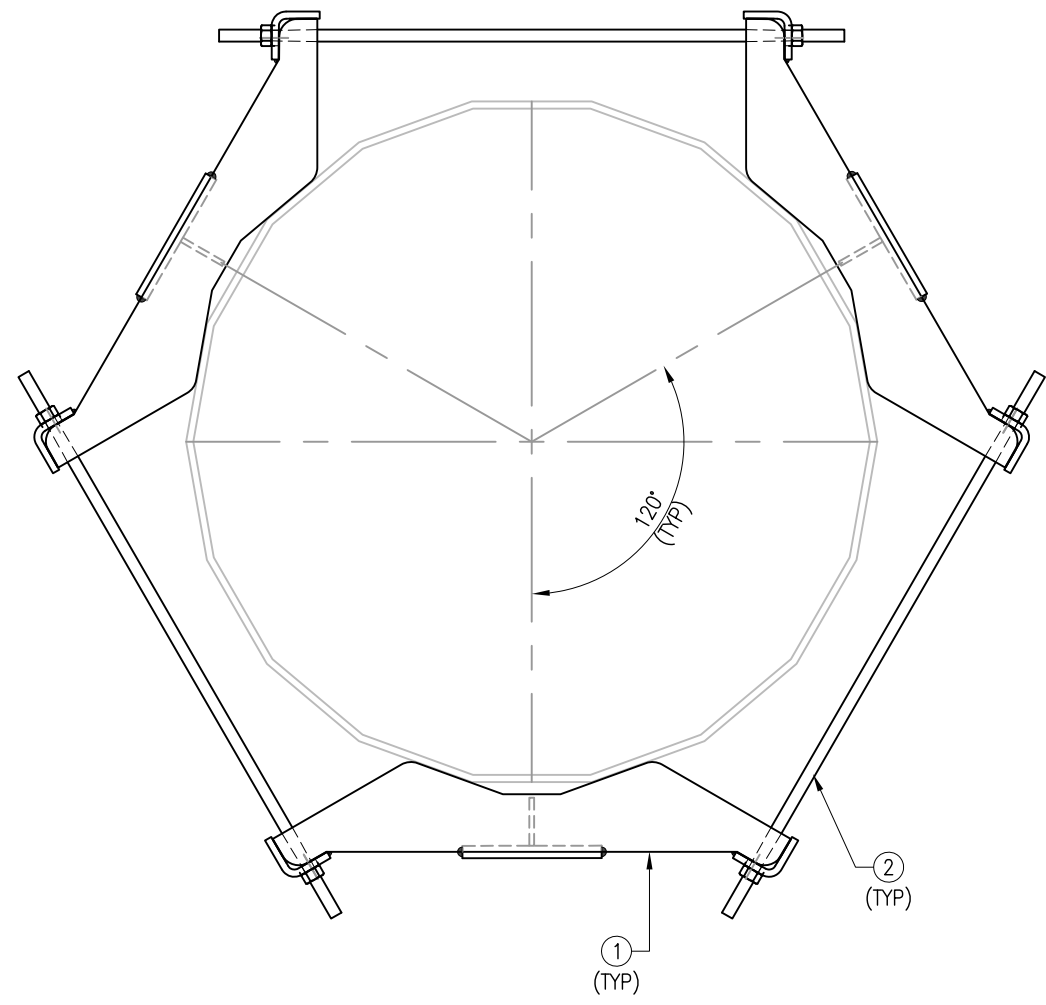
PHOTO 4

THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS

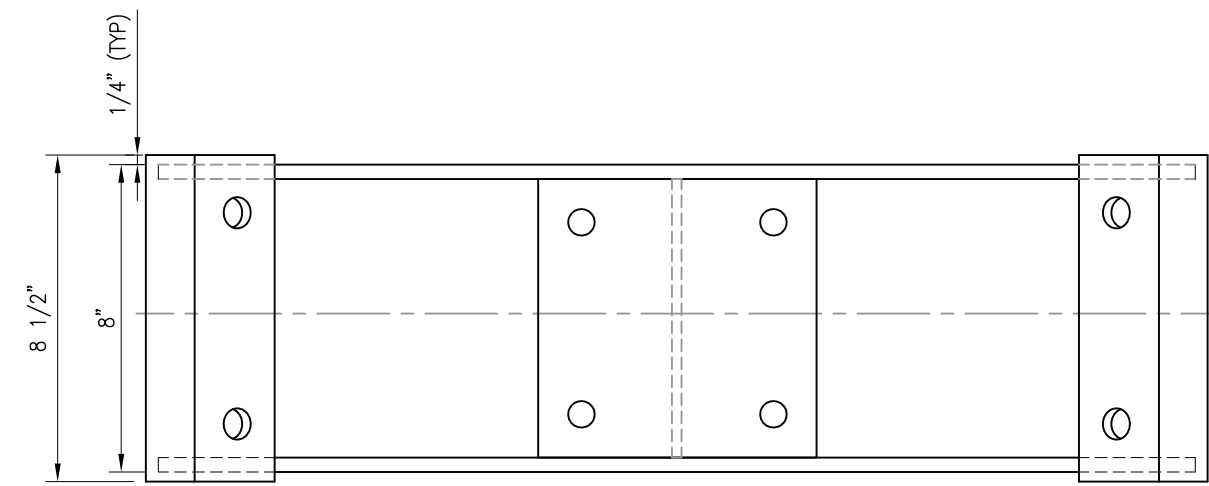
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	MPHW-1	MOUNT PLATE WELDMENT A36
2	6	---	THREADED ROD 3/4" X 2'-4 3/4" W/ 2 HHN & LW EA A36

GALVANIZED WEIGHT: 136.7 LBS

NOTE:
1) FITS 12" DIA TO 32" DIA.



TOP VIEW

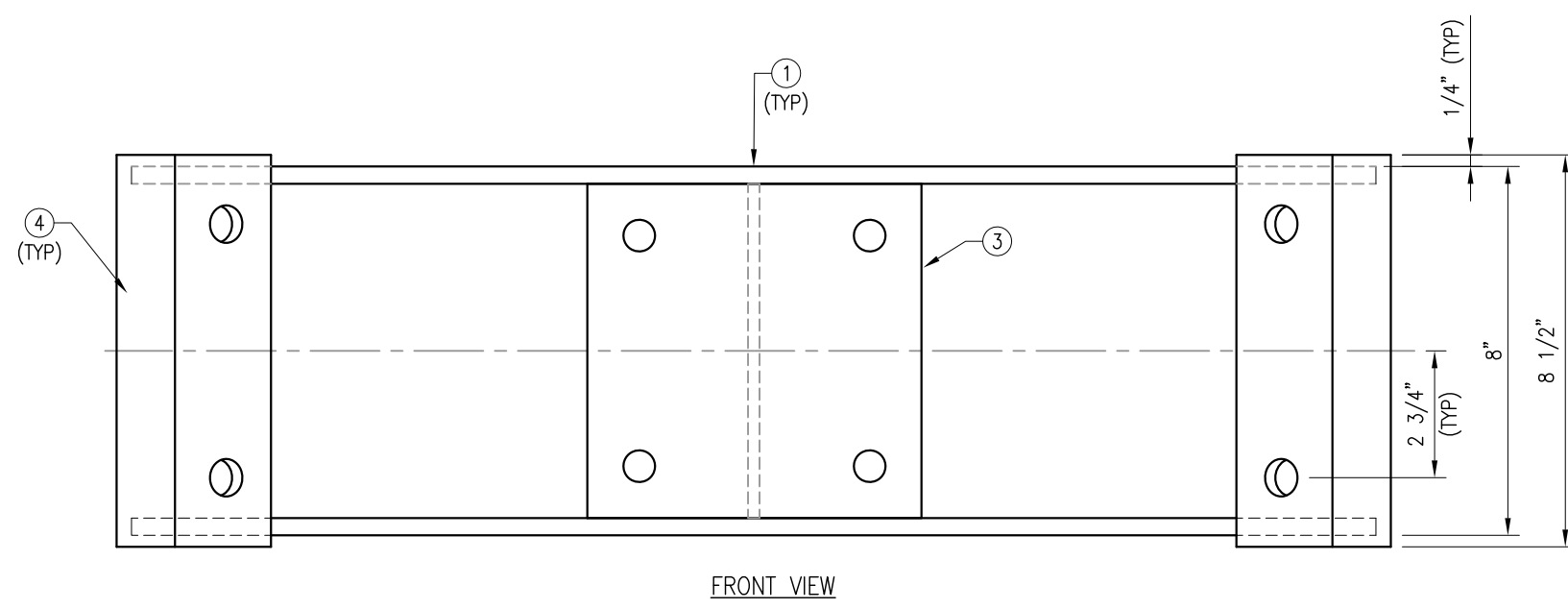
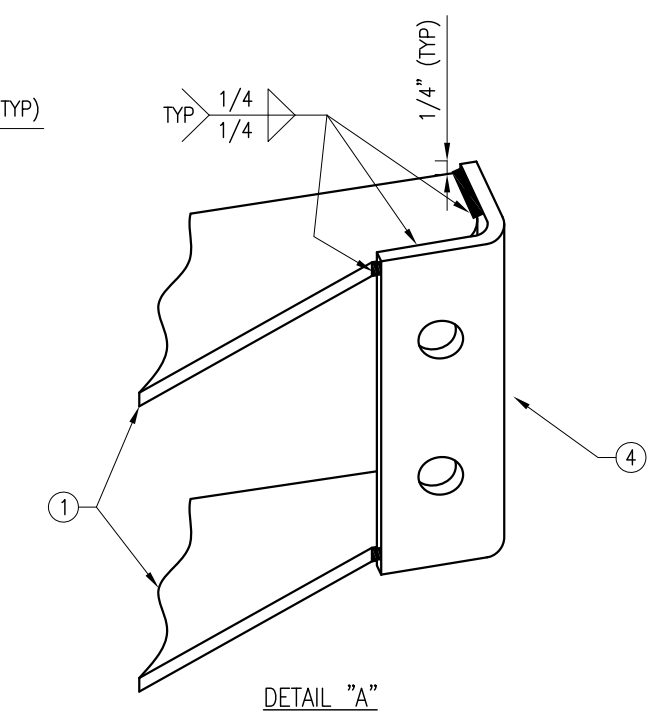
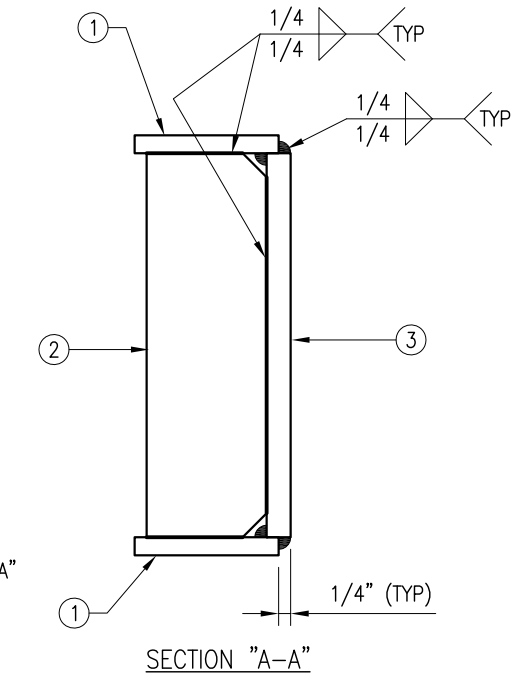
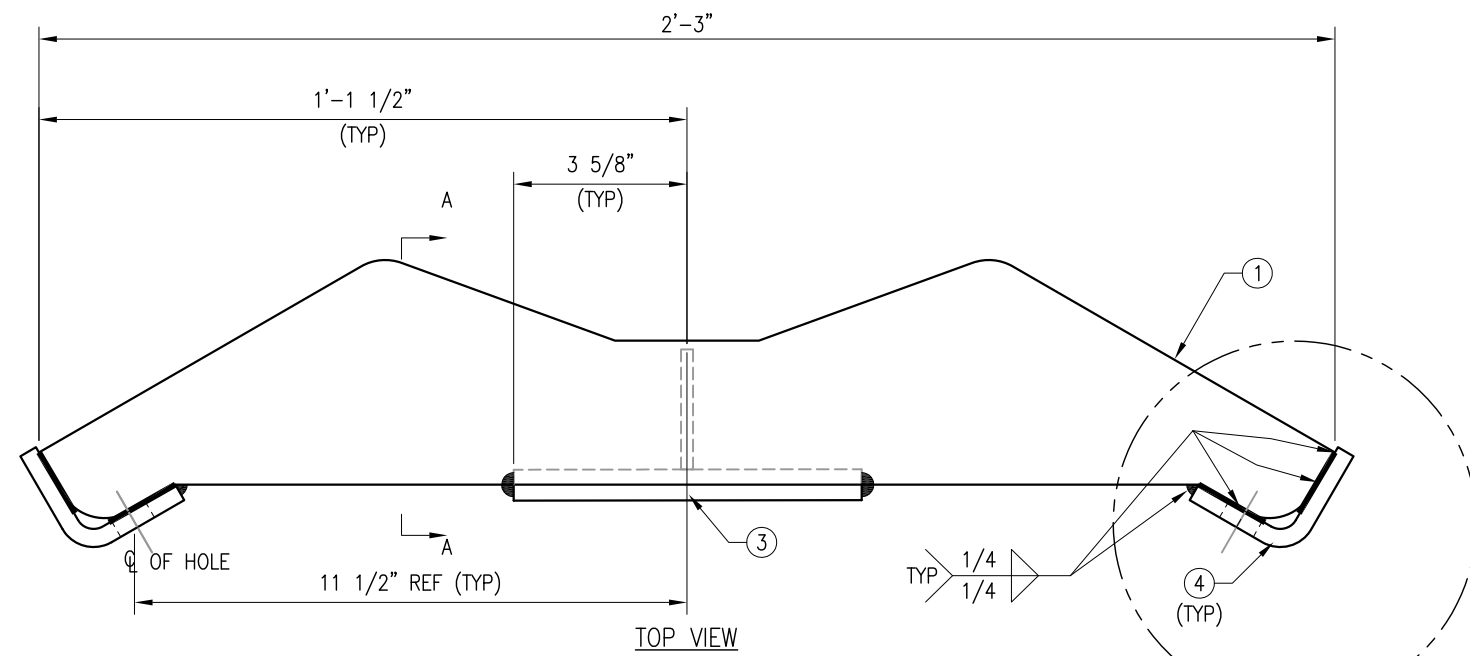


FRONT VIEW

THIRD ANGLE PROJECTION 		 METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC
STANDARD SHEET TOLERANCES		TITLE HEAVY COLLAR MOUNT PLATE ASSEMBLY DETAIL MS-H1436
DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005	ANGLES ± 1° FRACTIONS ± 1/32	APPROVAL / SIGNATURES DRAWN BY: XXX REVIEWED: XXX APPROVED: XXX
		DATE 05/12/17
		SIZE/DWG NO B MS-H1436
		SCALE -
		SHEET 1 OF 1
		REV 1

- NOTES:
 1. HOT-DIPPED GALVANIZED PER ASTM A123.
 2. WELD TYPE: E70XX.

MPHW-1 WELDMENT						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	2	PL-4	PL 3/8" X 5 3/8" X 2'-3"	A36	F-2	18.8
2	1	PL-5	PL 3/8" X 2 1/2" X 0'-7 1/4"	A36	F-2	1.9
3	1	PL-6	PL 1/2" X 7 1/4" X 0'-7 1/4"	A36	F-2	7.5
4	2	PL-7	PL 3/8" X 4 3/8" X 8 1/2"	A36	F-2	7.8
BLACK WT						36
GALVANIZED WT						38

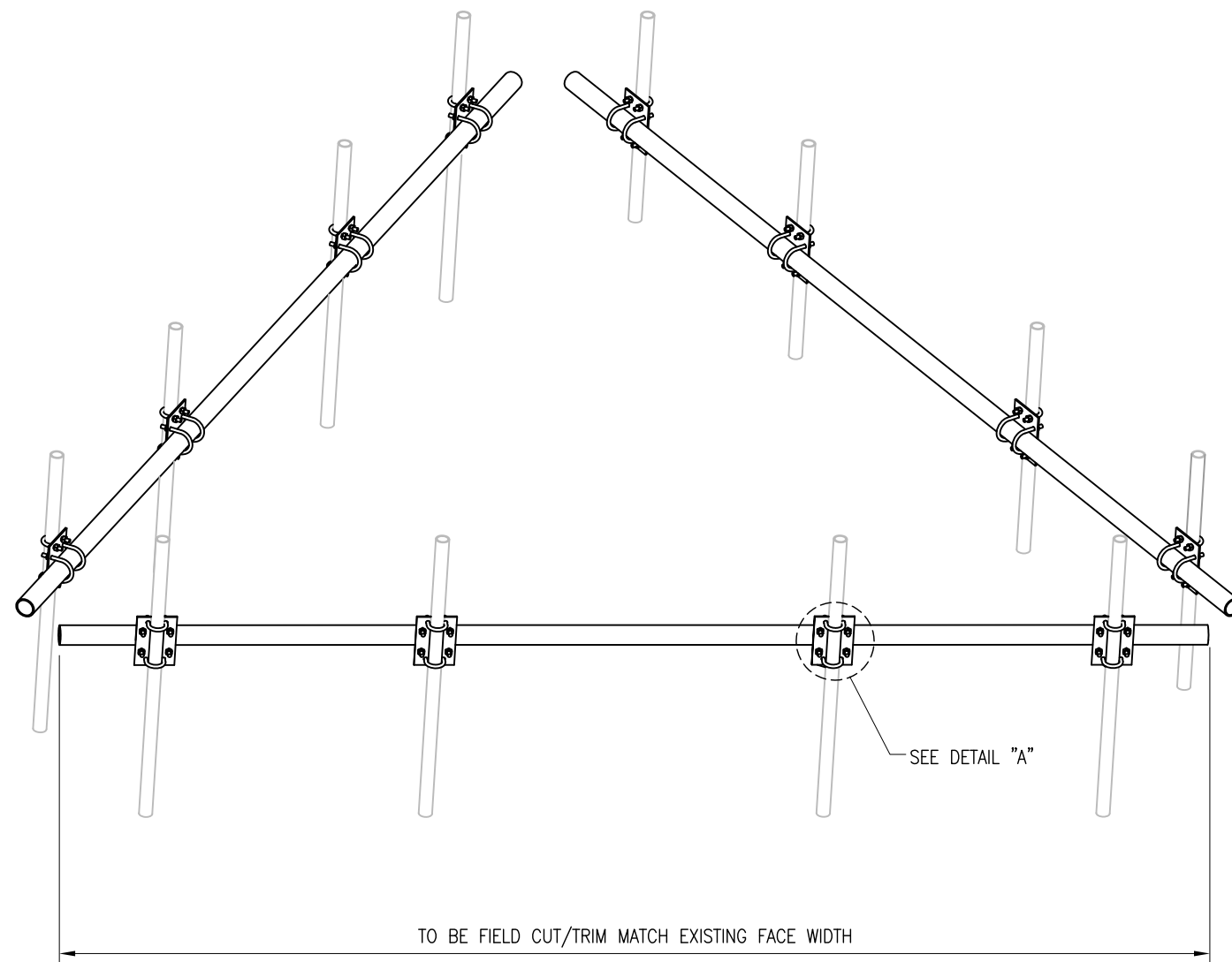


FRONT VIEW
 MPW-1 WELDMENT

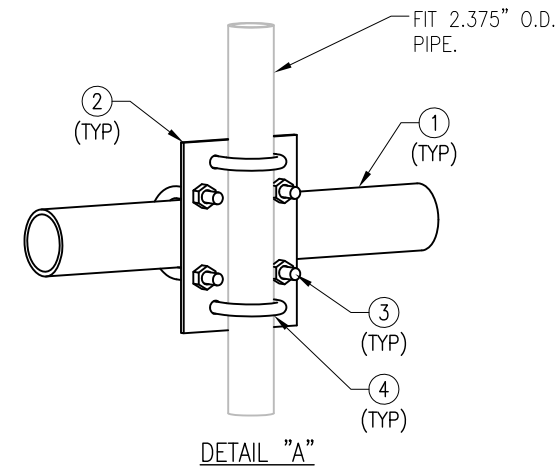
THIRD ANGLE PROJECTION						METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH				CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC			
STANDARD SHEET TOLERANCES DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005				ANGLES ± 1° FRACTIONS ± 1/32		APPROVAL / SIGNATURES DRAWN BY: XXX REVIEWED: XXX APPROVED: XXX	
				DATE 05/12/17		TITLE HEAVY COLLAR MOUNT PLATE WELDMENT DETAIL	
				SIZE/DWG NO B MPHW-1		REV 0	
				SCALE -		SHEET 1 OF 1	

MS-HR35-2375

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	3PST-140	3" PST (3.50" O.D X .216" THICK) X 14'-0"	A53 GR-B	TAF-1	337.2
2	12	PL375-10	PL 3/8" X 7 1/8" X 10"	A36	TAF-1	92.4
3	24	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
4	24	MS02-625-250-400	RU-BOLT 5/8" X 2 1/2" I.W. X 4" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
GALVANIZED WT						430



ELEVATION VIEW



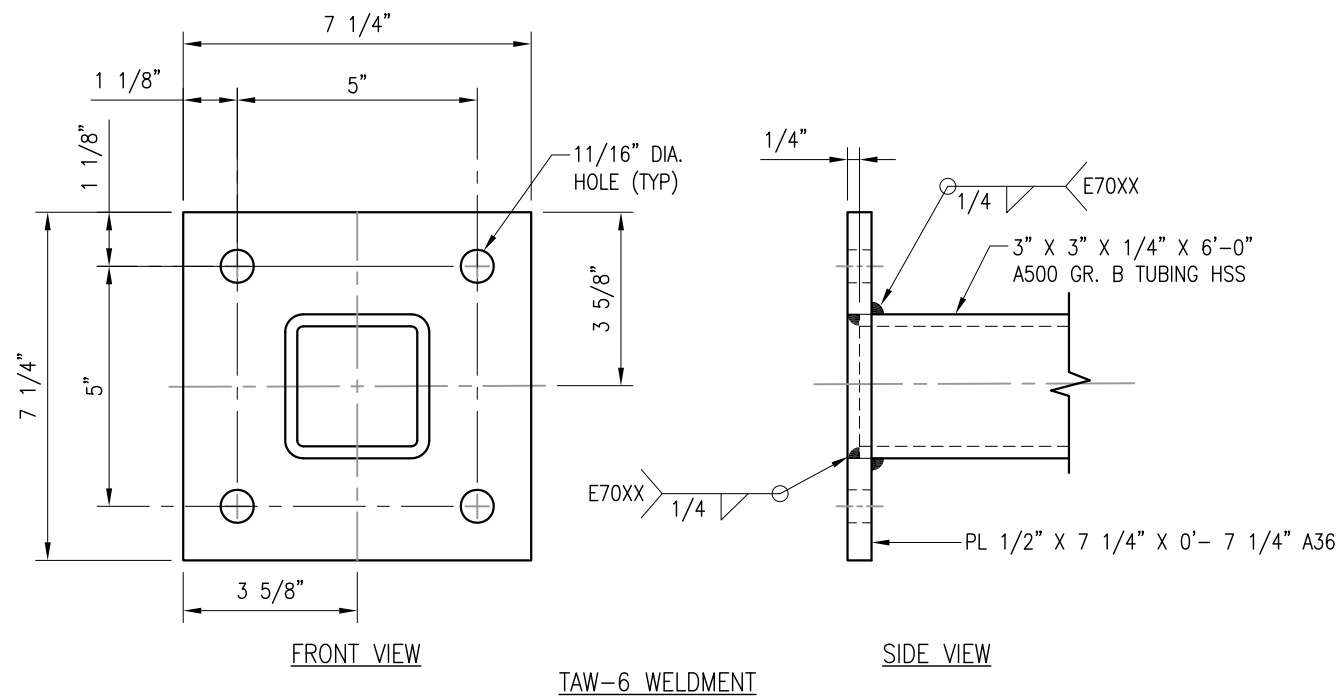
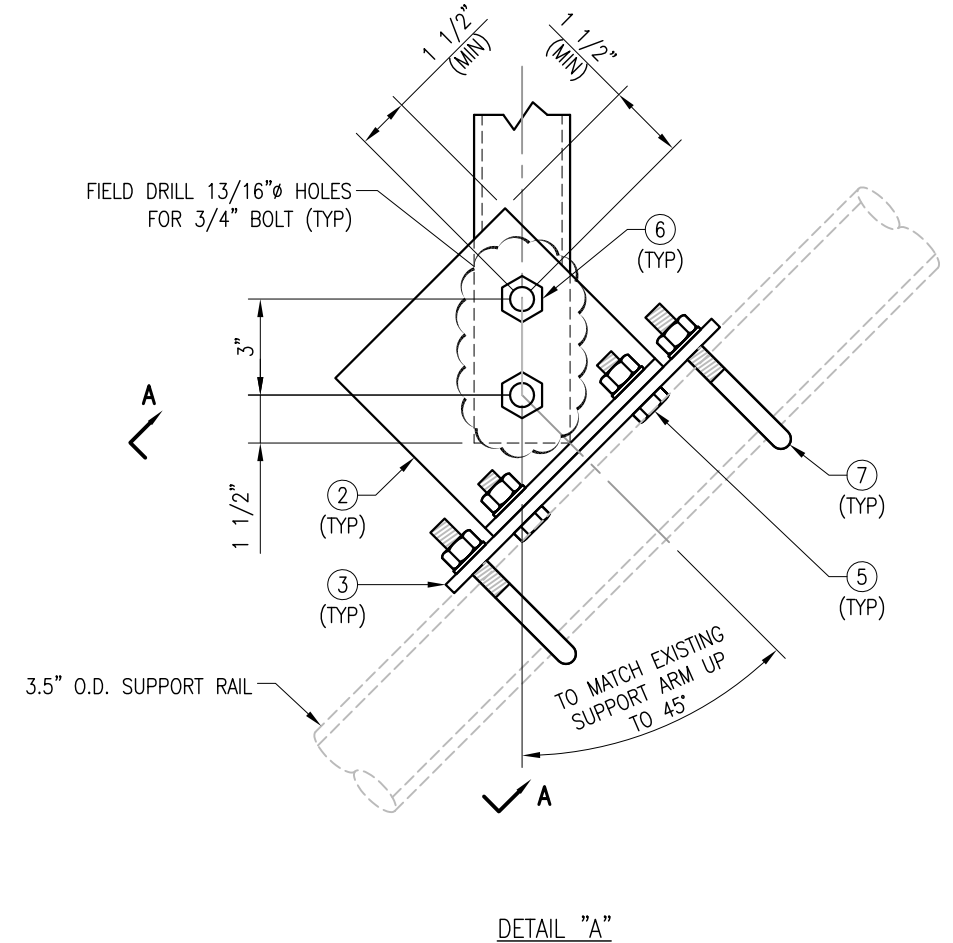
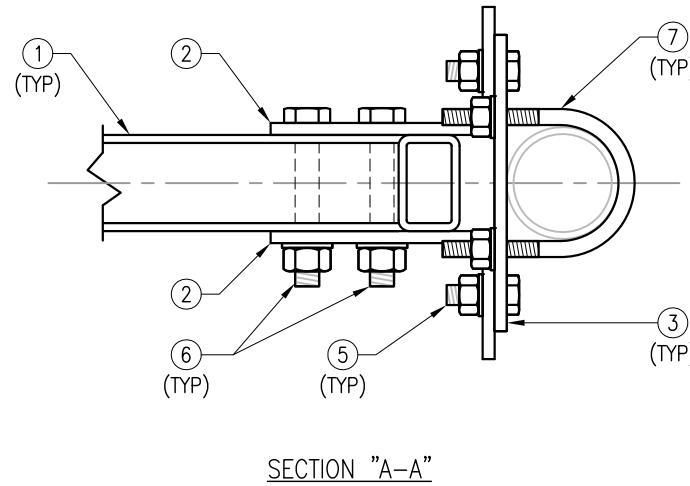
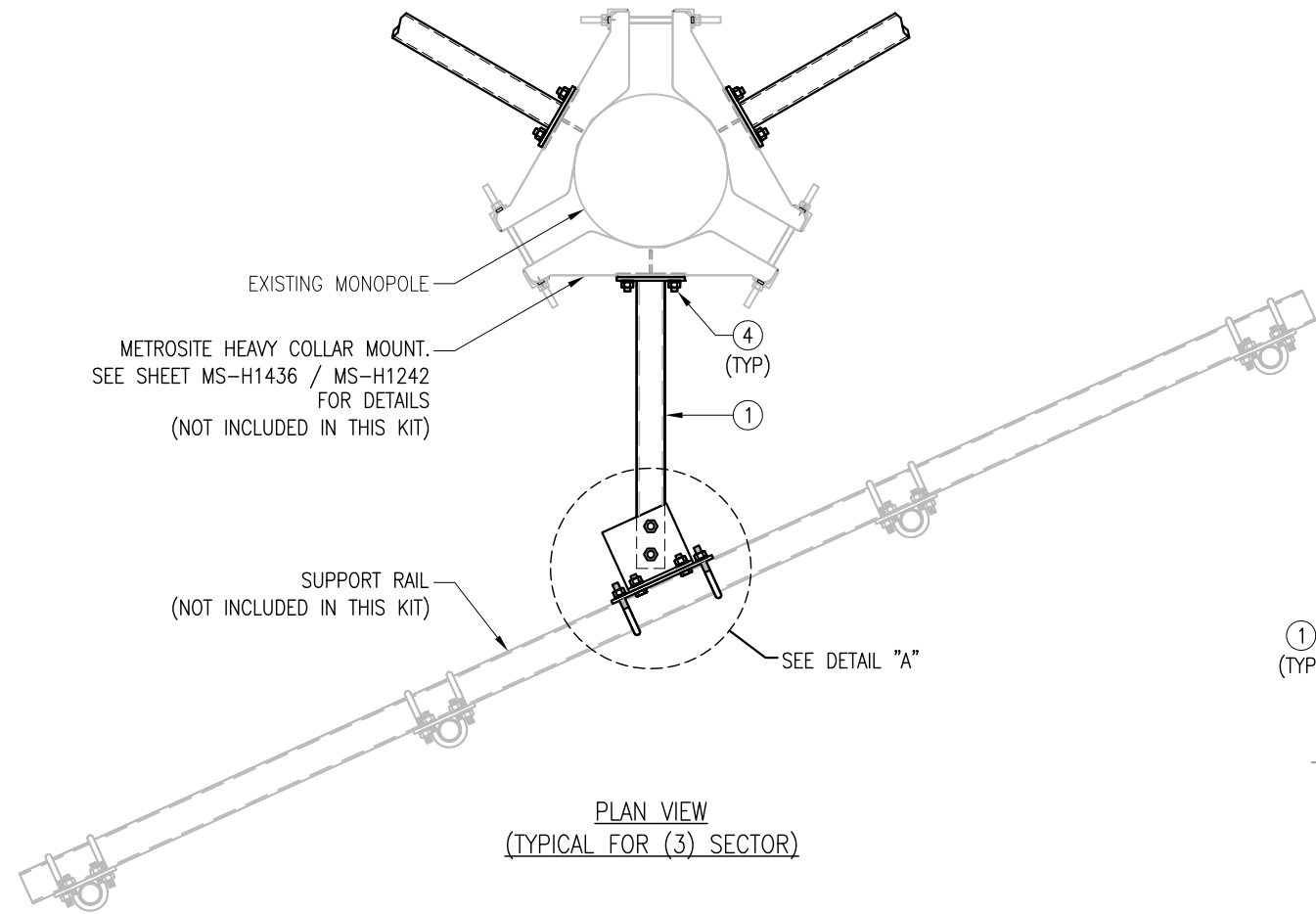
DETAIL "A"

NOTES:

1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.

THIRD ANGLE PROJECTION			METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
			TITLE MS-HR35-2375 SUPPORT RAIL KIT	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		SIZE/DWG NO B MS-HR35-2375
STANDARD SHEET TOLERANCES		APPROVAL / SIGNATURES	DATE	REV
DECIMALS	ANGLES	DRAWN BY: XXX	05/12/17	1
.X ± 0.1	± 1°	REVIEWED: XXX	-	
.XX ± 0.02	FRACTIONS	APPROVED: XXX	-	
.XXX ± 0.005	± 1/32			
		SCALE	-	SHEET 1 OF 1

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	TAW-6	T-ARM WELDMENT	A36	TAW-6	192
2	6	TARM-CPL-750	PL 3/8" X 7 1/2" X 9 7/16" A36 BENT PLATE	A36	BK-5	47.4
3	3	TARM-CPL-1175	PL 3/8" X 9 1/4" X 11 3/4"	A36	BK-5	36.3
4	12	---	BOLT 5/8" X 2 1/4" A325 W/ HHN & LKW EA.	A325	---	---
5	12	---	BOLT 5/8" X 2" A325 W/ HHN & LKW EA.	A325	---	---
6	6	---	BOLT 3/4" X 5" A325 W/ HHN & LKW EA.	A325	---	---
7	6	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	---	RBC-1	8.7
GALVANIZED WT						284



- NOTES:
- HOT-DIPPED GALVANIZED PER ASTM A123.
 - ALL HOLES ARE 11/16" DIA. U.N.O

THIRD ANGLE PROJECTION						METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH				CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC			
STANDARD SHEET TOLERANCES				APPROVAL / SIGNATURES		DATE	
DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005		ANGLES ± 1° FRACTIONS ± 1/32		DRAWN BY XXX REVIEWED XXX APPROVED XXX		11/19/18 - -	
TITLE				ROTATABLE T-ARM KIT			
SIZE DWG NO				B MS-TAW-350RO		REV 1	
SCALE				-		SHEET 1 OF 1	

EXHIBIT 8



Tower Engineering Solutions

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

Structural Analysis Report

Existing 159 ft EEI Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT12219-A

Customer Site Name: New Hartford 2, CT

Carrier Name: T-Mobile (App#: 117044, V1)

Carrier Site ID / Name: CTNH410A / New Hartford

Site Location: 170 S. East Road

New Hartford, Connecticut

Litchfield County

Latitude: 41.817258

Longitude: -72.970947

Exp.01/31/2021



Analysis Result:

Max Structural Usage: 51.5% [Pass]

Max Foundation Usage: 56.0% [Pass]

Additional Usage Caused by Mount Modification: +3.0%

10/16/2020

Report Prepared By: Younus Alkarawi

Introduction

The purpose of this report is to summarize the analysis results on the 159 ft EEI 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	EEI Project #15635-P01, dated 10/07/08
Foundation Drawing	EEI Project #15635-P01, dated 10/16/08
Geotechnical Report	Clarence Welti Associates Geotechnical Report for Proposed Sprint Site CT33XC271, dated 01/08/04
Modification Drawings	N/A
Mount Analysis	T-Mobile MA by TES # 78332, Dated 06/17/2019

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	40 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:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.18, S_1 = 0.065$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	162.0	6	Swedcom - SCE-6014 - Panel	Low Profile Platform	(12) 1 5/8"	Verizon
2		6	Antel - BXA-70063/6CF - Panel			
3		3	Antel - BXA-185060/12CF - Panel			
-	150.0	3	Ericsson - AIR21 B2A/B4P - Panel	(3) T-Arm	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson - AIR21 B4A/B2P - Panel			
-		3	Ericsson - KRY 112 144 - TMA			
9	130.0	6	Powerwave 7770.00A - Panel	(3) T-Frame w/ (6) Reforce Kit PRK-SFS-L (3) 2" Std Pipe	(24) 1 5/8" (2) 3" Conduit*	AT&T
10		24	Powerwave LGP21401			
11		3	Ericsson 4478 B71 RRU			
12		3	Ericsson 4449 B5/B12 RRU			
13		3	Ericsson 8843 B2/B66A RRU			
14		1	Raycap DC6-48-60-18-8F			
15		3	Commscope ABT-DF-DMADBH Bias-T			
16	129.0	6	Cci DMP65R-BU8DA - Panel	(3) Modified T-Arms	(1) 1 5/8" Fiber (12) 1 5/8"	T-Mobile
17		1	Raycap DC6-48-60-0-8C-EV			
18		1	Raycap DC6-48-60-18-8C-EV			

*(2)-3" Conduits will be Banded Outside Pole. Ø1) innerduct will have (2)- DC and (1)- fiber, the other will just have the (2)- DC cables.

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
4	150.0	3	RFS APX16DWV-16DWVS-E-A20- Panel	(3) Modified T-Arms	(1) 1 5/8" Fiber (12) 1 5/8"	T-Mobile
5		3	RFS APXVAARR24_43-U-NA20- Panel			
6		3	Ericsson KRY 112 144/1 TMA			
7		3	Ericsson KRY 112 489/2 TMA			
8		3	Ericsson Radio 4449 B71 + B12- 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
Max. Usage:	51.5%	39.6%	27.0%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3287.0	28.1	55.6

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 0.9269 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 EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 51.45% at 97.9ft

Structure: CT12219-A-SBA
Site Name: New Hartford 2, CT
Height: 159.00 (ft)
Base Elev: 0.000 (ft)

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

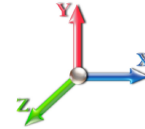
10/16/2020

Page: 1



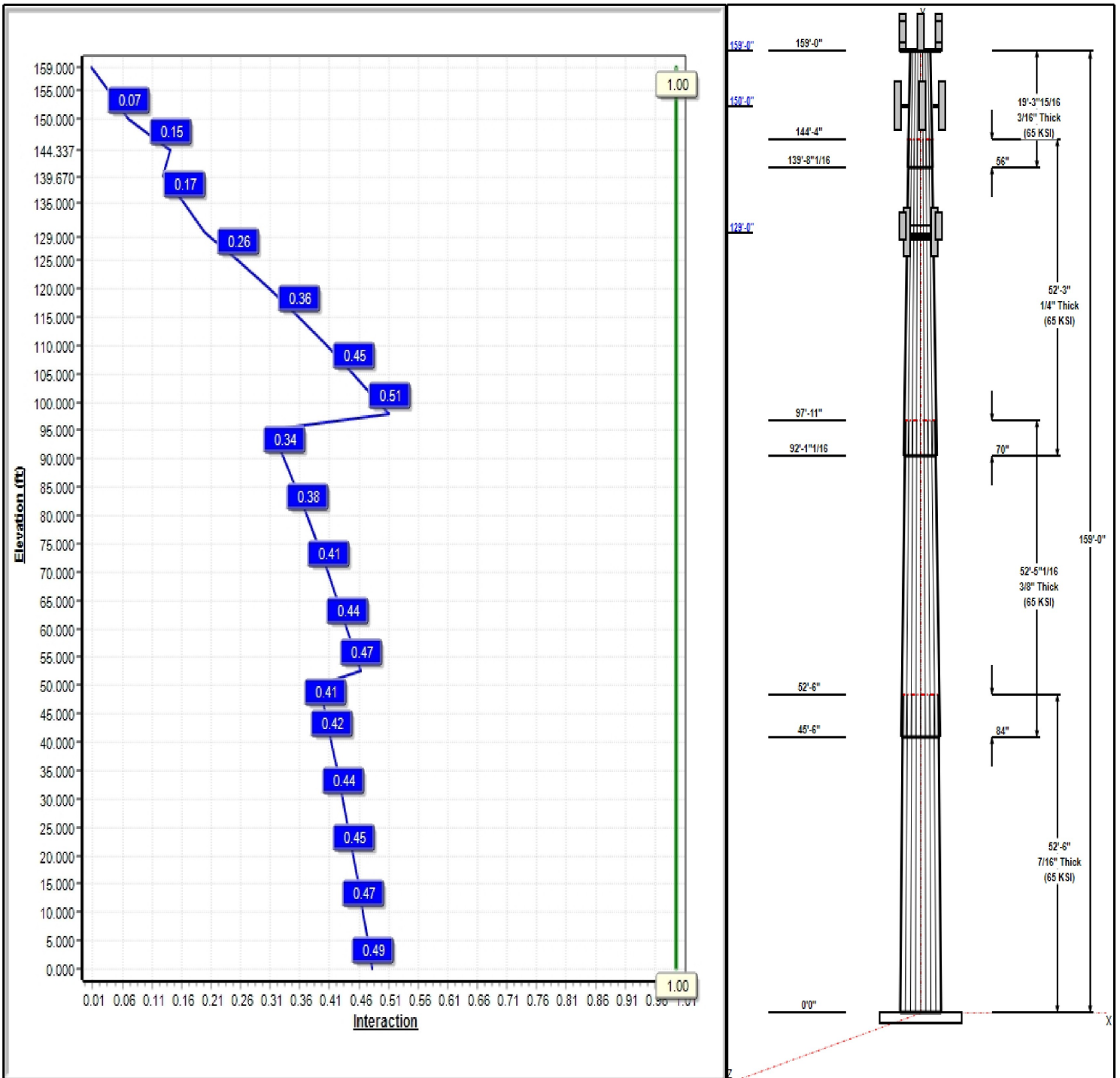
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 22

Copyright © 2020 by Tower Engineering Solutions, LLC. All rights reserved.



Structure: CT12219-A-SBA

Type: Tapered
Site Name: New Hartford 2, CT
Height: 159.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20833

10/16/2020

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	52.50	49.56	60.50	0.438		0.20833	65
2	52.42	40.85	51.77	0.375	Slip	0.20833	65
3	52.25	31.68	42.57	0.250	Slip	0.20833	65
4	19.33	29.00	33.03	0.188	Slip	0.20833	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
159.00	159.00	1	Low Profile Platform	Verizon
159.00	162.00	6	Swedcom - SCE-6014	Verizon
159.00	162.00	6	Antel - BXA-70063/6CF	Verizon
159.00	162.00	3	Antel - BXA-185060/12CF	Verizon
150.00	150.00	3	T-Arm	T-Mobile
150.00	150.00	3	APX16DWV-16DWV-S-E-	T-Mobile
150.00	150.00	3	APXVAARR24_43-U-NA20	T-Mobile
150.00	150.00	3	KRY 112 144/1	T-Mobile
150.00	150.00	3	KRY 112 489/2	T-Mobile
150.00	150.00	3	4449 B5/B12	T-Mobile
150.00	150.00	1	MS-HR35	T-Mobile
150.00	150.00	1	(3) T-Arm Kit	T-Mobile
150.00	150.00	1	MS-H1436 (Heavy Collar	T-Mobile
130.00	130.00	3	T-Frame	AT&T
130.00	130.00	6	Powerwave 7770.00A	AT&T
130.00	130.00	24	Powerwave LGP21401	AT&T
130.00	130.00	1	Raycap DC6-48-60-18-8F	AT&T
130.00	130.00	3	Commscope	AT&T
130.00	130.00	3	Ericsson 4478 B71 RRU	AT&T
130.00	130.00	3	Ericsson 4449 B5/B12	AT&T
130.00	130.00	3	Ericsson 8843 B2/B66A	AT&T
130.00	130.00	1	(6) Reinforce Kit	AT&T
129.00	129.00	1	Raycap	AT&T
129.00	129.00	1	Raycap	AT&T
129.00	129.00	6	DMP65R-BU8DA	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	159.00	Inside	1 5/8" Coax	Verizon
0.00	150.00	Inside	1 5/8" Coax	T-Mobile
0.00	150.00	Inside	1 5/8" Fiber	T-Mobile
0.00	130.00	Inside	1 5/8" Coax	AT&T
0.00	130.00	Outside	3" Conduit	AT&T

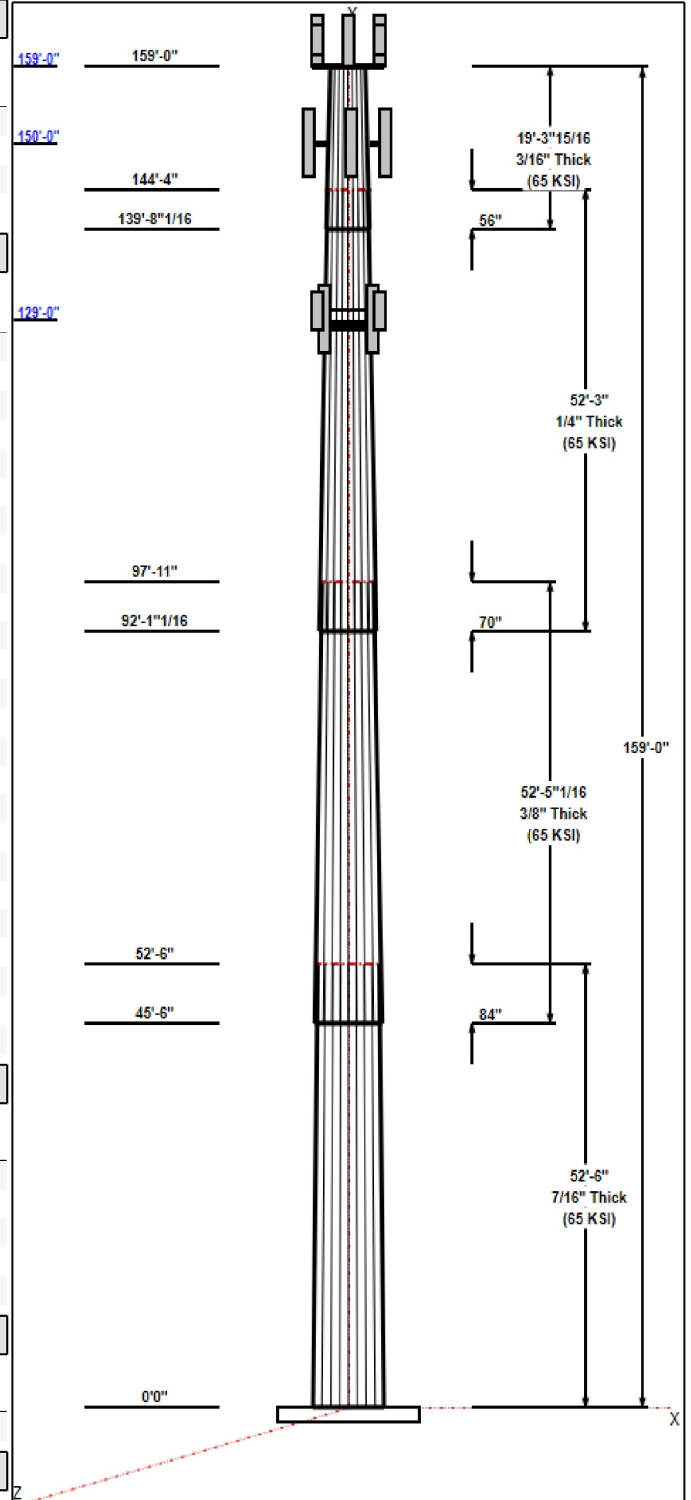
Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	74.0	50.0	Round

Reactions



Structure: CT12219-A-SBA

Type: Tapered
Site Name: New Hartford 2, CT
Height: 159.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20833

10/16/2020

Page: 3



Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	3287.0	28.1	55.6
0.9D + 1.6W 93 mph Wind	3259.0	28.1	41.7
1.2D + 1.0Di + 1.0Wi 40 mph Wind	710.1	6.0	95.5
1.2D + 1.0E	243.7	2.0	55.6
0.9D + 1.0E	241.5	2.0	41.7
1.0D + 1.0W 60 mph Wind	850.6	7.3	46.3

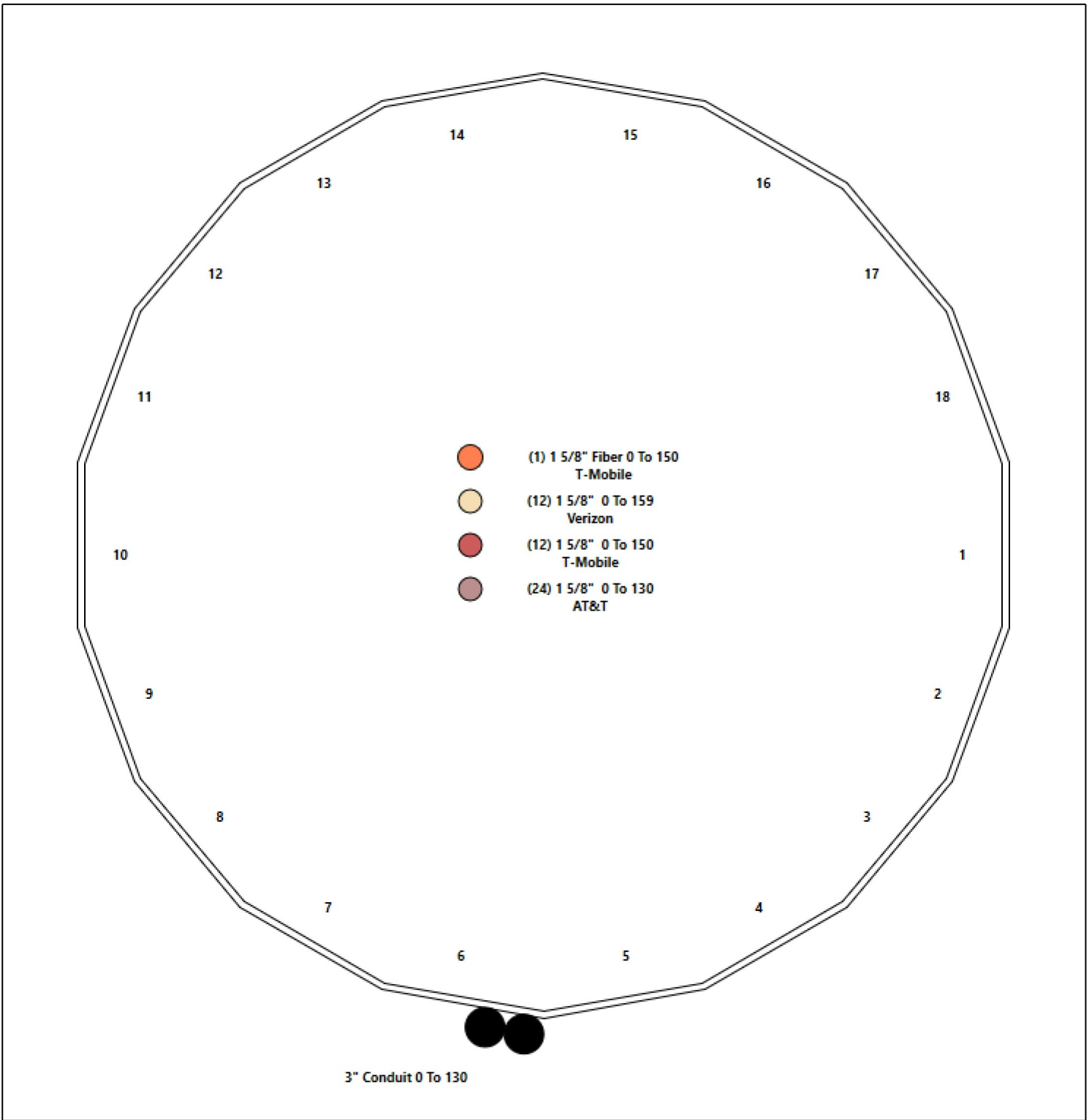
Structure: CT12219-A-SBA - Coax Line Placement

Type: Monopole
Site Name: New Hartford 2, CT
Height: 159.00 (ft)

10/16/2020



Page: 4



Shaft Properties

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	52.500	0.4375	65		0.00	13,543
2	18	52.420	0.3750	65	Slip	84.00	9,752
3	18	52.250	0.2500	65	Slip	70.00	5,202
4	18	19.330	0.1875	65	Slip	56.00	1,207
Total Shaft Weight:							29,703

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper
1	60.50	0.00	83.40	38013.04	22.97	138.29	49.56	52.50	68.21	20798.4	18.56	113.2	0.208333
2	51.77	45.50	61.17	20415.47	22.93	138.06	40.85	97.92	48.17	9970.94	17.80	108.9	0.208333
3	42.57	92.09	33.58	7595.84	28.61	170.26	31.68	144.34	24.94	3112.52	20.93	126.7	0.208333
4	33.03	139.6	19.54	2662.80	29.65	176.14	29.00	159.00	17.15	1798.41	25.86	154.6	0.208333

Load Summary

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 6

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	159.00	Low Profile Platform	1	1600.00	40.20	1.00	3472.44	85.363	1.00	0.00	0.00
2	159.00	Swedcom - SCE-6014	6	15.00	3.33	0.98	142.12	5.568	0.98	0.00	3.00
3	159.00	Antel - BXA-70063/6CF	6	14.90	7.58	0.77	211.52	11.291	0.81	0.00	3.00
4	159.00	Antel - BXA-185060/12CF	3	15.00	4.78	0.88	182.26	6.467	0.90	0.00	3.00
5	150.00	T-Arm	3	500.00	15.60	0.75	965.39	33.750	0.75	0.00	0.00
6	150.00	APX16DWV-16DWV-S-E-A20	3	40.70	6.46	0.62	237.43	7.978	0.62	0.00	0.00
7	150.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	709.08	22.805	0.70	0.00	0.00
8	150.00	KRY 112 144/1	3	11.00	0.41	0.70	25.38	1.044	0.70	0.00	0.00
9	150.00	KRY 112 489/2	3	15.40	0.65	0.82	38.89	1.466	0.82	0.00	0.00
10	150.00	4449 B5/B12	3	71.00	1.97	0.67	142.17	2.700	0.67	0.00	0.00
11	150.00	MS-HR35	1	430.00	8.75	1.00	1110.40	20.152	1.00	0.00	0.00
12	150.00	(3) T-Arm Kit	1	500.00	16.50	1.00	1291.16	38.001	1.00	0.00	0.00
13	150.00	MS-H1436 (Heavy Collar Mount)	1	136.70	2.25	1.00	391.18	5.391	1.00	0.00	0.00
14	130.00	T-Frame	3	550.00	17.60	0.75	1054.66	37.786	0.75	0.00	0.00
15	130.00	Powerwave 7770.00A	6	27.00	5.54	0.72	177.23	8.346	0.72	0.00	0.00
16	130.00	Powerwave LGP21401	24	17.50	1.29	0.50	58.29	2.388	0.50	0.00	0.00
17	130.00	Raycap DC6-48-60-18-8F	1	32.80	0.92	1.00	116.62	1.496	1.00	0.00	0.00
18	130.00	Commscope ABT-DF-DMADBH	3	1.14	0.05	0.67	4.18	0.303	0.67	0.00	0.00
19	130.00	Ericsson 4478 B71 RRU	3	60.00	1.65	0.67	115.05	2.331	0.67	0.00	0.00
20	130.00	Ericsson 4449 B5/B12 RRU	3	71.00	1.97	0.67	141.16	2.689	0.67	0.00	0.00
21	130.00	Ericsson 8843 B2/B66A RRU	3	75.00	1.65	0.67	194.86	2.778	0.67	0.00	0.00
22	130.00	(6) Reinforce Kit [PRK-SFS-L]	1	230.00	9.70	1.00	652.08	23.050	1.00	0.00	0.00
23	129.00	Raycap DC6-48-60-0-8C-EV	1	26.20	4.78	1.00	292.31	5.941	1.00	0.00	0.00
24	129.00	Raycap DC6-48-60-18-8C-EV	1	26.20	4.78	1.00	292.31	5.941	1.00	0.00	0.00
25	129.00	DMP65R-BU8DA	6	95.70	17.87	0.83	612.27	20.296	0.83	0.00	0.00
Totals:			92	8,932.22			27,307.71				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	159.00	(12) 1 5/8" Coax	0.00	Inside
0.00	150.00	(12) 1 5/8" Coax	0.00	Inside
0.00	150.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	130.00	(24) 1 5/8" Coax	0.00	Inside
0.00	130.00	(2) 3" Conduit	6.00	Outside

Shaft Section Properties

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 7

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		0.4375	60.500	83.401	38013.0	22.97	138.29	74.4	1237.	0.0
5.00		0.4375	59.458	81.955	36069.4	22.55	135.90	74.9	1194.	1406.7
10.00		0.4375	58.417	80.508	34193.1	22.13	133.52	75.4	1152.	1382.1
15.00		0.4375	57.375	79.062	32383.0	21.71	131.14	75.9	1111.	1357.5
20.00		0.4375	56.333	77.616	30638.0	21.29	128.76	76.4	1071.	1332.8
25.00		0.4375	55.292	76.169	28956.8	20.87	126.38	76.8	1031.	1308.2
30.00		0.4375	54.250	74.723	27338.3	20.45	124.00	77.3	992.6	1283.6
35.00		0.4375	53.208	73.276	25781.3	20.03	121.62	77.8	954.3	1259.0
40.00		0.4375	52.167	71.830	24284.5	19.61	119.24	78.3	916.9	1234.4
45.00		0.4375	51.125	70.383	22846.8	19.19	116.86	78.8	880.2	1209.8
45.50	Bot - Section 2	0.4375	51.021	70.239	22706.2	19.15	116.62	78.9	876.6	119.6
50.00		0.4375	50.083	68.937	21467.0	18.77	114.48	79.3	844.2	1993.7
52.50	Top - Section 1	0.3750	50.313	59.436	18726.5	22.25	134.17	0.0	0.0	1091.6
55.00		0.3750	49.792	58.816	18146.6	22.00	132.78	75.5	717.8	503.0
60.00		0.3750	48.750	57.576	17023.1	21.51	130.00	76.1	687.8	990.1
65.00		0.3750	47.708	56.336	15946.9	21.02	127.22	76.7	658.4	969.0
70.00		0.3750	46.667	55.097	14917.1	20.53	124.44	77.3	629.6	948.0
75.00		0.3750	45.625	53.857	13932.6	20.04	121.67	77.8	601.5	926.9
80.00		0.3750	44.583	52.617	12992.4	19.55	118.89	78.4	574.0	905.8
85.00		0.3750	43.542	51.377	12095.4	19.06	116.11	79.0	547.1	884.7
90.00		0.3750	42.500	50.137	11240.8	18.57	113.33	79.6	520.9	863.6
92.09	Bot - Section 3	0.3750	42.065	49.620	10896.3	18.37	112.17	79.8	510.2	354.2
95.00		0.3750	41.458	48.898	10427.3	18.08	110.56	80.1	495.4	818.8
97.92	Top - Section 2	0.2500	41.350	32.612	6960.0	27.75	165.40	0.0	0.0	808.7
100.00		0.2500	40.917	32.268	6742.2	27.45	163.67	69.1	324.5	229.6
105.00		0.2500	39.875	31.441	6237.2	26.71	159.50	70.0	308.1	542.0
110.00		0.2500	38.833	30.615	5758.2	25.98	155.33	70.8	292.1	527.9
115.00		0.2500	37.792	29.788	5304.3	25.24	151.17	71.7	276.4	513.8
120.00		0.2500	36.750	28.962	4874.9	24.51	147.00	72.6	261.3	499.8
125.00		0.2500	35.708	28.135	4469.3	23.77	142.83	73.4	246.5	485.7
129.00		0.2500	34.875	27.474	4161.5	23.19	139.50	74.1	235.0	378.5
130.00		0.2500	34.667	27.309	4086.9	23.04	138.67	74.3	232.2	93.2
135.00		0.2500	33.625	26.482	3726.9	22.31	134.50	75.2	218.3	457.6
139.67	Bot - Section 4	0.2500	32.652	25.710	3410.4	21.62	130.61	76.0	205.7	414.7
140.00		0.2500	32.583	25.656	3388.7	21.57	130.33	76.0	204.8	50.8
144.34	Top - Section 3	0.1875	32.055	18.964	2433.2	28.73	170.96	0.0	0.0	657.1
145.00		0.1875	31.917	18.882	2401.7	28.60	170.22	67.8	148.2	42.7
150.00		0.1875	30.875	18.262	2172.9	27.62	164.67	68.9	138.6	316.0
155.00		0.1875	29.833	17.642	1959.0	26.64	159.11	70.1	129.3	305.4
159.00		0.1875	29.000	17.146	1798.4	25.86	154.67	71.0	122.1	236.8

29703.3

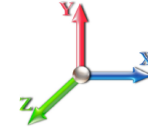
Wind Loading - Shaft

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 22

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	0.70	14.724	16.20	398.34	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	391.48	0.650	0.000	5.00	25.377	16.49	427.5	0.0	1688.0
10.00		1.00	0.70	14.724	16.20	384.62	0.650 *	0.000	5.00	24.936	16.22	420.4	0.0	1658.5
15.00		1.00	0.70	14.724	16.20	377.77	0.654 *	0.000	5.00	24.495	16.02	415.2	0.0	1628.9
20.00		1.00	0.70	14.724	16.20	370.91	0.658 *	0.000	5.00	24.055	15.82	410.0	0.0	1599.4
25.00		1.00	0.70	14.724	16.20	364.05	0.661 *	0.000	5.00	23.614	15.62	404.8	0.0	1569.9
30.00		1.00	0.70	14.736	16.21	357.34	0.665 *	0.000	5.00	23.173	15.42	399.9	0.0	1540.4
35.00		1.00	0.73	15.400	16.94	350.63	0.669 *	0.000	5.00	22.733	15.22	412.5	0.0	1510.8
40.00		1.00	0.76	15.999	17.60	344.03	0.674 *	0.000	5.00	22.292	15.02	422.9	0.0	1481.3
45.00		1.00	0.79	16.546	18.20	337.54	0.678 *	0.000	5.00	21.851	14.82	431.5	0.0	1451.8
45.50 Bot - Section 2		1.00	0.79	16.599	18.26	331.14	0.681 *	0.000	0.50	2.161	1.47	43.0	0.0	143.6
50.00		1.00	0.81	17.052	18.76	324.83	0.683 *	0.000	4.50	19.535	13.34	400.4	0.0	2392.5
52.50 Top - Section 1		1.00	0.82	17.292	19.02	318.62	0.686 *	0.000	2.50	10.699	7.34	223.4	0.0	1309.9
55.00		1.00	0.83	17.523	19.28	312.51	0.688 *	0.000	2.50	10.588	7.26	223.8	0.0	603.6
60.00		1.00	0.85	17.964	19.76	306.50	0.689 *	0.000	5.00	20.846	14.36	454.0	0.0	1188.2
65.00		1.00	0.87	18.380	20.22	300.59	0.694 *	0.000	5.00	20.405	14.16	458.0	0.0	1162.9
70.00		1.00	0.89	18.773	20.65	294.78	0.699 *	0.000	5.00	19.965	13.96	461.2	0.0	1137.5
75.00		1.00	0.91	19.147	21.06	289.07	0.705 *	0.000	5.00	19.524	13.76	463.6	0.0	1112.2
80.00		1.00	0.93	19.503	21.45	283.46	0.710 *	0.000	5.00	19.083	13.56	465.4	0.0	1086.9
85.00		1.00	0.94	19.844	21.83	277.95	0.716 *	0.000	5.00	18.643	13.36	466.5	0.0	1061.6
90.00		1.00	0.96	20.170	22.19	272.54	0.723 *	0.000	5.00	18.202	13.16	467.1	0.0	1036.3
92.09 Bot - Section 3		1.00	0.97	20.303	22.33	267.23	0.728 *	0.000	2.09	7.466	5.43	194.1	0.0	425.0
95.00		1.00	0.97	20.484	22.53	262.02	0.731 *	0.000	2.91	10.419	7.61	274.5	0.0	982.5
97.92 Top - Section 2		1.00	0.98	20.662	22.73	256.91	0.735 *	0.000	2.92	10.292	7.56	275.1	0.0	970.4
100.00		1.00	0.99	20.787	22.87	251.90	0.735 *	0.000	2.08	7.240	5.32	194.7	0.0	275.5
105.00		1.00	1.00	21.079	23.19	247.00	0.740 *	0.000	5.00	17.091	12.65	469.4	0.0	650.4
110.00		1.00	1.02	21.361	23.50	242.20	0.748 *	0.000	5.00	16.651	12.45	468.1	0.0	633.5
115.00		1.00	1.03	21.634	23.80	237.50	0.756 *	0.000	5.00	16.210	12.25	466.4	0.0	616.6
120.00		1.00	1.04	21.898	24.09	232.90	0.764 *	0.000	5.00	15.769	12.05	464.4	0.0	599.7
125.00		1.00	1.05	22.155	24.37	228.40	0.773 *	0.000	5.00	15.328	11.85	462.0	0.0	582.9
129.00 Appurtenance(s)		1.00	1.06	22.356	24.59	224.00	0.781 *	0.000	4.00	11.945	9.34	367.3	0.0	454.1
130.00 Appurtenance(s)		1.00	1.07	22.405	24.65	220.00	0.786 *	0.000	1.00	2.942	2.31	91.2	0.0	111.8
135.00		1.00	1.08	22.648	24.91	216.00	0.650	0.000	5.00	14.447	9.39	374.3	0.0	549.1
139.67 Bot - Section 4		1.00	1.09	22.869	25.16	212.00	0.650	0.000	4.67	13.095	8.51	342.6	0.0	497.6
140.00		1.00	1.09	22.884	25.17	208.00	0.650	0.000	0.33	0.921	0.60	24.1	0.0	60.9
144.34 Top - Section 3		1.00	1.10	23.085	25.39	204.00	0.650	0.000	4.34	11.929	7.75	315.0	0.0	788.5
145.00		1.00	1.10	23.115	25.43	200.00	0.650	0.000	0.66	1.795	1.17	47.5	0.0	51.3
150.00 Appurtenance(s)		1.00	1.11	23.340	25.67	196.00	0.650	0.000	5.00	13.283	8.63	354.7	0.0	379.2
155.00		1.00	1.12	23.560	25.92	192.00	0.650	0.000	5.00	12.843	8.35	346.1	0.0	366.5
159.00 Appurtenance(s)		1.00	1.13	23.732	26.10	188.00	0.650	0.000	4.00	9.957	6.47	270.3	0.0	284.1
Totals:									159.00			13,672.8		35,644.0

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

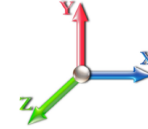


Page: 9

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

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	159.00	Antel - BXA-70063/6CF	6	23.859	26.245	0.69	0.90	31.39	107.28	0.000	3.000	1318.32	0.00	3954.96
2	159.00	Swedcom - SCE-6014	6	23.859	26.245	0.88	0.90	17.55	108.00	0.000	3.000	736.97	0.00	2210.91
3	159.00	Low Profile Platform	1	23.732	26.105	1.00	1.00	40.20	1920.00	0.000	0.000	1679.07	0.00	0.00
4	159.00	Antel - BXA-185060/12CF	3	23.859	26.245	0.79	0.90	11.33	54.00	0.000	3.000	475.83	0.00	1427.48
5	150.00	KRY 112 489/2	3	23.340	25.674	0.66	0.80	1.28	55.44	0.000	0.000	52.55	0.00	0.00
6	150.00	APX16DWV-16DWV-S-E-	3	23.340	25.674	0.50	0.80	9.61	146.52	0.000	0.000	394.86	0.00	0.00
7	150.00	APXVAARR24_43-U-NA2	3	23.340	25.674	0.56	0.80	34.00	460.80	0.000	0.000	1396.79	0.00	0.00
8	150.00	KRY 112 144/1	3	23.340	25.674	0.56	0.80	0.69	39.60	0.000	0.000	28.29	0.00	0.00
9	150.00	(3) T-Arm Kit	1	23.340	25.674	0.75	0.75	12.38	600.00	0.000	0.000	508.34	0.00	0.00
10	150.00	4449 B5/B12	3	23.340	25.674	0.54	0.80	3.17	255.60	0.000	0.000	130.13	0.00	0.00
11	150.00	MS-HR35	1	23.340	25.674	0.75	0.75	6.56	516.00	0.000	0.000	269.58	0.00	0.00
12	150.00	MS-H1436 (Heavy Collar	1	23.340	25.674	0.75	0.75	1.69	164.04	0.000	0.000	69.32	0.00	0.00
13	150.00	T-Arm	3	23.340	25.674	0.56	0.75	26.32	1800.00	0.000	0.000	1081.39	0.00	0.00
14	130.00	Raycap DC6-48-60-18-8F	1	22.405	24.645	1.00	1.00	0.92	39.36	0.000	0.000	36.28	0.00	0.00
15	130.00	T-Frame	3	22.405	24.645	0.56	0.75	29.70	1980.00	0.000	0.000	1171.15	0.00	0.00
16	130.00	Powerwave 7770.00A	6	22.405	24.645	0.58	0.80	19.15	194.40	0.000	0.000	754.99	0.00	0.00
17	130.00	Powerwave LGP21401	24	22.405	24.645	0.40	0.80	12.38	504.00	0.000	0.000	488.33	0.00	0.00
18	130.00	(6) Reinforce Kit	1	22.405	24.645	0.75	0.75	7.27	276.00	0.000	0.000	286.87	0.00	0.00
19	130.00	Commscope	3	22.405	24.645	0.54	0.80	0.08	4.10	0.000	0.000	3.17	0.00	0.00
20	130.00	Ericsson 4478 B71 RRU	3	22.405	24.645	0.54	0.80	2.65	216.00	0.000	0.000	104.62	0.00	0.00
21	130.00	Ericsson 4449 B5/B12	3	22.405	24.645	0.54	0.80	3.17	255.60	0.000	0.000	124.91	0.00	0.00
22	130.00	Ericsson 8843 B2/B66A	3	22.405	24.645	0.54	0.80	2.65	270.00	0.000	0.000	104.62	0.00	0.00
23	129.00	DMP65R-BU8DA	6	22.356	24.591	0.66	0.80	71.19	689.04	0.000	0.000	2801.18	0.00	0.00
24	129.00	Raycap	1	22.356	24.591	1.00	1.00	4.78	31.44	0.000	0.000	188.07	0.00	0.00
25	129.00	Raycap	1	22.356	24.591	1.00	1.00	4.78	31.44	0.000	0.000	188.07	0.00	0.00
Totals:								10,718.66			14,393.72			

Total Applied Force Summary

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 10

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 22

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		427.46	2013.45	0.00	0.00
10.00		420.35	1983.92	0.00	0.00
15.00		415.16	1954.39	0.00	0.00
20.00		409.96	1924.86	0.00	0.00
25.00		404.77	1895.33	0.00	0.00
30.00		399.91	1865.79	0.00	0.00
35.00		412.48	1836.26	0.00	0.00
40.00		422.87	1806.73	0.00	0.00
45.00		431.50	1777.20	0.00	0.00
45.50		42.96	176.10	0.00	0.00
50.00		400.39	2685.35	0.00	0.00
52.50		223.44	1472.67	0.00	0.00
55.00		223.75	766.30	0.00	0.00
60.00		454.02	1513.61	0.00	0.00
65.00		458.03	1488.30	0.00	0.00
70.00		461.21	1462.99	0.00	0.00
75.00		463.63	1437.67	0.00	0.00
80.00		465.38	1412.36	0.00	0.00
85.00		466.50	1387.05	0.00	0.00
90.00		467.07	1361.74	0.00	0.00
92.09		194.08	560.81	0.00	0.00
95.00		274.54	1172.17	0.00	0.00
97.92		275.09	1160.48	0.00	0.00
100.00		194.71	410.90	0.00	0.00
105.00		469.35	975.80	0.00	0.00
110.00		468.09	958.93	0.00	0.00
115.00		466.44	942.05	0.00	0.00
120.00		464.42	925.18	0.00	0.00
125.00		462.05	908.30	0.00	0.00
129.00	(8) attachments	3544.63	1466.41	0.00	0.00
130.00	(47) attachments	3166.19	3916.40	0.00	0.00
135.00		374.31	705.47	0.00	0.00
139.67		342.60	643.67	0.00	0.00
140.00		24.12	71.23	0.00	0.00
144.34		315.03	924.16	0.00	0.00
145.00		47.48	72.00	0.00	0.00
150.00	(21) attachments	4285.93	4573.54	0.00	0.00
155.00		346.14	441.41	0.00	0.00
159.00	(16) attachments	4480.50	2533.29	0.00	7593.35
	Totals:	28,066.52	55,584.29	0.00	7,593.35

Linear Appurtenance Segment Forces (Factored)

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 11

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.099	0.000	14.724	0.00	19.32
10.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.100	1.001	14.724	0.00	19.32
15.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.102	1.006	14.724	0.00	19.32
20.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.104	1.012	14.724	0.00	19.32
25.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.106	1.018	14.724	0.00	19.32
30.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.108	1.024	14.736	0.00	19.32
35.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.110	1.030	15.400	0.00	19.32
40.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.112	1.036	15.999	0.00	19.32
45.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.114	1.043	16.546	0.00	19.32
45.50	3" Conduit	Yes	0.50	0.000	6.00	0.25	0.00	0.116	1.047	16.599	0.00	1.93
50.00	3" Conduit	Yes	4.50	0.000	6.00	2.25	0.00	0.117	1.051	17.052	0.00	17.39
52.50	3" Conduit	Yes	2.50	0.000	6.00	1.25	0.00	0.119	1.056	17.292	0.00	9.66
55.00	3" Conduit	Yes	2.50	0.000	6.00	1.25	0.00	0.118	1.054	17.523	0.00	9.66
60.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.120	1.060	17.964	0.00	19.32
65.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.123	1.068	18.380	0.00	19.32
70.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.125	1.076	18.773	0.00	19.32
75.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.128	1.084	19.147	0.00	19.32
80.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.131	1.093	19.503	0.00	19.32
85.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.134	1.102	19.844	0.00	19.32
90.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.137	1.112	20.170	0.00	19.32
92.09	3" Conduit	Yes	2.09	0.000	6.00	1.04	0.00	0.140	1.119	20.303	0.00	8.06
95.00	3" Conduit	Yes	2.91	0.000	6.00	1.46	0.00	0.141	1.124	20.484	0.00	11.26
97.92	3" Conduit	Yes	2.92	0.000	6.00	1.46	0.00	0.144	1.131	20.662	0.00	11.28
100.00	3" Conduit	Yes	2.08	0.000	6.00	1.04	0.00	0.144	1.131	20.787	0.00	8.04
105.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.146	1.139	21.079	0.00	19.32
110.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.150	1.150	21.361	0.00	19.32
115.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.154	1.163	21.634	0.00	19.32
120.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.159	1.176	21.898	0.00	19.32
125.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.163	1.189	22.155	0.00	19.32
129.00	3" Conduit	Yes	4.00	0.000	6.00	2.00	0.00	0.167	1.202	22.356	0.00	15.46
130.00	3" Conduit	Yes	1.00	0.000	6.00	0.50	0.00	0.170	1.210	22.405	0.00	3.86
Totals:											0.0	502.3

Calculated Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 12

Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 22

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	-55.55	-28.13	0.00	-3286.9	0.00	3286.98	5583.09	2791.54	13786.8	6903.66	0.00	0.000	0.000	0.486
5.00	-53.48	-27.81	0.00	-3146.3	0.00	3146.36	5522.68	2761.34	13399.4	6709.67	0.06	-0.120	0.000	0.479
10.00	-51.44	-27.49	0.00	-3007.3	0.00	3007.31	5460.99	2730.49	13014.1	6516.76	0.26	-0.242	0.000	0.471
15.00	-49.43	-27.17	0.00	-2869.8	0.00	2869.86	5398.01	2699.00	12631.2	6325.01	0.58	-0.364	0.000	0.463
20.00	-47.45	-26.85	0.00	-2734.0	0.00	2734.00	5333.74	2666.87	12250.7	6134.50	1.02	-0.487	0.000	0.455
25.00	-45.50	-26.53	0.00	-2599.7	0.00	2599.75	5268.20	2634.10	11872.9	5945.31	1.60	-0.611	0.000	0.446
30.00	-43.59	-26.20	0.00	-2467.1	0.00	2467.13	5201.36	2600.68	11497.9	5757.54	2.31	-0.735	0.000	0.437
35.00	-41.70	-25.85	0.00	-2336.1	0.00	2336.14	5133.24	2566.62	11125.9	5571.26	3.14	-0.860	0.000	0.428
40.00	-39.84	-25.49	0.00	-2206.8	0.00	2206.88	5063.83	2531.92	10757.1	5386.55	4.11	-0.986	0.000	0.418
45.00	-38.04	-25.07	0.00	-2079.4	0.00	2079.44	4993.14	2496.57	10391.5	5203.50	5.21	-1.111	0.000	0.407
45.50	-37.84	-25.06	0.00	-2066.9	0.00	2066.91	4986.00	2493.00	10355.1	5185.29	5.33	-1.124	0.000	0.406
50.00	-35.13	-24.66	0.00	-1954.1	0.00	1954.12	4921.16	2460.58	10029.4	5022.20	6.44	-1.237	0.000	0.396
52.50	-33.63	-24.44	0.00	-1892.4	0.00	1892.46	4024.48	2012.24	8260.88	4136.58	7.11	-1.301	0.000	0.466
55.00	-32.83	-24.26	0.00	-1831.3	0.00	1831.36	3997.76	1998.88	8119.79	4065.93	7.81	-1.365	0.000	0.459
60.00	-31.27	-23.85	0.00	-1710.0	0.00	1710.05	3943.34	1971.67	7839.16	3925.41	9.31	-1.504	0.000	0.444
65.00	-29.74	-23.42	0.00	-1590.8	0.00	1590.83	3887.63	1943.82	7560.73	3785.98	10.96	-1.642	0.000	0.428
70.00	-28.23	-22.98	0.00	-1473.7	0.00	1473.74	3830.65	1915.32	7284.66	3647.74	12.75	-1.778	0.000	0.412
75.00	-26.76	-22.53	0.00	-1358.8	0.00	1358.84	3772.37	1886.19	7011.11	3510.77	14.69	-1.913	0.000	0.394
80.00	-25.31	-22.08	0.00	-1246.1	0.00	1246.18	3712.81	1856.40	6740.26	3375.14	16.77	-2.046	0.000	0.376
85.00	-23.90	-21.61	0.00	-1135.8	0.00	1135.80	3651.96	1825.98	6472.27	3240.95	18.98	-2.177	0.000	0.357
90.00	-22.52	-21.13	0.00	-1027.7	0.00	1027.73	3589.83	1794.92	6207.31	3108.27	21.33	-2.304	0.000	0.337
92.09	-21.95	-20.94	0.00	-983.64	0.00	983.64	3563.52	1781.76	6097.66	3053.36	22.35	-2.357	0.000	0.328
95.00	-20.76	-20.64	0.00	-922.65	0.00	922.65	3526.41	1763.21	5945.54	2977.19	23.81	-2.430	0.000	0.316
97.92	-19.59	-20.34	0.00	-862.38	0.00	862.38	2018.06	1009.03	3414.14	1709.61	25.32	-2.501	0.000	0.515
100.00	-19.15	-20.16	0.00	-820.09	0.00	820.09	2007.23	1003.61	3359.78	1682.39	26.42	-2.551	0.000	0.497
105.00	-18.14	-19.70	0.00	-719.29	0.00	719.29	1980.26	990.13	3229.23	1617.01	29.18	-2.713	0.000	0.454
110.00	-17.16	-19.22	0.00	-620.82	0.00	620.82	1952.01	976.01	3098.96	1551.78	32.10	-2.866	0.000	0.409
115.00	-16.20	-18.75	0.00	-524.70	0.00	524.70	1922.48	961.24	2969.14	1486.78	35.18	-3.007	0.000	0.362
120.00	-15.26	-18.27	0.00	-430.95	0.00	430.95	1891.66	945.83	2839.95	1422.08	38.40	-3.135	0.000	0.311
125.00	-14.35	-17.78	0.00	-339.62	0.00	339.62	1859.56	929.78	2711.53	1357.78	41.74	-3.248	0.000	0.258
129.00	-13.08	-14.17	0.00	-268.50	0.00	268.50	1832.95	916.47	2609.48	1306.68	44.50	-3.325	0.000	0.213
130.00	-9.34	-10.79	0.00	-254.33	0.00	254.33	1826.17	913.08	2584.07	1293.95	45.20	-3.343	0.000	0.202
135.00	-8.65	-10.38	0.00	-200.40	0.00	200.40	1791.49	895.74	2457.72	1230.69	48.74	-3.422	0.000	0.168
139.67	-8.02	-10.01	0.00	-151.92	0.00	151.92	1757.94	878.97	2340.87	1172.18	52.12	-3.485	0.000	0.134
140.00	-7.95	-9.98	0.00	-148.62	0.00	148.62	1755.53	877.76	2332.66	1168.06	52.36	-3.489	0.000	0.132
144.34	-7.04	-9.61	0.00	-105.34	0.00	105.34	1153.87	576.93	1513.89	758.07	55.55	-3.535	0.000	0.145
145.00	-6.97	-9.56	0.00	-98.96	0.00	98.96	1151.46	575.73	1504.14	753.19	56.04	-3.542	0.000	0.138
150.00	-2.67	-5.00	0.00	-51.14	0.00	51.14	1132.60	566.30	1430.64	716.38	59.78	-3.586	0.000	0.074
155.00	-2.25	-4.63	0.00	-26.12	0.00	26.12	1112.45	556.22	1357.20	679.61	63.55	-3.611	0.000	0.041
159.00	0.00	-4.48	0.00	-7.59	0.00	7.59	1095.40	547.70	1298.60	650.26	66.57	-3.621	0.000	0.012

Wind Loading - Shaft

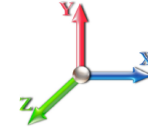
Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 13

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

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	0.70	14.724	16.20	398.34	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	391.48	0.650	0.000	5.00	25.377	16.49	427.5	0.0	1266.0
10.00		1.00	0.70	14.724	16.20	384.62	0.650 *	0.000	5.00	24.936	16.22	420.4	0.0	1243.9
15.00		1.00	0.70	14.724	16.20	377.77	0.654 *	0.000	5.00	24.495	16.02	415.2	0.0	1221.7
20.00		1.00	0.70	14.724	16.20	370.91	0.658 *	0.000	5.00	24.055	15.82	410.0	0.0	1199.6
25.00		1.00	0.70	14.724	16.20	364.05	0.661 *	0.000	5.00	23.614	15.62	404.8	0.0	1177.4
30.00		1.00	0.70	14.736	16.21	357.34	0.665 *	0.000	5.00	23.173	15.42	399.9	0.0	1155.3
35.00		1.00	0.73	15.400	16.94	350.63	0.669 *	0.000	5.00	22.733	15.22	412.5	0.0	1133.1
40.00		1.00	0.76	15.999	17.60	344.03	0.674 *	0.000	5.00	22.292	15.02	422.9	0.0	1111.0
45.00		1.00	0.79	16.546	18.20	337.54	0.678 *	0.000	5.00	21.851	14.82	431.5	0.0	1088.8
45.50 Bot - Section 2		1.00	0.79	16.599	18.26	331.14	0.681 *	0.000	0.50	2.161	1.47	43.0	0.0	107.7
50.00		1.00	0.81	17.052	18.76	324.83	0.683 *	0.000	4.50	19.535	13.34	400.4	0.0	1794.3
52.50 Top - Section 1		1.00	0.82	17.292	19.02	318.62	0.686 *	0.000	2.50	10.699	7.34	223.4	0.0	982.5
55.00		1.00	0.83	17.523	19.28	312.51	0.688 *	0.000	2.50	10.588	7.26	223.8	0.0	982.7
60.00		1.00	0.85	17.964	19.76	306.50	0.689 *	0.000	5.00	20.846	14.36	454.0	0.0	891.1
65.00		1.00	0.87	18.380	20.22	300.59	0.694 *	0.000	5.00	20.405	14.16	458.0	0.0	872.1
70.00		1.00	0.89	18.773	20.65	294.78	0.699 *	0.000	5.00	19.965	13.96	461.2	0.0	853.2
75.00		1.00	0.91	19.147	21.06	289.07	0.705 *	0.000	5.00	19.524	13.76	463.6	0.0	834.2
80.00		1.00	0.93	19.503	21.45	283.46	0.710 *	0.000	5.00	19.083	13.56	465.4	0.0	815.2
85.00		1.00	0.94	19.844	21.83	277.95	0.716 *	0.000	5.00	18.643	13.36	466.5	0.0	796.2
90.00		1.00	0.96	20.170	22.19	272.54	0.723 *	0.000	5.00	18.202	13.16	467.1	0.0	777.2
92.09 Bot - Section 3		1.00	0.97	20.303	22.33	267.23	0.728 *	0.000	2.09	7.466	5.43	194.1	0.0	318.7
95.00		1.00	0.97	20.484	22.53	262.02	0.731 *	0.000	2.91	10.419	7.61	274.5	0.0	736.9
97.92 Top - Section 2		1.00	0.98	20.662	22.73	256.91	0.735 *	0.000	2.92	10.292	7.56	275.1	0.0	727.8
100.00		1.00	0.99	20.787	22.87	251.90	0.738 *	0.000	2.08	7.240	5.32	194.7	0.0	206.6
105.00		1.00	1.00	21.079	23.19	247.00	0.740 *	0.000	5.00	17.091	12.65	469.4	0.0	487.8
110.00		1.00	1.02	21.361	23.50	242.20	0.748 *	0.000	5.00	16.651	12.45	468.1	0.0	475.1
115.00		1.00	1.03	21.634	23.80	237.50	0.756 *	0.000	5.00	16.210	12.25	466.4	0.0	462.5
120.00		1.00	1.04	21.898	24.09	232.90	0.764 *	0.000	5.00	15.769	12.05	464.4	0.0	449.8
125.00		1.00	1.05	22.155	24.37	228.40	0.773 *	0.000	5.00	15.328	11.85	462.0	0.0	437.1
129.00 Appurtenance(s)		1.00	1.06	22.356	24.59	224.00	0.781 *	0.000	4.00	11.945	9.34	367.3	0.0	340.6
130.00 Appurtenance(s)		1.00	1.07	22.405	24.65	220.70	0.786 *	0.000	1.00	2.942	2.31	91.2	0.0	83.9
135.00		1.00	1.08	22.648	24.91	217.50	0.650	0.000	5.00	14.447	9.39	374.3	0.0	411.8
139.67 Bot - Section 4		1.00	1.09	22.869	25.16	214.40	0.650	0.000	4.67	13.095	8.51	342.6	0.0	373.2
140.00		1.00	1.09	22.884	25.17	211.40	0.650	0.000	0.33	0.921	0.60	24.1	0.0	45.7
144.34 Top - Section 3		1.00	1.10	23.085	25.39	208.50	0.650	0.000	4.34	11.929	7.75	315.0	0.0	591.4
145.00		1.00	1.10	23.115	25.43	205.70	0.650	0.000	0.66	1.795	1.17	47.5	0.0	38.4
150.00 Appurtenance(s)		1.00	1.11	23.340	25.67	203.00	0.650	0.000	5.00	13.283	8.63	354.7	0.0	284.4
155.00		1.00	1.12	23.560	25.92	200.40	0.650	0.000	5.00	12.843	8.35	346.1	0.0	274.9
159.00 Appurtenance(s)		1.00	1.13	23.732	26.10	197.90	0.650	0.000	4.00	9.957	6.47	270.3	0.0	213.1
Totals:								159.00			13,672.8	26,733.0		

* Cf Adjusted by Linear Load Ra Effect

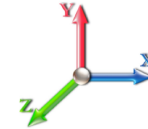
Discrete Appurtenance Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 14



Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

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	159.00	Antel - BXA-70063/6CF	6	23.859	26.245	0.69	0.90	31.39	80.46	0.000	3.000	1318.32	0.00	3954.96	
2	159.00	Swedcom - SCE-6014	6	23.859	26.245	0.88	0.90	17.55	81.00	0.000	3.000	736.97	0.00	2210.91	
3	159.00	Low Profile Platform	1	23.732	26.105	1.00	1.00	40.20	1440.00	0.000	0.000	1679.07	0.00	0.00	
4	159.00	Antel - BXA-185060/12CF	3	23.859	26.245	0.79	0.90	11.33	40.50	0.000	3.000	475.83	0.00	1427.48	
5	150.00	KRY 112 489/2	3	23.340	25.674	0.66	0.80	1.28	41.58	0.000	0.000	52.55	0.00	0.00	
6	150.00	APX16DWV-16DWV-S-E-	3	23.340	25.674	0.50	0.80	9.61	109.89	0.000	0.000	394.86	0.00	0.00	
7	150.00	APXVAARR24_43-U-NA2	3	23.340	25.674	0.56	0.80	34.00	345.60	0.000	0.000	1396.79	0.00	0.00	
8	150.00	KRY 112 144/1	3	23.340	25.674	0.56	0.80	0.69	29.70	0.000	0.000	28.29	0.00	0.00	
9	150.00	(3) T-Arm Kit	1	23.340	25.674	0.75	0.75	12.38	450.00	0.000	0.000	508.34	0.00	0.00	
10	150.00	4449 B5/B12	3	23.340	25.674	0.54	0.80	3.17	191.70	0.000	0.000	130.13	0.00	0.00	
11	150.00	MS-HR35	1	23.340	25.674	0.75	0.75	6.56	387.00	0.000	0.000	269.58	0.00	0.00	
12	150.00	MS-H1436 (Heavy Collar	1	23.340	25.674	0.75	0.75	1.69	123.03	0.000	0.000	69.32	0.00	0.00	
13	150.00	T-Arm	3	23.340	25.674	0.56	0.75	26.32	1350.00	0.000	0.000	1081.39	0.00	0.00	
14	130.00	Raycap DC6-48-60-18-8F	1	22.405	24.645	1.00	1.00	0.92	29.52	0.000	0.000	36.28	0.00	0.00	
15	130.00	T-Frame	3	22.405	24.645	0.56	0.75	29.70	1485.00	0.000	0.000	1171.15	0.00	0.00	
16	130.00	Powerwave 7770.00A	6	22.405	24.645	0.58	0.80	19.15	145.80	0.000	0.000	754.99	0.00	0.00	
17	130.00	Powerwave LGP21401	24	22.405	24.645	0.40	0.80	12.38	378.00	0.000	0.000	488.33	0.00	0.00	
18	130.00	(6) Reinforce Kit	1	22.405	24.645	0.75	0.75	7.27	207.00	0.000	0.000	286.87	0.00	0.00	
19	130.00	Commscope	3	22.405	24.645	0.54	0.80	0.08	3.08	0.000	0.000	3.17	0.00	0.00	
20	130.00	Ericsson 4478 B71 RRU	3	22.405	24.645	0.54	0.80	2.65	162.00	0.000	0.000	104.62	0.00	0.00	
21	130.00	Ericsson 4449 B5/B12	3	22.405	24.645	0.54	0.80	3.17	191.70	0.000	0.000	124.91	0.00	0.00	
22	130.00	Ericsson 8843 B2/B66A	3	22.405	24.645	0.54	0.80	2.65	202.50	0.000	0.000	104.62	0.00	0.00	
23	129.00	DMP65R-BU8DA	6	22.356	24.591	0.66	0.80	71.19	516.78	0.000	0.000	2801.18	0.00	0.00	
24	129.00	Raycap	1	22.356	24.591	1.00	1.00	4.78	23.58	0.000	0.000	188.07	0.00	0.00	
25	129.00	Raycap	1	22.356	24.591	1.00	1.00	4.78	23.58	0.000	0.000	188.07	0.00	0.00	
Totals:									8,039.00						14,393.72

Total Applied Force Summary

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 15

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

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		427.46	1510.09	0.00	0.00
10.00		420.35	1487.94	0.00	0.00
15.00		415.16	1465.79	0.00	0.00
20.00		409.96	1443.64	0.00	0.00
25.00		404.77	1421.49	0.00	0.00
30.00		399.91	1399.35	0.00	0.00
35.00		412.48	1377.20	0.00	0.00
40.00		422.87	1355.05	0.00	0.00
45.00		431.50	1332.90	0.00	0.00
45.50		42.96	132.07	0.00	0.00
50.00		400.39	2014.01	0.00	0.00
52.50		223.44	1104.50	0.00	0.00
55.00		223.75	574.72	0.00	0.00
60.00		454.02	1135.21	0.00	0.00
65.00		458.03	1116.22	0.00	0.00
70.00		461.21	1097.24	0.00	0.00
75.00		463.63	1078.26	0.00	0.00
80.00		465.38	1059.27	0.00	0.00
85.00		466.50	1040.29	0.00	0.00
90.00		467.07	1021.30	0.00	0.00
92.09		194.08	420.61	0.00	0.00
95.00		274.54	879.13	0.00	0.00
97.92		275.09	870.36	0.00	0.00
100.00		194.71	308.18	0.00	0.00
105.00		469.35	731.85	0.00	0.00
110.00		468.09	719.20	0.00	0.00
115.00		466.44	706.54	0.00	0.00
120.00		464.42	693.88	0.00	0.00
125.00		462.05	681.23	0.00	0.00
129.00	(8) attachments	3544.63	1099.81	0.00	0.00
130.00	(47) attachments	3166.19	2937.30	0.00	0.00
135.00		374.31	529.11	0.00	0.00
139.67		342.60	482.75	0.00	0.00
140.00		24.12	53.43	0.00	0.00
144.34		315.03	693.12	0.00	0.00
145.00		47.48	54.00	0.00	0.00
150.00	(21) attachments	4285.93	3430.16	0.00	0.00
155.00		346.14	331.05	0.00	0.00
159.00	(16) attachments	4480.50	1899.97	0.00	7593.35
	Totals:	28,066.52	41,688.22	0.00	7,593.35

Linear Appurtenance Segment Forces (Factored)

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 16

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.099	0.000	14.724	0.00	14.49
10.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.100	1.001	14.724	0.00	14.49
15.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.102	1.006	14.724	0.00	14.49
20.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.104	1.012	14.724	0.00	14.49
25.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.106	1.018	14.724	0.00	14.49
30.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.108	1.024	14.736	0.00	14.49
35.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.110	1.030	15.400	0.00	14.49
40.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.112	1.036	15.999	0.00	14.49
45.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.114	1.043	16.546	0.00	14.49
45.50	3" Conduit	Yes	0.50	0.000	6.00	0.25	0.00	0.116	1.047	16.599	0.00	1.45
50.00	3" Conduit	Yes	4.50	0.000	6.00	2.25	0.00	0.117	1.051	17.052	0.00	13.04
52.50	3" Conduit	Yes	2.50	0.000	6.00	1.25	0.00	0.119	1.056	17.292	0.00	7.25
55.00	3" Conduit	Yes	2.50	0.000	6.00	1.25	0.00	0.118	1.054	17.523	0.00	7.25
60.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.120	1.060	17.964	0.00	14.49
65.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.123	1.068	18.380	0.00	14.49
70.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.125	1.076	18.773	0.00	14.49
75.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.128	1.084	19.147	0.00	14.49
80.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.131	1.093	19.503	0.00	14.49
85.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.134	1.102	19.844	0.00	14.49
90.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.137	1.112	20.170	0.00	14.49
92.09	3" Conduit	Yes	2.09	0.000	6.00	1.04	0.00	0.140	1.119	20.303	0.00	6.05
95.00	3" Conduit	Yes	2.91	0.000	6.00	1.46	0.00	0.141	1.124	20.484	0.00	8.44
97.92	3" Conduit	Yes	2.92	0.000	6.00	1.46	0.00	0.144	1.131	20.662	0.00	8.46
100.00	3" Conduit	Yes	2.08	0.000	6.00	1.04	0.00	0.144	1.131	20.787	0.00	6.03
105.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.146	1.139	21.079	0.00	14.49
110.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.150	1.150	21.361	0.00	14.49
115.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.154	1.163	21.634	0.00	14.49
120.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.159	1.176	21.898	0.00	14.49
125.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.163	1.189	22.155	0.00	14.49
129.00	3" Conduit	Yes	4.00	0.000	6.00	2.00	0.00	0.167	1.202	22.356	0.00	11.59
130.00	3" Conduit	Yes	1.00	0.000	6.00	0.50	0.00	0.170	1.210	22.405	0.00	2.90
Totals:											0.0	376.7

Calculated Forces

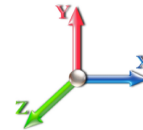
Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 22

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	-41.66	-28.11	0.00	-3259.0	0.00	3259.03	5583.09	2791.54	13786.8	6903.66	0.00	0.000	0.000	0.480
5.00	-40.09	-27.77	0.00	-3118.4	0.00	3118.48	5522.68	2761.34	13399.4	6709.67	0.06	-0.119	0.000	0.472
10.00	-38.55	-27.42	0.00	-2979.6	0.00	2979.66	5460.99	2730.49	13014.1	6516.76	0.25	-0.240	0.000	0.464
15.00	-37.03	-27.08	0.00	-2842.5	0.00	2842.55	5398.01	2699.00	12631.2	6325.01	0.57	-0.361	0.000	0.456
20.00	-35.53	-26.73	0.00	-2707.1	0.00	2707.17	5333.74	2666.87	12250.7	6134.50	1.01	-0.483	0.000	0.448
25.00	-34.05	-26.39	0.00	-2573.5	0.00	2573.51	5268.20	2634.10	11872.9	5945.31	1.59	-0.605	0.000	0.439
30.00	-32.60	-26.04	0.00	-2441.5	0.00	2441.58	5201.36	2600.68	11497.9	5757.54	2.29	-0.728	0.000	0.430
35.00	-31.18	-25.68	0.00	-2311.3	0.00	2311.37	5133.24	2566.62	11125.9	5571.26	3.11	-0.852	0.000	0.421
40.00	-29.77	-25.30	0.00	-2182.9	0.00	2182.99	5063.83	2531.92	10757.1	5386.55	4.07	-0.976	0.000	0.411
45.00	-28.42	-24.88	0.00	-2056.5	0.00	2056.50	4993.14	2496.57	10391.5	5203.50	5.16	-1.100	0.000	0.401
45.50	-28.26	-24.86	0.00	-2044.0	0.00	2044.06	4986.00	2493.00	10355.1	5185.29	5.28	-1.113	0.000	0.400
50.00	-26.22	-24.46	0.00	-1932.1	0.00	1932.19	4921.16	2460.58	10029.4	5022.20	6.38	-1.225	0.000	0.390
52.50	-25.09	-24.24	0.00	-1871.0	0.00	1871.04	4024.48	2012.24	8260.88	4136.58	7.04	-1.288	0.000	0.459
55.00	-24.48	-24.05	0.00	-1810.4	0.00	1810.45	3997.76	1998.88	8119.79	4065.93	7.73	-1.351	0.000	0.452
60.00	-23.30	-23.62	0.00	-1690.2	0.00	1690.22	3943.34	1971.67	7839.16	3925.41	9.22	-1.488	0.000	0.437
65.00	-22.14	-23.18	0.00	-1572.1	0.00	1572.13	3887.63	1943.82	7560.73	3785.98	10.85	-1.625	0.000	0.421
70.00	-21.01	-22.74	0.00	-1456.2	0.00	1456.21	3830.65	1915.32	7284.66	3647.74	12.63	-1.760	0.000	0.405
75.00	-19.89	-22.29	0.00	-1342.5	0.00	1342.51	3772.37	1886.19	7011.11	3510.77	14.54	-1.893	0.000	0.388
80.00	-18.80	-21.83	0.00	-1231.0	0.00	1231.08	3712.81	1856.40	6740.26	3375.14	16.60	-2.024	0.000	0.370
85.00	-17.73	-21.36	0.00	-1121.9	0.00	1121.93	3651.96	1825.98	6472.27	3240.95	18.79	-2.153	0.000	0.351
90.00	-16.69	-20.88	0.00	-1015.1	0.00	1015.11	3589.83	1794.92	6207.31	3108.27	21.11	-2.279	0.000	0.331
92.09	-16.26	-20.69	0.00	-971.53	0.00	971.53	3563.52	1781.76	6097.66	3053.36	22.12	-2.331	0.000	0.323
95.00	-15.37	-20.40	0.00	-911.26	0.00	911.26	3526.41	1763.21	5945.54	2977.19	23.56	-2.403	0.000	0.311
97.92	-14.49	-20.10	0.00	-851.69	0.00	851.69	2018.06	1009.03	3414.14	1709.61	25.05	-2.473	0.000	0.506
100.00	-14.15	-19.92	0.00	-809.88	0.00	809.88	2007.23	1003.61	3359.78	1682.39	26.14	-2.522	0.000	0.489
105.00	-13.39	-19.46	0.00	-710.28	0.00	710.28	1980.26	990.13	3229.23	1617.01	28.87	-2.683	0.000	0.446
110.00	-12.65	-18.99	0.00	-613.00	0.00	613.00	1952.01	976.01	3098.96	1551.78	31.76	-2.834	0.000	0.402
115.00	-11.92	-18.51	0.00	-518.08	0.00	518.08	1922.48	961.24	2969.14	1486.78	34.81	-2.973	0.000	0.355
120.00	-11.21	-18.03	0.00	-425.52	0.00	425.52	1891.66	945.83	2839.95	1422.08	37.99	-3.100	0.000	0.306
125.00	-10.53	-17.55	0.00	-335.35	0.00	335.35	1859.56	929.78	2711.53	1357.78	41.30	-3.211	0.000	0.253
129.00	-9.62	-13.96	0.00	-265.14	0.00	265.14	1832.95	916.47	2609.48	1306.68	44.02	-3.287	0.000	0.208
130.00	-6.86	-10.63	0.00	-251.18	0.00	251.18	1826.17	913.08	2584.07	1293.95	44.71	-3.305	0.000	0.198
135.00	-6.35	-10.24	0.00	-198.01	0.00	198.01	1791.49	895.74	2457.72	1230.69	48.22	-3.383	0.000	0.165
139.67	-5.88	-9.87	0.00	-150.20	0.00	150.20	1757.94	878.97	2340.87	1172.18	51.56	-3.445	0.000	0.132
140.00	-5.82	-9.85	0.00	-146.94	0.00	146.94	1755.53	877.76	2332.66	1168.06	51.79	-3.449	0.000	0.129
144.34	-5.15	-9.49	0.00	-104.25	0.00	104.25	1153.87	576.93	1513.89	758.07	54.95	-3.495	0.000	0.142
145.00	-5.09	-9.44	0.00	-97.95	0.00	97.95	1151.46	575.73	1504.14	753.19	55.43	-3.501	0.000	0.135
150.00	-1.93	-4.96	0.00	-50.73	0.00	50.73	1132.60	566.30	1430.64	716.38	59.13	-3.545	0.000	0.073
155.00	-1.62	-4.59	0.00	-25.95	0.00	25.95	1112.45	556.22	1357.20	679.61	62.85	-3.570	0.000	0.040
159.00	0.00	-4.48	0.00	-7.59	0.00	7.59	1095.40	547.70	1298.60	650.26	65.85	-3.580	0.000	0.012

Wind Loading - Shaft

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

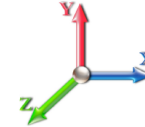


Page: 18

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Iterations 21

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	0.70	2.724	3.00	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	2.724	3.00	0.00	1.200	1.656	5.00	26.757	32.11	96.2	634.0	2322.0
10.00		1.00	0.70	2.724	3.00	0.00	1.201 *	1.775	5.00	26.415	31.72	95.0	669.2	2327.7
15.00		1.00	0.70	2.724	3.00	0.00	1.207 *	1.848	5.00	26.036	31.44	94.2	685.7	2314.6
20.00		1.00	0.70	2.724	3.00	0.00	1.214 *	1.902	5.00	25.640	31.13	93.3	693.9	2293.3
25.00		1.00	0.70	2.724	3.00	0.00	1.221 *	1.945	5.00	25.235	30.82	92.3	697.4	2267.2
30.00		1.00	0.70	2.726	3.00	0.00	1.228 *	1.981	5.00	24.824	30.49	91.4	697.7	2238.1
35.00		1.00	0.73	2.849	3.13	0.00	1.236 *	2.012	5.00	24.409	30.17	94.5	695.8	2206.6
40.00		1.00	0.76	2.960	3.26	0.00	1.244 *	2.039	5.00	23.991	29.84	97.1	692.2	2173.5
45.00		1.00	0.79	3.061	3.37	0.00	1.252 *	2.063	5.00	23.570	29.51	99.4	687.2	2139.0
45.50 Bot - Section 2		1.00	0.79	3.071	3.38	0.00	1.256 *	2.065	0.50	2.333	2.93	9.9	68.7	212.2
50.00		1.00	0.81	3.155	3.47	0.00	1.261 *	2.085	4.50	21.099	26.60	92.3	621.9	3014.3
52.50 Top - Section 1		1.00	0.82	3.199	3.52	0.00	1.267 *	2.095	2.50	11.571	14.66	51.6	343.8	1653.8
55.00		1.00	0.83	3.242	3.57	0.00	1.265 *	2.105	2.50	11.465	14.50	51.7	342.1	945.6
60.00		1.00	0.85	3.323	3.66	0.00	1.272 *	2.123	5.00	22.616	28.76	105.1	676.5	1864.6
65.00		1.00	0.87	3.400	3.74	0.00	1.281 *	2.140	5.00	22.189	28.43	106.3	668.2	1831.0
70.00		1.00	0.89	3.473	3.82	0.00	1.291 *	2.156	5.00	21.762	28.09	107.3	659.3	1796.8
75.00		1.00	0.91	3.542	3.90	0.00	1.301 *	2.171	5.00	21.333	27.75	108.1	649.8	1762.1
80.00		1.00	0.93	3.608	3.97	0.00	1.312 *	2.185	5.00	20.904	27.42	108.8	640.0	1726.9
85.00		1.00	0.94	3.671	4.04	0.00	1.323 *	2.198	5.00	20.475	27.08	109.4	629.7	1691.3
90.00		1.00	0.96	3.731	4.10	0.00	1.334 *	2.211	5.00	20.044	26.75	109.8	619.1	1655.3
92.09 Bot - Section 3		1.00	0.97	3.756	4.13	0.00	1.343 *	2.216	2.09	8.237	11.06	45.7	256.5	681.4
95.00		1.00	0.97	3.789	4.17	0.00	1.349 *	2.223	2.91	11.498	15.51	64.7	358.4	1340.9
97.92 Top - Section 2		1.00	0.98	3.822	4.20	0.00	1.357 *	2.230	2.92	11.377	15.44	64.9	355.4	1325.8
100.00		1.00	0.99	3.845	4.23	0.00	1.357 *	2.234	2.08	8.014	10.88	46.0	251.2	526.7
105.00		1.00	1.00	3.899	4.29	0.00	1.367 *	2.245	5.00	18.962	25.91	111.2	592.2	1242.6
110.00		1.00	1.02	3.952	4.35	0.00	1.381 *	2.256	5.00	18.530	25.58	111.2	580.4	1213.9
115.00		1.00	1.03	4.002	4.40	0.00	1.395 *	2.266	5.00	18.098	25.25	111.2	568.3	1184.9
120.00		1.00	1.04	4.051	4.46	0.00	1.411 *	2.276	5.00	17.665	24.92	111.1	556.0	1155.8
125.00		1.00	1.05	4.099	4.51	0.00	1.427 *	2.285	5.00	17.232	24.59	110.9	543.5	1126.4
129.00 Appurtenance(s)		1.00	1.06	4.136	4.55	0.00	1.443 *	2.292	4.00	13.473	19.44	88.4	426.7	880.8
130.00 Appurtenance(s)		1.00	1.07	4.145	4.56	0.00	1.452 *	2.294	1.00	3.325	4.83	22.0	106.2	218.0
135.00		1.00	1.08	4.190	4.61	0.00	1.200	2.303	5.00	16.366	19.64	90.5	517.9	1067.0
139.67 Bot - Section 4		1.00	1.09	4.231	4.65	0.00	1.200	2.310	4.67	14.894	17.87	83.2	472.3	970.0
140.00		1.00	1.09	4.233	4.66	0.00	1.200	2.311	0.33	1.048	1.26	5.9	33.7	94.6
144.34 Top - Section 3		1.00	1.10	4.270	4.70	0.00	1.200	2.318	4.34	13.604	16.32	76.7	432.6	1221.2
145.00		1.00	1.10	4.276	4.70	0.00	1.200	2.319	0.66	2.052	2.46	11.6	65.9	117.2
150.00 Appurtenance(s)		1.00	1.11	4.318	4.75	0.00	1.200	2.327	5.00	15.223	18.27	86.8	483.6	862.8
155.00		1.00	1.12	4.358	4.79	0.00	1.200	2.335	5.00	14.788	17.75	85.1	470.1	836.6
159.00 Appurtenance(s)		1.00	1.13	4.390	4.83	0.00	1.200	2.341	4.00	11.517	13.82	66.7	367.3	651.4
Totals:												159.00	3,207.4	55,154.0

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

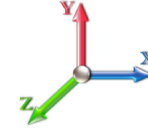
Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 19

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 21

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	159.00	Antel - BXA-70063/6CF	6	4.414	4.855	0.72	0.90	49.08	1035.01	0.000	3.000	238.31	0.00	714.92	
2	159.00	Swedcom - SCE-6014	6	4.414	4.855	0.88	0.90	29.47	708.12	0.000	3.000	143.07	0.00	429.21	
3	159.00	Low Profile Platform	1	4.390	4.829	1.00	1.00	85.36	3892.44	0.000	0.000	412.24	0.00	0.00	
4	159.00	Antel - BXA-185060/12CF	3	4.414	4.855	0.81	0.90	15.77	600.77	0.000	3.000	76.55	0.00	229.66	
5	150.00	KRY 112 489/2	3	4.318	4.749	0.66	0.80	2.89	110.92	0.000	0.000	13.70	0.00	0.00	
6	150.00	APX16DWV-16DWV-S-E-	3	4.318	4.749	0.50	0.80	11.87	736.71	0.000	0.000	56.38	0.00	0.00	
7	150.00	APXVAARR24_43-U-NA2	3	4.318	4.749	0.56	0.80	38.31	2204.04	0.000	0.000	181.96	0.00	0.00	
8	150.00	KRY 112 144/1	3	4.318	4.749	0.56	0.80	1.75	73.42	0.000	0.000	8.33	0.00	0.00	
9	150.00	(3) T-Arm Kit	1	4.318	4.749	0.75	0.75	28.50	1241.16	0.000	0.000	135.36	0.00	0.00	
10	150.00	4449 B5/B12	3	4.318	4.749	0.54	0.80	4.34	428.32	0.000	0.000	20.62	0.00	0.00	
11	150.00	MS-HR35	1	4.318	4.749	0.75	0.75	15.11	1626.40	0.000	0.000	71.78	0.00	0.00	
12	150.00	MS-H1436 (Heavy Collar	1	4.318	4.749	0.75	0.75	4.04	358.42	0.000	0.000	19.20	0.00	0.00	
13	150.00	T-Arm	3	4.318	4.749	0.56	0.75	56.95	3436.17	0.000	0.000	270.50	0.00	0.00	
14	130.00	Raycap DC6-48-60-18-8F	1	4.145	4.559	1.00	1.00	1.50	106.48	0.000	0.000	6.82	0.00	0.00	
15	130.00	T-Frame	3	4.145	4.559	0.56	0.75	63.76	3703.97	0.000	0.000	290.72	0.00	0.00	
16	130.00	Powerwave 7770.00A	6	4.145	4.559	0.58	0.80	28.84	899.58	0.000	0.000	131.50	0.00	0.00	
17	130.00	Powerwave LGP21401	24	4.145	4.559	0.40	0.80	22.93	1394.05	0.000	0.000	104.54	0.00	0.00	
18	130.00	(6) Reinforce Kit	1	4.145	4.559	0.75	0.75	17.29	597.08	0.000	0.000	78.82	0.00	0.00	
19	130.00	Commscope	3	4.145	4.559	0.54	0.80	0.49	11.24	0.000	0.000	2.22	0.00	0.00	
20	130.00	Ericsson 4478 B71 RRU	3	4.145	4.559	0.54	0.80	3.75	354.76	0.000	0.000	17.09	0.00	0.00	
21	130.00	Ericsson 4449 B5/B12	3	4.145	4.559	0.54	0.80	4.32	425.29	0.000	0.000	19.72	0.00	0.00	
22	130.00	Ericsson 8843 B2/B66A	3	4.145	4.559	0.54	0.80	4.47	629.59	0.000	0.000	20.37	0.00	0.00	
23	129.00	DMP65R-BU8DA	6	4.136	4.549	0.66	0.80	80.86	3788.45	0.000	0.000	367.85	0.00	0.00	
24	129.00	Raycap	1	4.136	4.549	1.00	1.00	5.94	277.95	0.000	0.000	27.03	0.00	0.00	
25	129.00	Raycap	1	4.136	4.549	1.00	1.00	5.94	277.95	0.000	0.000	27.03	0.00	0.00	
Totals:									28,918.28						2,741.71

Total Applied Force Summary

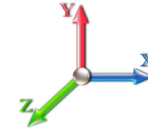
Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 20

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 21

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		96.20	2710.34	0.00	0.00
10.00		95.05	2721.29	0.00	0.00
15.00		94.19	2711.56	0.00	0.00
20.00		93.27	2692.75	0.00	0.00
25.00		92.33	2668.70	0.00	0.00
30.00		91.44	2641.20	0.00	0.00
35.00		94.54	2611.23	0.00	0.00
40.00		97.14	2579.38	0.00	0.00
45.00		99.35	2546.06	0.00	0.00
45.50		9.90	252.94	0.00	0.00
50.00		92.30	3381.66	0.00	0.00
52.50		51.59	1858.09	0.00	0.00
55.00		51.72	1150.19	0.00	0.00
60.00		105.14	2274.66	0.00	0.00
65.00		106.31	2241.88	0.00	0.00
70.00		107.31	2208.47	0.00	0.00
75.00		108.13	2174.49	0.00	0.00
80.00		108.81	2140.01	0.00	0.00
85.00		109.36	2105.09	0.00	0.00
90.00		109.79	2069.76	0.00	0.00
92.09		45.70	854.50	0.00	0.00
95.00		64.67	1582.72	0.00	0.00
97.92		64.91	1568.34	0.00	0.00
100.00		46.01	699.57	0.00	0.00
105.00		111.15	1658.71	0.00	0.00
110.00		111.20	1630.55	0.00	0.00
115.00		111.16	1602.13	0.00	0.00
120.00		111.05	1573.45	0.00	0.00
125.00		110.88	1544.54	0.00	0.00
129.00	(8) attachments	510.33	5560.00	0.00	0.00
130.00	(47) attachments	693.80	8423.76	0.00	0.00
135.00		90.51	1223.38	0.00	0.00
139.67		83.17	1115.99	0.00	0.00
140.00		5.86	104.91	0.00	0.00
144.34		76.69	1356.78	0.00	0.00
145.00		11.58	137.94	0.00	0.00
150.00	(21) attachments	864.60	11234.75	0.00	0.00
155.00		85.08	911.51	0.00	0.00
159.00	(16) attachments	936.91	6947.68	0.00	1373.79
	Totals:	5,949.15	95,470.97	0.00	1,373.79

Linear Appurtenance Segment Forces (Factored)

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 21

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 21

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	5.00	0.000	6.00	3.88	0.00	0.099	0.000	2.724	0.00	82.23
10.00	3" Conduit	Yes	5.00	0.000	6.00	3.98	0.00	0.100	1.001	2.724	0.00	87.49
15.00	3" Conduit	Yes	5.00	0.000	6.00	4.04	0.00	0.102	1.006	2.724	0.00	90.83
20.00	3" Conduit	Yes	5.00	0.000	6.00	4.09	0.00	0.104	1.012	2.724	0.00	93.32
25.00	3" Conduit	Yes	5.00	0.000	6.00	4.12	0.00	0.106	1.018	2.724	0.00	95.33
30.00	3" Conduit	Yes	5.00	0.000	6.00	4.15	0.00	0.108	1.024	2.726	0.00	97.03
35.00	3" Conduit	Yes	5.00	0.000	6.00	4.18	0.00	0.110	1.030	2.849	0.00	98.50
40.00	3" Conduit	Yes	5.00	0.000	6.00	4.20	0.00	0.112	1.036	2.960	0.00	99.80
45.00	3" Conduit	Yes	5.00	0.000	6.00	4.22	0.00	0.114	1.043	3.061	0.00	100.97
45.50	3" Conduit	Yes	0.50	0.000	6.00	0.42	0.00	0.116	1.047	3.071	0.00	10.11
50.00	3" Conduit	Yes	4.50	0.000	6.00	3.81	0.00	0.117	1.051	3.155	0.00	91.83
52.50	3" Conduit	Yes	2.50	0.000	6.00	2.12	0.00	0.119	1.056	3.199	0.00	51.26
55.00	3" Conduit	Yes	2.50	0.000	6.00	2.13	0.00	0.118	1.054	3.242	0.00	51.50
60.00	3" Conduit	Yes	5.00	0.000	6.00	4.27	0.00	0.120	1.060	3.323	0.00	103.91
65.00	3" Conduit	Yes	5.00	0.000	6.00	4.28	0.00	0.123	1.068	3.400	0.00	104.75
70.00	3" Conduit	Yes	5.00	0.000	6.00	4.30	0.00	0.125	1.076	3.473	0.00	105.54
75.00	3" Conduit	Yes	5.00	0.000	6.00	4.31	0.00	0.128	1.084	3.542	0.00	106.29
80.00	3" Conduit	Yes	5.00	0.000	6.00	4.32	0.00	0.131	1.093	3.608	0.00	106.99
85.00	3" Conduit	Yes	5.00	0.000	6.00	4.33	0.00	0.134	1.102	3.671	0.00	107.65
90.00	3" Conduit	Yes	5.00	0.000	6.00	4.34	0.00	0.137	1.112	3.731	0.00	108.29
92.09	3" Conduit	Yes	2.09	0.000	6.00	1.81	0.00	0.140	1.119	3.756	0.00	45.30
95.00	3" Conduit	Yes	2.91	0.000	6.00	2.54	0.00	0.141	1.124	3.789	0.00	63.45
97.92	3" Conduit	Yes	2.92	0.000	6.00	2.55	0.00	0.144	1.131	3.822	0.00	63.79
100.00	3" Conduit	Yes	2.08	0.000	6.00	1.81	0.00	0.144	1.131	3.845	0.00	45.54
105.00	3" Conduit	Yes	5.00	0.000	6.00	4.37	0.00	0.146	1.139	3.899	0.00	110.02
110.00	3" Conduit	Yes	5.00	0.000	6.00	4.38	0.00	0.150	1.150	3.952	0.00	110.56
115.00	3" Conduit	Yes	5.00	0.000	6.00	4.39	0.00	0.154	1.163	4.002	0.00	111.07
120.00	3" Conduit	Yes	5.00	0.000	6.00	4.40	0.00	0.159	1.176	4.051	0.00	111.56
125.00	3" Conduit	Yes	5.00	0.000	6.00	4.40	0.00	0.163	1.189	4.099	0.00	112.04
129.00	3" Conduit	Yes	4.00	0.000	6.00	3.53	0.00	0.167	1.202	4.136	0.00	89.93
130.00	3" Conduit	Yes	1.00	0.000	6.00	0.88	0.00	0.170	1.210	4.145	0.00	22.50
Totals:											0.0	2,679.4

Calculated Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020	
Site Name: New Hartford 2, CT	Exposure: B		
Height: 159.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 22



Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Iterations 21

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	-95.47	-5.97	0.00	-710.10	0.00	710.10	5583.09	2791.54	13786.8	6903.66	0.00	0.000	0.000	0.120
5.00	-92.76	-5.92	0.00	-680.25	0.00	680.25	5522.68	2761.34	13399.4	6709.67	0.01	-0.026	0.000	0.118
10.00	-90.03	-5.86	0.00	-650.68	0.00	650.68	5460.99	2730.49	13014.1	6516.76	0.06	-0.052	0.000	0.116
15.00	-87.32	-5.80	0.00	-621.37	0.00	621.37	5398.01	2699.00	12631.2	6325.01	0.12	-0.079	0.000	0.114
20.00	-84.62	-5.75	0.00	-592.36	0.00	592.36	5333.74	2666.87	12250.7	6134.50	0.22	-0.105	0.000	0.112
25.00	-81.95	-5.69	0.00	-563.63	0.00	563.63	5268.20	2634.10	11872.9	5945.31	0.35	-0.132	0.000	0.110
30.00	-79.31	-5.63	0.00	-535.20	0.00	535.20	5201.36	2600.68	11497.9	5757.54	0.50	-0.159	0.000	0.108
35.00	-76.69	-5.56	0.00	-507.08	0.00	507.08	5133.24	2566.62	11125.9	5571.26	0.68	-0.186	0.000	0.106
40.00	-74.11	-5.49	0.00	-479.28	0.00	479.28	5063.83	2531.92	10757.1	5386.55	0.89	-0.214	0.000	0.104
45.00	-71.57	-5.40	0.00	-451.84	0.00	451.84	4993.14	2496.57	10391.5	5203.50	1.13	-0.241	0.000	0.101
45.50	-71.31	-5.40	0.00	-449.14	0.00	449.14	4986.00	2493.00	10355.1	5185.29	1.15	-0.244	0.000	0.101
50.00	-67.93	-5.32	0.00	-424.82	0.00	424.82	4921.16	2460.58	10029.4	5022.20	1.40	-0.268	0.000	0.098
52.50	-66.07	-5.27	0.00	-411.53	0.00	411.53	4024.48	2012.24	8260.88	4136.58	1.54	-0.282	0.000	0.116
55.00	-64.92	-5.24	0.00	-398.34	0.00	398.34	3997.76	1998.88	8119.79	4065.93	1.69	-0.296	0.000	0.114
60.00	-62.64	-5.16	0.00	-372.13	0.00	372.13	3943.34	1971.67	7839.16	3925.41	2.02	-0.326	0.000	0.111
65.00	-60.40	-5.07	0.00	-346.34	0.00	346.34	3887.63	1943.82	7560.73	3785.98	2.38	-0.356	0.000	0.107
70.00	-58.19	-4.98	0.00	-321.00	0.00	321.00	3830.65	1915.32	7284.66	3647.74	2.76	-0.386	0.000	0.103
75.00	-56.01	-4.88	0.00	-296.11	0.00	296.11	3772.37	1886.19	7011.11	3510.77	3.18	-0.415	0.000	0.099
80.00	-53.87	-4.79	0.00	-271.69	0.00	271.69	3712.81	1856.40	6740.26	3375.14	3.64	-0.444	0.000	0.095
85.00	-51.76	-4.68	0.00	-247.77	0.00	247.77	3651.96	1825.98	6472.27	3240.95	4.12	-0.473	0.000	0.091
90.00	-49.69	-4.57	0.00	-224.35	0.00	224.35	3589.83	1794.92	6207.31	3108.27	4.63	-0.501	0.000	0.086
92.09	-48.84	-4.53	0.00	-214.80	0.00	214.80	3563.52	1781.76	6097.66	3053.36	4.85	-0.512	0.000	0.084
95.00	-47.25	-4.47	0.00	-201.60	0.00	201.60	3526.41	1763.21	5945.54	2977.19	5.17	-0.528	0.000	0.081
97.92	-45.69	-4.40	0.00	-188.56	0.00	188.56	2018.06	1009.03	3414.14	1709.61	5.49	-0.544	0.000	0.133
100.00	-44.98	-4.36	0.00	-179.41	0.00	179.41	2007.23	1003.61	3359.78	1682.39	5.73	-0.554	0.000	0.129
105.00	-43.32	-4.26	0.00	-157.59	0.00	157.59	1980.26	990.13	3229.23	1617.01	6.33	-0.590	0.000	0.119
110.00	-41.69	-4.16	0.00	-136.28	0.00	136.28	1952.01	976.01	3098.96	1551.78	6.97	-0.624	0.000	0.109
115.00	-40.09	-4.05	0.00	-115.50	0.00	115.50	1922.48	961.24	2969.14	1486.78	7.64	-0.655	0.000	0.099
120.00	-38.52	-3.94	0.00	-95.26	0.00	95.26	1891.66	945.83	2839.95	1422.08	8.34	-0.683	0.000	0.087
125.00	-36.97	-3.82	0.00	-75.57	0.00	75.57	1859.56	929.78	2711.53	1357.78	9.07	-0.708	0.000	0.076
129.00	-31.42	-3.25	0.00	-60.29	0.00	60.29	1832.95	916.47	2609.48	1306.68	9.67	-0.725	0.000	0.063
130.00	-23.00	-2.45	0.00	-57.04	0.00	57.04	1826.17	913.08	2584.07	1293.95	9.82	-0.729	0.000	0.057
135.00	-21.78	-2.35	0.00	-44.79	0.00	44.79	1791.49	895.74	2457.72	1230.69	10.60	-0.747	0.000	0.049
139.67	-20.67	-2.26	0.00	-33.81	0.00	33.81	1757.94	878.97	2340.87	1172.18	11.33	-0.761	0.000	0.041
140.00	-20.56	-2.25	0.00	-33.07	0.00	33.07	1755.53	877.76	2332.66	1168.06	11.39	-0.762	0.000	0.040
144.34	-19.20	-2.16	0.00	-23.31	0.00	23.31	1153.87	576.93	1513.89	758.07	12.08	-0.772	0.000	0.047
145.00	-19.07	-2.15	0.00	-21.88	0.00	21.88	1151.46	575.73	1504.14	753.19	12.19	-0.773	0.000	0.046
150.00	-7.84	-1.13	0.00	-11.15	0.00	11.15	1132.60	566.30	1430.64	716.38	13.01	-0.783	0.000	0.022
155.00	-6.93	-1.03	0.00	-5.50	0.00	5.50	1112.45	556.22	1357.20	679.61	13.83	-0.789	0.000	0.014
159.00	0.00	-0.94	0.00	-1.37	0.00	1.37	1095.40	547.70	1298.60	650.26	14.49	-0.791	0.000	0.002

Seismic Segment Forces (Factored)

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 23

Load Case: 1.2D + 1.0E				Iterations 20
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.39	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1406.6	0.00	0.03	0.02	22.60	
10.00		1382.0	0.01	0.05	0.03	33.20	
15.00		1357.4	0.02	0.06	0.04	38.28	
20.00		1332.8	0.03	0.07	0.04	40.59	
25.00		1308.2	0.05	0.07	0.04	41.57	
30.00		1283.6	0.07	0.07	0.04	41.98	
35.00		1259.0	0.09	0.07	0.04	42.19	
40.00		1234.4	0.12	0.07	0.03	42.32	
45.00		1209.8	0.15	0.07	0.03	42.27	
45.50	Bot - Section 2	119.63	0.15	0.07	0.03	4.19	
50.00		1993.7	0.19	0.06	0.02	70.32	
52.50	Top - Section 1	1091.6	0.21	0.06	0.02	38.43	
55.00		502.98	0.23	0.06	0.02	17.56	
60.00		990.14	0.27	0.05	0.02	33.07	
65.00		969.05	0.32	0.04	0.01	29.29	
70.00		947.96	0.37	0.03	0.01	23.62	
75.00		926.86	0.42	0.01	0.01	15.95	
80.00		905.77	0.48	-0.01	0.01	6.67	
85.00		884.67	0.54	-0.03	0.01	-3.31	
90.00		863.58	0.61	-0.05	0.02	-12.63	
92.09	Bot - Section 3	354.16	0.63	-0.07	0.02	-6.62	
95.00		818.79	0.67	-0.08	0.03	-19.35	
97.92	Top - Section 2	808.69	0.72	-0.09	0.03	-22.21	
100.00		229.60	0.75	-0.10	0.04	-6.76	
105.00		541.97	0.82	-0.12	0.06	-16.89	
110.00		527.91	0.90	-0.12	0.09	-15.03	
115.00		513.85	0.99	-0.11	0.13	-10.90	
120.00		499.78	1.08	-0.08	0.17	-4.68	
125.00		485.72	1.17	-0.02	0.23	3.42	
129.00	Appurtenance(s)	1005.0	1.24	0.05	0.29	23.57	
130.00	Appurtenance(s)	3209.4	1.26	0.07	0.30	89.93	
135.00		457.59	1.36	0.22	0.39	24.53	
139.67	Bot - Section 4	414.69	1.46	0.40	0.49	33.89	
140.00		50.76	1.47	0.42	0.50	4.26	
144.34	Top - Section 3	657.12	1.56	0.65	0.61	74.87	
145.00		42.71	1.57	0.69	0.63	5.08	
150.00	Appurtenance(s)	3680.9	1.68	1.06	0.79	584.02	
155.00		305.44	1.80	1.52	0.97	62.12	
159.00	Appurtenance(s)	2061.1	1.89	1.98	1.14	500.40	
Totals:		38,635.5				1,871.8	Total Wind: 28,066.5

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

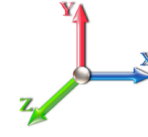
Calculated Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 24

Load Case: 1.2D + 1.0E		Iterations 20
Gust Response Factor 1.10	Sds 0.19	Ss 0.18
Dead Load Factor 1.20	Seismic Load Factor 1.00	S1 0.07
Wind Load Factor 0.00	Structure Frequency (f1) 0.39	SA 0.04
	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	-55.58	-1.99	0.00	-243.71	0.00	243.71	5583.09	2791.54	13786.8	6903.66	0.00	0.00	0.00	0.045
5.00	-53.57	-1.98	0.00	-233.74	0.00	233.74	5522.68	2761.34	13399.4	6709.67	0.00	-0.01	0.045	
10.00	-51.59	-1.95	0.00	-223.84	0.00	223.84	5460.99	2730.49	13014.1	6516.76	0.02	-0.02	0.044	
15.00	-49.63	-1.92	0.00	-214.07	0.00	214.07	5398.01	2699.00	12631.2	6325.01	0.04	-0.03	0.043	
20.00	-47.71	-1.89	0.00	-204.46	0.00	204.46	5333.74	2666.87	12250.7	6134.50	0.08	-0.04	0.042	
25.00	-45.81	-1.85	0.00	-195.02	0.00	195.02	5268.20	2634.10	11872.9	5945.31	0.12	-0.05	0.041	
30.00	-43.94	-1.82	0.00	-185.75	0.00	185.75	5201.36	2600.68	11497.9	5757.54	0.17	-0.05	0.041	
35.00	-42.11	-1.78	0.00	-176.67	0.00	176.67	5133.24	2566.62	11125.9	5571.26	0.23	-0.06	0.040	
40.00	-40.30	-1.74	0.00	-167.77	0.00	167.77	5063.83	2531.92	10757.1	5386.55	0.31	-0.07	0.039	
45.00	-38.52	-1.70	0.00	-159.06	0.00	159.06	4993.14	2496.57	10391.5	5203.50	0.39	-0.08	0.038	
45.50	-38.35	-1.70	0.00	-158.21	0.00	158.21	4986.00	2493.00	10355.1	5185.29	0.40	-0.08	0.038	
50.00	-35.66	-1.63	0.00	-150.56	0.00	150.56	4921.16	2460.58	10029.4	5022.20	0.48	-0.09	0.037	
52.50	-34.19	-1.59	0.00	-146.49	0.00	146.49	4024.48	2012.24	8260.88	4136.58	0.53	-0.10	0.044	
55.00	-33.42	-1.58	0.00	-142.51	0.00	142.51	3997.76	1998.88	8119.79	4065.93	0.58	-0.10	0.043	
60.00	-31.91	-1.55	0.00	-134.63	0.00	134.63	3943.34	1971.67	7839.16	3925.41	0.70	-0.11	0.042	
65.00	-30.42	-1.52	0.00	-126.89	0.00	126.89	3887.63	1943.82	7560.73	3785.98	0.82	-0.12	0.041	
70.00	-28.96	-1.50	0.00	-119.29	0.00	119.29	3830.65	1915.32	7284.66	3647.74	0.96	-0.14	0.040	
75.00	-27.52	-1.49	0.00	-111.79	0.00	111.79	3772.37	1886.19	7011.11	3510.77	1.11	-0.15	0.039	
80.00	-26.11	-1.48	0.00	-104.37	0.00	104.37	3712.81	1856.40	6740.26	3375.14	1.27	-0.16	0.038	
85.00	-24.72	-1.48	0.00	-96.97	0.00	96.97	3651.96	1825.98	6472.27	3240.95	1.44	-0.17	0.037	
90.00	-23.36	-1.48	0.00	-89.57	0.00	89.57	3589.83	1794.92	6207.31	3108.27	1.62	-0.18	0.035	
92.09	-22.80	-1.48	0.00	-86.48	0.00	86.48	3563.52	1781.76	6097.66	3053.36	1.70	-0.18	0.035	
95.00	-21.62	-1.48	0.00	-82.17	0.00	82.17	3526.41	1763.21	5945.54	2977.19	1.82	-0.19	0.034	
97.92	-20.46	-1.48	0.00	-77.85	0.00	77.85	2018.06	1009.03	3414.14	1709.61	1.93	-0.20	0.056	
100.00	-20.05	-1.48	0.00	-74.78	0.00	74.78	2007.23	1003.61	3359.78	1682.39	2.02	-0.20	0.054	
105.00	-19.08	-1.48	0.00	-67.39	0.00	67.39	1980.26	990.13	3229.23	1617.01	2.24	-0.22	0.051	
110.00	-18.12	-1.48	0.00	-59.99	0.00	59.99	1952.01	976.01	3098.96	1551.78	2.48	-0.23	0.048	
115.00	-17.17	-1.48	0.00	-52.58	0.00	52.58	1922.48	961.24	2969.14	1486.78	2.73	-0.25	0.044	
120.00	-16.25	-1.48	0.00	-45.18	0.00	45.18	1891.66	945.83	2839.95	1422.08	2.99	-0.26	0.040	
125.00	-15.34	-1.48	0.00	-37.78	0.00	37.78	1859.56	929.78	2711.53	1357.78	3.27	-0.27	0.036	
129.00	-13.87	-1.45	0.00	-31.87	0.00	31.87	1832.95	916.47	2609.48	1306.68	3.50	-0.28	0.032	
130.00	-9.96	-1.34	0.00	-30.43	0.00	30.43	1826.17	913.08	2584.07	1293.95	3.56	-0.28	0.029	
135.00	-9.25	-1.31	0.00	-23.73	0.00	23.73	1791.49	895.74	2457.72	1230.69	3.86	-0.29	0.024	
139.67	-8.61	-1.28	0.00	-17.61	0.00	17.61	1757.94	878.97	2340.87	1172.18	4.14	-0.30	0.020	
140.00	-8.54	-1.27	0.00	-17.19	0.00	17.19	1755.53	877.76	2332.66	1168.06	4.16	-0.30	0.020	
144.34	-7.61	-1.19	0.00	-11.67	0.00	11.67	1153.87	576.93	1513.89	758.07	4.44	-0.30	0.022	
145.00	-7.54	-1.19	0.00	-10.88	0.00	10.88	1151.46	575.73	1504.14	753.19	4.48	-0.30	0.021	
150.00	-2.97	-0.58	0.00	-4.95	0.00	4.95	1132.60	566.30	1430.64	716.38	4.80	-0.31	0.010	
155.00	-2.53	-0.51	0.00	-2.06	0.00	2.06	1112.45	556.22	1357.20	679.61	5.13	-0.31	0.005	
159.00	0.00	-0.50	0.00	0.00	0.00	0.00	1095.40	547.70	1298.60	650.26	5.39	-0.31	0.000	

Seismic Segment Forces (Factored)

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 25

Load Case: 0.9D + 1.0E				Iterations 20
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.39	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1406.6	0.00	0.03	0.02	22.60	
10.00		1382.0	0.01	0.05	0.03	33.20	
15.00		1357.4	0.02	0.06	0.04	38.28	
20.00		1332.8	0.03	0.07	0.04	40.59	
25.00		1308.2	0.05	0.07	0.04	41.57	
30.00		1283.6	0.07	0.07	0.04	41.98	
35.00		1259.0	0.09	0.07	0.04	42.19	
40.00		1234.4	0.12	0.07	0.03	42.32	
45.00		1209.8	0.15	0.07	0.03	42.27	
45.50	Bot - Section 2	119.63	0.15	0.07	0.03	4.19	
50.00		1993.7	0.19	0.06	0.02	70.32	
52.50	Top - Section 1	1091.6	0.21	0.06	0.02	38.43	
55.00		502.98	0.23	0.06	0.02	17.56	
60.00		990.14	0.27	0.05	0.02	33.07	
65.00		969.05	0.32	0.04	0.01	29.29	
70.00		947.96	0.37	0.03	0.01	23.62	
75.00		926.86	0.42	0.01	0.01	15.95	
80.00		905.77	0.48	-0.01	0.01	6.67	
85.00		884.67	0.54	-0.03	0.01	-3.31	
90.00		863.58	0.61	-0.05	0.02	-12.63	
92.09	Bot - Section 3	354.16	0.63	-0.07	0.02	-6.62	
95.00		818.79	0.67	-0.08	0.03	-19.35	
97.92	Top - Section 2	808.69	0.72	-0.09	0.03	-22.21	
100.00		229.60	0.75	-0.10	0.04	-6.76	
105.00		541.97	0.82	-0.12	0.06	-16.89	
110.00		527.91	0.90	-0.12	0.09	-15.03	
115.00		513.85	0.99	-0.11	0.13	-10.90	
120.00		499.78	1.08	-0.08	0.17	-4.68	
125.00		485.72	1.17	-0.02	0.23	3.42	
129.00	Appurtenance(s)	1005.0	1.24	0.05	0.29	23.57	
130.00	Appurtenance(s)	3209.4	1.26	0.07	0.30	89.93	
135.00		457.59	1.36	0.22	0.39	24.53	
139.67	Bot - Section 4	414.69	1.46	0.40	0.49	33.89	
140.00		50.76	1.47	0.42	0.50	4.26	
144.34	Top - Section 3	657.12	1.56	0.65	0.61	74.87	
145.00		42.71	1.57	0.69	0.63	5.08	
150.00	Appurtenance(s)	3680.9	1.68	1.06	0.79	584.02	
155.00		305.44	1.80	1.52	0.97	62.12	
159.00	Appurtenance(s)	2061.1	1.89	1.98	1.14	500.40	
Totals:		38,635.5				1,871.8	Total Wind: 28,066.5

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020	
Site Name: New Hartford 2, CT	Exposure: B		
Height: 159.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 26



Load Case: 0.9D + 1.0E

Iterations 20

Gust Response Factor 1.10

Sds 0.19

Ss 0.18

Dead Load Factor 0.90

Seismic Load Factor 1.00

Sd1 0.10

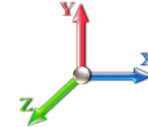
S1 0.07

Wind Load Factor 0.00

Structure Frequency (f1) 0.39

SA 0.04

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	-41.69	-1.99	0.00	-241.51	0.00	241.51	5583.09	2791.54	13786.8	6903.66	0.00	0.00	0.00	0.042
5.00	-40.18	-1.98	0.00	-231.55	0.00	231.55	5522.68	2761.34	13399.4	6709.67	0.00	-0.01	0.042	
10.00	-38.69	-1.95	0.00	-221.67	0.00	221.67	5460.99	2730.49	13014.1	6516.76	0.02	-0.02	0.041	
15.00	-37.22	-1.92	0.00	-211.93	0.00	211.93	5398.01	2699.00	12631.2	6325.01	0.04	-0.03	0.040	
20.00	-35.78	-1.88	0.00	-202.35	0.00	202.35	5333.74	2666.87	12250.7	6134.50	0.08	-0.04	0.040	
25.00	-34.36	-1.84	0.00	-192.95	0.00	192.95	5268.20	2634.10	11872.9	5945.31	0.12	-0.05	0.039	
30.00	-32.96	-1.81	0.00	-183.73	0.00	183.73	5201.36	2600.68	11497.9	5757.54	0.17	-0.05	0.038	
35.00	-31.58	-1.77	0.00	-174.71	0.00	174.71	5133.24	2566.62	11125.9	5571.26	0.23	-0.06	0.038	
40.00	-30.23	-1.73	0.00	-165.88	0.00	165.88	5063.83	2531.92	10757.1	5386.55	0.30	-0.07	0.037	
45.00	-28.89	-1.69	0.00	-157.24	0.00	157.24	4993.14	2496.57	10391.5	5203.50	0.39	-0.08	0.036	
45.50	-28.76	-1.68	0.00	-156.40	0.00	156.40	4986.00	2493.00	10355.1	5185.29	0.39	-0.08	0.036	
50.00	-26.75	-1.61	0.00	-148.82	0.00	148.82	4921.16	2460.58	10029.4	5022.20	0.48	-0.09	0.035	
52.50	-25.64	-1.58	0.00	-144.78	0.00	144.78	4024.48	2012.24	8260.88	4136.58	0.53	-0.10	0.041	
55.00	-25.07	-1.56	0.00	-140.84	0.00	140.84	3997.76	1998.88	8119.79	4065.93	0.58	-0.10	0.041	
60.00	-23.93	-1.53	0.00	-133.04	0.00	133.04	3943.34	1971.67	7839.16	3925.41	0.69	-0.11	0.040	
65.00	-22.81	-1.50	0.00	-125.39	0.00	125.39	3887.63	1943.82	7560.73	3785.98	0.81	-0.12	0.039	
70.00	-21.72	-1.48	0.00	-117.88	0.00	117.88	3830.65	1915.32	7284.66	3647.74	0.95	-0.13	0.038	
75.00	-20.64	-1.47	0.00	-110.47	0.00	110.47	3772.37	1886.19	7011.11	3510.77	1.10	-0.15	0.037	
80.00	-19.58	-1.46	0.00	-103.14	0.00	103.14	3712.81	1856.40	6740.26	3375.14	1.25	-0.16	0.036	
85.00	-18.54	-1.46	0.00	-95.84	0.00	95.84	3651.96	1825.98	6472.27	3240.95	1.42	-0.17	0.035	
90.00	-17.52	-1.46	0.00	-88.53	0.00	88.53	3589.83	1794.92	6207.31	3108.27	1.60	-0.18	0.033	
92.09	-17.10	-1.46	0.00	-85.49	0.00	85.49	3563.52	1781.76	6097.66	3053.36	1.68	-0.18	0.033	
95.00	-16.22	-1.46	0.00	-81.23	0.00	81.23	3526.41	1763.21	5945.54	2977.19	1.80	-0.19	0.032	
97.92	-15.35	-1.46	0.00	-76.97	0.00	76.97	2018.06	1009.03	3414.14	1709.61	1.91	-0.19	0.053	
100.00	-15.04	-1.46	0.00	-73.93	0.00	73.93	2007.23	1003.61	3359.78	1682.39	2.00	-0.20	0.051	
105.00	-14.31	-1.46	0.00	-66.64	0.00	66.64	1980.26	990.13	3229.23	1617.01	2.22	-0.21	0.048	
110.00	-13.59	-1.46	0.00	-59.33	0.00	59.33	1952.01	976.01	3098.96	1551.78	2.45	-0.23	0.045	
115.00	-12.88	-1.46	0.00	-52.03	0.00	52.03	1922.48	961.24	2969.14	1486.78	2.70	-0.24	0.042	
120.00	-12.19	-1.46	0.00	-44.72	0.00	44.72	1891.66	945.83	2839.95	1422.08	2.96	-0.26	0.038	
125.00	-11.50	-1.46	0.00	-37.41	0.00	37.41	1859.56	929.78	2711.53	1357.78	3.23	-0.27	0.034	
129.00	-10.40	-1.43	0.00	-31.58	0.00	31.58	1832.95	916.47	2609.48	1306.68	3.46	-0.28	0.030	
130.00	-7.47	-1.33	0.00	-30.16	0.00	30.16	1826.17	913.08	2584.07	1293.95	3.52	-0.28	0.027	
135.00	-6.94	-1.30	0.00	-23.53	0.00	23.53	1791.49	895.74	2457.72	1230.69	3.81	-0.29	0.023	
139.67	-6.46	-1.26	0.00	-17.46	0.00	17.46	1757.94	878.97	2340.87	1172.18	4.10	-0.29	0.019	
140.00	-6.40	-1.26	0.00	-17.04	0.00	17.04	1755.53	877.76	2332.66	1168.06	4.12	-0.30	0.018	
144.34	-5.71	-1.18	0.00	-11.58	0.00	11.58	1153.87	576.93	1513.89	758.07	4.39	-0.30	0.020	
145.00	-5.66	-1.18	0.00	-10.80	0.00	10.80	1151.46	575.73	1504.14	753.19	4.43	-0.30	0.019	
150.00	-2.23	-0.57	0.00	-4.91	0.00	4.91	1132.60	566.30	1430.64	716.38	4.75	-0.31	0.009	
155.00	-1.90	-0.51	0.00	-2.04	0.00	2.04	1112.45	556.22	1357.20	679.61	5.07	-0.31	0.005	
159.00	0.00	-0.50	0.00	0.00	0.00	0.00	1095.40	547.70	1298.60	650.26	5.33	-0.31	0.000	

Wind Loading - Shaft

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



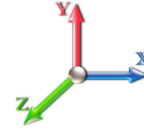
Page: 27

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 21

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	256.99	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	252.57	0.650	0.000	5.00	25.377	16.49	111.2	0.0	1406.7
10.00		1.00	0.70	6.129	6.74	248.14	0.650 *	0.000	5.00	24.936	16.22	109.4	0.0	1382.1
15.00		1.00	0.70	6.129	6.74	243.72	0.654 *	0.000	5.00	24.495	16.02	108.0	0.0	1357.5
20.00		1.00	0.70	6.129	6.74	239.29	0.658 *	0.000	5.00	24.055	15.82	106.6	0.0	1332.8
25.00		1.00	0.70	6.129	6.74	234.87	0.661 *	0.000	5.00	23.614	15.62	105.3	0.0	1308.2
30.00		1.00	0.70	6.134	6.75	230.54	0.665 *	0.000	5.00	23.173	15.42	104.0	0.0	1283.6
35.00		1.00	0.73	6.410	7.05	231.15	0.669 *	0.000	5.00	22.733	15.22	107.3	0.0	1259.0
40.00		1.00	0.76	6.659	7.33	230.99	0.674 *	0.000	5.00	22.292	15.02	110.0	0.0	1234.4
45.00		1.00	0.79	6.887	7.58	230.22	0.678 *	0.000	5.00	21.851	14.82	112.3	0.0	1209.8
45.50	Bot - Section 2	1.00	0.79	6.909	7.60	230.11	0.681 *	0.000	0.50	2.161	1.47	11.2	0.0	119.6
50.00		1.00	0.81	7.098	7.81	228.95	0.683 *	0.000	4.50	19.535	13.34	104.2	0.0	1993.7
52.50	Top - Section 1	1.00	0.82	7.197	7.92	228.15	0.686 *	0.000	2.50	10.699	7.34	58.1	0.0	1091.6
55.00		1.00	0.83	7.294	8.02	230.73	0.685 *	0.000	2.50	10.588	7.26	58.2	0.0	503.0
60.00		1.00	0.85	7.477	8.22	228.73	0.689 *	0.000	5.00	20.846	14.36	118.1	0.0	990.1
65.00		1.00	0.87	7.650	8.42	226.42	0.694 *	0.000	5.00	20.405	14.16	119.2	0.0	969.0
70.00		1.00	0.89	7.814	8.60	223.83	0.699 *	0.000	5.00	19.965	13.96	120.0	0.0	948.0
75.00		1.00	0.91	7.969	8.77	221.01	0.705 *	0.000	5.00	19.524	13.76	120.6	0.0	926.9
80.00		1.00	0.93	8.118	8.93	217.96	0.710 *	0.000	5.00	19.083	13.56	121.1	0.0	905.8
85.00		1.00	0.94	8.260	9.09	214.72	0.716 *	0.000	5.00	18.643	13.36	121.4	0.0	884.7
90.00		1.00	0.96	8.396	9.24	211.30	0.723 *	0.000	5.00	18.202	13.16	121.5	0.0	863.6
92.09	Bot - Section 3	1.00	0.97	8.451	9.30	209.82	0.728 *	0.000	2.09	7.466	5.43	50.5	0.0	354.2
95.00		1.00	0.97	8.526	9.38	207.72	0.731 *	0.000	2.91	10.419	7.61	71.4	0.0	818.8
97.92	Top - Section 2	1.00	0.98	8.600	9.46	205.56	0.735 *	0.000	2.92	10.292	7.56	71.6	0.0	808.7
100.00		1.00	0.99	8.652	9.52	206.51	0.735 *	0.000	2.08	7.240	5.32	50.7	0.0	229.6
105.00		1.00	1.00	8.774	9.65	202.66	0.740 *	0.000	5.00	17.091	12.65	122.1	0.0	542.0
110.00		1.00	1.02	8.891	9.78	198.69	0.748 *	0.000	5.00	16.651	12.45	121.8	0.0	527.9
115.00		1.00	1.03	9.005	9.91	194.59	0.756 *	0.000	5.00	16.210	12.25	121.3	0.0	513.8
120.00		1.00	1.04	9.115	10.03	190.38	0.764 *	0.000	5.00	15.769	12.05	120.8	0.0	499.8
125.00		1.00	1.05	9.222	10.14	186.06	0.773 *	0.000	5.00	15.328	11.85	120.2	0.0	485.7
129.00	Appurtenance(s)	1.00	1.06	9.305	10.24	182.54	0.781 *	0.000	4.00	11.945	9.34	95.6	0.0	378.5
130.00	Appurtenance(s)	1.00	1.07	9.326	10.26	181.65	0.786 *	0.000	1.00	2.942	2.31	23.7	0.0	93.2
135.00		1.00	1.08	9.427	10.37	177.15	0.650	0.000	5.00	14.447	9.39	97.4	0.0	457.6
139.67	Bot - Section 4	1.00	1.09	9.519	10.47	172.86	0.650	0.000	4.67	13.095	8.51	89.1	0.0	414.7
140.00		1.00	1.09	9.525	10.48	172.55	0.650	0.000	0.33	0.921	0.60	6.3	0.0	50.8
144.34	Top - Section 3	1.00	1.10	9.609	10.57	168.50	0.650	0.000	4.34	11.929	7.75	82.0	0.0	657.1
145.00		1.00	1.10	9.621	10.58	169.87	0.650	0.000	0.66	1.795	1.17	12.4	0.0	42.7
150.00	Appurtenance(s)	1.00	1.11	9.715	10.69	165.12	0.650	0.000	5.00	13.283	8.63	92.3	0.0	316.0
155.00		1.00	1.12	9.806	10.79	160.30	0.650	0.000	5.00	12.843	8.35	90.0	0.0	305.4
159.00	Appurtenance(s)	1.00	1.13	9.878	10.87	156.39	0.650	0.000	4.00	9.957	6.47	70.3	0.0	236.8
Totals:									159.00			3,556.9		29,703.3

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

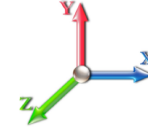
Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 28

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

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	159.00	Antel - BXA-70063/6CF	6	9.931	10.924	0.69	0.90	31.39	89.40	0.000	3.000	342.95	0.00	1028.86	
2	159.00	Swedcom - SCE-6014	6	9.931	10.924	0.88	0.90	17.55	90.00	0.000	3.000	191.72	0.00	575.16	
3	159.00	Low Profile Platform	1	9.878	10.866	1.00	1.00	40.20	1600.00	0.000	0.000	436.80	0.00	0.00	
4	159.00	Antel - BXA-185060/12CF	3	9.931	10.924	0.79	0.90	11.33	45.00	0.000	3.000	123.78	0.00	371.35	
5	150.00	KRY 112 489/2	3	9.715	10.686	0.66	0.80	1.28	46.20	0.000	0.000	13.67	0.00	0.00	
6	150.00	APX16DWV-16DWV-S-E-	3	9.715	10.686	0.50	0.80	9.61	122.10	0.000	0.000	102.72	0.00	0.00	
7	150.00	APXVAARR24_43-U-NA2	3	9.715	10.686	0.56	0.80	34.00	384.00	0.000	0.000	363.37	0.00	0.00	
8	150.00	KRY 112 144/1	3	9.715	10.686	0.56	0.80	0.69	33.00	0.000	0.000	7.36	0.00	0.00	
9	150.00	(3) T-Arm Kit	1	9.715	10.686	0.75	0.75	12.38	500.00	0.000	0.000	132.24	0.00	0.00	
10	150.00	4449 B5/B12	3	9.715	10.686	0.54	0.80	3.17	213.00	0.000	0.000	33.85	0.00	0.00	
11	150.00	MS-HR35	1	9.715	10.686	0.75	0.75	6.56	430.00	0.000	0.000	70.13	0.00	0.00	
12	150.00	MS-H1436 (Heavy Collar	1	9.715	10.686	0.75	0.75	1.69	136.70	0.000	0.000	18.03	0.00	0.00	
13	150.00	T-Arm	3	9.715	10.686	0.56	0.75	26.32	1500.00	0.000	0.000	281.32	0.00	0.00	
14	130.00	Raycap DC6-48-60-18-8F	1	9.326	10.258	1.00	1.00	0.92	32.80	0.000	0.000	9.44	0.00	0.00	
15	130.00	T-Frame	3	9.326	10.258	0.56	0.75	29.70	1650.00	0.000	0.000	304.67	0.00	0.00	
16	130.00	Powerwave 7770.00A	6	9.326	10.258	0.58	0.80	19.15	162.00	0.000	0.000	196.41	0.00	0.00	
17	130.00	Powerwave LGP21401	24	9.326	10.258	0.40	0.80	12.38	420.00	0.000	0.000	127.04	0.00	0.00	
18	130.00	(6) Reinforce Kit	1	9.326	10.258	0.75	0.75	7.27	230.00	0.000	0.000	74.63	0.00	0.00	
19	130.00	Commscope	3	9.326	10.258	0.54	0.80	0.08	3.42	0.000	0.000	0.82	0.00	0.00	
20	130.00	Ericsson 4478 B71 RRU	3	9.326	10.258	0.54	0.80	2.65	180.00	0.000	0.000	27.22	0.00	0.00	
21	130.00	Ericsson 4449 B5/B12	3	9.326	10.258	0.54	0.80	3.17	213.00	0.000	0.000	32.50	0.00	0.00	
22	130.00	Ericsson 8843 B2/B66A	3	9.326	10.258	0.54	0.80	2.65	225.00	0.000	0.000	27.22	0.00	0.00	
23	129.00	DMP65R-BU8DA	6	9.305	10.236	0.66	0.80	71.19	574.20	0.000	0.000	728.72	0.00	0.00	
24	129.00	Raycap	1	9.305	10.236	1.00	1.00	4.78	26.20	0.000	0.000	48.93	0.00	0.00	
25	129.00	Raycap	1	9.305	10.236	1.00	1.00	4.78	26.20	0.000	0.000	48.93	0.00	0.00	
Totals:									8,932.22						3,744.46

Total Applied Force Summary

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 29

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

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		111.20	1677.88	0.00	0.00
10.00		109.35	1653.27	0.00	0.00
15.00		108.00	1628.66	0.00	0.00
20.00		106.65	1604.05	0.00	0.00
25.00		105.30	1579.44	0.00	0.00
30.00		104.03	1554.83	0.00	0.00
35.00		107.30	1530.22	0.00	0.00
40.00		110.01	1505.61	0.00	0.00
45.00		112.25	1481.00	0.00	0.00
45.50		11.18	146.75	0.00	0.00
50.00		104.16	2237.79	0.00	0.00
52.50		58.13	1227.22	0.00	0.00
55.00		58.21	638.58	0.00	0.00
60.00		118.11	1261.34	0.00	0.00
65.00		119.15	1240.25	0.00	0.00
70.00		119.98	1219.16	0.00	0.00
75.00		120.61	1198.06	0.00	0.00
80.00		121.07	1176.97	0.00	0.00
85.00		121.36	1155.87	0.00	0.00
90.00		121.51	1134.78	0.00	0.00
92.09		50.49	467.34	0.00	0.00
95.00		71.42	976.81	0.00	0.00
97.92		71.56	967.07	0.00	0.00
100.00		50.65	342.42	0.00	0.00
105.00		122.10	813.17	0.00	0.00
110.00		121.77	799.11	0.00	0.00
115.00		121.34	785.05	0.00	0.00
120.00		120.82	770.98	0.00	0.00
125.00		120.20	756.92	0.00	0.00
129.00	(8) attachments	922.12	1222.01	0.00	0.00
130.00	(47) attachments	823.67	3263.67	0.00	0.00
135.00		97.37	587.89	0.00	0.00
139.67		89.13	536.39	0.00	0.00
140.00		6.27	59.36	0.00	0.00
144.34		81.95	770.14	0.00	0.00
145.00		12.35	60.00	0.00	0.00
150.00	(21) attachments	1114.97	3811.29	0.00	0.00
155.00		90.05	367.84	0.00	0.00
159.00	(16) attachments	1165.58	2111.08	0.00	1975.38
	Totals:	7,301.38	46,320.24	0.00	1,975.38

Linear Appurtenance Segment Forces (Factored)

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 30

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.099	0.000	6.129	0.00	16.10
10.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.100	1.001	6.129	0.00	16.10
15.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.102	1.006	6.129	0.00	16.10
20.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.104	1.012	6.129	0.00	16.10
25.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.106	1.018	6.129	0.00	16.10
30.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.108	1.024	6.134	0.00	16.10
35.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.110	1.030	6.410	0.00	16.10
40.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.112	1.036	6.659	0.00	16.10
45.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.114	1.043	6.887	0.00	16.10
45.50	3" Conduit	Yes	0.50	0.000	6.00	0.25	0.00	0.116	1.047	6.909	0.00	1.61
50.00	3" Conduit	Yes	4.50	0.000	6.00	2.25	0.00	0.117	1.051	7.098	0.00	14.49
52.50	3" Conduit	Yes	2.50	0.000	6.00	1.25	0.00	0.119	1.056	7.197	0.00	8.05
55.00	3" Conduit	Yes	2.50	0.000	6.00	1.25	0.00	0.118	1.054	7.294	0.00	8.05
60.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.120	1.060	7.477	0.00	16.10
65.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.123	1.068	7.650	0.00	16.10
70.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.125	1.076	7.814	0.00	16.10
75.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.128	1.084	7.969	0.00	16.10
80.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.131	1.093	8.118	0.00	16.10
85.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.134	1.102	8.260	0.00	16.10
90.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.137	1.112	8.396	0.00	16.10
92.09	3" Conduit	Yes	2.09	0.000	6.00	1.04	0.00	0.140	1.119	8.451	0.00	6.72
95.00	3" Conduit	Yes	2.91	0.000	6.00	1.46	0.00	0.141	1.124	8.526	0.00	9.38
97.92	3" Conduit	Yes	2.92	0.000	6.00	1.46	0.00	0.144	1.131	8.600	0.00	9.40
100.00	3" Conduit	Yes	2.08	0.000	6.00	1.04	0.00	0.144	1.131	8.652	0.00	6.70
105.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.146	1.139	8.774	0.00	16.10
110.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.150	1.150	8.891	0.00	16.10
115.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.154	1.163	9.005	0.00	16.10
120.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.159	1.176	9.115	0.00	16.10
125.00	3" Conduit	Yes	5.00	0.000	6.00	2.50	0.00	0.163	1.189	9.222	0.00	16.10
129.00	3" Conduit	Yes	4.00	0.000	6.00	2.00	0.00	0.167	1.202	9.305	0.00	12.88
130.00	3" Conduit	Yes	1.00	0.000	6.00	0.50	0.00	0.170	1.210	9.326	0.00	3.22
Totals:											0.0	418.6

Calculated Forces

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

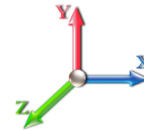


Page: 31

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 21

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	-46.32	-7.31	0.00	-850.62	0.00	850.62	5583.09	2791.54	13786.8	6903.66	0.00	0.000	0.000	0.132
5.00	-44.64	-7.23	0.00	-814.05	0.00	814.05	5522.68	2761.34	13399.4	6709.67	0.02	-0.031	0.000	0.129
10.00	-42.98	-7.14	0.00	-777.92	0.00	777.92	5460.99	2730.49	13014.1	6516.76	0.07	-0.063	0.000	0.127
15.00	-41.35	-7.05	0.00	-742.23	0.00	742.23	5398.01	2699.00	12631.2	6325.01	0.15	-0.094	0.000	0.125
20.00	-39.74	-6.96	0.00	-706.97	0.00	706.97	5333.74	2666.87	12250.7	6134.50	0.26	-0.126	0.000	0.123
25.00	-38.16	-6.88	0.00	-672.15	0.00	672.15	5268.20	2634.10	11872.9	5945.31	0.41	-0.158	0.000	0.120
30.00	-36.60	-6.79	0.00	-637.77	0.00	637.77	5201.36	2600.68	11497.9	5757.54	0.60	-0.190	0.000	0.118
35.00	-35.06	-6.70	0.00	-603.83	0.00	603.83	5133.24	2566.62	11125.9	5571.26	0.81	-0.222	0.000	0.115
40.00	-33.56	-6.60	0.00	-570.35	0.00	570.35	5063.83	2531.92	10757.1	5386.55	1.06	-0.255	0.000	0.113
45.00	-32.07	-6.49	0.00	-537.37	0.00	537.37	4993.14	2496.57	10391.5	5203.50	1.35	-0.287	0.000	0.110
45.50	-31.92	-6.49	0.00	-534.12	0.00	534.12	4986.00	2493.00	10355.1	5185.29	1.38	-0.291	0.000	0.109
50.00	-29.68	-6.38	0.00	-504.94	0.00	504.94	4921.16	2460.58	10029.4	5022.20	1.67	-0.320	0.000	0.107
52.50	-28.46	-6.32	0.00	-488.98	0.00	488.98	4024.48	2012.24	8260.88	4136.58	1.84	-0.336	0.000	0.125
55.00	-27.81	-6.28	0.00	-473.17	0.00	473.17	3997.76	1998.88	8119.79	4065.93	2.02	-0.353	0.000	0.123
60.00	-26.55	-6.17	0.00	-441.80	0.00	441.80	3943.34	1971.67	7839.16	3925.41	2.41	-0.389	0.000	0.119
65.00	-25.31	-6.05	0.00	-410.97	0.00	410.97	3887.63	1943.82	7560.73	3785.98	2.83	-0.424	0.000	0.115
70.00	-24.09	-5.94	0.00	-380.70	0.00	380.70	3830.65	1915.32	7284.66	3647.74	3.30	-0.460	0.000	0.111
75.00	-22.89	-5.82	0.00	-351.01	0.00	351.01	3772.37	1886.19	7011.11	3510.77	3.80	-0.495	0.000	0.106
80.00	-21.71	-5.70	0.00	-321.90	0.00	321.90	3712.81	1856.40	6740.26	3375.14	4.34	-0.529	0.000	0.101
85.00	-20.55	-5.58	0.00	-293.39	0.00	293.39	3651.96	1825.98	6472.27	3240.95	4.91	-0.563	0.000	0.096
90.00	-19.41	-5.46	0.00	-265.47	0.00	265.47	3589.83	1794.92	6207.31	3108.27	5.51	-0.595	0.000	0.091
92.09	-18.94	-5.41	0.00	-254.09	0.00	254.09	3563.52	1781.76	6097.66	3053.36	5.78	-0.609	0.000	0.089
95.00	-17.97	-5.33	0.00	-238.33	0.00	238.33	3526.41	1763.21	5945.54	2977.19	6.16	-0.628	0.000	0.085
97.92	-17.00	-5.25	0.00	-222.77	0.00	222.77	2018.06	1009.03	3414.14	1709.61	6.55	-0.646	0.000	0.139
100.00	-16.65	-5.21	0.00	-211.84	0.00	211.84	2007.23	1003.61	3359.78	1682.39	6.83	-0.659	0.000	0.134
105.00	-15.84	-5.09	0.00	-185.80	0.00	185.80	1980.26	990.13	3229.23	1617.01	7.54	-0.701	0.000	0.123
110.00	-15.04	-4.97	0.00	-160.37	0.00	160.37	1952.01	976.01	3098.96	1551.78	8.30	-0.741	0.000	0.111
115.00	-14.25	-4.84	0.00	-135.54	0.00	135.54	1922.48	961.24	2969.14	1486.78	9.10	-0.777	0.000	0.099
120.00	-13.48	-4.72	0.00	-111.33	0.00	111.33	1891.66	945.83	2839.95	1422.08	9.93	-0.810	0.000	0.085
125.00	-12.72	-4.59	0.00	-87.74	0.00	87.74	1859.56	929.78	2711.53	1357.78	10.79	-0.839	0.000	0.071
129.00	-11.51	-3.65	0.00	-69.37	0.00	69.37	1832.95	916.47	2609.48	1306.68	11.51	-0.859	0.000	0.059
130.00	-8.26	-2.78	0.00	-65.72	0.00	65.72	1826.17	913.08	2584.07	1293.95	11.69	-0.864	0.000	0.055
135.00	-7.68	-2.68	0.00	-51.80	0.00	51.80	1791.49	895.74	2457.72	1230.69	12.60	-0.884	0.000	0.046
139.67	-7.14	-2.58	0.00	-39.29	0.00	39.29	1757.94	878.97	2340.87	1172.18	13.48	-0.901	0.000	0.038
140.00	-7.08	-2.58	0.00	-38.43	0.00	38.43	1755.53	877.76	2332.66	1168.06	13.54	-0.902	0.000	0.037
144.34	-6.31	-2.48	0.00	-27.26	0.00	27.26	1153.87	576.93	1513.89	758.07	14.36	-0.914	0.000	0.041
145.00	-6.25	-2.47	0.00	-25.61	0.00	25.61	1151.46	575.73	1504.14	753.19	14.49	-0.915	0.000	0.039
150.00	-2.46	-1.30	0.00	-13.25	0.00	13.25	1132.60	566.30	1430.64	716.38	15.46	-0.927	0.000	0.021
155.00	-2.09	-1.20	0.00	-6.77	0.00	6.77	1112.45	556.22	1357.20	679.61	16.43	-0.933	0.000	0.012
159.00	0.00	-1.17	0.00	-1.98	0.00	1.98	1095.40	547.70	1298.60	650.26	17.21	-0.936	0.000	0.003

Final Analysis Summary

Structure: CT12219-A-SBA	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 32



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	28.1	0.00	55.55	0.00	0.00	3286.98
0.9D + 1.6W 93 mph Wind	28.1	0.00	41.66	0.00	0.00	3259.03
1.2D + 1.0Di + 1.0Wi 40 mph Wind	6.0	0.00	95.47	0.00	0.00	710.10
1.2D + 1.0E	2.0	0.00	55.58	0.00	0.00	243.71
0.9D + 1.0E	2.0	0.00	41.69	0.00	0.00	241.51
1.0D + 1.0W 60 mph Wind	7.3	0.00	46.32	0.00	0.00	850.62

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-19.59	-20.34	0.00	-862.38	0.00	-862.38	2018.06	1009.0	3414.14	1709.61	97.92	0.515
0.9D + 1.6W 93 mph Wind	-14.49	-20.10	0.00	-851.69	0.00	-851.69	2018.06	1009.0	3414.14	1709.61	97.92	0.506
1.2D + 1.0Di + 1.0Wi 40 mph Wind	-45.69	-4.40	0.00	-188.56	0.00	-188.56	2018.06	1009.0	3414.14	1709.61	97.92	0.133
1.2D + 1.0E	-20.46	-1.48	0.00	-77.85	0.00	-77.85	2018.06	1009.0	3414.14	1709.61	97.92	0.056
0.9D + 1.0E	-15.35	-1.46	0.00	-76.97	0.00	-76.97	2018.06	1009.0	3414.14	1709.61	97.92	0.053
1.0D + 1.0W 60 mph Wind	-17.00	-5.25	0.00	-222.77	0.00	-222.77	2018.06	1009.0	3414.14	1709.61	97.92	0.139

Base Plate Summary

Structure: CT12219-A-SB	Code: EIA/TIA-222-G	10/16/2020
Site Name: New Hartford 2, CT	Exposure: B	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 33

Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 68.00
Moment (kip-ft): 5847.05	Width (in): 74.00	Number Bolts: 24.00
Axial (kip): 49.10	Style: Round	Bolt Type: 2.25" 18J
Shear (kip): 51.35	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 3286.98	Effective Len (in): 11.75	Ultimate (ksi): 100.00
Axial (kip): 55.55	Moment (kip-in): 377.45	Arrangement: Radial
Shear (kip): 28.13	Allow Stress (ksi): 67.50	Cluster Dist (in): 0.00
	Applied Stress (ksi): 18.23	Start Angle (deg): 0.00
	Stress Ratio: 0.27	Compression
		Force (kip): 100.65
		Allowable (kip): 260.00
		Ratio: 0.40
		Tension
		Force (kip): 92.70
		Allowable (kip): 260.00
		Ratio: 0.37



Monopole Mat Foundation Design

Date
10/16/2020

Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	159
Site Number:	CT12219-A-SBA	Engineer Name:	T. Alajaj
Engr. Number:	98774	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	55.6	Shear Force (Kips):	28.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3287.0

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.5	Depth of Base BG (ft.):	5.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	3.00
Length of Pad (ft.):	29.5	Width of Pad (ft.):	29.5

Final Length of pad (ft)	29.5	Final width of pad (ft):	29.5
--------------------------	------	--------------------------	------

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	42	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:			
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32

Rebar at the top of the concrete pad:			
Qty. of Rebar in Pad (L):	13	Qty. of Rebar in Pad (W):	13

Apply 1.35 factor for e/w Per G: 1.35

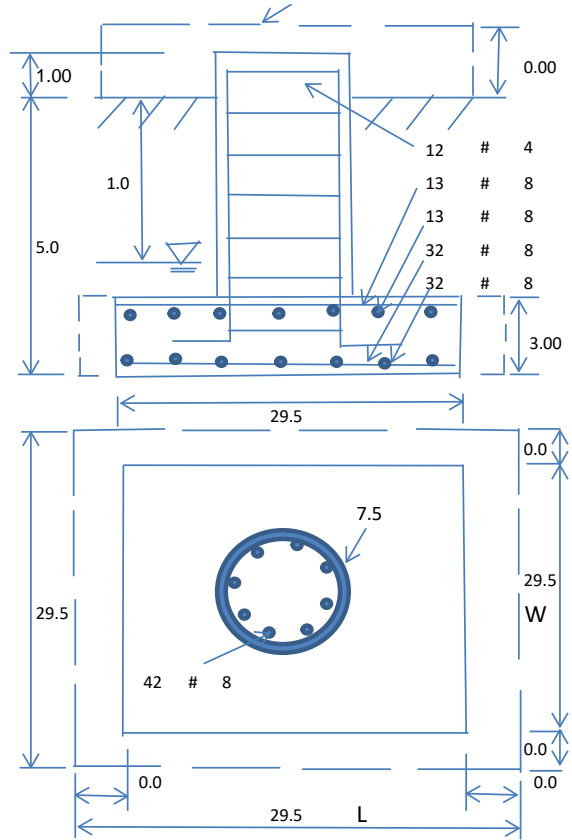
Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	1.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	8000	Ultimate Skin Friction:	800	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:	Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
	Total Dry Soil Volume (cu. Ft.):	826.07	Total Dry Soil Weight (Kips):	103.26
	Total Buoyant Soil Volume (cu. Ft.):	860.36	Total Buoyant Soil Weight (Kips):	43.02
	Total Effective Soil Weight (Kips):	146.28	Weight from the Concrete Block at Top (K):	0.00
	Total Dry Concrete Volume (cu. Ft.):	88.36	Total Dry Concrete Weight (Kips):	13.25
	Total Buoyant Concrete Volume (cu. Ft.):	2654.93	Total Buoyant Concrete Weight (Kips):	232.57
	Total Effective Concrete Weight (Kips):	245.83	Total Vertical Load on Base (Kips):	447.70

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	723	<	Allowable Factored Soil Bearing (psf):	6000	0.12	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6002.5	>	Design Factored Momont (kips-ft):	3380	0.56	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.78					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):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6074.2	> Design Factored Moment (Mu, Kips-F	3371.3	0.56	OK!
Calculated Shear Capacity (Kips):	891.5	> Design Factored Shear (Kips):	28.1	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1791.7	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	11188.9	> Design Factored Axial Load (Pu Kips):	55.6	0.00	OK!
Moment & Axial Strength Combination:	0.56	OK! Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1091.5	> One-Way Factored Shear (L-D. Kips):	155.5	0.14	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1091.5	> One-Way Factored Shear (W-D., Kips)	155.5	0.14	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1065.7	> One-Way Factored Shear (C-C, Kips):	154.2	0.14	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0022	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0022		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	3625.5	> Moment at Bottom (L-Dir. K-Ft):	956.9	0.26	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	3625.5	> Moment at Bottom (W-Dir. K-Ft):	956.9	0.26	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	5105.0	> Moment at Bottom (C-C Dir. K-Ft):	1353.3	0.27	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0009	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0009		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	1490.2	> Moment at the top (L-Dir K-Ft):	392.0	0.26	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	1490.2	> Moment at the top (W-Dir K-Ft):	392.0	0.26	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	2103.7	> Moment at the top (C-C Dir. K-Ft):	366.7	0.17	OK!

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

Moment transferred by punching shear:	1314.8	k-ft.	Max. factored shear stress $v_{u,CD}$:	1.9	Psi
Max. factored shear stress $v_{u,AB}$:	9.0	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	9.0	Psi	Check Usage of Punching Shear Capacity:	0.05	OK!

EXHIBIT 9



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 162-Ft Monopole Tower
Customer Name: SBA Communications Corp
Customer Site Number: CT12219-A
Customer Site Name: New Hartford 2, CT
Carrier Name: T-Mobile (App#: 117044, V1)
Carrier Site ID / Name: CTNH410A / New Hartford
Site Location: 170 S. East Road
New Hartford, Connecticut
Litchfield County
Latitude: 41.817258
Longitude: -72.970947

Analysis Result:

Max Structural Usage: 59.8% [Pass]

Report Prepared By: Anita Lama



Introduction

The purpose of this report is to summarize the analysis results on the (3) T-Arms at 150.00' 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 TES dated 4/28/2019
Antenna Loading	SBA Application #117044, v1 dated 6/6/2019
Existing Modification	N/A
Proposed Modification	TES Project No. 81339

Analysis Criteria

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

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

Operational Wind Speed: 60 mph +0" Radial ice

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

Exposure Category: B

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

The site is a Risk Category II structure per table 1604.5 of the 2012 IBC. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(3) T-Arms at 150.00' elevation

Final Antenna Configuration

- 3 RFS APX16DWV-16DWVS-E-A20
- 3 RFS APXVAARR24_43-U-NA20
- 3 Ericsson KRY 112 144/1
- 3 Ericsson KRY 112 489/2
- 3 Ericsson Radio 4449 B71 + B12

Any proposed antennas not currently installed should be mounted such that the centers of the antennas do not exceed 0.5 ft vertically from the center of the T-Arms.

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 59.8%, 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: CT12219-A-SBA - New Hartford 2, CT

Sector: **A**

7/16/2019

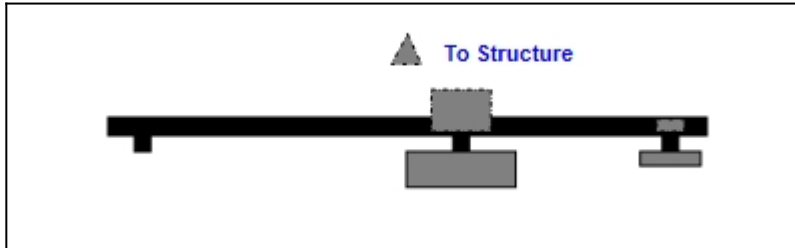
Structure Type: Monopole



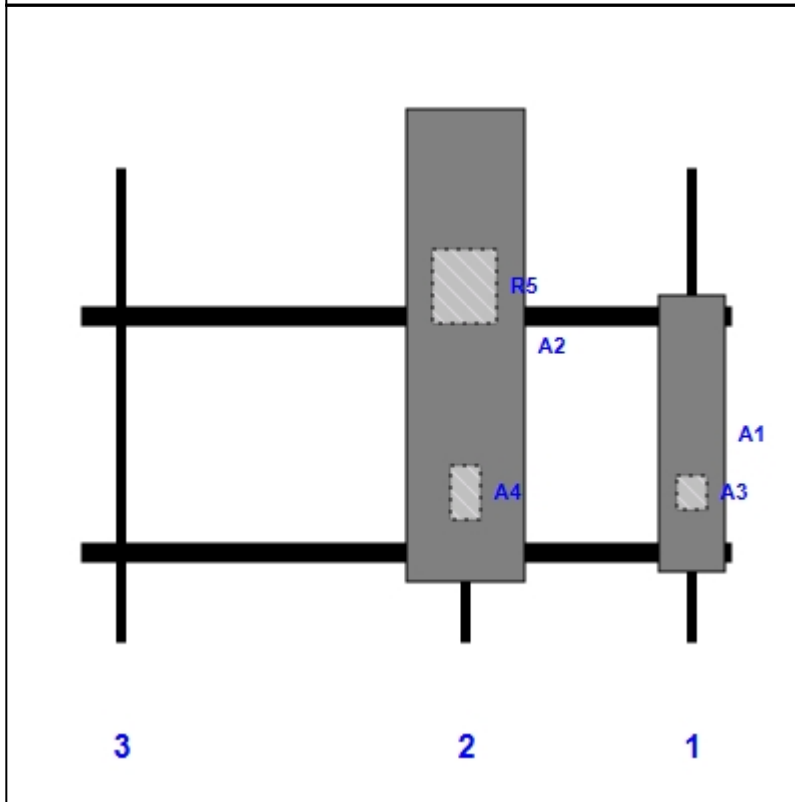
Mount Elev: 150.00

Page: 1

Plan View



Front View
Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	APX16DWV-16DWVS-E-A20	55.90	13.30	124.00	1	a	Front	54.00	0.00
A3	KRY 112 144/1	6.90	6.10	124.00	1	a	Behind	66.00	0.00
A2	APXVAARR24_43-U-NA20	95.90	24.00	78.00	2	a	Front	36.00	0.00
A4	KRY 112 489/2	11.00	6.10	78.00	2	a	Behind	66.00	0.00
R5	Radio 4449 B71 + B12	15.00	13.10	78.00	2	a	Behind	24.00	0.00

Structure: CT12219-A-SBA - New Hartford 2, CT

Sector: **B**

7/16/2019

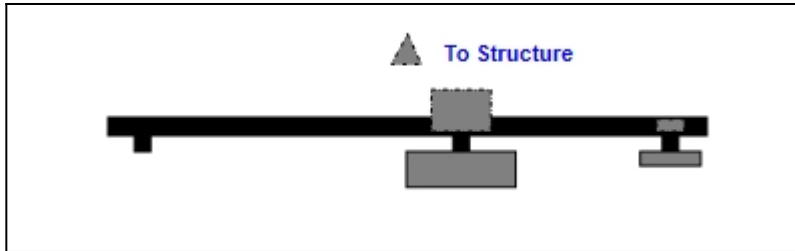
Structure Type: Monopole

Mount Elev: 150.00

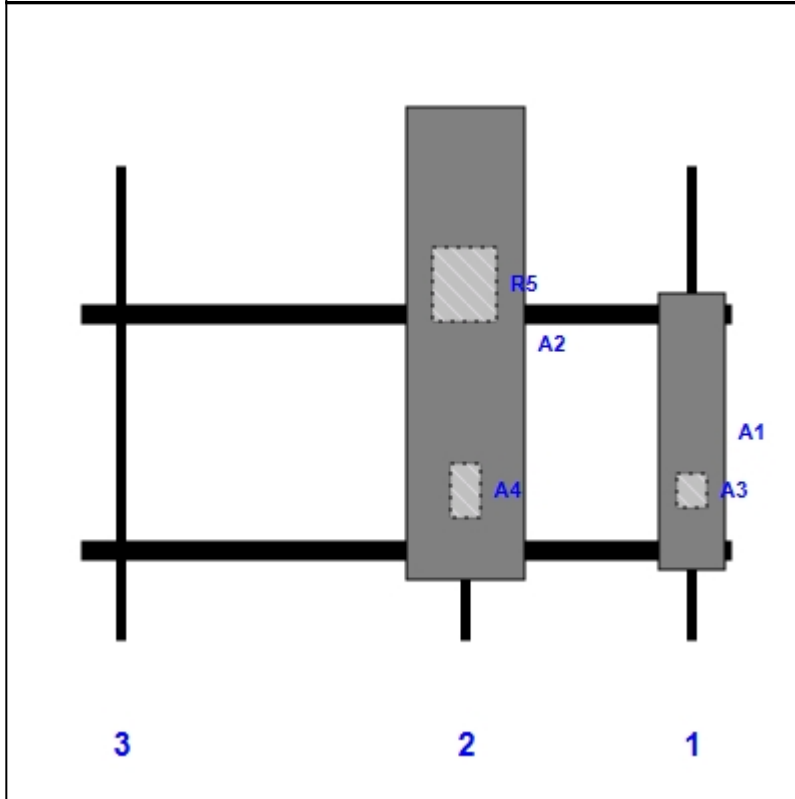
Page: 2



Plan View



Front View
Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	APX16DWV-16DWVS-E-A20	55.90	13.30	124.00	1	a	Front	54.00	0.00
A3	KRY 112 144/1	6.90	6.10	124.00	1	a	Behind	66.00	0.00
A2	APXVAARR24_43-U-NA20	95.90	24.00	78.00	2	a	Front	36.00	0.00
A4	KRY 112 489/2	11.00	6.10	78.00	2	a	Behind	66.00	0.00
R5	Radio 4449 B71 + B12	15.00	13.10	78.00	2	a	Behind	24.00	0.00

Structure: CT12219-A-SBA - New Hartford 2, CT

Sector: C

7/16/2019

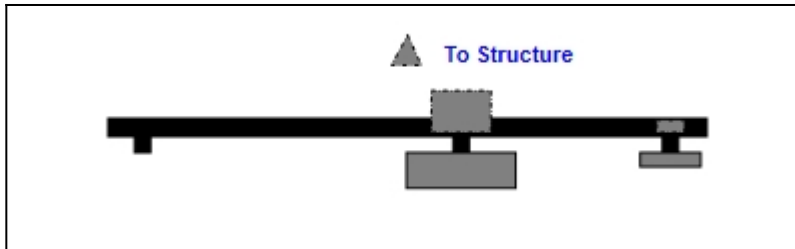
Structure Type: Monopole

Mount Elev: 150.00

Page: 3

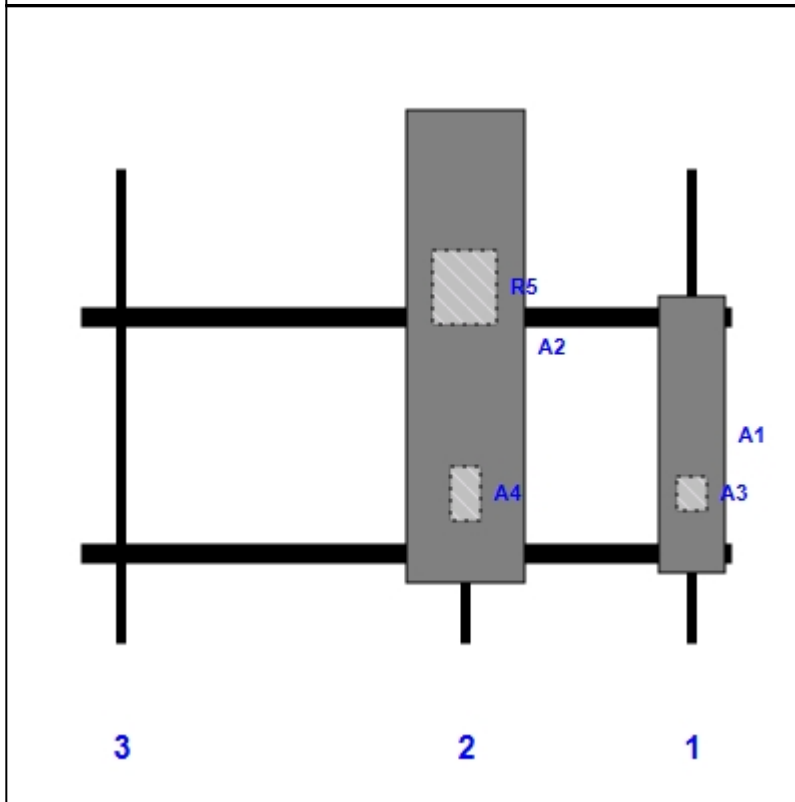


Plan View



Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	APX16DWV-16DWVS-E-A20	55.90	13.30	124.00	1	a	Front	54.00	0.00
A3	KRY 112 144/1	6.90	6.10	124.00	1	a	Behind	66.00	0.00
A2	APXVAARR24_43-U-NA20	95.90	24.00	78.00	2	a	Front	36.00	0.00
A4	KRY 112 489/2	11.00	6.10	78.00	2	a	Behind	66.00	0.00
R5	Radio 4449 B71 + B12	15.00	13.10	78.00	2	a	Behind	24.00	0.00

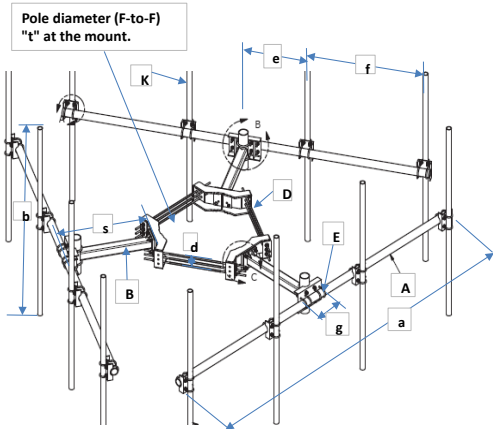


Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)

FCC #
Not Posted

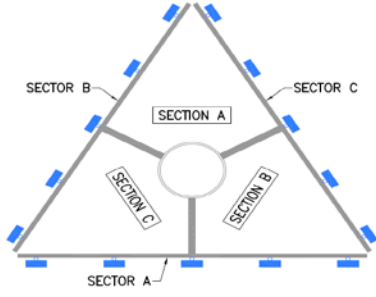
Tower Owner:	SBA Communications	Mapping Date:	4/28/19
Site Name:	New Hartford 2, CT	Structure Type:	Monopole
Site Number or ID:	CT12219-A-SBA	Structure Height (Ft.):	162
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	148.4

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

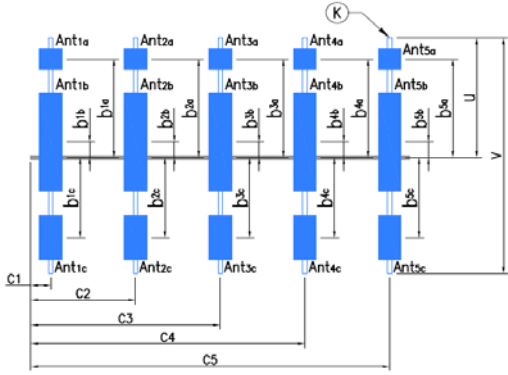


Geometries (Unit: inches)									
a	132	e	12	j	N/A	o	N/A	s	44
b	96	f	46	k	N/A	p	N/A	t	23
c	N/A	g	15	m	N/A	q	N/A	u *	78
d	6	h	N/A	n	N/A	r	N/A	v *	96

Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F				
B	Tubing 4x4x1/4	4	4	0.25	G				
C					H				
D	5/8" Bolt			32	J				
E	1/2" Bolt			U-Bolt	K* (pipe)	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									7'
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									N/A
Please enter the information below if members can't be found from the drop down lists									



Climbing ladder is Located at Section B, at 210° Degree Azimuth



Antenna Layout

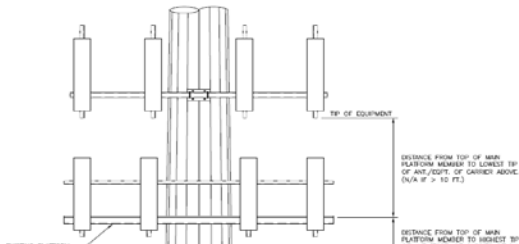
Azimuth (Degree) of Each Sector and Climbing Information

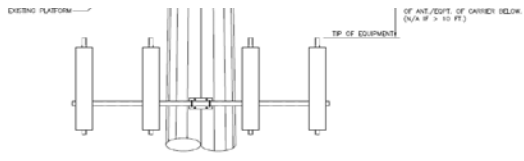
Sector A:	0°	Deg	
Sector B:	90°	Deg	
Sector C:	240°	Deg	
Climbing	210°	Deg	Located at Section B
Climbing Facility	Corrosion Type:	No corrosion observed	
	Access:	Climbing path was unobstructed.	
	Condition:	N/A	

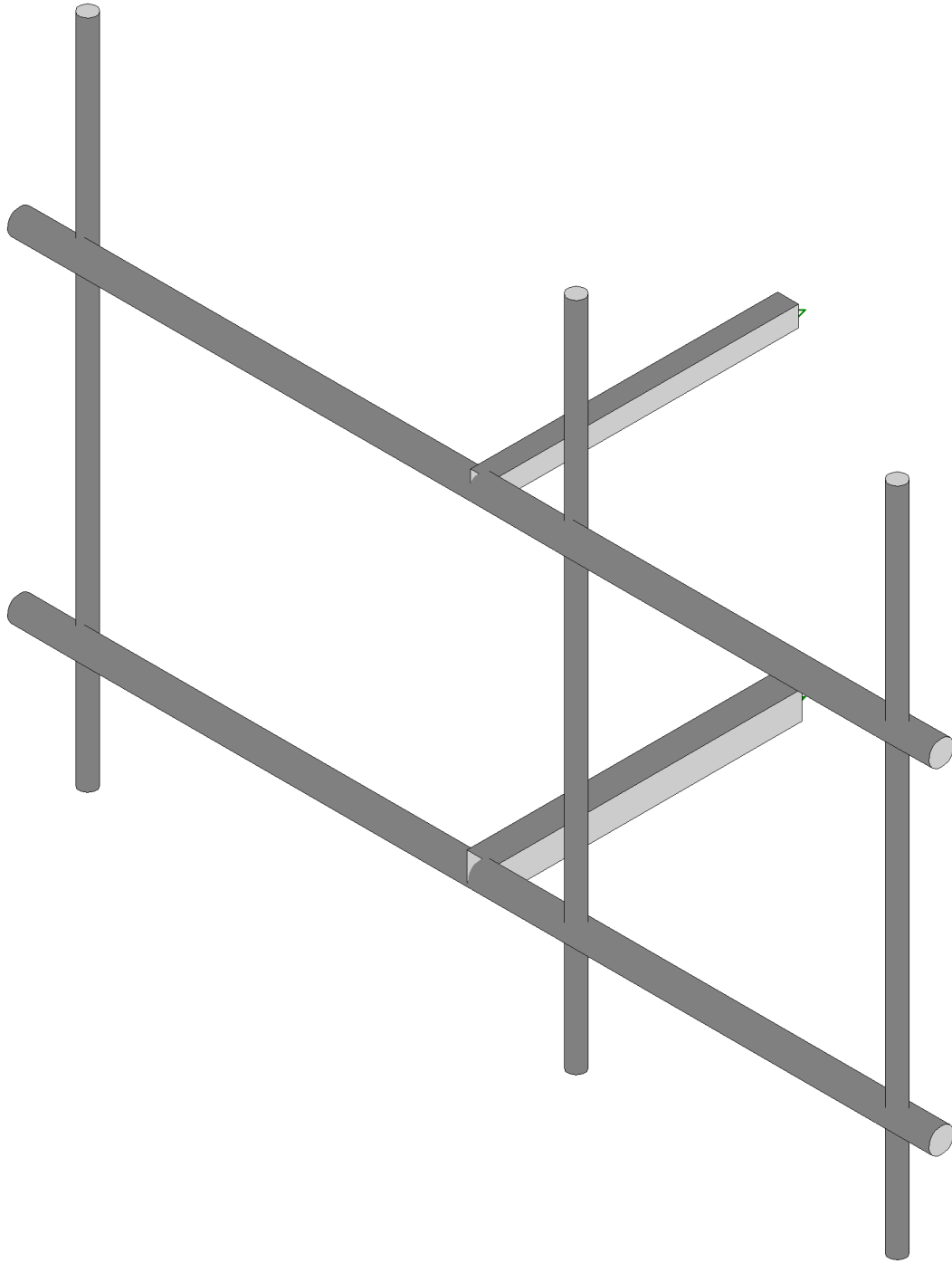
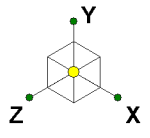
Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.						Mounting Locations (Unit: inches)			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b _{1a} ", "b _{2a} ", "b _{3a} ", "b _{1b} ..." (in.)	Horiz. offset (Use "..." if Ant. is inside)	Horiz. offset "C ₁ ", "C ₂ ", "C ₃ ", "C ₄ ", "C ₅ " (in.)	Photo Numbers
Sector A									
Ant _{1a}									
Ant _{1b}	Antenna A	13	3.5	72	1/2" (4)	+18"	6.5	8	
Ant _{1c}	TMA A (x2)	7	4	12	1/2" (4)	+12"	N/A	8	
Ant _{2a}									
Ant _{2b}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	54	
Ant _{2c}									
Ant _{3a}									
Ant _{3b}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	124	
Ant _{3c}									
Ant _{4a}									
Ant _{4b}									
Ant _{4c}									
Ant _{5a}									
Ant _{5b}									
Ant _{5c}									
Are Ant same as sector A?		Yes		Antennas on Sector B are the same as Sector A					

Are Ant same as sector A? Yes Antennas on Sector B are the same as Sector A

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







Tower Engineering Solutio...

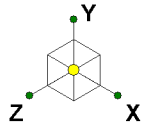
CT12219-A-SBA_MT-Z_Loads Only_Sector A_G

SK - 1

July 16, 2019 at 3:58 PM

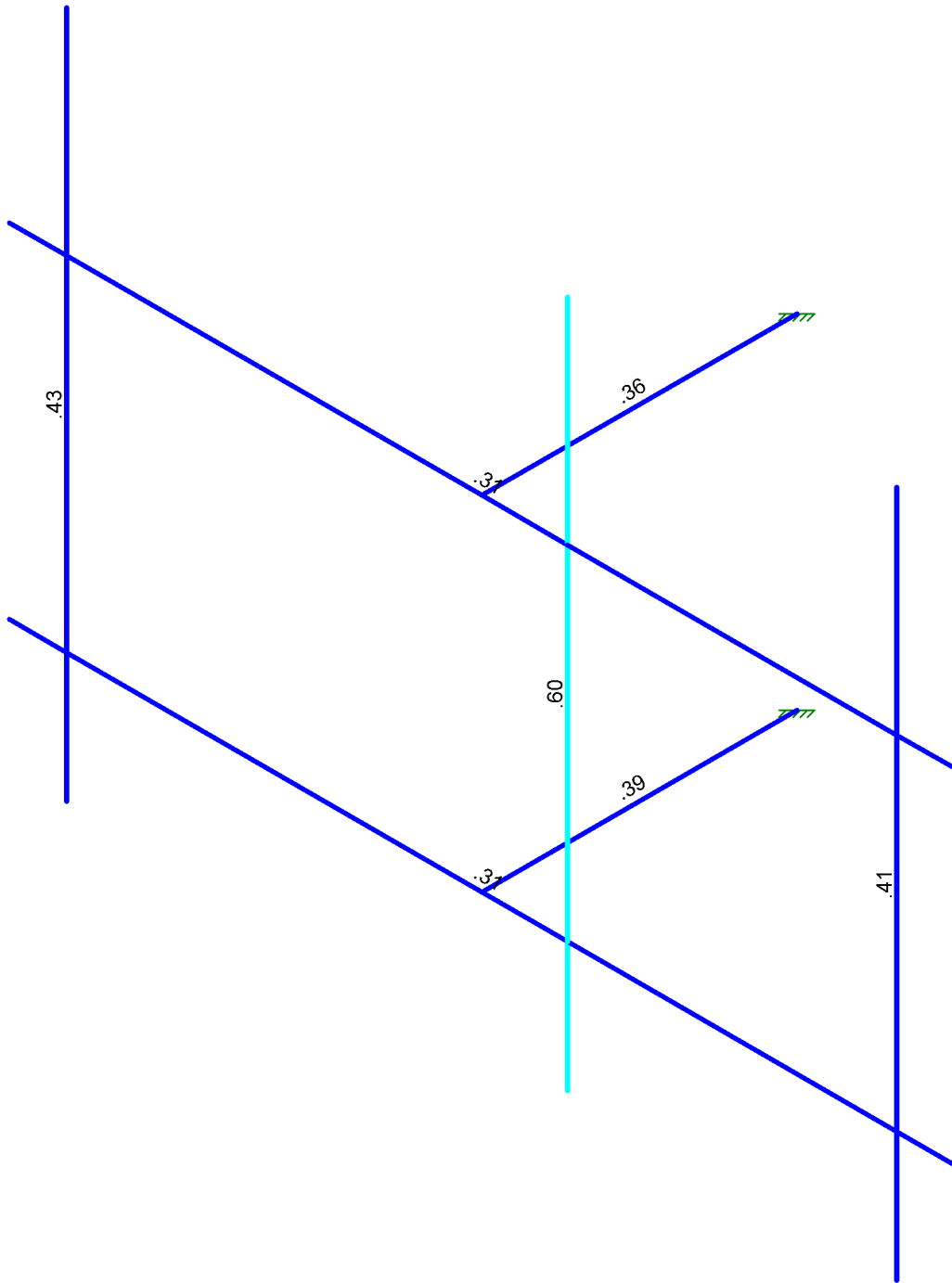
TES Project No. 81339

CT12219-A-SBA_81339_G_RISA_L...



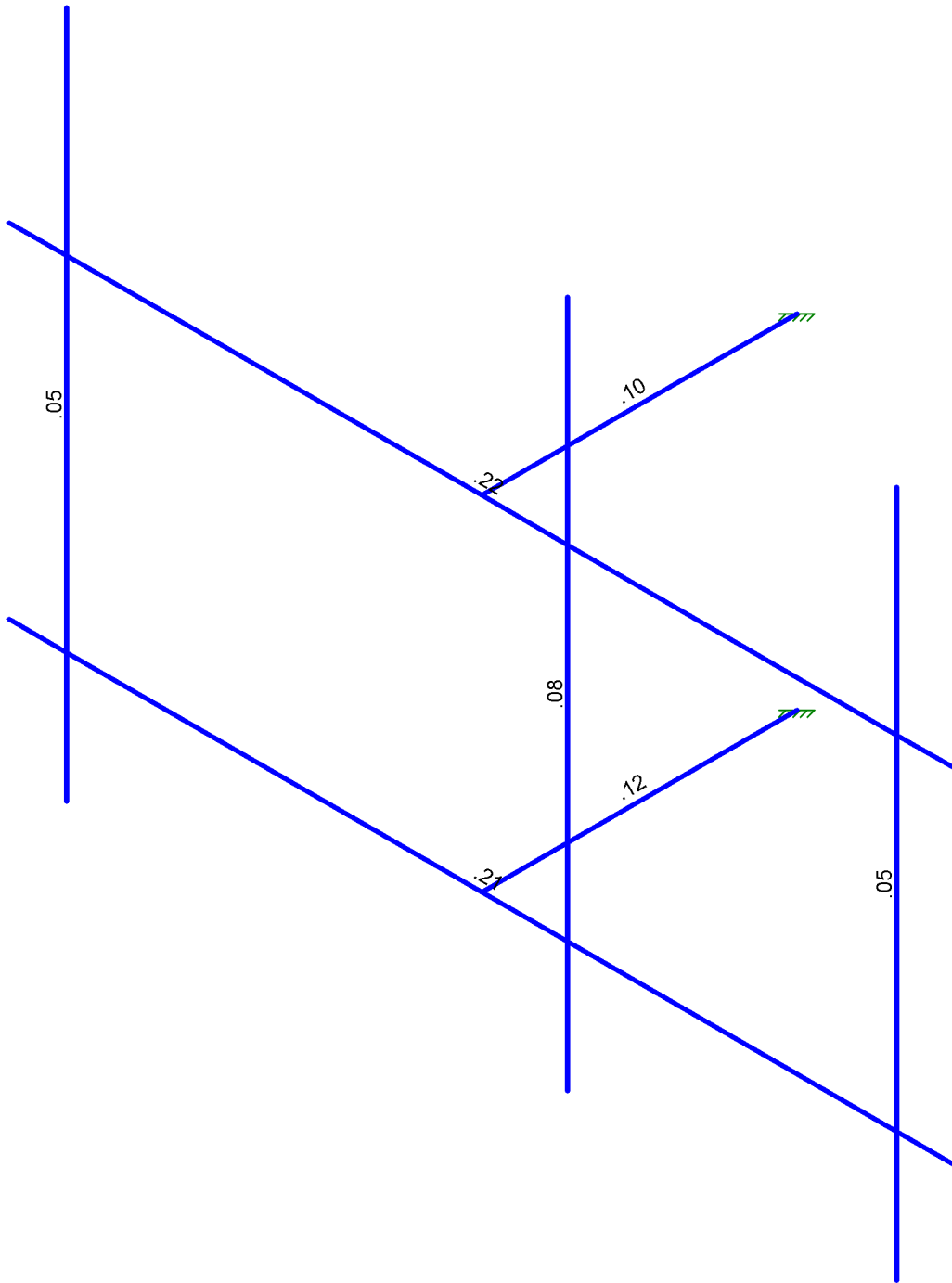
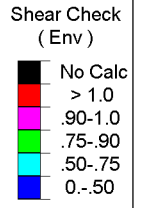
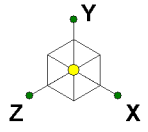
Code Check (Env)

Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



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

Tower Engineering Solutio...	CT12219-A-SBA_MT-Z_Loads Only_Sector A_G	SK - 2
		July 16, 2019 at 3:59 PM
TES Project No. 81339		CT12219-A-SBA_81339_G_RISA_L...



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

Tower Engineering Solutio...		SK - 3
	CT12219-A-SBA_MT-Z_Loads Only_Sector A_G	July 16, 2019 at 3:59 PM
TES Project No. 81339		CT12219-A-SBA_81339_G_RISA_L...

EXHIBIT 10

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CTNH410A

Litchfield Bay Comm
170 Southeast Rd
New Hartford, CT 06057

June 17, 2019

Transcom Engineering Project Number: 737001-0142

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	5.60 %

Transcom Engineering, Inc.

Wireless Network Design and Deployment

June 17, 2019

T-MOBILE

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 6009

Emissions Analysis for Site: **CTNH410A – Litchfield Bay Comm**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **170 Southeast Rd, New Hartford, 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.

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.

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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.

Transcom Engineering, Inc.

Wireless Network Design and Deployment

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **170 Southeast Rd, New Hartford, 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	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
UMTS	2100 MHz (AWS)	1	40
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

Table 1: Channel Data Table

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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 APX16DWV-16DWV-S-E-ACU	150
A	2	RFS APXVAARR24_43-U-NA20	150
B	1	RFS APX16DWV-16DWV-S-E-ACU	150
B	2	RFS APXVAARR24_43-U-NA20	150
C	1	RFS APX16DWV-16DWV-S-E-ACU	150
C	2	RFS APXVAARR24_43-U-NA20	150

Table 2: Antenna Data

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

Cable losses were factored in the calculations for this site. Since all **1900 MHz (PCS) & 2100 MHz (AWS)** radios are ground mounted the following cable loss values were used. For each ground mounted **1900 MHz (PCS)** radio there was **1.95 dB** of cable loss calculated into the system gains / losses for this site. For each ground mounted **2100 MHz (AWS)** radio there was **2.06 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for **160 feet of 1-1/4"** coax.

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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 APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	6	215	5,313.89	0.92
Antenna A2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.00
Sector A Composite MPE%							1.92
Antenna B1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	6	215	5,313.89	0.92
Antenna B2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.00
Sector B Composite MPE%							1.92
Antenna C1	RFS APX16DWV-16DWV-S-E-ACU	1900 MHz (PCS) / 2100 MHz (AWS)	15.9 / 15.9	6	215	5,313.89	0.92
Antenna C2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.00
Sector C Composite MPE%							1.92

Table 3: T-MOBILE Emissions Levels

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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	1.92 %
AT&T	2.26 %
MetroPCS	0.63 %
Sprint	0.57 %
Verizon Wireless	0.22 %
Site Total MPE %:	5.60 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	1.92 %
T-MOBILE Sector B Total:	1.92 %
T-MOBILE Sector C Total:	1.92 %
Site Total:	5.60 %

Table 5: Site MPE Summary

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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 1900 MHz (PCS) LTE	4	993.25	150	6.89	1900 MHz (PCS)	1000	0.69%
T-Mobile 1900 MHz (PCS) GSM	1	372.47	150	0.65	1900 MHz (PCS)	1000	0.06%
T-Mobile 2100 MHz (AWS) UMTS	1	968.41	150	1.68	2100 MHz (AWS)	1000	0.17%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	150	2.74	600 MHz	400	0.68%
T-Mobile 700 MHz LTE	2	432.54	150	1.50	700 MHz	467	0.32%
						Total:	1.92%

Table 6: T-MOBILE Maximum Sector MPE Power Values

Transcom Engineering, Inc.

Wireless Network Design and Deployment

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:	1.92 %
Sector B:	1.92 %
Sector C:	1.92 %
T-MOBILE Maximum Total (per sector):	1.92 %
Site Total:	5.60 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **5.60 %** 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
RF Engineering Director
Transcom Engineering, Inc
PO Box 1048
Sterling, MA 01564