



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

August 18, 2021

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

RE: Notice of Exempt Modification
52 Stadley Rough Road, Danbury, CT 06811
Latitude: 41.433102
Longitude: -73.431916
T-Mobile Site #: CT11796G_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 137-foot level of the existing 139-foot Monopole Tower at 52 Stadley Rough Road, Danbury, CT. The 139-foot tower is owned by SBA Towers II LLC. The property is owned by Christ the Shepherd Church. T-Mobile now intends to add three (3) 2500 MHz antennas.

- **The new antennas support 5G services and would be installed at the 137-foot level of the tower.**

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- N/A

Install New:

- (3) Ericsson AIR6449 B41 - 2500 MHz antenna
- (3) Ericsson 4415 B25 – RRU
- (3) Commscope SDX1926Q-43 – Diplexer
- Extended Face + Support Rail + End Connections (VZWSMART-PLK3)

Existing Equipment to Remain:

- (3) T-Arms Sitepro RDS-272
- (3) RFS APXVAARR18_43-U-NA20 - L600/700/2100 MHz antenna
- (3) Ericsson AIR32 KRD901146-1-B66 –L2100/1900 MHz antenna
- (3) Ericsson KRY 112 144/1 – TMAs
- (3) Ericsson Radio 4449 B71+B12 – RRU's
- (6) 1-5/8" Coax
- (3) 1-5/8" Fiber

Entitlements:

- (6) 1-5/8" Coax
- (1) 1-5/8" fiber
- (1) 1-1/4" HCS Fiber

GROUND

Install New:

- (2) Ericsson B160 Battery Cabinet
- Equipment inside existing RBS6102 equipment cabinet

Existing Equipment to Remain:

- (1) GPS antenna mounted on existing ice bridge

Remove and Replace:

- N/A

This facility was approved by the Council under Docket No 366 on April 23, 2009. The approval called for the construction of a 140' monopole with a vegetative buffer, architectural compound fence, and space for public safety services provided at no cost to the City. A recalculated power density report was to be provided when site conditions caused a change in power density levels. Upon the establishment of any new State or federal RF standards applicable to the facility, the site was to be brought into compliance. And any nonfunctioning antennas or associated equipment was to be removed within 60 days. The original approval also called for flush mounted antennas. In order to effectively address the need for increased speed and capacity while observing the site conditions, on February 29, 2016, Council approved T-Mobile's installation of a slight mount with an 8-inch standoff (EM-T-Mobile-034-160205) -- smaller than Verizon's and AT&T's existing mounts, which both use approximately 14-inch standoffs. 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 City of Danbury's Mayor, Joseph M. Cavo, Director of Planning and Zoning, Sharon Calitro, and Deputy Planning Director, Jennifer Emminger, 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 x3807 + T / 508.366.2610 + F
508.868.6000 + C
GShepherd@SBASite.com

Attachments

cc: The Honorable Joseph M. Cavo, Mayor of the City of Danbury / with attachments
City of Danbury, 155 Deer Hill Ave., Danbury CT 06810
Sharon Calitro, ACIP, Director, Planning and Zoning / with attachments
City of Danbury, 155 Deer Hill Ave., 1st Floor, Danbury CT 06810
Christ the Shepherd Church / with attachments
52 Stadley Rough Road, Danbury CT 06811
Jose Carvalho and Christine Carvalho
C/O Daniel Casagrande, Esq. Cramer & Anderson, LLP
30 Main St., Suite 204, Danbury, CT 06801



EXHIBIT LIST

Exhibit 1	Check Copy	x
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	CSC Docket No. 366 dated 4/23/2009
Exhibit 6	Construction Drawings	Chappell dated 8/13/21
Exhibit 7	Structural Analysis	TES dated 8/18/21
Exhibit 8	Post-Mod Mount Analysis	TES dated 8/13/21
Exhibit 9	Mount Mod CDs	TES 8/13/21
Exhibit 10	EME Report	Transcom dated 12/2/20

EXHIBIT 1

Copy of check for filing fee.

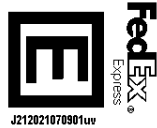
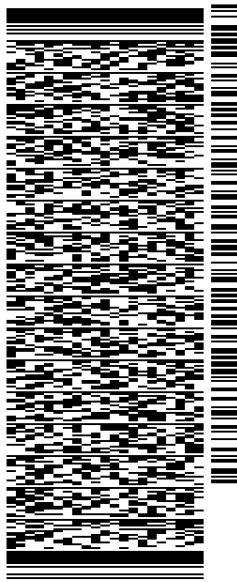
EXHIBIT 2

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

SHIP DATE: 18AUG21
ACTWGT: 2.00 LB
CAD: 105843304/NET4400
BILL SENDER

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

NEW BRITAIN CT 06051
(508) 251-0720 X.3807 REF: 105692009-6089
INV# DEPT:



TRK# 7745 7263 9684
0201
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT

EBBDLA
06051
CT-US BDL

56DJ1/BAF3/FE4A

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TRACK ANOTHER SHIPMENT

774572639684


[ADD NICKNAME](#)

Scheduled delivery:
Friday, August 20, 2021 before 10:30 am



PICKED UP
FRAMINGHAM, MA

[GET STATUS UPDATES](#)
FROM

SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO

Melanie A. Bachman Exec. Dir
Connecticut Siting Council
Ten Franklin Square
NEW BRITAIN, CT US 06051
508-251-0720

[MANAGE DELIVERY](#)

Travel History

TIME ZONE
Local Scan Time



Thursday, August 19, 2021

3:36 PM FRAMINGHAM, MA Picked up

Wednesday, August 18, 2021

3:18 PM Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

774572639684

SERVICE

FedEx Priority Overnight

WEIGHT

2 lbs / 0.91 kgs

TOTAL PIECES

1

TOTAL SHIPMENT WEIGHT

2 lbs / 0.91 kgs

TERMS

Shipper

SHIPPER REFERENCE

10-56-92009-6089

PACKAGING

FedEx Pak

SPECIAL HANDLING SECTION

Deliver Weekday

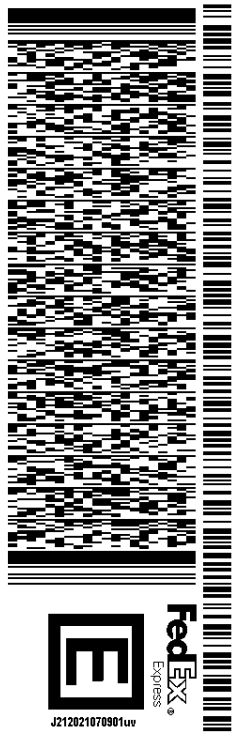
ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 18AUG21
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO CITY OF DANBURY

HONORABLE JOSEPH M. CAVO, MAYOR
155 DEER HILL AVE
DANBURY CT 06810
(508) 251-0720 X 3807
REF: 105692009-6089
PO: DEPT:

56DJ1/BAF3/FE4A



TRK# 7745 7269 1586
0201
THU - 19 AUG 10:30A
PRIORITY OVERNIGHT

EG DXRA
06810
CT-US SWF

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774572691586


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Friday, August 20, 2021 before 10:30 am



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FRAMINGHAM, MA

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FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
City of Danbury
Honorable Joseph M. Cavo, Mayor
155 Deer Hill Ave
DANBURY, CT US 06810
508-251-0720

[MANAGE DELIVERY](#)

Travel History

TIME ZONE
Local Scan Time



Thursday, August 19, 2021

3:36 PM FRAMINGHAM, MA Picked up

Wednesday, August 18, 2021

3:21 PM Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

774572691586

SERVICE

FedEx Priority Overnight

WEIGHT

0.5 lbs / 0.23 kgs

TOTAL PIECES

1

TOTAL SHIPMENT WEIGHT

0.5 lbs / 0.23 kgs

TERMS

Shipper

SHIPPER REFERENCE

10-56-92009-6089

PACKAGING

FedEx Envelope

SPECIAL HANDLING SECTION

Deliver Weekday

ORIGIN ID:BFBA (508) 614-0389	SHIP DATE: 18AUG21
RICK WOODS	ACTWGT: 1.00 LB
SBA COMMUNICATIONS CORPORATION	CAD: 105843304/NET4400
134 FLANDERS RD	
SUITE 125	
WESTBOROUGH, MA 01581	BILL SENDER
UNITED STATES US	
TO SHARON CALITRO	
CITY OF DANBURY	
DIRECTOR PLANNING & ZONING	
155 DEER HILL AVE	
DANBURY CT 06810	
(508) 251-0720 X 3807	REF: 105692009-6089
INV#	
PO:	DEPT:

TRK#	THU - 19 AUG 10:30A
0201	PRIORITY OVERNIGHT
7745 7272 0152	
EG DXRA	06810
	CT-US SWF




J212021070901uv

56DJ1/BAF3/FE4A

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TRACK ANOTHER SHIPMENT

774572720152


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FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Sharon Calitro
City of Danbury
Director planning & Zoning
155 Deer Hill Ave
DANBURY, CT US 06810
508-251-0720

[MANAGE DELIVERY](#)

Travel History

TIME ZONE
Local Scan Time



Thursday, August 19, 2021

3:36 PM FRAMINGHAM, MA Picked up

Wednesday, August 18, 2021

3:22 PM Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

774572720152

SERVICE

FedEx Priority Overnight

WEIGHT

0.5 lbs / 0.23 kgs

TOTAL PIECES

1

TOTAL SHIPMENT WEIGHT

0.5 lbs / 0.23 kgs

TERMS

Shipper

SHIPPER REFERENCE

10-56-92009-6089

PACKAGING

FedEx Envelope

SPECIAL HANDLING SECTION

Deliver Weekday

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

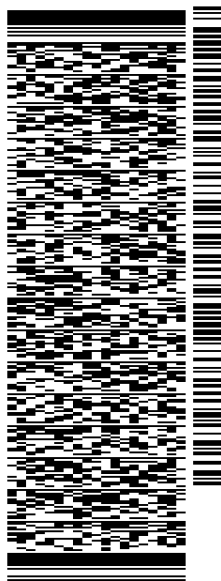
SHIP DATE: 18AUG21
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO

CHRIST THE SHEPHERD CHURCH
52 STADLEY ROUGH RD

DANBURY CT 06811

(508) 251-0720 X 3807 REF: 105692009-6089
INV. PO. DEPT:

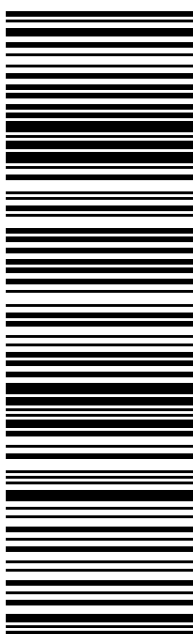


56DJ1/BAF3/FE4A

TRK# 7745 7280 0407 THU - 19 AUG 10:30A
0201 PRIORITY OVERNIGHT

EG DXRA

06811
CT-US SWF



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TRACK ANOTHER SHIPMENT

774572800407


[ADD NICKNAME](#)

Scheduled delivery:
Friday, August 20, 2021 before 10:30 am



PICKED UP
FRAMINGHAM, MA

[GET STATUS UPDATES](#)

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Christ The Shepherd Church
52 Stadley Rough Rd
DANBURY, CT US 06811
508-251-0720

[MANAGE DELIVERY](#)

Travel History

TIME ZONE
Local Scan Time



Thursday, August 19, 2021

3:32 PM FRAMINGHAM, MA Picked up

Wednesday, August 18, 2021

3:27 PM Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

774572800407

SERVICE

FedEx Priority Overnight

WEIGHT

0.5 lbs / 0.23 kgs

TOTAL PIECES

1

TOTAL SHIPMENT WEIGHT

0.5 lbs / 0.23 kgs

TERMS

Shipper

SHIPPER REFERENCE

10-56-92009-6089

PACKAGING

FedEx Envelope

SPECIAL HANDLING SECTION

Deliver Weekday

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

SHIP DATE: 18AUG21
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO DANIEL CASAGRANDE, ESQ.

CRAMER & ANDERSON, LLP

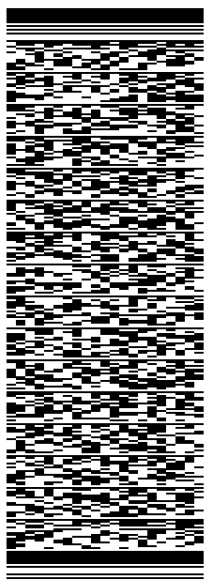
30 MAIN ST.

SUITE 204

DANBURY CT 06801

(508) 251-0720 X 3807 REF: 1056-92009-6089

PO: DEPT:



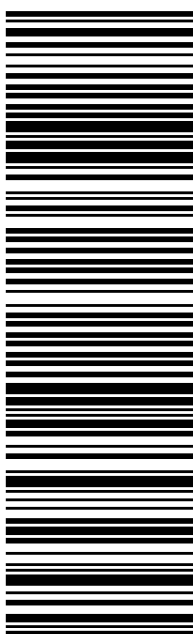
TRK# 7745 7286 4441
0201

THU - 19 AUG 10:30A

PRIORITY OVERNIGHT

EG DXRA

06801
CT-US SWF



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774572864441


[ADD NICKNAME](#)

Scheduled delivery:
Friday, August 20, 2021 before 12:00 pm



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FRAMINGHAM, MA

[GET STATUS UPDATES](#)
FROM

SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO

Daniel Casagrande, Esq.
Cramer & Anderson, LLP
30 Main St.
Suite 204
BETHEL, CT US 06801
508-251-0720

[MANAGE DELIVERY](#)

Travel History

TIME ZONE

Local Scan Time



Thursday, August 19, 2021

3:36 PM FRAMINGHAM, MA Picked up

Wednesday, August 18, 2021

3:30 PM Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

774572864441

SERVICE

FedEx Priority Overnight

WEIGHT

0.5 lbs / 0.23 kgs

TOTAL PIECES

1

TOTAL SHIPMENT WEIGHT

0.5 lbs / 0.23 kgs

TERMS

Shipper

SHIPPER REFERENCE

10-56-92009-6089

PACKAGING

FedEx Envelope

SPECIAL HANDLING SECTION

Deliver Weekday

EXHIBIT 3

52 STADLEY ROUGH RD

Location 52 STADLEY ROUGH RD

Mblu K07/ / 19/ 1/

Acct# 1

Owner CHRIST THE SHEPHERD
CHURCH PCA

Assessment \$173,800

Appraisal \$248,300

PID 128447

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$232,200	\$16,100	\$248,300

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$162,500	\$11,300	\$173,800

Owner of Record

Owner CHRIST THE SHEPHERD CHURCH PCA
Co-Owner
Address 52 STADLEY ROUGH RD
DANBURY, CT 06811

Sale Price \$450,000
Book & Page 1948/ 939
Sale Date 07/25/2007
Instrument 25

Ownership History

Ownership History				
Owner	Sale Price	Book & Page	Instrument	Sale Date
CHRIST THE SHEPHERD CHURCH PCA	\$450,000	1948/ 939	25	07/25/2007

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 Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces	
Whirlpool	
Addn'l Kitchen	
Bsm Gar	
Fin Bsm Area	
Fin Bsm Qual	
Nhbd	
MH Park	

Building Photo



(<http://images.vgsi.com/photos2/DanburyCTPhotos//default.jpg>)

Building Layout

(<http://images.vgsi.com/photos2/DanburyCTPhotos//Sketches/12>)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
UST	Unf. Storage	3,616	0
		3,616	0

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code 200V
Description Commercial MDL-00
Zone RA40
Neighborhood 3000
Alt Land Appr Category No

Size (Acres) 0
Frontage 0
Depth 0
Assessed Value \$11,300
Appraised Value \$16,100

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
	CELL TOWER AREA			3498	\$232,200	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$232,200	\$16,100	\$248,300
2016	\$232,200	\$16,100	\$248,300
2015	\$232,200	\$16,100	\$248,300

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$162,500	\$11,300	\$173,800
2016	\$162,500	\$11,300	\$173,800
2015	\$162,500	\$11,300	\$173,800

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EXHIBIT 4

Danbury CT - TaxMap

Tasks

Found 1 assessor records.
Found 2 parcels.

Selected All Clear

Parcel ID	Owner	Street Name
K070190000	CHRIST THE SHEPHERD CHURCH PCA	STADLEY ROUGH RD

NAVIGATE ZOOM IN FULL EXTENT BACK FORWARD

K070060000

Parcel Details

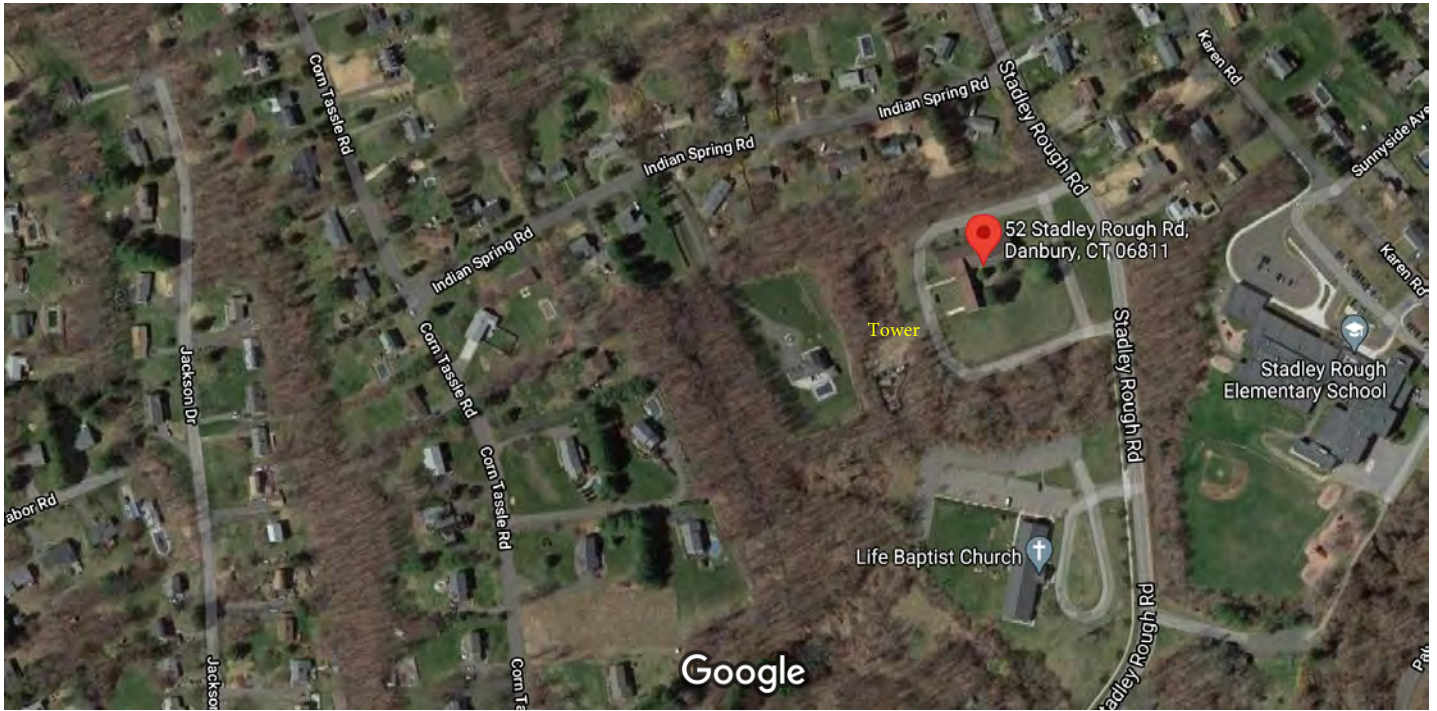
Field	Value
OBJECTID	23124
D_GIS_PROP_ID	K07 19 1
D_GIS_BLDG_VAL	0
D_GIS_LAND_VAL	11300
D_GIS_OTHER_VAL	162500
D_GIS_TOTAL_VAL	173800
D_GIS_FY	2017
D_GIS_LOT_SIZE	0
D_GIS_LS_DATE	7/25/2007
D_GIS_LS_PRICE	450000
D_GIS_USE_CODE	200V
D_GIS_SITE_ADDR	52 STADLEY ROUGH RD
D_GIS_ADDR_NUM	52
D_GIS_FULL_STR	STADLEY ROUGH RD
D_GIS_LOCATION	
D_GIS_SITE_CITY	DANBURY
D_GIS_SITE_ZIP	6811
D_GIS_OWNER1	CHRIST THE SHEPHERD CHURCH PCA
D_GIS_OWNER2	
D_GIS_OWN_ADDR1	52 STADLEY ROUGH RD
D_GIS_OWN_ADDR2	
D_GIS_OWN_CITY	DANBURY
D_GIS_OWN_STATE	CT
D_GIS_OWN_ZIP	6811
D_GIS_OWN_CO	
D_GIS_LS_BOOK	1948
D_GIS_LS_PAGE	939
D_GIS_REG_ID	
D_GIS_ZONE	RA40
D_GIS_YEAR_BUILT	0
D_GIS_BLD_AREA	3616

K070130000

K070920000

0 30 60ft

Google Maps 52 Stadley Rough Rd



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



52 Stadley Rough Rd

Building



Directions



Save



Nearby



Send to your phone



Share



52 Stadley Rough Rd, Danbury, CT 06811

At this place

Christ the Shepherd Church

4.8 ★★★★★ (6)

Presbyterian church



EXHIBIT 5

DOCKET NO. 366 - Optasite Towers LLC and Omnipoint } Connecticut
Communications, Inc. application for a Certificate of }
Environmental Compatibility and Public Need for the } Siting
construction, maintenance and operation of a telecommunications }
facility located at 52 Stadley Rough Road in Danbury, } Council
Connecticut.

April 23, 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 Optasite Towers LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 52 Stadley Rough Road, Danbury, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 140 feet above ground level. All antennas attached to the monopole shall be flush-mounted.
2. The Certificate Holder shall shift, to the extent feasible, the compound to the north and east to help retain the existing vegetative buffer.
3. The Certificate Holder shall incorporate an architectural treatment for the fence of the facility compound and any equipment shelters therein that is consistent with and amenable to adjacent land uses.
4. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Danbury for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

- a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping that will provide additional vegetative buffering for the adjacent properties; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
5. 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.
6. 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.
7. 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.
8. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of Danbury public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
9. 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.
10. Any request for extension of the time period referred to in Condition 9 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 City of Danbury. Any proposed modifications to this Decision and Order shall likewise be so served.
11. 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.

12. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
13. 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 Danbury News-Times.

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

Optasite Towers LLC and
Omnipoint Communications, Inc.
One Research Drive, Suite 200C
Westborough, MA 01581

City of Danbury

ITS REPRESENTATIVE

Christopher B. Fisher, Esq.
Lucia Chiocchio, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, New York 10601

Laszlo L. Pinter, Esq.
Robin Edwards, Esq.
City of Danbury
155 Deer Hill Avenue
Danbury, CT 06810

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Melanie A. Bachman
Acting Executive Director

MAB/CH/lm

- c: The Honorable Mark D. Boughton, Mayor, City of Danbury
Sharon Calitro, Director of Planning & Zoning, City of Danbury
Christ the Shepard Church

EXHIBIT 6

CT796/OPTASITECANDLE_FT

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

52 STADLEY ROUGH ROAD
DANBURY, CT 06811
FAIRFIELD COUNTY

SITE NO.: CT11796G

RF DESIGN GUIDELINE: 67D5A997DB OUTDOOR

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 TECHNICIAN SITE SAFETY NOTES

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

GENERAL NOTES

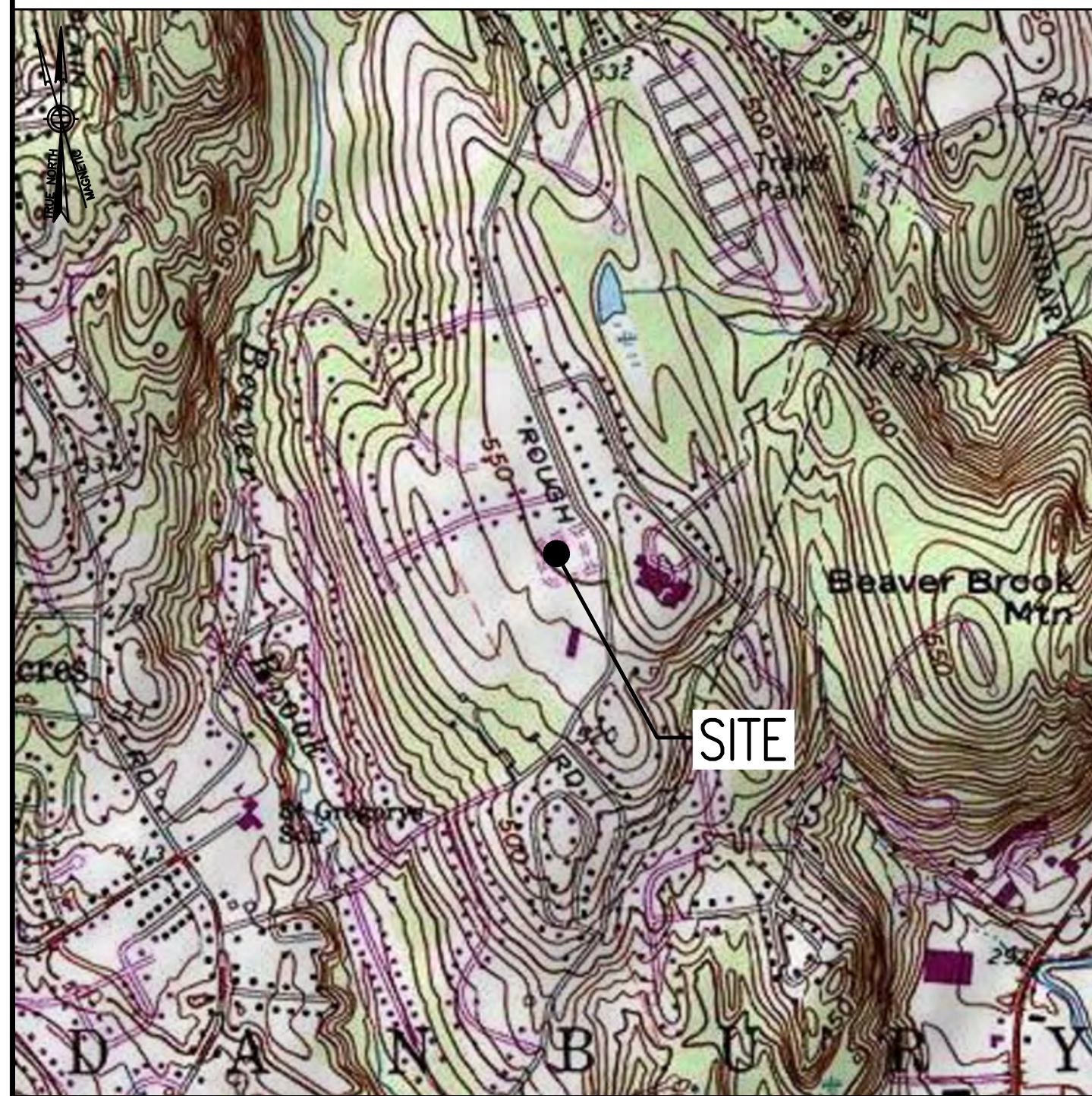
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT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

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



VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

TURN LEFT ONTO S WASHINGTON ST. TURN RIGHT ONTO MA-123 E. TURN LEFT TO MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. MERGE ONTO I-495 NORTH. TAKE EXIT 22 TO MERGE ONTO I-90 WEST TOWARD ALBANY. TAKE EXIT 9 FOR I-84 TOWARD HARTFORD CT/NEW YORK CITY. CONTINUE ONTO I-84. TAKE EXIT 7 TO MERGE ONTO US-202 EAST/US-7 NORTH TOWARD NEW MILFORD/BROOKFIELD. TAKE EXIT 11 FOR US-202 EAST TOWARD FEDERAL ROAD. TURN RIGHT ONTO WHITE TURKEY ROAD EXT. TURN RIGHT ONTO FEDERAL ROAD. TURN LEFT ONTO NABBY ROAD. TURN LEFT ONTO PALMER ROAD. TURN RIGHT ONTO STADLEY ROUGH ROAD. TURN RIGHT TO STAY ON STADLEY ROUGH ROAD. TURN LEFT, SITE WILL BE ON THE RIGHT.

SHEET INDEX

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

DO NOT SCALE DRAWINGS

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

PROJECT SUMMARY

SITE NUMBER:	CT11796G
SBA SITE NUMBER:	CT13549-S
SBA SITE NAME:	DANBURY 1
SITE ADDRESS:	52 STADLEY ROUGH ROAD DANBURY, CT 06811
PROPERTY OWNER:	CHRIST THE SHEPHERD CHURCH PCA 52 STADLEY ROUGH ROAD DANBURY, CT 06811
TOWER OWNER:	SBA TOWERS II, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	FAIRFIELD COUNTY
ZONING DISTRICT:	RA-40 (SINGLE FAMILY RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	139'
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: N.41.433610° N41°26'01.00" LONGITUDE W.73.430554° W73°25'49.99"

SPECIAL ZONING NOTE:

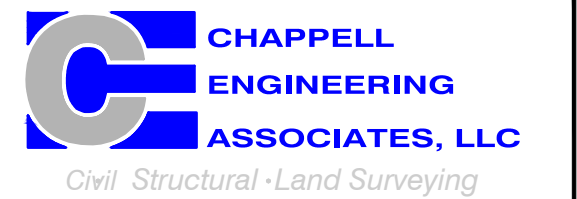
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE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

T-MOBILE NORTHEAST LLC

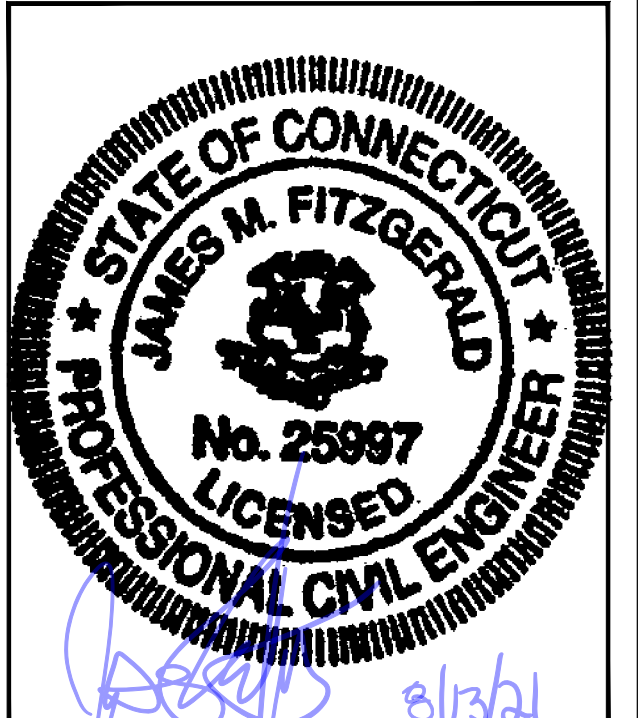
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	08/12/21	ISSUED FOR CONSTRUCTION	JRV
1	12/30/20	ISSUED FOR CONSTRUCTION	JRV
0	11/16/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11796G

SITE ADDRESS:
52 STADLEY ROUGH ROAD
DANBURY, CT 06811

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

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

12. Antennas and mounts shall be flush mounted and painted brown.

CONCRETE AND REINFORCING STEEL NOTES:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- 2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- 3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- 4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
- 5. A CHAMFER ¼" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- 6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- 7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE 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.
- 8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- 9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

ELECTRICAL INSTALLATION NOTES:

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

**T-MOBILE
NORTHEAST LLC**

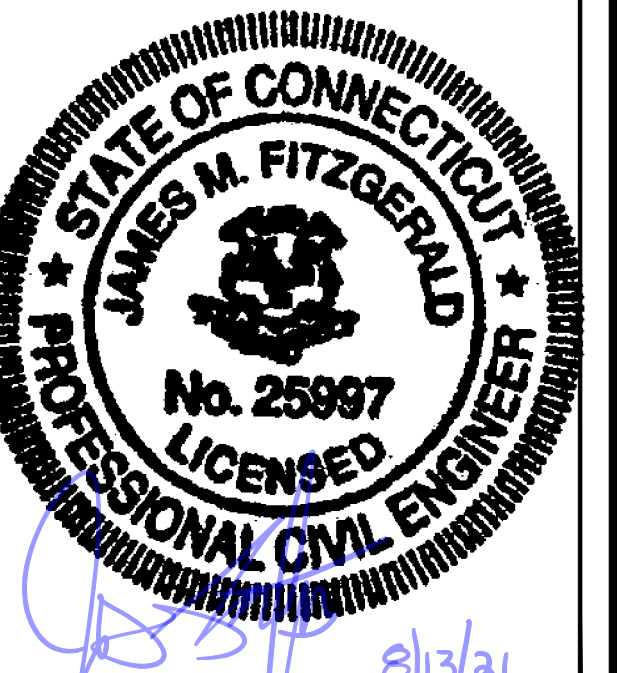
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(508) 286-2700



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MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS				
REV.	DATE	DESCRIPTION	BY	
2	08/12/21	ISSUED FOR CONSTRUCTION	JRV	
1	12/30/20	ISSUED FOR CONSTRUCTION	JRV	
0	11/16/20	ISSUED FOR REVIEW	JRV	

SITE NUMBER:
CT11796G

SITE ADDRESS:
52 STADLEY ROUGH ROAD
DANBURY, CT 06811

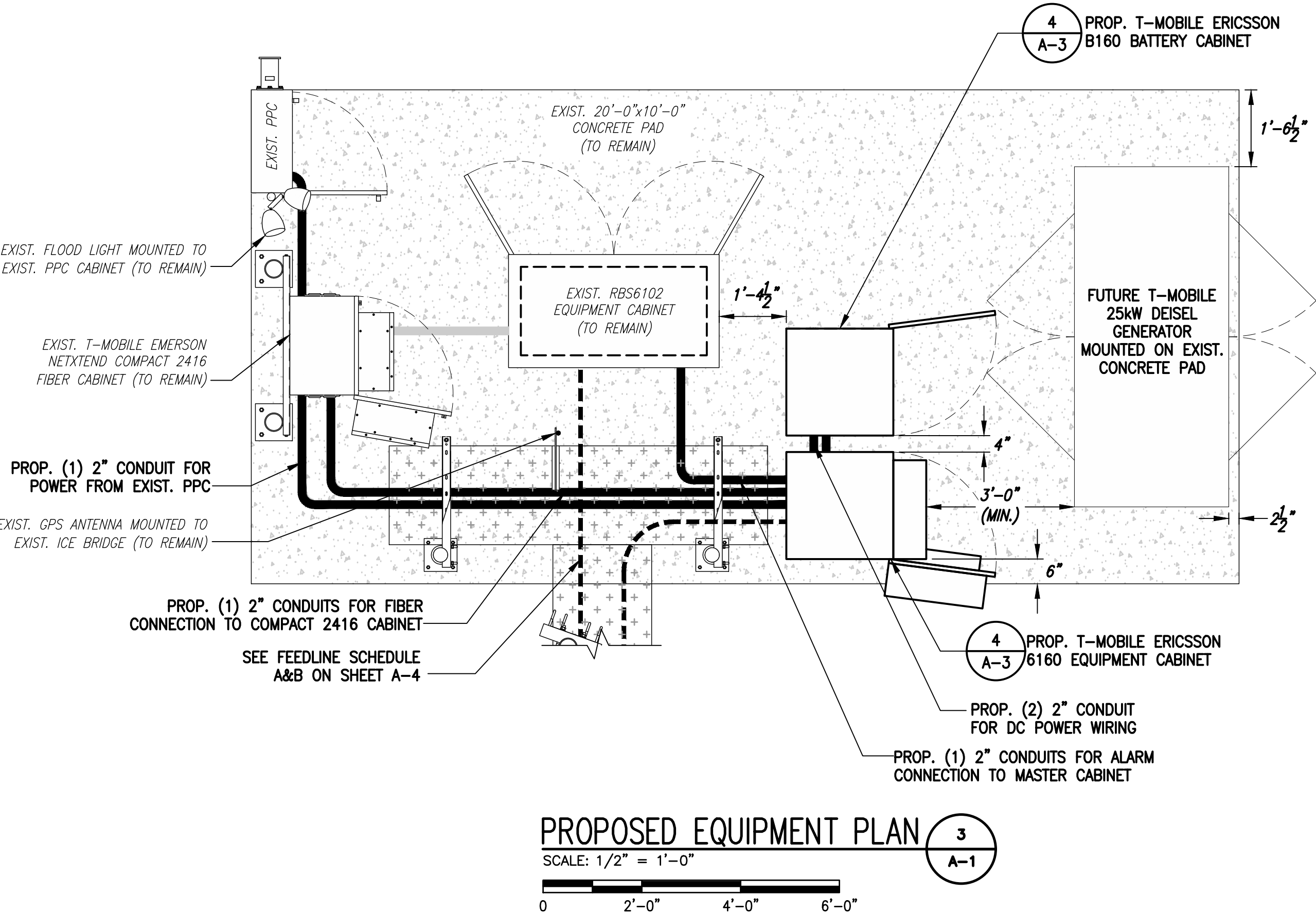
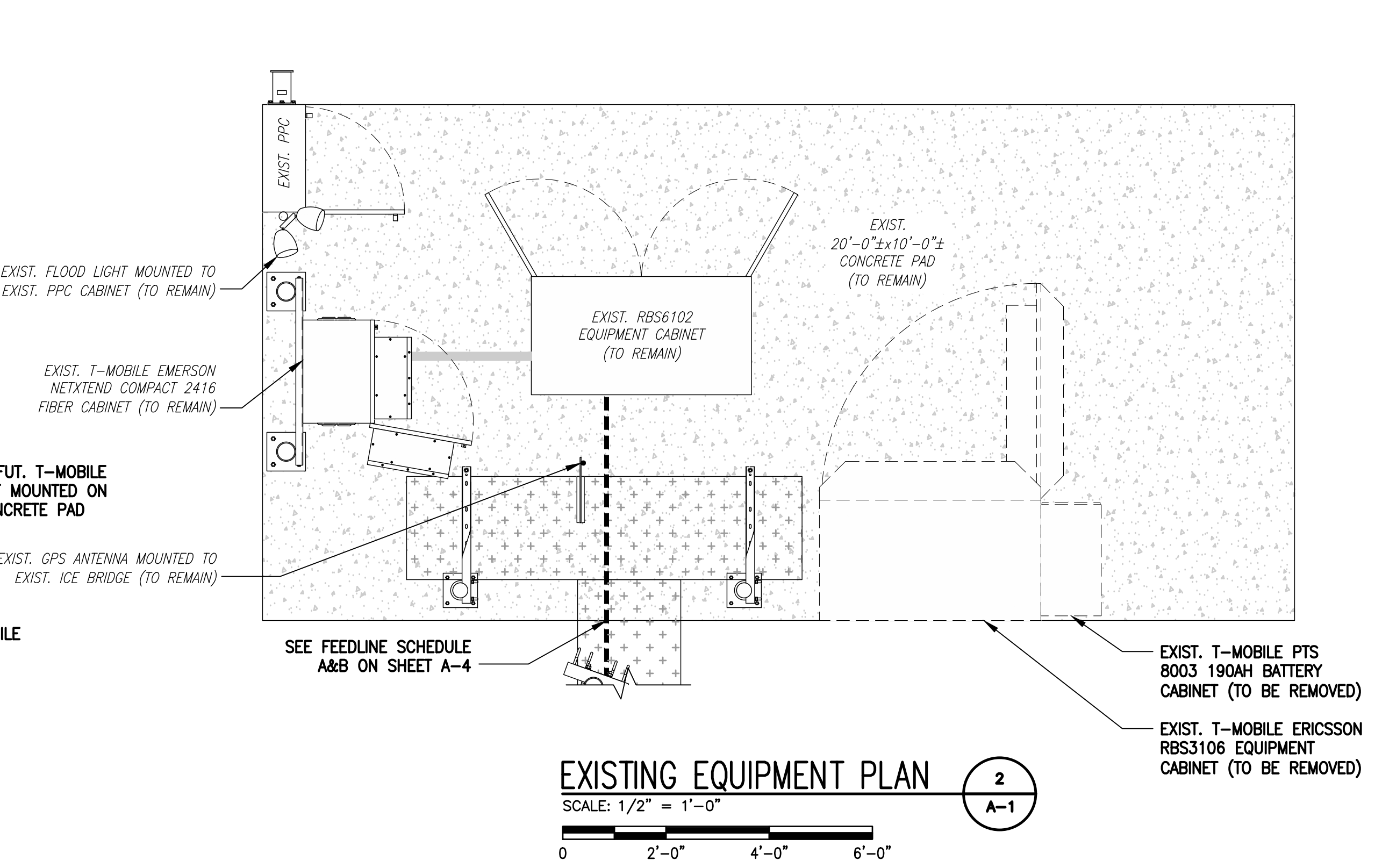
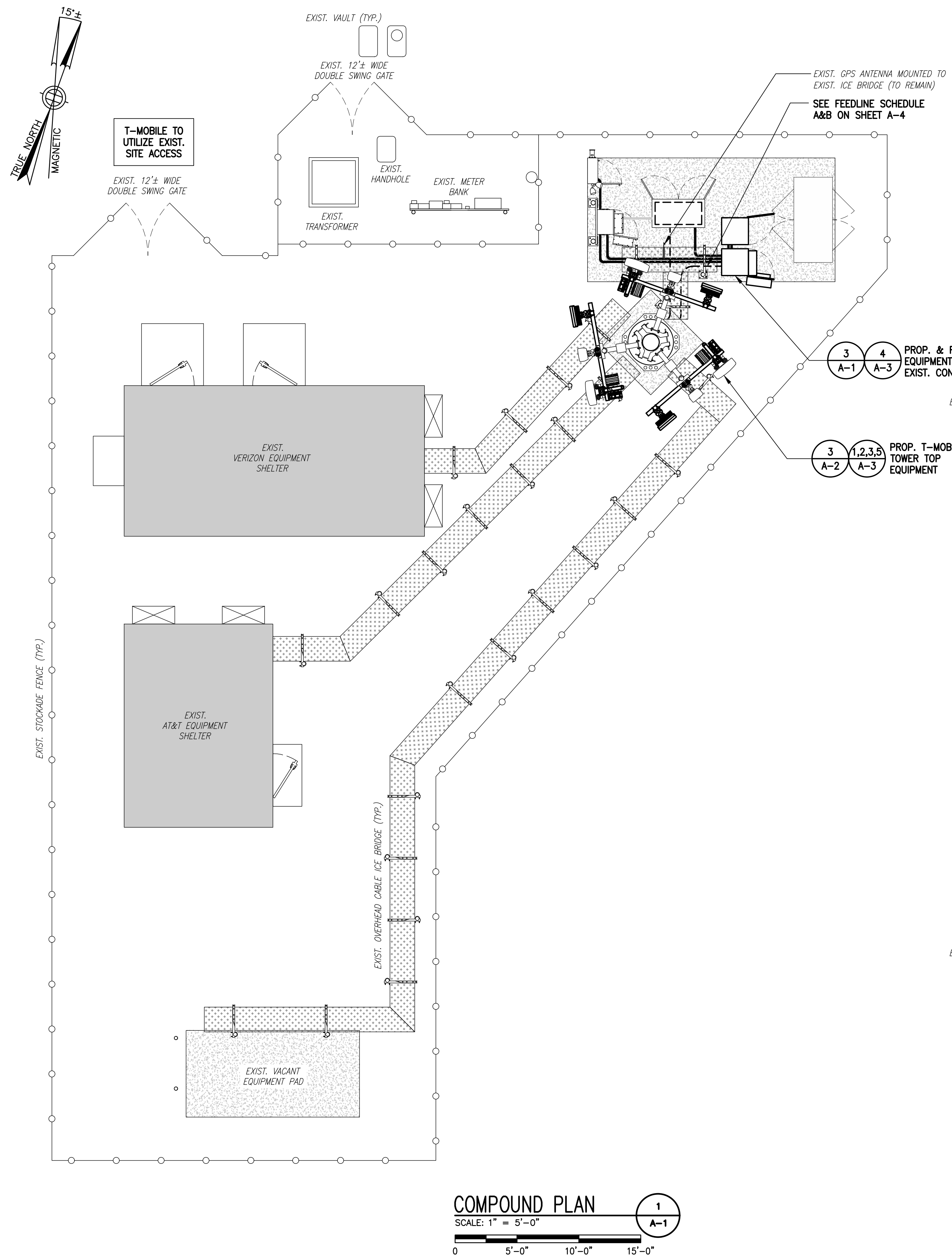
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GENERAL NOTES

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.



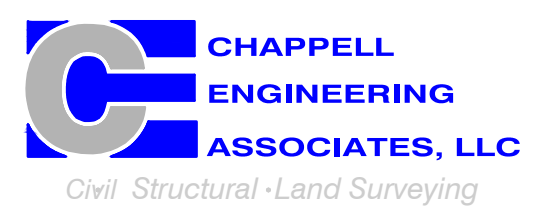
MOUNT NOTE:
 EXISTING MOUNT TO BE LENGTHENED TO ACCOMMODATE 3 ANTENNAS PER SECTOR. REFER TO MOUNT ANALYSIS DONE BY TOWER ENGINEERING SOLUTIONS DATED 08/11/2021 FOR ADDITIONAL MOUNTING DETAILS

**T-MOBILE
 NORTHEAST LLC**

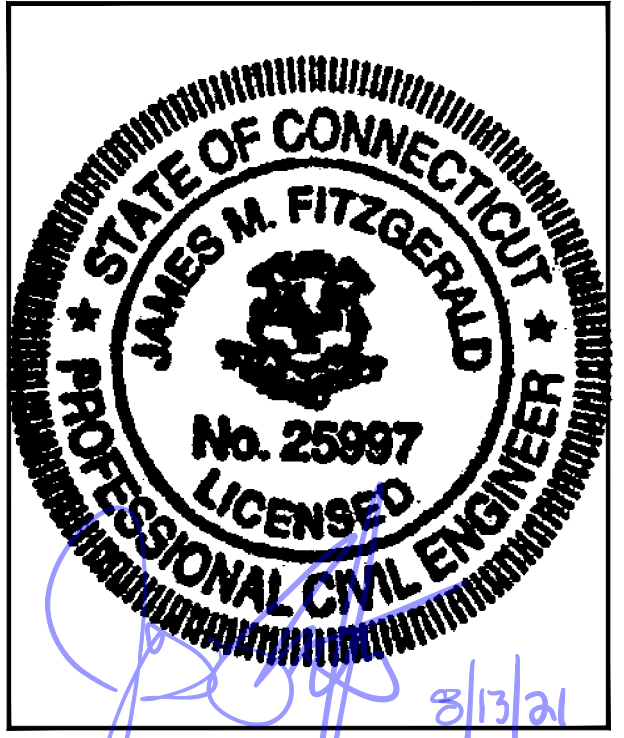
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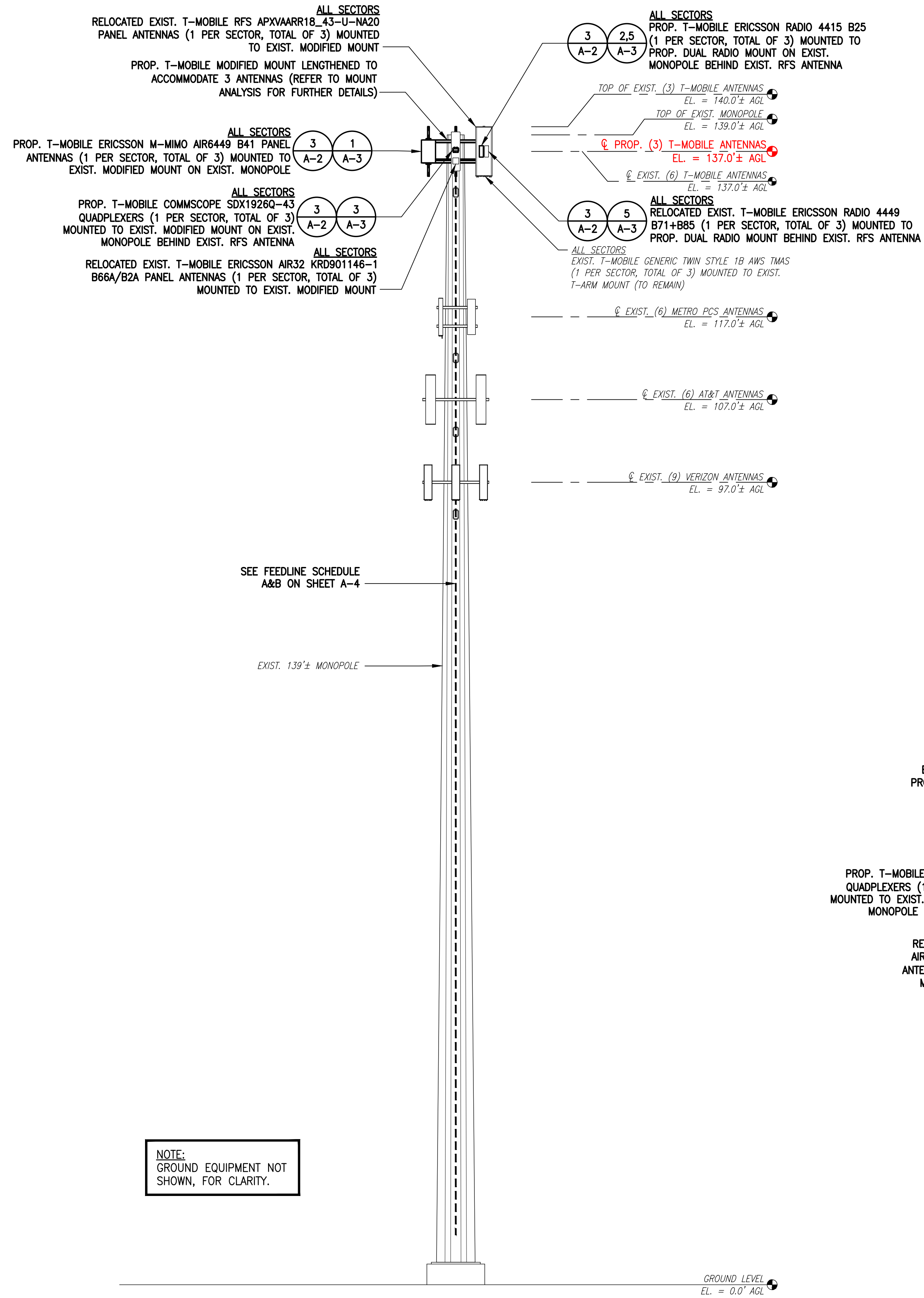
SHEET TITLE
**COMPOUND &
 EQUIPMENT PLAN**

SHEET NUMBER

A-1

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
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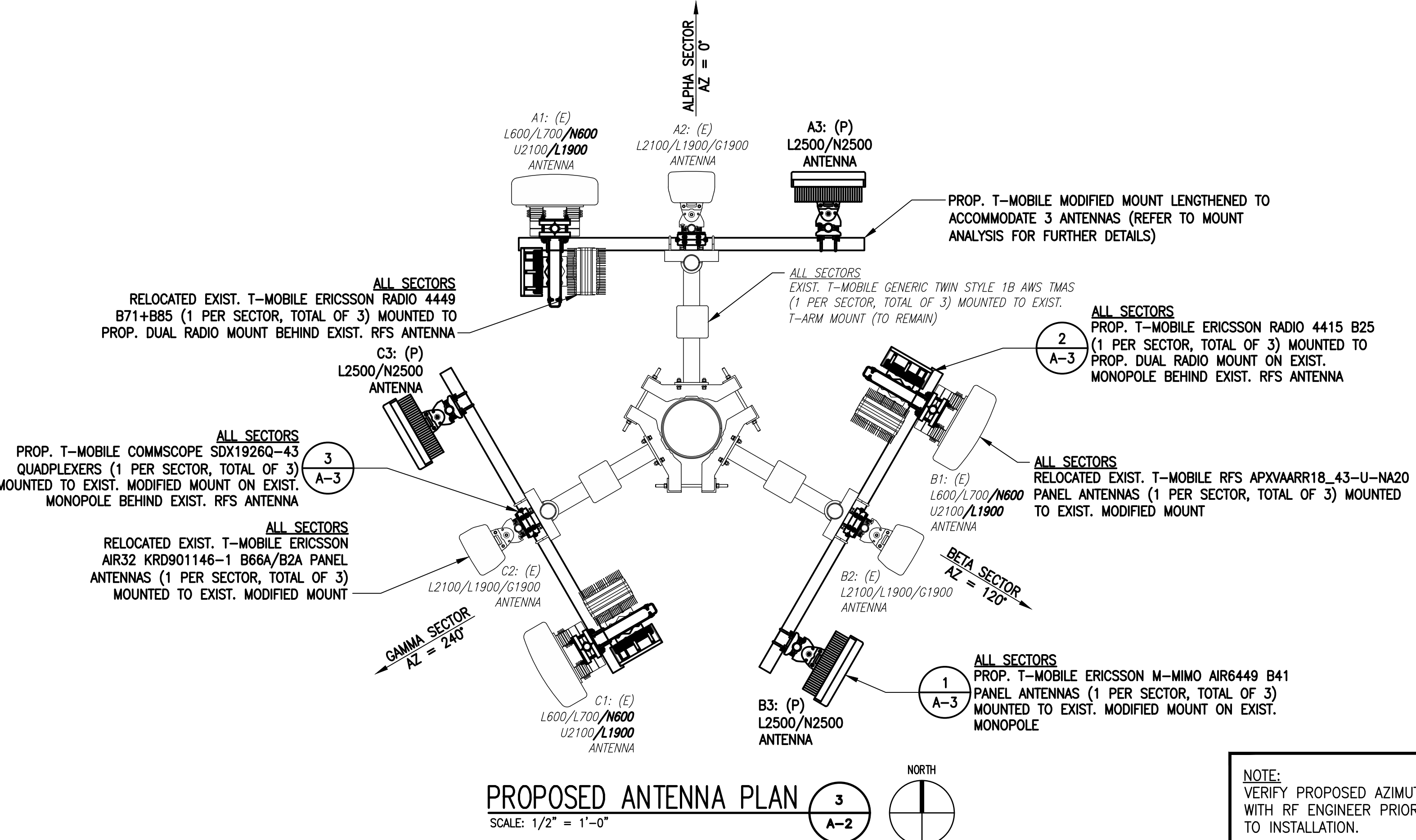
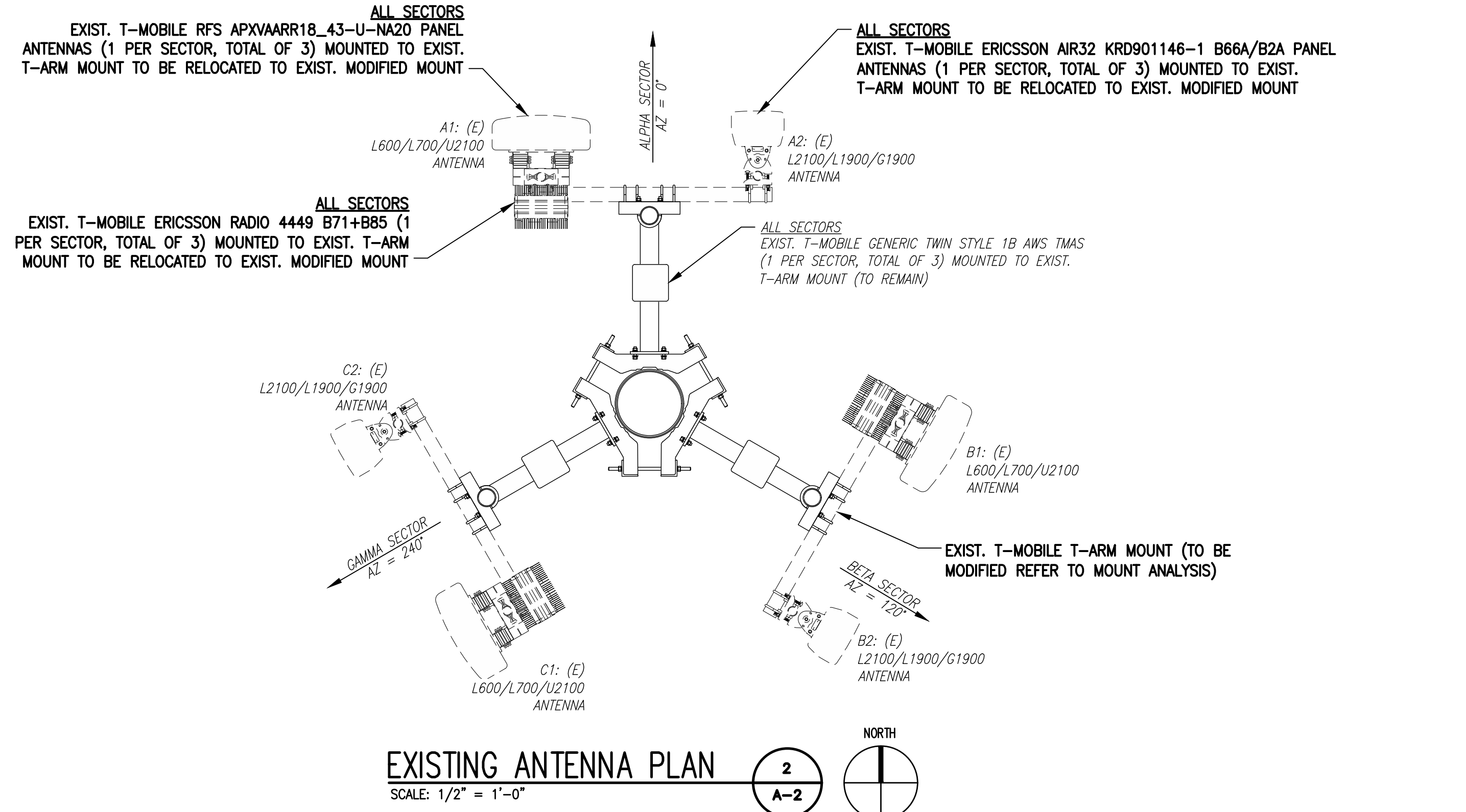
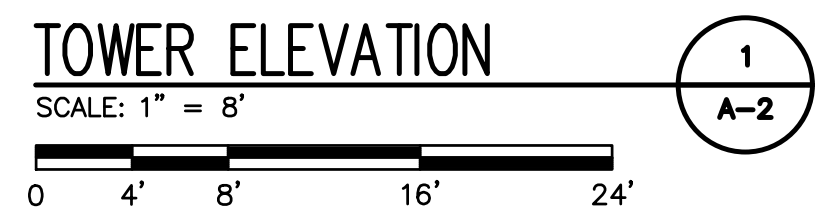
NOTE: CONTRACTOR TO PAINT ALL T-MOBILE TOWER APPURTENANCES BROWN TO MATCH EXISTING



SEE FEEDLINE SCHEDULE A&B ON SHEET A-4

EXIST. 139'± MONOPOLE

NOTE:
 GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.



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

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

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

MOUNT NOTE:
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T-MOBILE NORTHEAST LLC

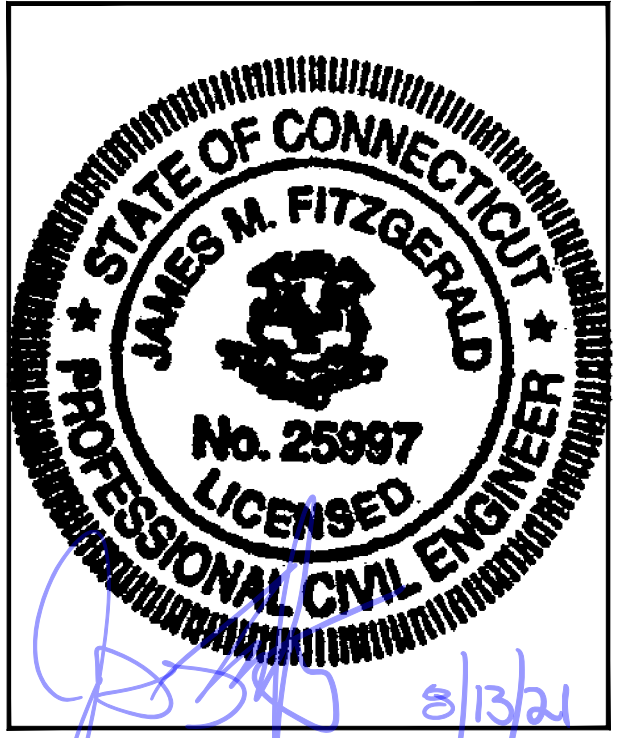
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CHAPPELL ENGINEERING ASSOCIATES, LLC
 Civil Structural-Land Surveying

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SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

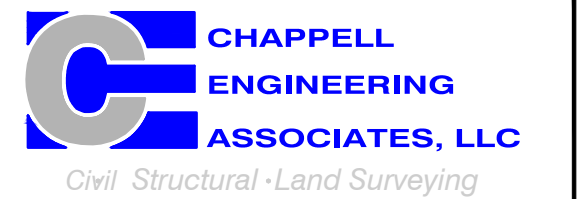
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A-2

**T-MOBILE
NORTHEAST LLC**

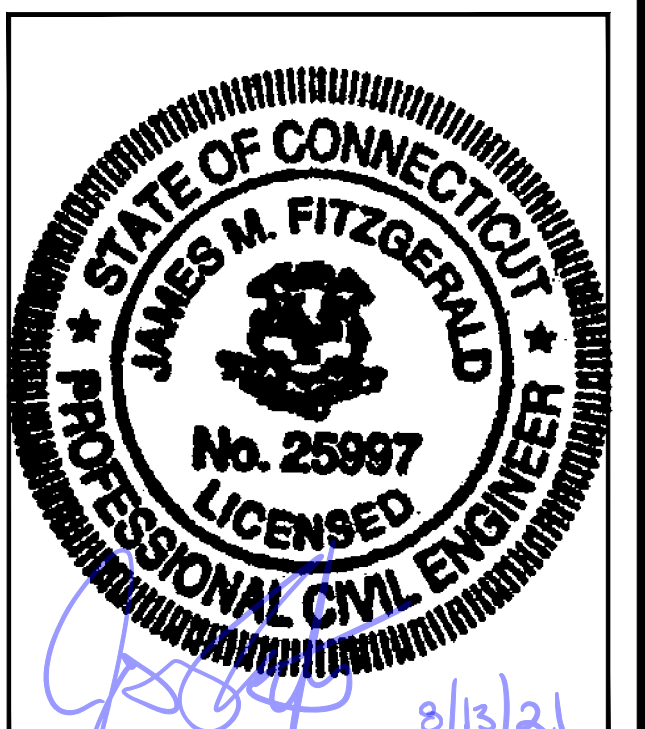
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SITE DETAILS

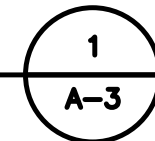
SHEET NUMBER
A-3



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

ANTENNA DETAILS

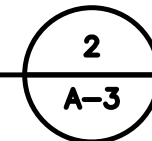
SCALE: N.T.S.



ERICSSON RADIO 4415 B25
DIMENSIONS: 16.5"H x 13.4"W x 5.9"D
WEIGHT: 46.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

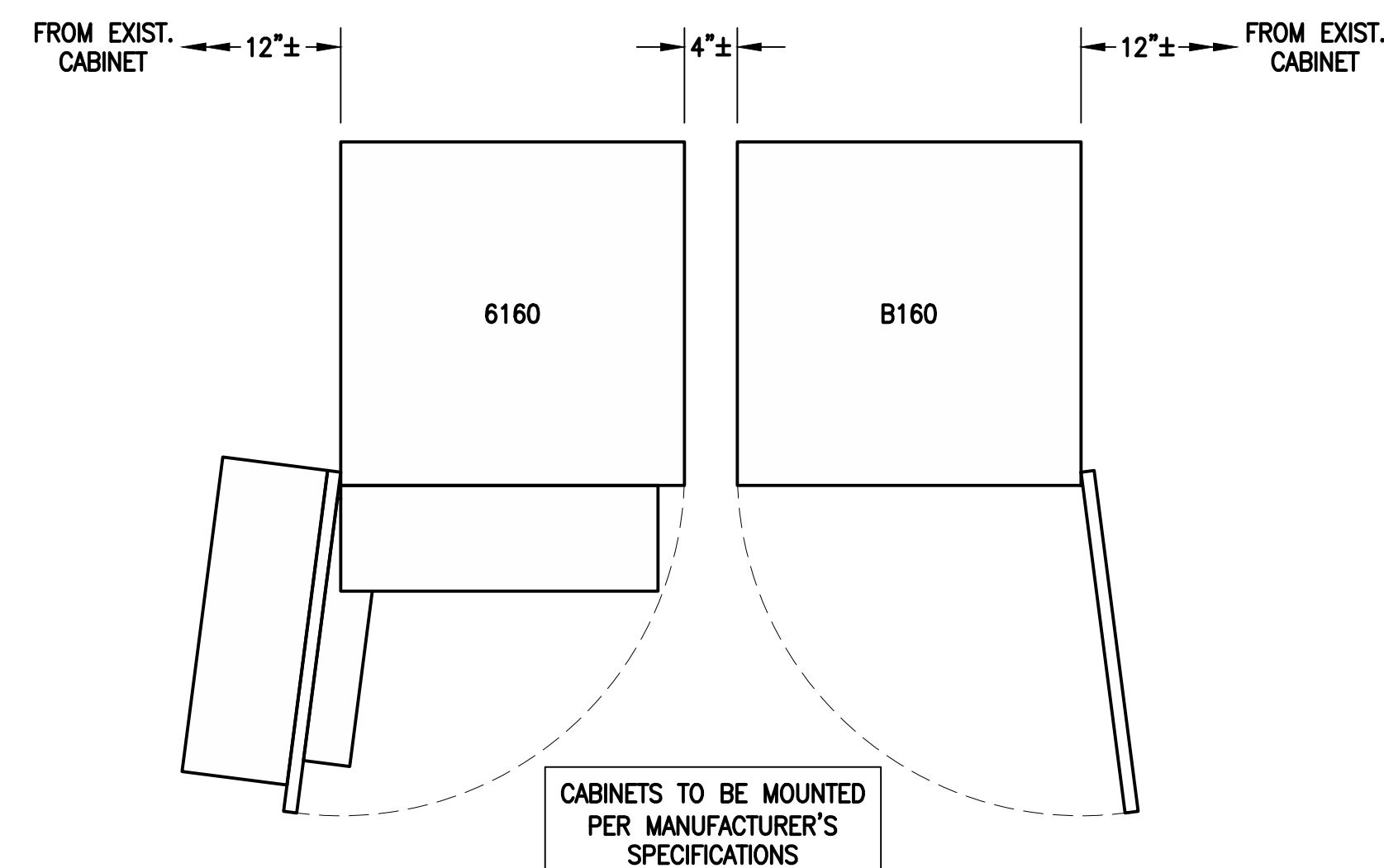
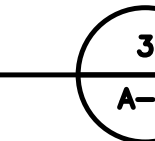
SCALE: N.T.S.



**COMMSCOPE SDX1926Q-43
QUADPLEXER**
DIMENSIONS: 4.2"H x 6.9"W x 2.9"D
WEIGHT: 6.2 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

DIPLEXER DETAIL

SCALE: N.T.S.

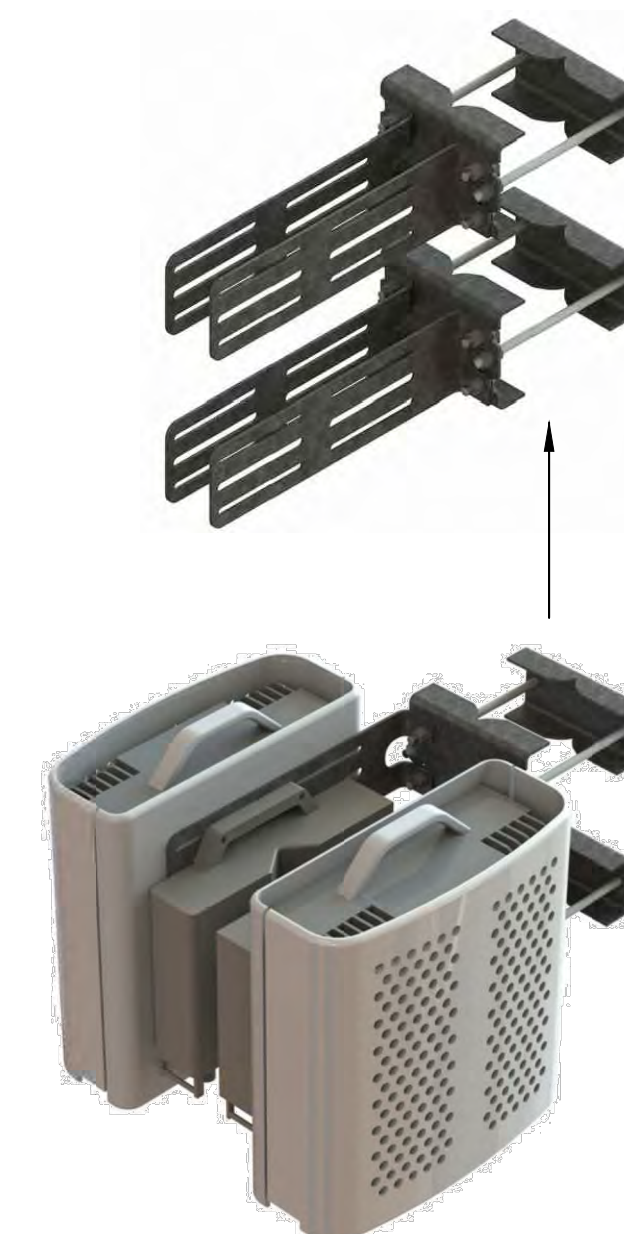
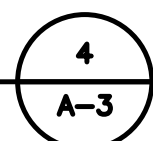


**ERICSSON 6160 SITE
SUPPORT CABINET**
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

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

EQUIPMENT DETAIL

SCALE: N.T.S.

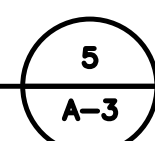


**COMMSCOPE RR-FA2 FAST ACCESS
DUAL RRU MOUNT KIT**

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

RADIO MOUNT DETAIL

SCALE: N.T.S.



MOUNT NOTE:
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FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A2 RFS APXVAARR18_43-U-NA20	137'± AGL	0°	0°	6°	L700/L600/N600	RADIO 4449 B71+B85 RADIO 4415 B25 SDX1926Q-43 QUADPLEXER GENERIC TWIN STYLE 1B AWS TMA	(6) 1-5/8" COAX CABLES (3) 1-5/8" (6x12) HCS FIBER CABLES (1) 1-5/8" (6x12) HCS FIBER CABLES
	A1 ERICSSON AIR32 KRD901146-1 B66A/B2A	137'± AGL	0°	0°	6°	L2100/G1900/L1900	-	
	A3 ERICSSON M-MIMO AIR6449 B41	137'± AGL	0°	0°	6°	L2500/N2500	-	
BETA	B2 RFS APXVAARR18_43-U-NA20	137'± AGL	120°	0°	6°	L700/L600/N600	RADIO 4449 B71+B85 RADIO 4415 B25 SDX1926Q-43 QUADPLEXER GENERIC TWIN STYLE 1B AWS TMA	
	B1 ERICSSON AIR32 KRD901146-1 B66A/B2A	137'± AGL	120°	0°	6°	L2100/G1900/L1900	-	
	B3 ERICSSON M-MIMO AIR6449 B41	137'± AGL	120°	0°	6°	L2500/N2500	-	
GAMMA	C2 RFS APXVAARR18_43-U-NA20	137'± AGL	240°	0°	6°	L700/L600/N600	RADIO 4449 B71+B85 RADIO 4415 B25 SDX1926Q-43 QUADPLEXER GENERIC TWIN STYLE 1B AWS TMA	
	C1 ERICSSON AIR32 KRD901146-1 B66A/B2A	137'± AGL	240°	0°	6°	L2100/G1900/L1900	-	
	C3 ERICSSON M-MIMO AIR6449 B41	137'± AGL	240°	0°	6°	L2500/N2500	-	

CABLE NOTE: (E)(3) 1-5/8" COAX CABLES & (1) 1-5/8" (9x18) HCS FIBER CABLE TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV5 - 09/25/20

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (6) 1-5/8" COAX CABLES (3) 1-5/8" (6x12) HCS FIBER CABLES EXISTING TO BE REMOVED: (3) 1-5/8" COAX CABLES (1) 1-5/8" (9x18) HCS FIBER CABLE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1-5/8" (6x12) HCS FIBER CABLES	

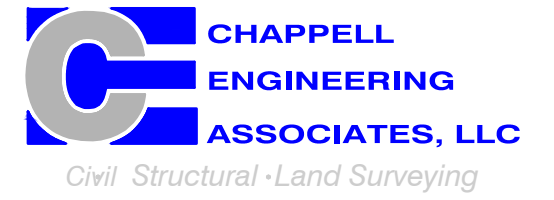
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

T-MOBILE
NORTHEAST LLC

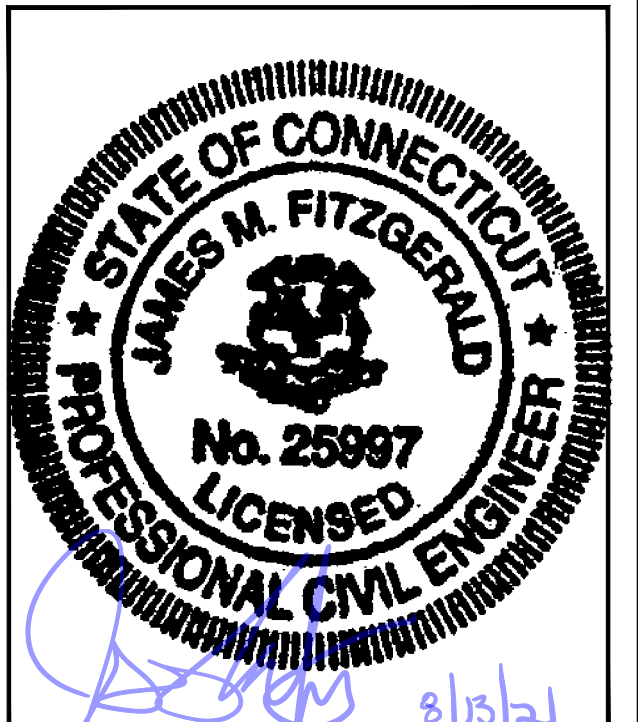
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
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CHECKED BY: JMT

APPROVED BY: JMT

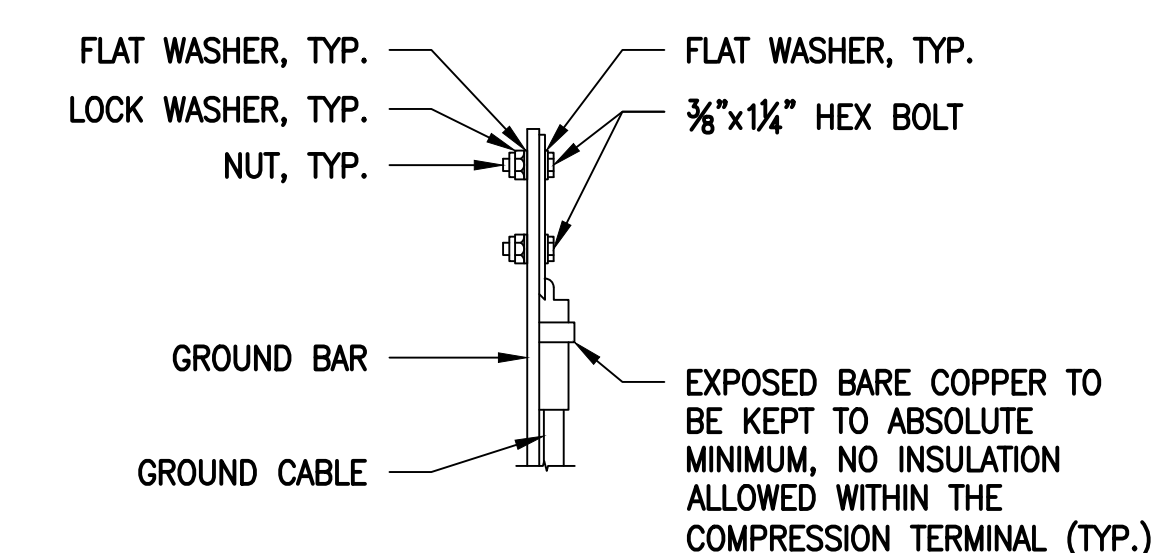
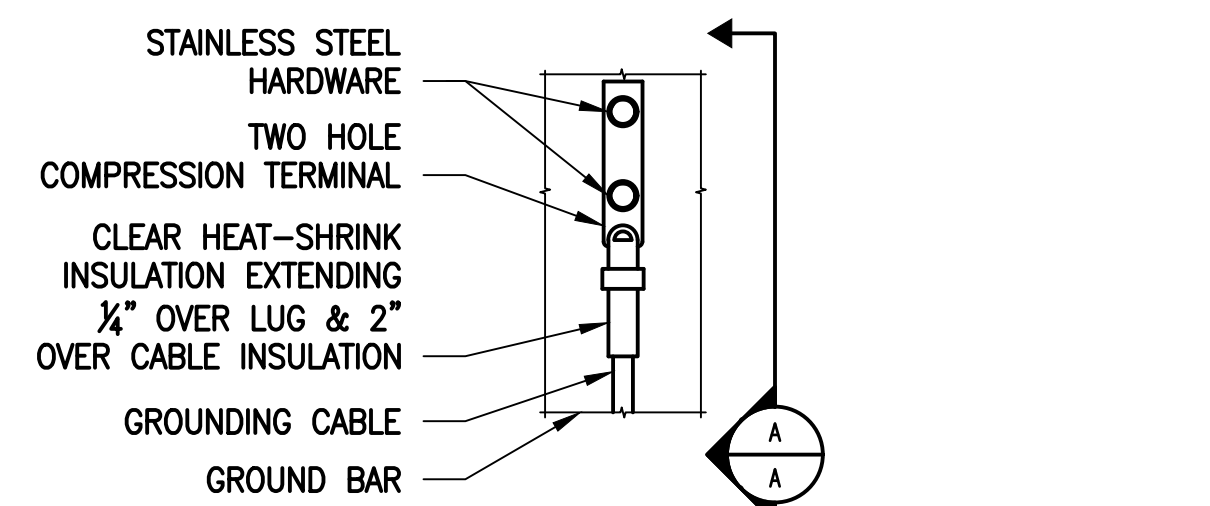
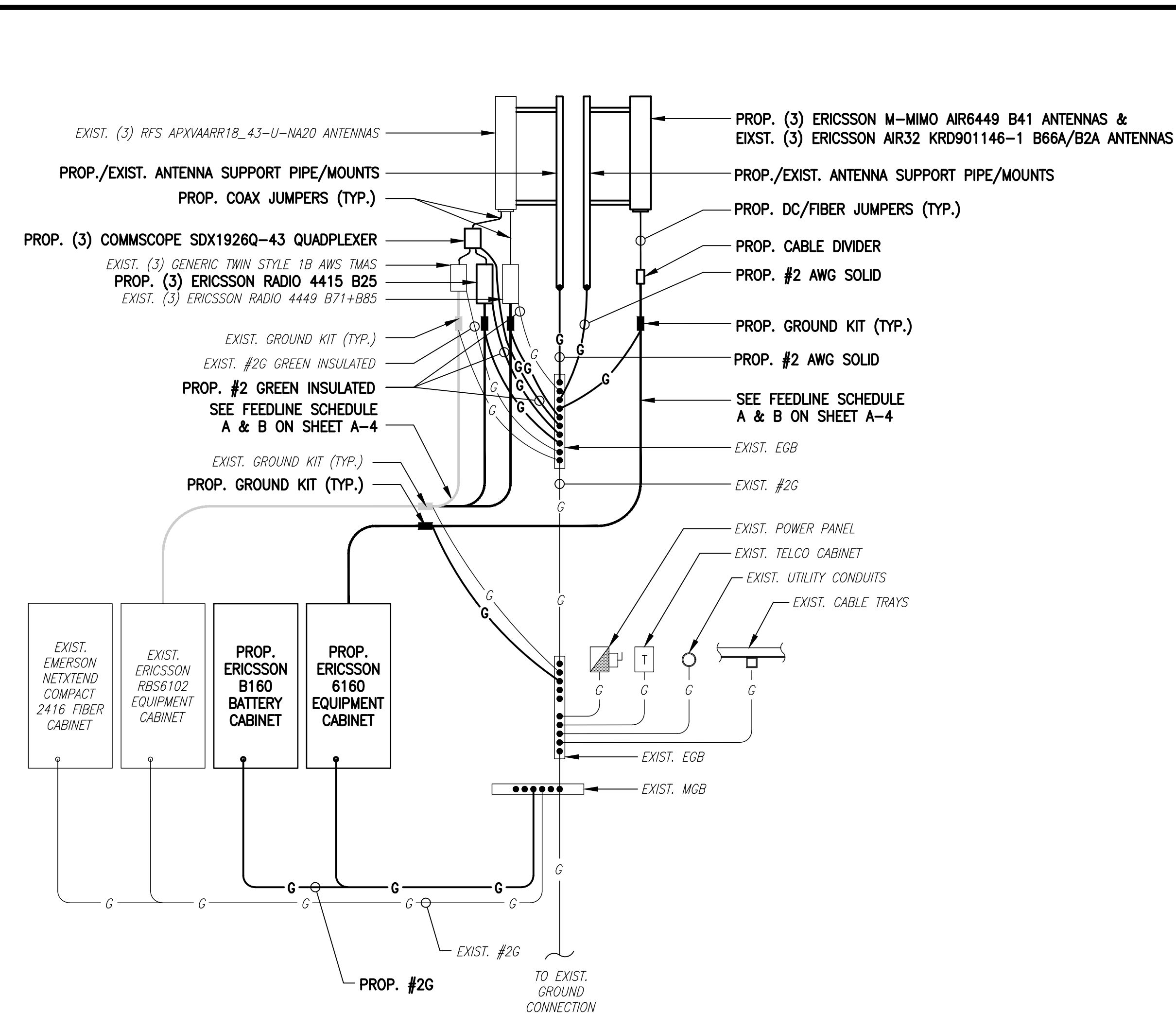
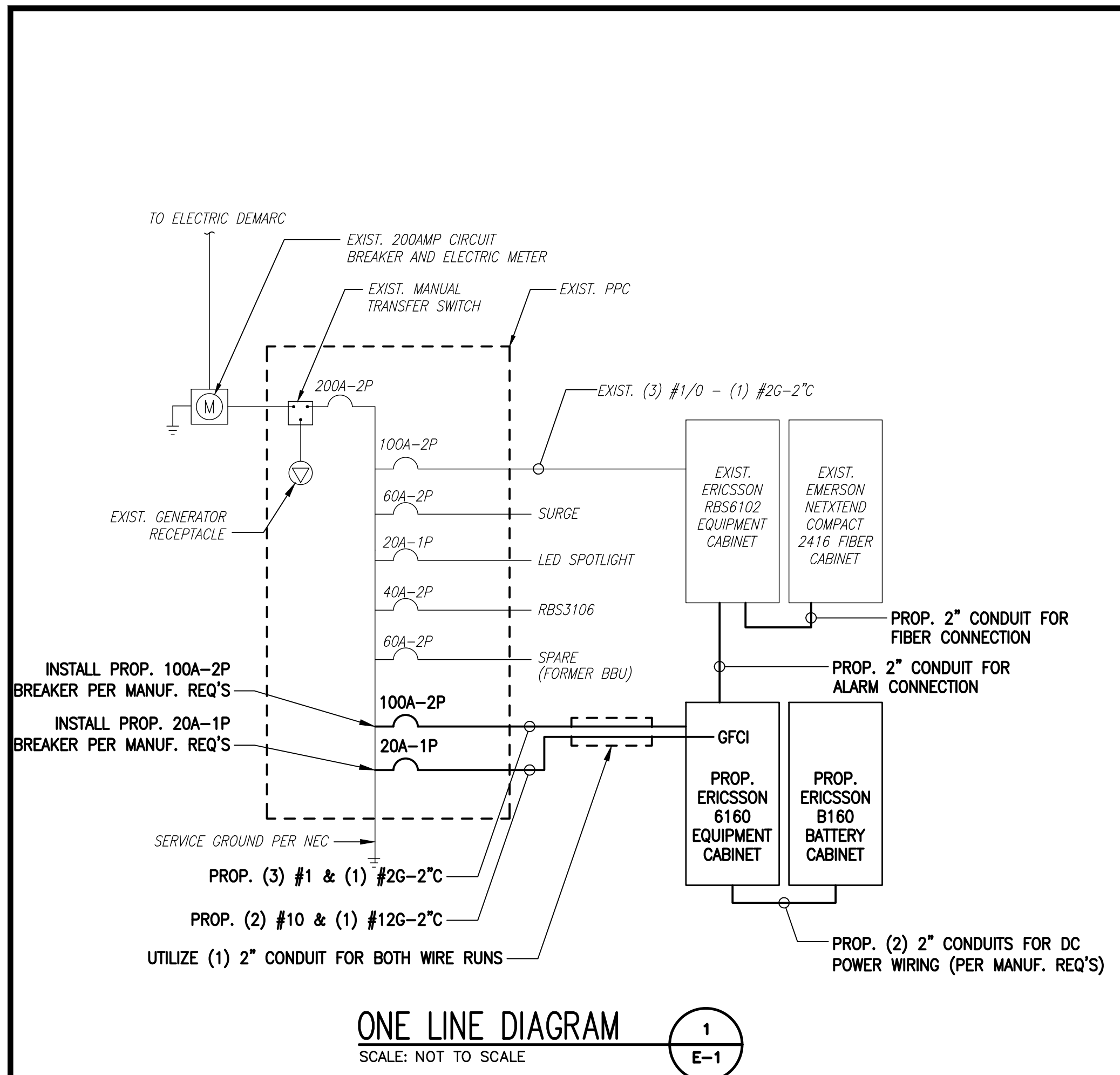
SUBMITTALS				
REV.	DATE	DESCRIPTION	BY	
2	08/12/21	ISSUED FOR CONSTRUCTION	JRV	
1	12/30/20	ISSUED FOR CONSTRUCTION	JRV	
0	11/16/20	ISSUED FOR REVIEW	JRV	

SITE NUMBER:
CT11796G

SITE ADDRESS:
52 STADLEY ROUGH ROAD
DANBURY, CT 06811

SHEET TITLE
ANTENNA &
FEEDLINE CHARTS

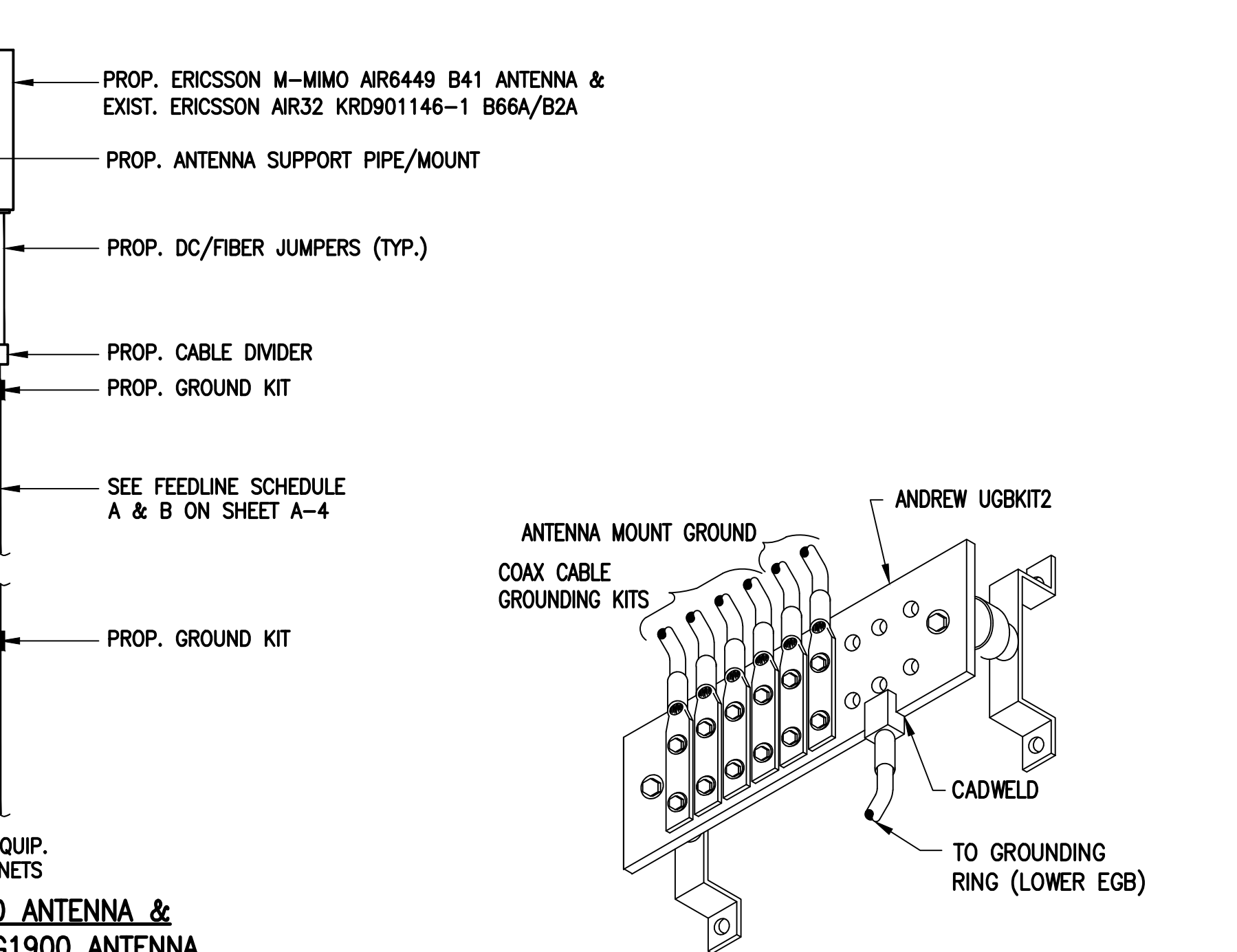
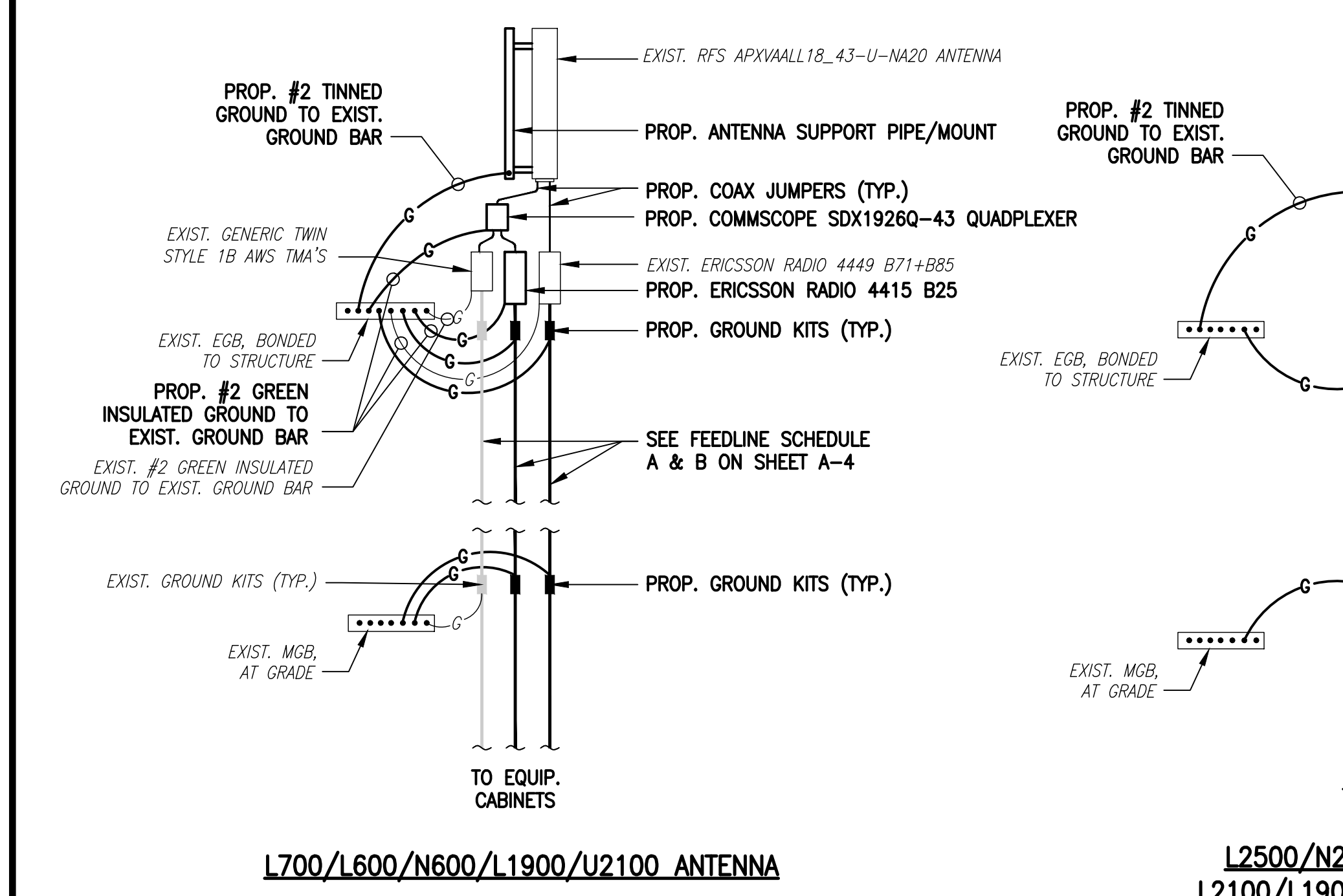
SHEET NUMBER
A-4



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

TYPICAL GROUND BAR CONNECTIONS DETAIL
SCALE: NOT TO SCALE

3
E-1



ELECTRICAL AND GROUNDING NOTES

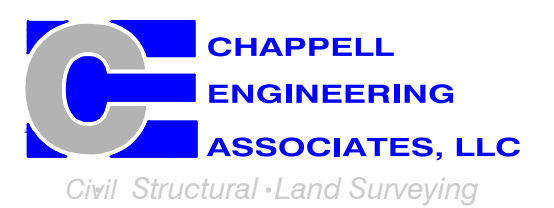
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THINSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

T-MOBILE NORTHEAST LLC

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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
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0	11/16/20	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11796G

SITE ADDRESS:
52 STADLEY ROUGH ROAD
DANBURY, CT 06811

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

EXHIBIT 7



Tower Engineering Solutions

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

Structural Analysis Report

Existing 139 ft SABRE Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT13549-S
Customer Site Name: Danbury 1
Carrier Name: T-Mobile (App#: 161986, V1)
Carrier Site ID / Name: CT11796G / Danbury 1
Site Location: 52 Stadley Rough Road
Danbury, Connecticut
Fairfield County
Latitude: 41.433102
Longitude: -73.431916

Analysis Result:

Max Structural Usage: 76.2% [Pass]

Max Foundation Usage: 67.0% [Pass]

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



Report Prepared By: Younus Alkarawi

Introduction

The purpose of this report is to summarize the analysis results on the 139 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Sabre Towers and Poles, Job # 10-01206 Dated 01/28/2010
Foundation Drawing	Foundation Drawings prepared by Sabre Towers and Poles, Job # 10-01206 Dated 01/28/2010
Geotechnical Report	Geotechnical Report prepared by Tower Engineering Professionals Project # 091184.01 Dated 05/13/2009
Modification Drawings	N/A
Mount Analysis	T-Mobile MA by TES # 113968, dated 08/11/2021

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.217$, $S_1 = 0.067$

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
-	137.0	3	RFS APXVAARR18_43-U-NA20	(3) T-Arms [Sitepro RDS-272]	(9) 1 5/8" Coax (4) 1 5/8" Fiber	T-Mobile
-		3	Ericsson Air 32 KRD901146_1_B66A_B2A			
-		3	Ericsson KRY 112 144/1			
-		3	Ericsson Radio 4449 B71+B12			
8	107.0	3	CCI OPA-65R-LCUU-H6	(1) Commscope MC- HPM1250-B (1) Commscope RR- RM1560	(6) 3/4" DC Power (2) 3/8" Fiber (6) 7/8" Coax	AT&T
9		3	KMW EPBQ-652L8H6-L2			
10		3	CCI DTMABP7819VG12A TMA			
11		3	Ericsson RRUS-11 700MHz			
12		3	Ericsson RRUS-12			
13		3	Ericsson RRUS-32			
14		3	Ericsson RRUS 4449 B5/B12			
15		3	Ericsson RRUS 4426 B66			
16		3	Ericsson RRUS-A2			
17		3	Kaelus DBC2055F1V1			
18	3	Raycap DC6-48-60-18-8F				
19	97.0	6	JMA MX06FRO660-03 - Panel	(3) Standoff	(12) 1 5/8" (1) 1 5/8" Hybrid	Verizon
20		3	Samsung VZS01 - Panel			
21		3	Samsung B5/B13 RRH-BR04C			
22		3	Samsung B2/B66A RRH-BR049			
23		1	Commscope RCMD-6627-PF-48			
25	87.0	3	Comba ODI2-065R18K-GQ	(3) Standoff Sector frame [Commscope SF-SU7-2- 96]	(1) 1 1/4" Hybrid	Dish Network
26		2	Ericsson 4415			
27		3	Ericsson 0208			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	137.0	3	RFS APXVAARR18_43-U-NA20 - Panel	(3) T-Arms with extended horizontal support Sitepro RDS-272	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
2		3	Air 32 KRD901146_1_B66A_B2A - Panel			
3		3	AIR6449 B41 - Panel			
4		3	Ericsson KRY 112 144/1-TMA			
5		3	Commscope SDX1926Q-43-Diplexers			
6		3	Ericsson 4449 B71+B85 RRU			
7		3	Ericsson 4415 B25 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:	76.2%	62.7%	59.4%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	2074.0	20.7
Analysis Reactions	2078.4	21.6
Factored Reactions*	2799.9	27.9
% of Design Reactions	74.2%	77.3%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6957 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

Usage Diagram - Max Ratio 76.20% at 53.3ft

Structure: CT13549-S-SBA
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.000 (ft)

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

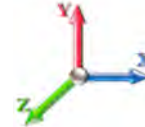
8/16/2021



Page: 1

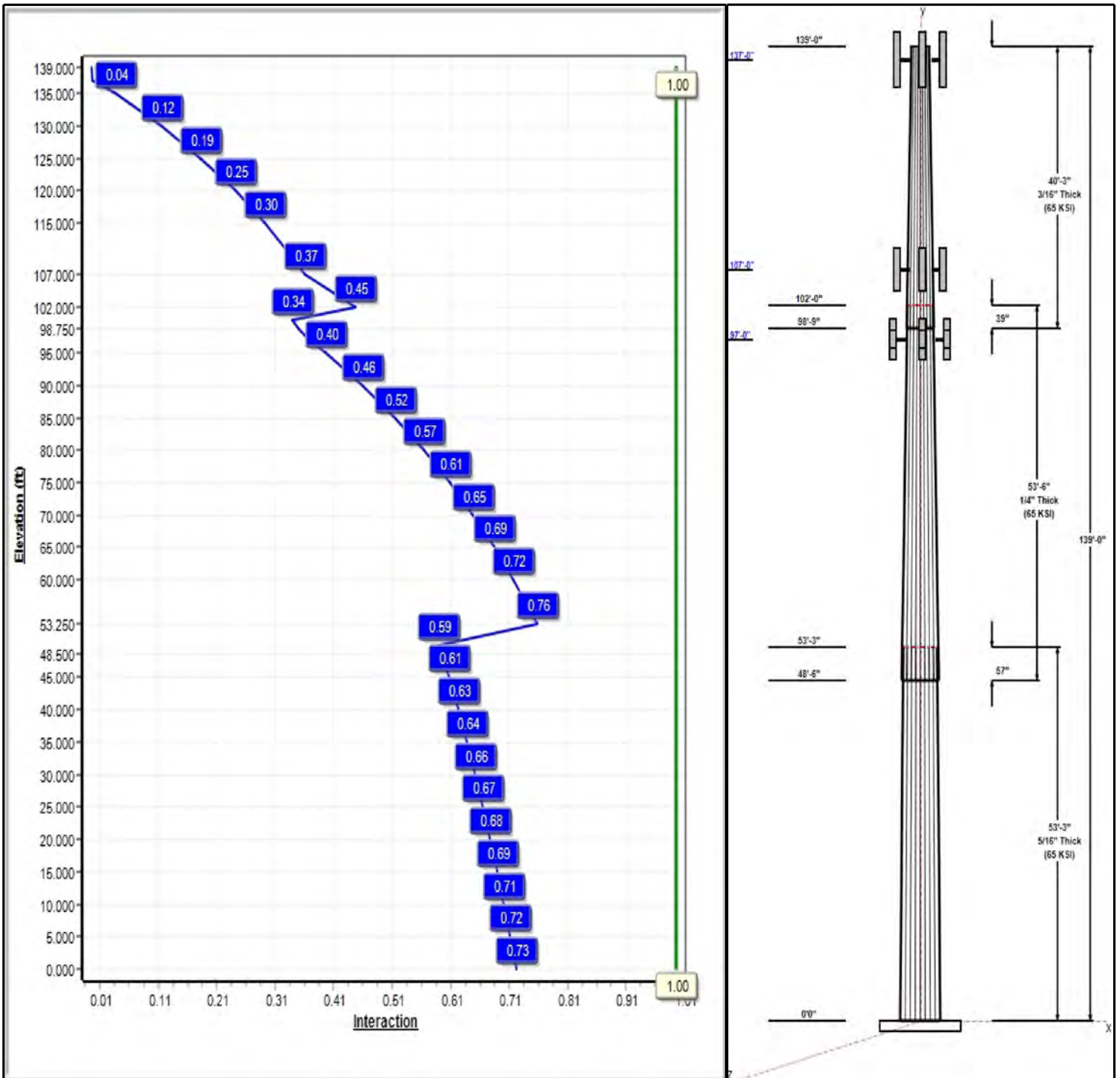
Dead Load Factor: 1.20
 Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 26

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Structure: CT13549-S-SBA

Type: Tapered
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23097

8/16/2021

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	34.93	47.23	0.313		0.23097	65
2	53.50	24.17	36.53	0.250	Slip	0.23097	65
3	40.25	16.00	25.30	0.188	Slip	0.23097	65

Discrete Appurtenances

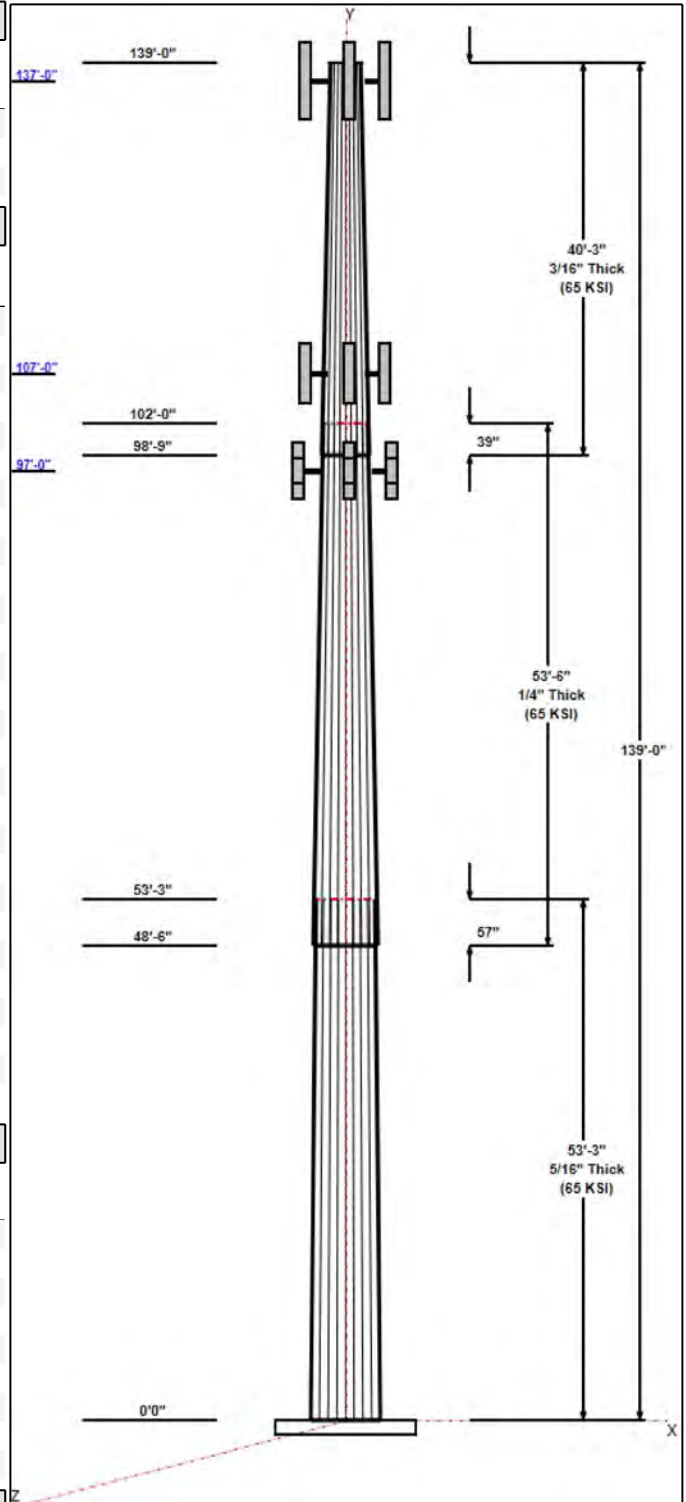
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
139.00	139.00	1	6' Lightning rod	
137.00	137.00	3	AIR6449 B41	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	RFS	T-Mobile
137.00	137.00	3	Air 32	T-Mobile
137.00	137.00	3	4449 B71+B85	T-Mobile
137.00	137.00	3	SDX1926Q-43	T-Mobile
137.00	137.00	3	4415 B25	T-Mobile
137.00	137.00	3	RDS-272	T-Mobile
107.00	107.00	3	RRUS 4449 B5/B12	AT&T
107.00	107.00	1	Collar Mount Commscope	AT&T
107.00	107.00	3	T-Arm Commscope	AT&T
107.00	107.00	3	RRUS-11 700MHz	AT&T
107.00	107.00	3	RRUS 12	AT&T
107.00	107.00	3	RRUS A2	AT&T
107.00	107.00	3	RRUS-32	AT&T
107.00	107.00	3	DC6-48-60-18-8F	AT&T
107.00	107.00	3	OPA-65R-LCUU-H6	AT&T
107.00	107.00	3	EPBQ-652L8H6-L2	AT&T
107.00	107.00	3	DBC20056F1V1	AT&T
107.00	107.00	3	DTMABP7819VG12A	AT&T
107.00	107.00	3	RRUS-E2	AT&T
97.00	97.00	6	JMA MX06FRO660-03	Verizon
97.00	97.00	3	Samsung VZS01	Verizon
97.00	97.00	3	Samsung B5/B13	Verizon
97.00	97.00	3	Samsung B2/B66A	Verizon
97.00	97.00	1	Commscope	Verizon
97.00	97.00	3	Standoff	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	139.00	Outside	Safety Cable	
0.00	139.00	Outside	Step bolts (ladder)	
0.00	137.00	Inside	1 5/8" Coax	T-Mobile
0.00	137.00	Inside	1 5/8" Fiber	T-Mobile
0.00	107.00	Inside	3/4" DC	AT&T
0.00	107.00	Inside	3/8" Fiber	AT&T
0.00	107.00	Inside	7/8" Coax	AT&T
0.00	97.00	Inside	1 5/8" Coax	Verizon
0.00	97.00	Inside	1 5/8" Hybrid	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster



Structure: CT13549-S-SBA

Type: Tapered
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23097

8/16/2021

Page: 3



Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	51.5	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	2078.4	21.6	29.4
0.9D + 1.6W 93 mph Wind	2054.2	21.6	22.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	632.2	6.6	48.6
1.2D + 1.0E	137.0	1.2	29.4
0.9D + 1.0E	135.1	1.2	22.0
1.0D + 1.0W 60 mph Wind	537.3	5.6	24.5

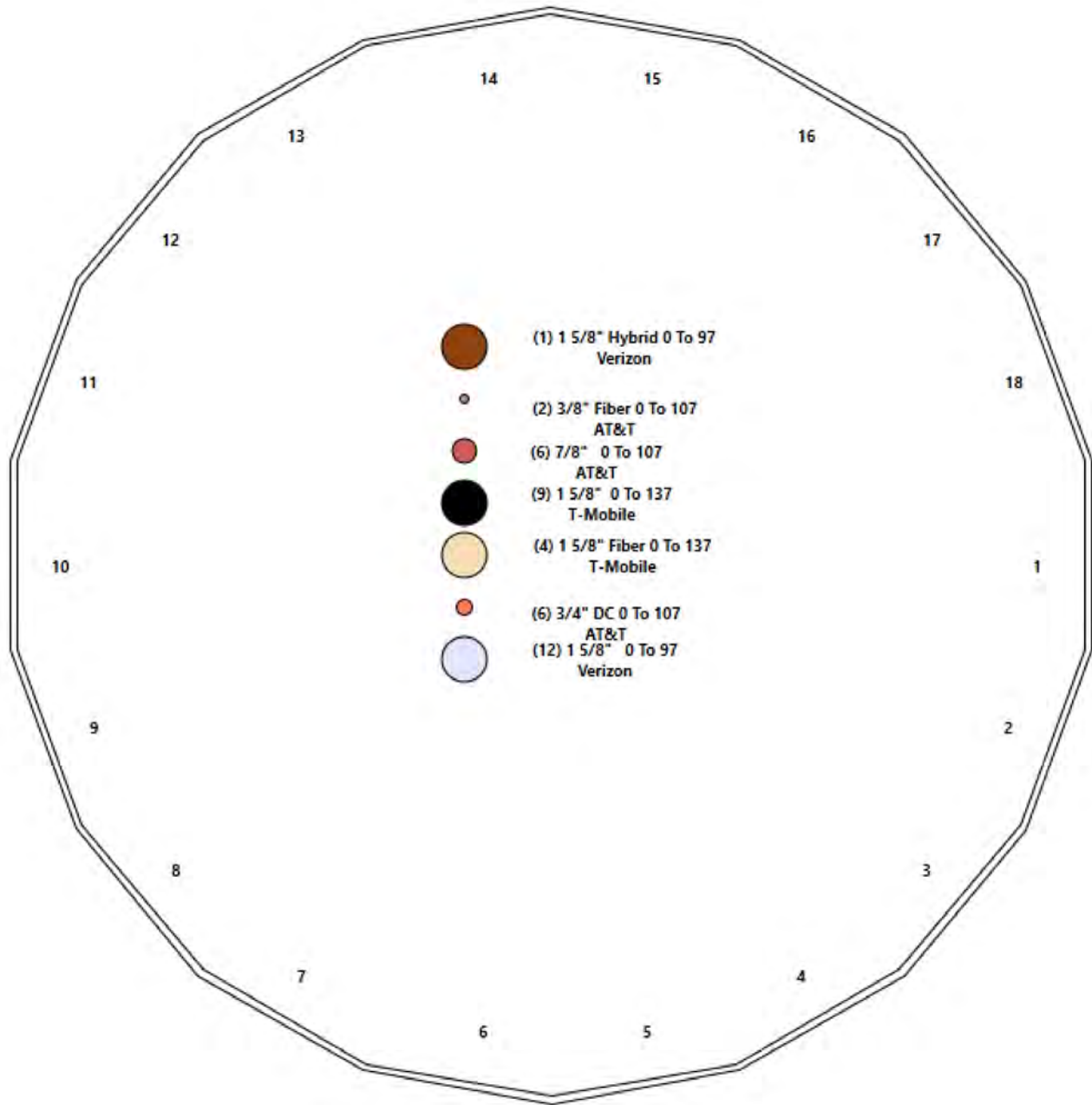
Structure: CT13549-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Danbury 1
Height: 139.00 (ft)

8/16/2021



Page: 4



Shaft Properties

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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	53.250	0.3125	65		0.00	7,327
2	18	53.500	0.2500	65	Slip	57.00	4,348
3	18	40.250	0.1875	65	Slip	39.00	1,668
Total Shaft Weight:							13,342

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	47.23	0.00	46.53	12941.93	25.24	151.14	34.93	53.25	34.34	5198.89	18.30	111.7	0.230971
2	36.53	48.50	28.79	4786.42	24.35	146.11	24.17	102.00	18.98	1372.20	15.64	96.68	0.230971
3	25.30	98.75	14.94	1190.25	22.38	134.92	16.00	139.00	9.41	297.27	13.64	85.33	0.230971

Load Summary

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	139.00	6' Lightning rod	1	6.50	0.38	1.00	42.53	1.459	1.00	0.00	0.00
2	137.00	AIR6449 B41	3	103.00	5.65	0.71	238.88	6.592	0.71	0.00	0.00
3	137.00	KRY 112 144/1	3	11.00	0.41	0.67	21.68	0.881	0.67	0.00	0.00
4	137.00	RFS APXVAARR18_43-U-NA20	3	128.00	20.24	0.70	541.69	22.122	0.70	0.00	0.00
5	137.00	Air 32 KRD901146_1_B66A_B2A	3	132.20	6.51	0.87	314.61	7.679	0.87	0.00	0.00
6	137.00	4449 B71+B85	3	70.00	1.65	0.67	137.47	2.182	0.67	0.00	0.00
7	137.00	SDX1926Q-43	3	7.00	0.38	0.67	16.60	0.832	0.67	0.00	0.00
8	137.00	4415 B25	3	46.30	1.86	0.67	106.37	2.419	0.67	0.00	0.00
9	137.00	RDS-272	3	400.00	10.00	0.75	676.71	18.647	0.75	0.00	0.00
10	107.00	RRUS 4449 B5/B12	3	85.00	1.65	0.67	198.76	4.261	0.67	0.00	0.00
11	107.00	Collar Mount Commscope	1	122.40	5.00	1.00	411.53	13.436	1.00	0.00	0.00
12	107.00	T-Arm Commscope MC-HPM1250-B	3	178.00	10.00	0.75	298.13	18.436	0.75	0.00	0.00
13	107.00	RRUS-11 700MHz	3	50.70	2.52	0.67	136.29	3.148	0.67	0.00	0.00
14	107.00	RRUS 12	3	58.00	3.15	0.67	149.55	3.838	0.67	0.00	0.00
15	107.00	RRUS A2	3	21.20	1.86	0.67	56.11	2.801	0.67	0.00	0.00
16	107.00	RRUS-32	3	77.00	3.87	0.67	186.06	4.078	0.67	0.00	0.00
17	107.00	DC6-48-60-18-8F	3	31.80	1.47	0.67	91.57	2.147	0.67	0.00	0.00
18	107.00	OPA-65R-LCUU-H6	3	80.00	9.66	0.79	302.78	10.978	0.79	0.00	0.00
19	107.00	EPBQ-652L8H6-L2	3	72.80	9.66	0.85	343.47	14.704	0.85	0.00	0.00
20	107.00	DBC20056F1V1	3	6.60	0.41	0.67	19.83	0.720	0.67	0.00	0.00
21	107.00	DTMABP7819VG12A	3	19.20	1.14	0.67	43.87	1.884	0.67	0.00	0.00
22	107.00	RRUS-E2	3	77.00	1.65	0.67	123.37	2.209	0.67	0.00	0.00
23	97.00	JMA MX06FRO660-03	6	46.00	9.87	0.87	301.82	11.184	0.87	0.00	0.00
24	97.00	Samsung VZS01	3	87.10	4.30	0.69	192.41	5.144	0.75	0.00	0.00
25	97.00	Samsung B5/B13 RRH-BR04C	3	84.40	1.88	0.67	133.47	2.408	0.67	0.00	0.00
26	97.00	Samsung B2/B66A RRH-BR049	3	70.30	1.88	0.67	116.86	2.408	0.67	0.00	0.00
27	97.00	Commscope RCMD-6627-PF-48	1	20.00	5.60	1.00	130.14	7.191	1.00	0.00	0.00
28	97.00	Standoff	3	350.00	8.00	0.75	583.91	14.683	0.75	0.00	0.00
Totals:			81	7,164.70			17,486.49				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	139.00	(1) Safety Cable	0.00	Outside
0.00	139.00	(1) Step bolts (ladder)	0.00	Outside
0.00	137.00	(9) 1 5/8" Coax	0.00	Inside
0.00	137.00	(4) 1 5/8" Fiber	0.00	Inside
0.00	107.00	(6) 3/4" DC	0.00	Inside
0.00	107.00	(2) 3/8" Fiber	0.00	Inside
0.00	107.00	(6) 7/8" Coax	0.00	Inside
0.00	97.00	(12) 1 5/8" Coax	0.00	Inside
0.00	97.00	(1) 1 5/8" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3125	47.230	46.535	12941.9	25.24	151.14	71.7	539.7	0.0
5.00		0.3125	46.075	45.389	12009.6	24.59	147.44	72.5	513.4	782.0
10.00		0.3125	44.920	44.244	11123.1	23.94	143.74	73.2	487.7	762.5
15.00		0.3125	43.765	43.098	10281.4	23.28	140.05	74.0	462.7	743.0
20.00		0.3125	42.611	41.953	9483.2	22.63	136.35	74.8	438.3	723.5
25.00		0.3125	41.456	40.807	8727.5	21.98	132.66	75.5	414.7	704.0
30.00		0.3125	40.301	39.662	8013.0	21.33	128.96	76.3	391.6	684.5
35.00		0.3125	39.146	38.517	7338.6	20.68	125.27	77.1	369.2	665.1
40.00		0.3125	37.991	37.371	6703.2	20.03	121.57	77.8	347.5	645.6
45.00		0.3125	36.836	36.226	6105.5	19.37	117.88	78.6	326.5	626.1
48.50	Bot - Section 2	0.3125	36.028	35.424	5709.0	18.92	115.29	79.1	312.1	426.7
50.00		0.3125	35.681	35.080	5544.5	18.72	114.18	79.4	306.1	326.2
53.25	Top - Section 1	0.2500	35.431	27.915	4365.2	23.58	141.72	0.0	0.0	695.8
55.00		0.2500	35.027	27.594	4216.4	23.29	140.11	74.0	237.1	165.3
60.00		0.2500	33.872	26.678	3810.2	22.48	135.49	75.0	221.6	461.7
65.00		0.2500	32.717	25.762	3430.9	21.66	130.87	75.9	206.5	446.1
70.00		0.2500	31.562	24.845	3077.6	20.85	126.25	76.9	192.1	430.5
75.00		0.2500	30.407	23.929	2749.5	20.04	121.63	77.8	178.1	414.9
80.00		0.2500	29.252	23.012	2445.6	19.22	117.01	78.8	164.7	399.3
85.00		0.2500	28.097	22.096	2164.9	18.41	112.39	79.8	151.8	383.7
90.00		0.2500	26.943	21.180	1906.6	17.59	107.77	80.7	139.4	368.1
95.00		0.2500	25.788	20.263	1669.7	16.78	103.15	81.7	127.5	352.6
97.00		0.2500	25.326	19.897	1580.7	16.45	101.30	82.1	122.9	136.7
98.75	Bot - Section 3	0.2500	24.922	19.576	1505.5	16.17	99.69	82.4	119.0	117.5
100.00		0.2500	24.633	19.347	1453.2	15.96	98.53	82.5	116.2	146.0
102.00	Top - Section 2	0.1875	24.546	14.496	1086.7	21.67	130.91	0.0	0.0	230.0
105.00		0.1875	23.853	14.083	996.5	21.02	127.22	76.7	82.3	145.9
107.00		0.1875	23.391	13.809	939.3	20.59	124.75	77.2	79.1	94.9
110.00		0.1875	22.698	13.396	857.7	19.93	121.06	78.0	74.4	138.9
115.00		0.1875	21.543	12.709	732.3	18.85	114.90	79.2	67.0	222.1
120.00		0.1875	20.388	12.022	619.8	17.76	108.74	80.5	59.9	210.4
125.00		0.1875	19.234	11.334	519.5	16.68	102.58	81.8	53.2	198.7
130.00		0.1875	18.079	10.647	430.6	15.59	96.42	82.5	46.9	187.0
135.00		0.1875	16.924	9.960	352.5	14.50	90.26	82.5	41.0	175.3
137.00		0.1875	16.462	9.685	324.1	14.07	87.80	82.5	38.8	66.8
139.00		0.1875	16.000	9.410	297.3	13.64	85.33	82.5	36.6	65.0

13342.3

Wind Loading - Shaft

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 8
	Struct Class: II	



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	342.67	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	334.29	0.650	0.000	5.00	19.738	12.83	403.7	0.0	938.4
10.00		1.00	0.85	17.879	19.67	325.91	0.650	0.000	5.00	19.250	12.51	393.7	0.0	915.0
15.00		1.00	0.85	17.879	19.67	317.53	0.650	0.000	5.00	18.761	12.19	383.7	0.0	891.6
20.00		1.00	0.90	18.971	20.87	318.45	0.650	0.000	5.00	18.273	11.88	396.6	0.0	868.2
25.00		1.00	0.95	19.883	21.87	317.18	0.650	0.000	5.00	17.784	11.56	404.5	0.0	844.8
30.00		1.00	0.98	20.661	22.73	314.32	0.650	0.000	5.00	17.295	11.24	408.8	0.0	821.5
35.00		1.00	1.01	21.343	23.48	310.31	0.650	0.000	5.00	16.807	10.92	410.4	0.0	798.1
40.00		1.00	1.04	21.951	24.15	305.42	0.650	0.000	5.00	16.318	10.61	409.8	0.0	774.7
45.00		1.00	1.07	22.502	24.75	299.83	0.650	0.000	5.00	15.830	10.29	407.5	0.0	751.3
48.50	Bot - Section 2	1.00	1.09	22.860	25.15	295.57	0.650	0.000	3.50	10.790	7.01	282.2	0.0	512.0
50.00		1.00	1.09	23.007	25.31	293.67	0.650	0.000	1.50	4.614	3.00	121.5	0.0	391.4
53.25	Top - Section 1	1.00	1.11	23.314	25.65	289.40	0.650	0.000	3.25	9.847	6.40	262.6	0.0	835.0
55.00		1.00	1.12	23.473	25.82	291.19	0.650	0.000	1.75	5.217	3.39	140.1	0.0	198.3
60.00		1.00	1.14	23.907	26.30	284.18	0.650	0.000	5.00	14.575	9.47	398.6	0.0	554.0
65.00		1.00	1.16	24.313	26.74	276.81	0.650	0.000	5.00	14.087	9.16	391.8	0.0	535.3
70.00		1.00	1.17	24.696	27.17	269.13	0.650	0.000	5.00	13.598	8.84	384.2	0.0	516.6
75.00		1.00	1.19	25.057	27.56	261.17	0.650	0.000	5.00	13.109	8.52	375.8	0.0	497.9
80.00		1.00	1.21	25.400	27.94	252.97	0.650	0.000	5.00	12.621	8.20	366.7	0.0	479.2
85.00		1.00	1.22	25.726	28.30	244.53	0.650	0.000	5.00	12.132	7.89	357.1	0.0	460.5
90.00		1.00	1.24	26.037	28.64	235.90	0.650	0.000	5.00	11.644	7.57	346.8	0.0	441.8
95.00		1.00	1.25	26.336	28.97	227.08	0.650	0.000	5.00	11.155	7.25	336.1	0.0	423.1
97.00	Appurtenance(s)	1.00	1.26	26.451	29.10	223.50	0.650	0.000	2.00	4.325	2.81	130.9	0.0	164.0
98.75	Bot - Section 3	1.00	1.26	26.551	29.21	220.34	0.650	0.000	1.75	3.720	2.42	113.0	0.0	141.0
100.00		1.00	1.27	26.621	29.28	218.08	0.650	0.000	1.25	2.660	1.73	81.0	0.0	175.2
102.00	Top - Section 2	1.00	1.27	26.733	29.41	214.44	0.650	0.000	2.00	4.193	2.73	128.2	0.0	276.0
105.00		1.00	1.28	26.896	29.59	212.26	0.650	0.000	3.00	6.143	3.99	189.0	0.0	175.0
107.00	Appurtenance(s)	1.00	1.28	27.003	29.70	208.57	0.650	0.000	2.00	3.998	2.60	123.5	0.0	113.9
110.00		1.00	1.29	27.161	29.88	202.98	0.650	0.000	3.00	5.850	3.80	181.8	0.0	166.6
115.00		1.00	1.30	27.416	30.16	193.55	0.650	0.000	5.00	9.359	6.08	293.5	0.0	266.5
120.00		1.00	1.32	27.663	30.43	184.00	0.650	0.000	5.00	8.871	5.77	280.7	0.0	252.5
125.00		1.00	1.33	27.902	30.69	174.33	0.650	0.000	5.00	8.382	5.45	267.5	0.0	238.4
130.00		1.00	1.34	28.133	30.95	164.54	0.650	0.000	5.00	7.893	5.13	254.0	0.0	224.4
135.00		1.00	1.35	28.358	31.19	154.64	0.650	0.000	5.00	7.405	4.81	240.2	0.0	210.4
137.00	Appurtenance(s)	1.00	1.35	28.446	31.29	150.65	0.650	0.000	2.00	2.825	1.84	91.9	0.0	80.2
139.00	Appurtenance(s)	1.00	1.36	28.533	31.39	146.65	0.650	0.000	2.00	2.747	1.79	89.7	0.0	78.0
Totals:									139.00			9,847.2		16,010.8

Discrete Appurtenance Forces

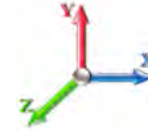
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

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	139.00	6' Lightning rod	1	28.533	31.386	1.00	1.00	0.38	7.80	0.000	0.000	19.08	0.00	0.00
2	137.00	RFS	3	28.446	31.290	0.56	0.80	34.00	460.80	0.000	0.000	1702.35	0.00	0.00
3	137.00	AIR6449 B41	3	28.446	31.290	0.57	0.80	9.63	370.80	0.000	0.000	482.00	0.00	0.00
4	137.00	KRY 112 144/1	3	28.446	31.290	0.54	0.80	0.66	39.60	0.000	0.000	33.01	0.00	0.00
5	137.00	SDX1926Q-43	3	28.446	31.290	0.54	0.80	0.61	25.20	0.000	0.000	30.59	0.00	0.00
6	137.00	Air 32	3	28.446	31.290	0.70	0.80	13.59	475.92	0.000	0.000	680.52	0.00	0.00
7	137.00	Radio 4449 B71+B12	3	28.446	31.290	0.54	0.80	2.65	252.00	0.000	0.000	132.83	0.00	0.00
8	137.00	4415 B25	3	28.446	31.290	0.54	0.80	2.99	166.68	0.000	0.000	149.74	0.00	0.00
9	137.00	RDS-272	3	28.446	31.290	0.56	0.75	16.88	1440.00	0.000	0.000	844.84	0.00	0.00
10	107.00	T-Arm Commscope	3	27.003	29.704	0.56	0.75	16.88	640.80	0.000	0.000	802.00	0.00	0.00
11	107.00	Collar Mount Commscope	1	27.003	29.704	1.00	1.00	5.00	146.88	0.000	0.000	237.63	0.00	0.00
12	107.00	RRUS-E2	3	27.003	29.704	0.54	0.80	2.65	277.20	0.000	0.000	126.10	0.00	0.00
13	107.00	DTMABP7819VG12A	3	27.003	29.704	0.54	0.80	1.83	69.12	0.000	0.000	87.12	0.00	0.00
14	107.00	DBC20056F1V1	3	27.003	29.704	0.54	0.80	0.66	23.76	0.000	0.000	31.33	0.00	0.00
15	107.00	EPBQ-652L8H6-L2	3	27.003	29.704	0.68	0.80	19.71	262.08	0.000	0.000	936.57	0.00	0.00
16	107.00	RRUS 12	3	27.003	29.704	0.54	0.80	5.07	208.80	0.000	0.000	240.73	0.00	0.00
17	107.00	RRUS 4449 B5/B12	3	27.003	29.704	0.54	0.80	2.65	306.00	0.000	0.000	126.10	0.00	0.00
18	107.00	RRUS-11 700MHz	3	27.003	29.704	0.54	0.80	4.05	182.52	0.000	0.000	192.58	0.00	0.00
19	107.00	OPA-65R-LCUU-H6	3	27.003	29.704	0.63	0.80	18.32	288.00	0.000	0.000	870.46	0.00	0.00
20	107.00	RRUS A2	3	27.003	29.704	0.54	0.80	2.99	76.32	0.000	0.000	142.14	0.00	0.00
21	107.00	RRUS-32	3	27.003	29.704	0.54	0.80	6.22	277.20	0.000	0.000	295.75	0.00	0.00
22	107.00	DC6-48-60-18-8F	3	27.003	29.704	0.54	0.80	2.36	114.48	0.000	0.000	112.34	0.00	0.00
23	97.00	Standoff	3	26.451	29.096	0.56	0.75	13.50	1260.00	0.000	0.000	628.48	0.00	0.00
24	97.00	Commscope	1	26.451	29.096	1.00	1.00	5.60	24.00	0.000	0.000	260.70	0.00	0.00
25	97.00	Samsung B2/B66A	3	26.451	29.096	0.54	0.80	3.02	253.08	0.000	0.000	140.74	0.00	0.00
26	97.00	Samsung B5/B13	3	26.451	29.096	0.54	0.80	3.02	303.84	0.000	0.000	140.74	0.00	0.00
27	97.00	Samsung VZS01	3	26.451	29.096	0.55	0.80	7.12	313.56	0.000	0.000	331.50	0.00	0.00
28	97.00	JMA MX06FRO660-03	6	26.451	29.096	0.70	0.80	41.22	331.20	0.000	0.000	1918.84	0.00	0.00

Totals: 8,597.64

11,696.79

Total Applied Force Summary

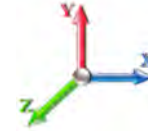
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		403.73	1144.15	0.00	0.00
10.00		393.73	1120.76	0.00	0.00
15.00		383.74	1097.38	0.00	0.00
20.00		396.56	1073.99	0.00	0.00
25.00		404.52	1050.60	0.00	0.00
30.00		408.80	1027.22	0.00	0.00
35.00		410.35	1003.83	0.00	0.00
40.00		409.78	980.45	0.00	0.00
45.00		407.49	957.06	0.00	0.00
48.50		282.17	656.03	0.00	0.00
50.00		121.45	453.12	0.00	0.00
53.25		262.63	968.75	0.00	0.00
55.00		140.09	270.34	0.00	0.00
60.00		398.63	759.79	0.00	0.00
65.00		391.81	741.08	0.00	0.00
70.00		384.17	722.37	0.00	0.00
75.00		375.78	703.66	0.00	0.00
80.00		366.73	684.95	0.00	0.00
85.00		357.06	666.24	0.00	0.00
90.00		346.83	647.53	0.00	0.00
95.00		336.08	628.82	0.00	0.00
97.00	(19) attachments	3551.88	2731.97	0.00	0.00
98.75		113.00	184.53	0.00	0.00
100.00		81.02	206.24	0.00	0.00
102.00		128.24	325.72	0.00	0.00
105.00		189.02	249.61	0.00	0.00
107.00	(37) attachments	4324.34	3036.76	0.00	0.00
110.00		181.77	220.89	0.00	0.00
115.00		293.54	356.93	0.00	0.00
120.00		280.72	342.90	0.00	0.00
125.00		267.55	328.86	0.00	0.00
130.00		254.04	314.83	0.00	0.00
135.00		240.22	300.80	0.00	0.00
137.00	(24) attachments	4147.80	3347.39	0.00	0.00
139.00	(1) attachments	108.74	88.92	0.00	0.00
	Totals:	21,544.03	29,394.48	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



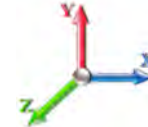
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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 26

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.971	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.971	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.883	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.883	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.661	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.661	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.343	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.343	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.951	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.951	0.00	6.24
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.502	0.00	1.64
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.502	0.00	6.24
48.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	22.860	0.00	1.15
48.50	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	22.860	0.00	4.37
50.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	23.007	0.00	0.49
50.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	23.007	0.00	1.87
53.25	Safety Cable	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.314	0.00	1.06
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.314	0.00	4.06
55.00	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.473	0.00	0.57
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.473	0.00	2.18
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.907	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.907	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.696	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.696	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.057	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.057	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.400	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.400	0.00	6.24
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.726	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.726	0.00	6.24
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.037	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.037	0.00	6.24
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.336	0.00	1.64
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.336	0.00	6.24
97.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	0.66
97.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	2.50
98.75	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	26.551	0.00	0.57
98.75	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	26.551	0.00	2.18
100.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	0.41

Linear Appurtenance Segment Forces (Factored)

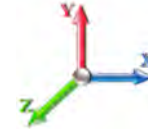
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	1.56
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.733	0.00	0.66
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.733	0.00	2.50
105.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.896	0.00	0.98
105.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.896	0.00	3.74
107.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.003	0.00	0.66
107.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.003	0.00	2.50
110.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.161	0.00	0.98
110.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.161	0.00	3.74
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.416	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.416	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.663	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.663	0.00	6.24
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.902	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.902	0.00	6.24
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.133	0.00	1.64
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.133	0.00	6.24
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.358	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.358	0.00	6.24
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.446	0.00	0.66
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.446	0.00	2.50
139.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.533	0.00	0.66
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.533	0.00	2.50
Totals:											0.0	219.0

Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind		Iterations 26
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	-29.35	-21.60	0.00	-2078.3	0.00	2078.36	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.726
5.00	-28.12	-21.31	0.00	-1970.3	0.00	1970.36	2960.91	1480.45	5573.38	2790.83	0.12	-0.223	0.000	0.716
10.00	-26.92	-21.01	0.00	-1863.8	0.00	1863.83	2916.70	1458.35	5350.68	2679.32	0.47	-0.450	0.000	0.705
15.00	-25.74	-20.72	0.00	-1758.7	0.00	1758.76	2870.92	1435.46	5129.40	2568.51	1.07	-0.681	0.000	0.694
20.00	-24.59	-20.42	0.00	-1655.1	0.00	1655.14	2823.56	1411.78	4909.74	2458.52	1.91	-0.917	0.000	0.682
25.00	-23.46	-20.09	0.00	-1553.0	0.00	1553.06	2774.61	1387.31	4691.94	2349.46	3.00	-1.158	0.000	0.670
30.00	-22.36	-19.76	0.00	-1452.6	0.00	1452.60	2724.09	1362.04	4476.23	2241.44	4.34	-1.403	0.000	0.656
35.00	-21.28	-19.41	0.00	-1353.8	0.00	1353.82	2671.99	1335.99	4262.83	2134.58	5.95	-1.652	0.000	0.642
40.00	-20.23	-19.06	0.00	-1256.7	0.00	1256.76	2618.30	1309.15	4051.97	2029.00	7.81	-1.905	0.000	0.627
45.00	-19.22	-18.70	0.00	-1161.4	0.00	1161.44	2563.04	1281.52	3843.87	1924.79	9.95	-2.162	0.000	0.611
48.50	-18.53	-18.43	0.00	-1096.0	0.00	1096.01	2523.41	1261.71	3699.97	1852.74	11.60	-2.346	0.000	0.599
50.00	-18.04	-18.33	0.00	-1068.3	0.00	1068.36	2506.19	1253.10	3638.77	1822.09	12.35	-2.427	0.000	0.594
53.25	-17.04	-18.07	0.00	-1008.7	0.00	1008.79	1850.79	925.39	2677.47	1340.72	14.06	-2.600	0.000	0.762
55.00	-16.72	-17.97	0.00	-977.17	0.00	977.17	1837.85	918.92	2627.99	1315.95	15.03	-2.695	0.000	0.752
60.00	-15.88	-17.63	0.00	-887.31	0.00	887.31	1799.82	899.91	2487.54	1245.62	18.02	-3.009	0.000	0.722
65.00	-15.07	-17.28	0.00	-799.18	0.00	799.18	1760.21	880.10	2348.61	1176.05	21.34	-3.324	0.000	0.688
70.00	-14.28	-16.93	0.00	-712.80	0.00	712.80	1719.02	859.51	2211.45	1107.37	24.99	-3.638	0.000	0.652
75.00	-13.51	-16.58	0.00	-628.17	0.00	628.17	1676.25	838.13	2076.26	1039.67	28.97	-3.948	0.000	0.613
80.00	-12.77	-16.23	0.00	-545.28	0.00	545.28	1631.90	815.95	1943.29	973.09	33.26	-4.251	0.000	0.569
85.00	-12.05	-15.88	0.00	-464.13	0.00	464.13	1585.97	792.99	1812.75	907.72	37.87	-4.545	0.000	0.519
90.00	-11.36	-15.54	0.00	-384.72	0.00	384.72	1538.46	769.23	1684.87	843.69	42.78	-4.824	0.000	0.464
95.00	-10.72	-15.18	0.00	-307.03	0.00	307.03	1489.37	744.69	1559.88	781.10	47.97	-5.082	0.000	0.401
97.00	-8.30	-11.41	0.00	-276.66	0.00	276.66	1469.29	734.65	1510.75	756.50	50.11	-5.181	0.000	0.372
98.75	-8.11	-11.29	0.00	-256.69	0.00	256.69	1451.52	725.76	1468.18	735.18	52.03	-5.265	0.000	0.355
100.00	-7.90	-11.20	0.00	-242.57	0.00	242.57	1437.39	718.70	1436.71	719.42	53.41	-5.324	0.000	0.343
102.00	-7.57	-11.06	0.00	-220.17	0.00	220.17	990.34	495.17	991.38	496.43	55.66	-5.415	0.000	0.452
105.00	-7.31	-10.86	0.00	-186.98	0.00	186.98	971.88	485.94	945.01	473.21	59.10	-5.541	0.000	0.403
107.00	-4.70	-6.27	0.00	-165.26	0.00	165.26	959.26	479.63	914.39	457.88	61.44	-5.642	0.000	0.366
110.00	-4.48	-6.08	0.00	-146.44	0.00	146.44	939.85	469.93	868.93	435.11	65.02	-5.784	0.000	0.341
115.00	-4.13	-5.77	0.00	-116.01	0.00	116.01	906.24	453.12	794.52	397.85	71.19	-6.001	0.000	0.296
120.00	-3.80	-5.47	0.00	-87.16	0.00	87.16	871.06	435.53	722.01	361.54	77.57	-6.199	0.000	0.246
125.00	-3.49	-5.18	0.00	-59.82	0.00	59.82	834.29	417.15	651.64	326.30	84.15	-6.367	0.000	0.188
130.00	-3.20	-4.89	0.00	-33.94	0.00	33.94	791.03	395.51	580.02	290.44	90.87	-6.496	0.000	0.121
135.00	-2.93	-4.62	0.00	-9.48	0.00	9.48	739.97	369.98	507.20	253.97	97.71	-6.567	0.000	0.041
137.00	-0.08	-0.12	0.00	-0.24	0.00	0.24	719.55	359.77	479.43	240.07	100.46	-6.575	0.000	0.001
139.00	0.00	-0.11	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	103.20	-6.575	0.000	0.000

Wind Loading - Shaft

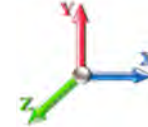
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	342.67	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	334.29	0.650	0.000	5.00	19.738	12.83	403.7	0.0	703.8
10.00		1.00	0.85	17.879	19.67	325.91	0.650	0.000	5.00	19.250	12.51	393.7	0.0	686.3
15.00		1.00	0.85	17.879	19.67	317.53	0.650	0.000	5.00	18.761	12.19	383.7	0.0	668.7
20.00		1.00	0.90	18.971	20.87	318.45	0.650	0.000	5.00	18.273	11.88	396.6	0.0	651.2
25.00		1.00	0.95	19.883	21.87	317.18	0.650	0.000	5.00	17.784	11.56	404.5	0.0	633.6
30.00		1.00	0.98	20.661	22.73	314.32	0.650	0.000	5.00	17.295	11.24	408.8	0.0	616.1
35.00		1.00	1.01	21.343	23.48	310.31	0.650	0.000	5.00	16.807	10.92	410.4	0.0	598.6
40.00		1.00	1.04	21.951	24.15	305.42	0.650	0.000	5.00	16.318	10.61	409.8	0.0	581.0
45.00		1.00	1.07	22.502	24.75	299.83	0.650	0.000	5.00	15.830	10.29	407.5	0.0	563.5
48.50	Bot - Section 2	1.00	1.09	22.860	25.15	295.57	0.650	0.000	3.50	10.790	7.01	282.2	0.0	384.0
50.00		1.00	1.09	23.007	25.31	293.67	0.650	0.000	1.50	4.614	3.00	121.5	0.0	293.5
53.25	Top - Section 1	1.00	1.11	23.314	25.65	289.40	0.650	0.000	3.25	9.847	6.40	262.6	0.0	626.3
55.00		1.00	1.12	23.473	25.82	291.19	0.650	0.000	1.75	5.217	3.39	140.1	0.0	148.7
60.00		1.00	1.14	23.907	26.30	284.18	0.650	0.000	5.00	14.575	9.47	398.6	0.0	415.5
65.00		1.00	1.16	24.313	26.74	276.81	0.650	0.000	5.00	14.087	9.16	391.8	0.0	401.5
70.00		1.00	1.17	24.696	27.17	269.13	0.650	0.000	5.00	13.598	8.84	384.2	0.0	387.5
75.00		1.00	1.19	25.057	27.56	261.17	0.650	0.000	5.00	13.109	8.52	375.8	0.0	373.4
80.00		1.00	1.21	25.400	27.94	252.97	0.650	0.000	5.00	12.621	8.20	366.7	0.0	359.4
85.00		1.00	1.22	25.726	28.30	244.53	0.650	0.000	5.00	12.132	7.89	357.1	0.0	345.4
90.00		1.00	1.24	26.037	28.64	235.90	0.650	0.000	5.00	11.644	7.57	346.8	0.0	331.3
95.00		1.00	1.25	26.336	28.97	227.08	0.650	0.000	5.00	11.155	7.25	336.1	0.0	317.3
97.00	Appurtenance(s)	1.00	1.26	26.451	29.10	223.50	0.650	0.000	2.00	4.325	2.81	130.9	0.0	123.0
98.75	Bot - Section 3	1.00	1.26	26.551	29.21	220.34	0.650	0.000	1.75	3.720	2.42	113.0	0.0	105.8
100.00		1.00	1.27	26.621	29.28	218.08	0.650	0.000	1.25	2.660	1.73	81.0	0.0	131.4
102.00	Top - Section 2	1.00	1.27	26.733	29.41	214.44	0.650	0.000	2.00	4.193	2.73	128.2	0.0	207.0
105.00		1.00	1.28	26.896	29.59	212.26	0.650	0.000	3.00	6.143	3.99	189.0	0.0	131.3
107.00	Appurtenance(s)	1.00	1.28	27.003	29.70	208.57	0.650	0.000	2.00	3.998	2.60	123.5	0.0	85.4
110.00		1.00	1.29	27.161	29.88	202.98	0.650	0.000	3.00	5.850	3.80	181.8	0.0	125.0
115.00		1.00	1.30	27.416	30.16	193.55	0.650	0.000	5.00	9.359	6.08	293.5	0.0	199.9
120.00		1.00	1.32	27.663	30.43	184.00	0.650	0.000	5.00	8.871	5.77	280.7	0.0	189.3
125.00		1.00	1.33	27.902	30.69	174.33	0.650	0.000	5.00	8.382	5.45	267.5	0.0	178.8
130.00		1.00	1.34	28.133	30.95	164.54	0.650	0.000	5.00	7.893	5.13	254.0	0.0	168.3
135.00		1.00	1.35	28.358	31.19	154.64	0.650	0.000	5.00	7.405	4.81	240.2	0.0	157.8
137.00	Appurtenance(s)	1.00	1.35	28.446	31.29	150.65	0.650	0.000	2.00	2.825	1.84	91.9	0.0	60.2
139.00	Appurtenance(s)	1.00	1.36	28.533	31.39	146.65	0.650	0.000	2.00	2.747	1.79	89.7	0.0	58.5
Totals:									139.00			9,847.2		12,008.1

Discrete Appurtenance Forces

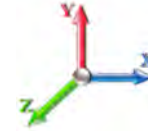
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x	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	139.00	6' Lightning rod	1	28.533	31.386	1.00	1.00	0.38	5.85	0.000	0.000	19.08	0.00	0.00
2	137.00	RFS	3	28.446	31.290	0.56	0.80	34.00	345.60	0.000	0.000	1702.35	0.00	0.00
3	137.00	AIR6449 B41	3	28.446	31.290	0.57	0.80	9.63	278.10	0.000	0.000	482.00	0.00	0.00
4	137.00	KRY 112 144/1	3	28.446	31.290	0.54	0.80	0.66	29.70	0.000	0.000	33.01	0.00	0.00
5	137.00	SDX1926Q-43	3	28.446	31.290	0.54	0.80	0.61	18.90	0.000	0.000	30.59	0.00	0.00
6	137.00	Air 32	3	28.446	31.290	0.70	0.80	13.59	356.94	0.000	0.000	680.52	0.00	0.00
7	137.00	Radio 4449 B71+B12	3	28.446	31.290	0.54	0.80	2.65	189.00	0.000	0.000	132.83	0.00	0.00
8	137.00	4415 B25	3	28.446	31.290	0.54	0.80	2.99	125.01	0.000	0.000	149.74	0.00	0.00
9	137.00	RDS-272	3	28.446	31.290	0.56	0.75	16.88	1080.00	0.000	0.000	844.84	0.00	0.00
10	107.00	T-Arm Commscope	3	27.003	29.704	0.56	0.75	16.88	480.60	0.000	0.000	802.00	0.00	0.00
11	107.00	Collar Mount Commscope	1	27.003	29.704	1.00	1.00	5.00	110.16	0.000	0.000	237.63	0.00	0.00
12	107.00	RRUS-E2	3	27.003	29.704	0.54	0.80	2.65	207.90	0.000	0.000	126.10	0.00	0.00
13	107.00	DTMABP7819VG12A	3	27.003	29.704	0.54	0.80	1.83	51.84	0.000	0.000	87.12	0.00	0.00
14	107.00	DBC20056F1V1	3	27.003	29.704	0.54	0.80	0.66	17.82	0.000	0.000	31.33	0.00	0.00
15	107.00	EPBQ-652L8H6-L2	3	27.003	29.704	0.68	0.80	19.71	196.56	0.000	0.000	936.57	0.00	0.00
16	107.00	RRUS 12	3	27.003	29.704	0.54	0.80	5.07	156.60	0.000	0.000	240.73	0.00	0.00
17	107.00	RRUS 4449 B5/B12	3	27.003	29.704	0.54	0.80	2.65	229.50	0.000	0.000	126.10	0.00	0.00
18	107.00	RRUS-11 700MHz	3	27.003	29.704	0.54	0.80	4.05	136.89	0.000	0.000	192.58	0.00	0.00
19	107.00	OPA-65R-LCUU-H6	3	27.003	29.704	0.63	0.80	18.32	216.00	0.000	0.000	870.46	0.00	0.00
20	107.00	RRUS A2	3	27.003	29.704	0.54	0.80	2.99	57.24	0.000	0.000	142.14	0.00	0.00
21	107.00	RRUS-32	3	27.003	29.704	0.54	0.80	6.22	207.90	0.000	0.000	295.75	0.00	0.00
22	107.00	DC6-48-60-18-8F	3	27.003	29.704	0.54	0.80	2.36	85.86	0.000	0.000	112.34	0.00	0.00
23	97.00	Standoff	3	26.451	29.096	0.56	0.75	13.50	945.00	0.000	0.000	628.48	0.00	0.00
24	97.00	Commscope	1	26.451	29.096	1.00	1.00	5.60	18.00	0.000	0.000	260.70	0.00	0.00
25	97.00	Samsung B2/B66A	3	26.451	29.096	0.54	0.80	3.02	189.81	0.000	0.000	140.74	0.00	0.00
26	97.00	Samsung B5/B13	3	26.451	29.096	0.54	0.80	3.02	227.88	0.000	0.000	140.74	0.00	0.00
27	97.00	Samsung VZS01	3	26.451	29.096	0.55	0.80	7.12	235.17	0.000	0.000	331.50	0.00	0.00
28	97.00	JMA MX06FRO660-03	6	26.451	29.096	0.70	0.80	41.22	248.40	0.000	0.000	1918.84	0.00	0.00

Totals: 6,448.23 11,696.79

Total Applied Force Summary

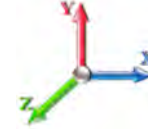
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		403.73	858.11	0.00	0.00
10.00		393.73	840.57	0.00	0.00
15.00		383.74	823.03	0.00	0.00
20.00		396.56	805.49	0.00	0.00
25.00		404.52	787.95	0.00	0.00
30.00		408.80	770.41	0.00	0.00
35.00		410.35	752.87	0.00	0.00
40.00		409.78	735.33	0.00	0.00
45.00		407.49	717.79	0.00	0.00
48.50		282.17	492.02	0.00	0.00
50.00		121.45	339.84	0.00	0.00
53.25		262.63	726.57	0.00	0.00
55.00		140.09	202.76	0.00	0.00
60.00		398.63	569.84	0.00	0.00
65.00		391.81	555.81	0.00	0.00
70.00		384.17	541.78	0.00	0.00
75.00		375.78	527.74	0.00	0.00
80.00		366.73	513.71	0.00	0.00
85.00		357.06	499.68	0.00	0.00
90.00		346.83	485.65	0.00	0.00
95.00		336.08	471.62	0.00	0.00
97.00	(19) attachments	3551.88	2048.98	0.00	0.00
98.75		113.00	138.40	0.00	0.00
100.00		81.02	154.68	0.00	0.00
102.00		128.24	244.29	0.00	0.00
105.00		189.02	187.21	0.00	0.00
107.00	(37) attachments	4324.34	2277.57	0.00	0.00
110.00		181.77	165.67	0.00	0.00
115.00		293.54	267.70	0.00	0.00
120.00		280.72	257.17	0.00	0.00
125.00		267.55	246.65	0.00	0.00
130.00		254.04	236.12	0.00	0.00
135.00		240.22	225.60	0.00	0.00
137.00	(24) attachments	4147.80	2510.54	0.00	0.00
139.00	(1) attachments	108.74	66.69	0.00	0.00
	Totals:	21,544.03	22,045.86	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



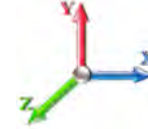
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 26

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	17.879	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.971	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.971	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.883	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.883	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.661	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.661	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.343	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.343	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.951	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.951	0.00	4.68
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.502	0.00	1.23
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.502	0.00	4.68
48.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	22.860	0.00	0.86
48.50	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	22.860	0.00	3.28
50.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	23.007	0.00	0.37
50.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	23.007	0.00	1.40
53.25	Safety Cable	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.314	0.00	0.80
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	23.314	0.00	3.04
55.00	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.473	0.00	0.43
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	23.473	0.00	1.64
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.907	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.907	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.313	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.696	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.696	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.057	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.057	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.400	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.400	0.00	4.68
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.726	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.726	0.00	4.68
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.037	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.037	0.00	4.68
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.336	0.00	1.23
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.336	0.00	4.68
97.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	0.49
97.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.451	0.00	1.87
98.75	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	26.551	0.00	0.43
98.75	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	26.551	0.00	1.64
100.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	0.31

Linear Appurtenance Segment Forces (Factored)

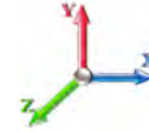
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	26.621	0.00	1.17
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.733	0.00	0.49
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	26.733	0.00	1.87
105.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.896	0.00	0.74
105.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	26.896	0.00	2.81
107.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.003	0.00	0.49
107.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	27.003	0.00	1.87
110.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.161	0.00	0.74
110.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	27.161	0.00	2.81
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.416	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.416	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.663	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.663	0.00	4.68
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.902	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.902	0.00	4.68
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.133	0.00	1.23
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.133	0.00	4.68
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.358	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.358	0.00	4.68
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.446	0.00	0.49
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.446	0.00	1.87
139.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.533	0.00	0.49
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	28.533	0.00	1.87
Totals:											0.0	164.3

Calculated Forces

Structure: CT13549-S-SBA
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

8/16/2021
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 26

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	-22.00	-21.59	0.00	-2054.2	0.00	2054.20	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.715
5.00	-21.06	-21.26	0.00	-1946.2	0.00	1946.26	2960.91	1480.45	5573.38	2790.83	0.12	-0.220	0.000	0.705
10.00	-20.14	-20.94	0.00	-1839.9	0.00	1839.95	2916.70	1458.35	5350.68	2679.32	0.47	-0.444	0.000	0.694
15.00	-19.24	-20.63	0.00	-1735.2	0.00	1735.23	2870.92	1435.46	5129.40	2568.51	1.06	-0.673	0.000	0.682
20.00	-18.36	-20.30	0.00	-1632.0	0.00	1632.08	2823.56	1411.78	4909.74	2458.52	1.89	-0.906	0.000	0.671
25.00	-17.49	-19.95	0.00	-1530.5	0.00	1530.59	2774.61	1387.31	4691.94	2349.46	2.96	-1.143	0.000	0.658
30.00	-16.65	-19.60	0.00	-1430.8	0.00	1430.83	2724.09	1362.04	4476.23	2241.44	4.29	-1.384	0.000	0.645
35.00	-15.82	-19.24	0.00	-1332.8	0.00	1332.84	2671.99	1335.99	4262.83	2134.58	5.87	-1.630	0.000	0.631
40.00	-15.02	-18.87	0.00	-1236.6	0.00	1236.66	2618.30	1309.15	4051.97	2029.00	7.71	-1.879	0.000	0.615
45.00	-14.25	-18.49	0.00	-1142.3	0.00	1142.31	2563.04	1281.52	3843.87	1924.79	9.81	-2.131	0.000	0.599
48.50	-13.73	-18.22	0.00	-1077.5	0.00	1077.59	2523.41	1261.71	3699.97	1852.74	11.44	-2.312	0.000	0.587
50.00	-13.35	-18.12	0.00	-1050.2	0.00	1050.26	2506.19	1253.10	3638.77	1822.09	12.18	-2.392	0.000	0.582
53.25	-12.60	-17.85	0.00	-991.38	0.00	991.38	1850.79	925.39	2677.47	1340.72	13.87	-2.562	0.000	0.747
55.00	-12.34	-17.75	0.00	-960.14	0.00	960.14	1837.85	918.92	2627.99	1315.95	14.83	-2.655	0.000	0.737
60.00	-11.69	-17.38	0.00	-871.42	0.00	871.42	1799.82	899.91	2487.54	1245.62	17.77	-2.964	0.000	0.706
65.00	-11.07	-17.02	0.00	-784.50	0.00	784.50	1760.21	880.10	2348.61	1176.05	21.04	-3.273	0.000	0.674
70.00	-10.46	-16.66	0.00	-699.40	0.00	699.40	1719.02	859.51	2211.45	1107.37	24.63	-3.581	0.000	0.638
75.00	-9.87	-16.30	0.00	-616.09	0.00	616.09	1676.25	838.13	2076.26	1039.67	28.55	-3.885	0.000	0.599
80.00	-9.31	-15.95	0.00	-534.57	0.00	534.57	1631.90	815.95	1943.29	973.09	32.77	-4.183	0.000	0.555
85.00	-8.76	-15.60	0.00	-454.82	0.00	454.82	1585.97	792.99	1812.75	907.72	37.31	-4.470	0.000	0.507
90.00	-8.23	-15.25	0.00	-376.83	0.00	376.83	1538.46	769.23	1684.87	843.69	42.13	-4.744	0.000	0.452
95.00	-7.75	-14.90	0.00	-300.57	0.00	300.57	1489.37	744.69	1559.88	781.10	47.24	-4.996	0.000	0.390
97.00	-6.00	-11.19	0.00	-270.76	0.00	270.76	1469.29	734.65	1510.75	756.50	49.35	-5.094	0.000	0.362
98.75	-5.86	-11.07	0.00	-251.18	0.00	251.18	1451.52	725.76	1468.18	735.18	51.23	-5.176	0.000	0.346
100.00	-5.70	-10.99	0.00	-237.34	0.00	237.34	1437.39	718.70	1436.71	719.42	52.59	-5.234	0.000	0.334
102.00	-5.45	-10.85	0.00	-215.36	0.00	215.36	990.34	495.17	991.38	496.43	54.80	-5.322	0.000	0.440
105.00	-5.26	-10.65	0.00	-182.82	0.00	182.82	971.88	485.94	945.01	473.21	58.18	-5.446	0.000	0.392
107.00	-3.39	-6.14	0.00	-161.52	0.00	161.52	959.26	479.63	914.39	457.88	60.48	-5.544	0.000	0.356
110.00	-3.23	-5.95	0.00	-143.12	0.00	143.12	939.85	469.93	868.93	435.11	64.00	-5.683	0.000	0.333
115.00	-2.97	-5.64	0.00	-113.37	0.00	113.37	906.24	453.12	794.52	397.85	70.06	-5.895	0.000	0.288
120.00	-2.73	-5.34	0.00	-85.17	0.00	85.17	871.06	435.53	722.01	361.54	76.33	-6.088	0.000	0.239
125.00	-2.50	-5.06	0.00	-58.46	0.00	58.46	834.29	417.15	651.64	326.30	82.79	-6.253	0.000	0.182
130.00	-2.28	-4.78	0.00	-33.18	0.00	33.18	791.03	395.51	580.02	290.44	89.39	-6.379	0.000	0.117
135.00	-2.08	-4.52	0.00	-9.27	0.00	9.27	739.97	369.98	507.20	253.97	96.11	-6.449	0.000	0.039
137.00	-0.05	-0.12	0.00	-0.23	0.00	0.23	719.55	359.77	479.43	240.07	98.80	-6.456	0.000	0.001
139.00	0.00	-0.11	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	101.50	-6.457	0.000	0.000

Wind Loading - Shaft

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



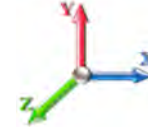
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	20.773	24.93	141.7	368.1	1306.5
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	20.359	24.43	138.9	385.7	1300.7
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	19.916	23.90	135.9	392.1	1283.7
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	19.462	23.35	140.9	393.5	1261.8
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	19.000	22.80	144.1	392.1	1237.0
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	18.534	22.24	146.1	388.9	1210.3
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	18.064	21.68	147.1	384.2	1182.3
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	17.592	21.11	147.3	378.5	1153.2
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	17.119	20.54	147.0	371.9	1123.2
48.50	Bot - Section 2	1.00	1.09	6.608	7.27	0.00	1.200	1.559	3.50	11.699	14.04	102.0	256.9	768.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	1.50	5.005	6.01	43.9	110.9	502.3
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	1.574	3.25	10.699	12.84	95.2	237.0	1072.0
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	1.75	5.677	6.81	50.8	126.7	325.0
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	15.902	19.08	145.1	353.7	907.7
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	15.424	18.51	143.1	345.0	880.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	14.946	17.93	140.8	336.0	852.6
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	14.466	17.36	138.3	326.6	824.5
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	13.987	16.78	135.5	317.0	796.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	13.506	16.21	132.6	307.1	767.6
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	13.025	15.63	129.4	297.0	738.7
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	12.544	15.05	126.0	286.6	709.7
97.00	Appurtenance(s)	1.00	1.26	7.646	8.41	0.00	1.200	1.671	2.00	4.882	5.86	49.3	113.0	276.9
98.75	Bot - Section 3	1.00	1.26	7.675	8.44	0.00	1.200	1.674	1.75	4.209	5.05	42.6	97.5	238.6
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	1.25	3.010	3.61	30.6	70.0	245.2
102.00	Top - Section 2	1.00	1.27	7.727	8.50	0.00	1.200	1.679	2.00	4.753	5.70	48.5	110.3	386.3
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	3.00	6.985	8.38	71.7	161.5	336.6
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	1.687	2.00	4.560	5.47	47.0	106.0	219.8
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	3.00	6.696	8.04	69.4	155.0	321.6
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	10.775	12.93	112.7	247.3	513.7
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	10.293	12.35	108.6	236.0	488.5
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	9.810	11.77	104.4	224.7	463.1
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	9.327	11.19	100.1	213.2	437.6
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	8.844	10.61	95.7	201.6	411.9
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	2.00	3.402	4.08	36.9	78.7	159.0
139.00	Appurtenance(s)	1.00	1.36	8.247	9.07	0.00	1.200	1.732	2.00	3.324	3.99	36.2	76.9	154.8
Totals:									139.00			3,625.6	24,857.8	

Discrete Appurtenance Forces

Structure: CT13549-S-SBA **Code:** EIA/TIA-222-G 8/16/2021
Site Name: Danbury 1 **Exposure:** C
Height: 139.00 (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 50 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	139.00	6' Lightning rod	1	8.247	9.072	1.00	1.00	1.46	38.53	0.000	0.000	13.24	0.00	0.00	0.00
2	137.00	RFS	3	8.222	9.044	0.56	0.80	37.17	1701.86	0.000	0.000	336.14	0.00	0.00	0.00
3	137.00	AIR6449 B41	3	8.222	9.044	0.57	0.80	11.23	683.34	0.000	0.000	101.59	0.00	0.00	0.00
4	137.00	KRY 112 144/1	3	8.222	9.044	0.54	0.80	1.42	62.35	0.000	0.000	12.81	0.00	0.00	0.00
5	137.00	SDX1926Q-43	3	8.222	9.044	0.54	0.80	1.34	45.61	0.000	0.000	12.10	0.00	0.00	0.00
6	137.00	Air 32	3	8.222	9.044	0.70	0.80	16.03	1023.15	0.000	0.000	145.02	0.00	0.00	0.00
7	137.00	Radio 4449 B71+B12	3	8.222	9.044	0.54	0.80	3.51	454.42	0.000	0.000	31.74	0.00	0.00	0.00
8	137.00	4415 B25	3	8.222	9.044	0.54	0.80	3.89	346.89	0.000	0.000	35.18	0.00	0.00	0.00
9	137.00	RDS-272	3	8.222	9.044	0.56	0.75	31.47	2030.14	0.000	0.000	284.61	0.00	0.00	0.00
10	107.00	T-Arm Commscope	3	7.805	8.586	0.56	0.75	31.11	875.20	0.000	0.000	267.12	0.00	0.00	0.00
11	107.00	Collar Mount Commscope	1	7.805	8.586	1.00	1.00	13.44	398.01	0.000	0.000	115.36	0.00	0.00	0.00
12	107.00	RRUS-E2	3	7.805	8.586	0.54	0.80	3.55	416.30	0.000	0.000	30.49	0.00	0.00	0.00
13	107.00	DTMABP7819VG12A	3	7.805	8.586	0.54	0.80	3.03	121.24	0.000	0.000	26.01	0.00	0.00	0.00
14	107.00	DBC20056F1V1	3	7.805	8.586	0.54	0.80	1.16	55.05	0.000	0.000	9.94	0.00	0.00	0.00
15	107.00	EPBQ-652L8H6-L2	3	7.805	8.586	0.68	0.80	30.00	1074.08	0.000	0.000	257.55	0.00	0.00	0.00
16	107.00	RRUS 12	3	7.805	8.586	0.54	0.80	6.17	483.44	0.000	0.000	52.99	0.00	0.00	0.00
17	107.00	RRUS 4449 B5/B12	3	7.805	8.586	0.54	0.80	6.85	647.28	0.000	0.000	58.82	0.00	0.00	0.00
18	107.00	RRUS-11 700MHz	3	7.805	8.586	0.54	0.80	5.06	439.28	0.000	0.000	43.46	0.00	0.00	0.00
19	107.00	OPA-65R-LCUU-H6	3	7.805	8.586	0.63	0.80	20.81	956.35	0.000	0.000	178.71	0.00	0.00	0.00
20	107.00	RRUS A2	3	7.805	8.586	0.54	0.80	4.50	150.45	0.000	0.000	38.68	0.00	0.00	0.00
21	107.00	RRUS-32	3	7.805	8.586	0.54	0.80	6.56	604.39	0.000	0.000	56.30	0.00	0.00	0.00
22	107.00	DC6-48-60-18-8F	3	7.805	8.586	0.54	0.80	3.45	240.69	0.000	0.000	29.64	0.00	0.00	0.00
23	97.00	Standoff	3	7.646	8.410	0.56	0.75	24.78	1751.72	0.000	0.000	208.39	0.00	0.00	0.00
24	97.00	Commscope	1	7.646	8.410	1.00	1.00	7.19	101.14	0.000	0.000	60.48	0.00	0.00	0.00
25	97.00	Samsung B2/B66A	3	7.646	8.410	0.54	0.80	3.87	357.96	0.000	0.000	32.56	0.00	0.00	0.00
26	97.00	Samsung B5/B13	3	7.646	8.410	0.54	0.80	3.87	345.46	0.000	0.000	32.56	0.00	0.00	0.00
27	97.00	Samsung VZS01	3	7.646	8.410	0.60	0.80	9.26	629.50	0.000	0.000	77.87	0.00	0.00	0.00
28	97.00	JMA MX06FRO660-03	6	7.646	8.410	0.70	0.80	46.70	1866.12	0.000	0.000	392.80	0.00	0.00	0.00

Totals: 17,899.93

2,942.17

Total Applied Force Summary

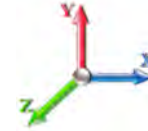
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

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		141.71	1536.19	0.00	0.00
10.00		138.89	1533.47	0.00	0.00
15.00		135.87	1518.53	0.00	0.00
20.00		140.87	1498.17	0.00	0.00
25.00		144.14	1474.65	0.00	0.00
30.00		146.10	1449.04	0.00	0.00
35.00		147.10	1421.93	0.00	0.00
40.00		147.34	1393.66	0.00	0.00
45.00		146.98	1364.49	0.00	0.00
48.50		102.04	938.08	0.00	0.00
50.00		43.94	574.85	0.00	0.00
53.25		95.18	1229.56	0.00	0.00
55.00		50.85	409.89	0.00	0.00
60.00		145.06	1150.84	0.00	0.00
65.00		143.09	1124.03	0.00	0.00
70.00		140.83	1096.82	0.00	0.00
75.00		138.30	1069.25	0.00	0.00
80.00		135.55	1041.37	0.00	0.00
85.00		132.57	1013.19	0.00	0.00
90.00		129.40	984.76	0.00	0.00
95.00		126.05	956.09	0.00	0.00
97.00	(19) attachments	853.94	5427.48	0.00	0.00
98.75		42.63	296.41	0.00	0.00
100.00		30.57	286.49	0.00	0.00
102.00		48.48	452.48	0.00	0.00
105.00		71.68	436.01	0.00	0.00
107.00	(37) attachments	1212.06	6747.93	0.00	0.00
110.00		69.39	400.95	0.00	0.00
115.00		112.72	646.30	0.00	0.00
120.00		108.64	621.38	0.00	0.00
125.00		104.44	596.30	0.00	0.00
130.00		100.12	571.08	0.00	0.00
135.00		95.69	545.73	0.00	0.00
137.00	(24) attachments	996.11	6560.30	0.00	0.00
139.00	(1) attachments	49.43	213.96	0.00	0.00
	Totals:	6,567.72	48,581.67	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	12.93
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	18.85
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	14.46
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	20.46
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	15.46
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	21.51
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	16.21
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	22.31
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	16.83
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	22.95
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	17.35
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	23.50
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	17.80
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	23.98
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	18.21
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	24.40
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	18.58
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	24.79
48.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	6.608	0.00	13.17
48.50	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	6.608	0.00	17.53
50.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	5.67
50.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	7.54
53.25	Safety Cable	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	6.739	0.00	12.43
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	6.739	0.00	16.48
55.00	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	6.73
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	8.91
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	19.51
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	25.76
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	19.78
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	26.04
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	20.03
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	26.31
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	20.27
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	26.56
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	20.49
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	26.79
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	20.71
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	27.02
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	20.91
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	27.23
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	21.11
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	27.44
97.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.646	0.00	8.47
97.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.646	0.00	11.01
98.75	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	7.675	0.00	7.44
98.75	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	7.675	0.00	9.65
100.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	5.32

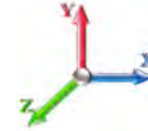
Linear Appurtenance Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

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)
100.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	6.91
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.727	0.00	8.55
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.727	0.00	11.08
105.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	12.89
105.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	16.69
107.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.805	0.00	8.62
107.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.805	0.00	11.16
110.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	12.99
110.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	16.80
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	21.82
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	28.18
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	21.98
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	28.34
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	22.14
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	28.51
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	22.29
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	28.67
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	22.43
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	28.82
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.222	0.00	9.00
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.222	0.00	11.55
139.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.247	0.00	9.02
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.247	0.00	11.57
Totals:											0.0	1,256.9

Calculated Forces

Structure: CT13549-S-SBA

Code: EIA/TIA-222-G

8/16/2021

Site Name: Danbury 1

Exposure: C



Height: 139.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

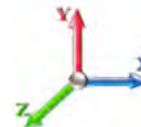
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

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	-48.58	-6.60	0.00	-632.16	0.00	632.16	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.234
5.00	-47.03	-6.51	0.00	-599.18	0.00	599.18	2960.91	1480.45	5573.38	2790.83	0.04	-0.068	0.000	0.231
10.00	-45.49	-6.42	0.00	-566.63	0.00	566.63	2916.70	1458.35	5350.68	2679.32	0.14	-0.137	0.000	0.227
15.00	-43.97	-6.34	0.00	-534.51	0.00	534.51	2870.92	1435.46	5129.40	2568.51	0.33	-0.207	0.000	0.223
20.00	-42.46	-6.24	0.00	-502.83	0.00	502.83	2823.56	1411.78	4909.74	2458.52	0.58	-0.279	0.000	0.220
25.00	-40.98	-6.14	0.00	-471.61	0.00	471.61	2774.61	1387.31	4691.94	2349.46	0.91	-0.352	0.000	0.216
30.00	-39.52	-6.04	0.00	-440.88	0.00	440.88	2724.09	1362.04	4476.23	2241.44	1.32	-0.426	0.000	0.211
35.00	-38.10	-5.93	0.00	-410.68	0.00	410.68	2671.99	1335.99	4262.83	2134.58	1.81	-0.502	0.000	0.207
40.00	-36.70	-5.82	0.00	-381.02	0.00	381.02	2618.30	1309.15	4051.97	2029.00	2.37	-0.579	0.000	0.202
45.00	-35.33	-5.70	0.00	-351.92	0.00	351.92	2563.04	1281.52	3843.87	1924.79	3.02	-0.656	0.000	0.197
48.50	-34.39	-5.61	0.00	-331.96	0.00	331.96	2523.41	1261.71	3699.97	1852.74	3.52	-0.712	0.000	0.193
50.00	-33.81	-5.58	0.00	-323.55	0.00	323.55	2506.19	1253.10	3638.77	1822.09	3.75	-0.737	0.000	0.191
53.25	-32.58	-5.49	0.00	-305.40	0.00	305.40	1850.79	925.39	2677.47	1340.72	4.27	-0.789	0.000	0.245
55.00	-32.16	-5.47	0.00	-295.79	0.00	295.79	1837.85	918.92	2627.99	1315.95	4.57	-0.818	0.000	0.242
60.00	-31.00	-5.36	0.00	-268.42	0.00	268.42	1799.82	899.91	2487.54	1245.62	5.48	-0.913	0.000	0.233
65.00	-29.87	-5.25	0.00	-241.61	0.00	241.61	1760.21	880.10	2348.61	1176.05	6.48	-1.008	0.000	0.222
70.00	-28.77	-5.14	0.00	-215.36	0.00	215.36	1719.02	859.51	2211.45	1107.37	7.59	-1.103	0.000	0.211
75.00	-27.70	-5.02	0.00	-189.68	0.00	189.68	1676.25	838.13	2076.26	1039.67	8.80	-1.197	0.000	0.199
80.00	-26.65	-4.91	0.00	-164.58	0.00	164.58	1631.90	815.95	1943.29	973.09	10.10	-1.288	0.000	0.185
85.00	-25.63	-4.79	0.00	-140.05	0.00	140.05	1585.97	792.99	1812.75	907.72	11.50	-1.377	0.000	0.170
90.00	-24.64	-4.67	0.00	-116.11	0.00	116.11	1538.46	769.23	1684.87	843.69	12.98	-1.461	0.000	0.154
95.00	-23.69	-4.54	0.00	-92.77	0.00	92.77	1489.37	744.69	1559.88	781.10	14.56	-1.539	0.000	0.135
97.00	-18.28	-3.55	0.00	-83.69	0.00	83.69	1469.29	734.65	1510.75	756.50	15.21	-1.569	0.000	0.123
98.75	-17.99	-3.50	0.00	-77.48	0.00	77.48	1451.52	725.76	1468.18	735.18	15.79	-1.594	0.000	0.118
100.00	-17.70	-3.47	0.00	-73.10	0.00	73.10	1437.39	718.70	1436.71	719.42	16.21	-1.612	0.000	0.114
102.00	-17.25	-3.42	0.00	-66.16	0.00	66.16	990.34	495.17	991.38	496.43	16.89	-1.639	0.000	0.151
105.00	-16.81	-3.35	0.00	-55.90	0.00	55.90	971.88	485.94	945.01	473.21	17.93	-1.677	0.000	0.135
107.00	-10.10	-1.94	0.00	-49.20	0.00	49.20	959.26	479.63	914.39	457.88	18.64	-1.707	0.000	0.118
110.00	-9.70	-1.87	0.00	-43.38	0.00	43.38	939.85	469.93	868.93	435.11	19.73	-1.749	0.000	0.110
115.00	-9.06	-1.75	0.00	-34.03	0.00	34.03	906.24	453.12	794.52	397.85	21.60	-1.814	0.000	0.096
120.00	-8.44	-1.63	0.00	-25.30	0.00	25.30	871.06	435.53	722.01	361.54	23.53	-1.871	0.000	0.080
125.00	-7.84	-1.51	0.00	-17.17	0.00	17.17	834.29	417.15	651.64	326.30	25.51	-1.920	0.000	0.062
130.00	-7.28	-1.39	0.00	-9.63	0.00	9.63	791.03	395.51	580.02	290.44	27.55	-1.957	0.000	0.042
135.00	-6.73	-1.28	0.00	-2.67	0.00	2.67	739.97	369.98	507.20	253.97	29.61	-1.977	0.000	0.020
137.00	-0.21	-0.06	0.00	-0.11	0.00	0.11	719.55	359.77	479.43	240.07	30.44	-1.979	0.000	0.001
139.00	0.00	-0.05	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	31.26	-1.979	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

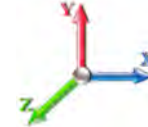


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Load Case: 1.2D + 1.0E

Iterations 24

Gust Response Factor 1.10	Sds 0.23	Ss 0.22
Dead Load Factor 1.20	Seismic Load Factor 1.00	Sd1 0.11
Wind Load Factor 0.00	Structure Frequency (f1) 0.34	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		781.99	0.00	0.03	0.02	19.85	
10.00		762.50	0.01	0.05	0.03	27.09	
15.00		743.01	0.02	0.07	0.04	29.84	
20.00		723.53	0.04	0.07	0.04	30.70	
25.00		704.04	0.06	0.07	0.04	30.84	
30.00		684.55	0.09	0.07	0.04	30.78	
35.00		665.06	0.12	0.07	0.03	30.70	
40.00		645.57	0.16	0.07	0.03	30.48	
45.00		626.08	0.20	0.06	0.02	29.81	
48.50	Bot - Section 2	426.66	0.23	0.06	0.02	20.08	
50.00		326.16	0.24	0.06	0.02	15.17	
53.25	Top - Section 1	695.84	0.28	0.05	0.01	30.89	
55.00		165.27	0.30	0.05	0.01	7.05	
60.00		461.69	0.35	0.03	0.01	15.94	
65.00		446.10	0.41	0.01	0.01	9.43	
70.00		430.51	0.48	-0.01	0.01	1.26	
75.00		414.92	0.55	-0.03	0.01	-7.13	
80.00		399.33	0.63	-0.06	0.02	-13.87	
85.00		383.74	0.71	-0.09	0.03	-17.77	
90.00		368.15	0.79	-0.11	0.05	-18.57	
95.00		352.56	0.88	-0.12	0.08	-16.59	
97.00	Appurtenance(s)	2208.0	0.92	-0.12	0.10	-96.37	
98.75	Bot - Section 3	117.53	0.95	-0.12	0.11	-4.67	
100.00		145.97	0.98	-0.11	0.12	-5.31	
102.00	Top - Section 2	230.01	1.02	-0.11	0.14	-6.94	
105.00		145.87	1.08	-0.08	0.17	-2.73	
107.00	Appurtenance(s)	2489.2	1.12	-0.06	0.20	-24.23	
110.00		138.86	1.18	-0.01	0.24	0.81	
115.00		222.07	1.29	0.11	0.33	8.29	
120.00		210.38	1.41	0.30	0.44	15.97	
125.00		198.69	1.53	0.57	0.58	24.18	
130.00		187.00	1.65	0.95	0.74	32.70	
135.00		175.30	1.78	1.46	0.95	41.30	
137.00	Appurtenance(s)	2759.3	1.84	1.71	1.04	723.22	
139.00	Appurtenance(s)	71.48	1.89	1.98	1.14	20.72	
Totals:		20,507.0				1,012.9	Total Wind: 21,544.0

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

Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E

Gust Response Factor 1.10

Sds 0.23

Iterations 24

Dead Load Factor 1.20 **Seismic Load Factor** 1.00 **Sd1** 0.11

Ss 0.22

S1 0.07

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.34 **SA** 0.04 **Seismic Importance Factor** 1.00



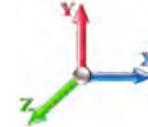
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-29.39	-1.23	0.00	-137.02	0.00	137.02	3003.53	1501.76	5797.25	2902.93	0.00	0.00	0.00	0.057
5.00	-28.25	-1.22	0.00	-130.87	0.00	130.87	2960.91	1480.45	5573.38	2790.83	0.01	-0.01	0.056	
10.00	-27.13	-1.20	0.00	-124.78	0.00	124.78	2916.70	1458.35	5350.68	2679.32	0.03	-0.03	0.056	
15.00	-26.03	-1.17	0.00	-118.79	0.00	118.79	2870.92	1435.46	5129.40	2568.51	0.07	-0.05	0.055	
20.00	-24.96	-1.15	0.00	-112.92	0.00	112.92	2823.56	1411.78	4909.74	2458.52	0.13	-0.06	0.055	
25.00	-23.91	-1.12	0.00	-107.17	0.00	107.17	2774.61	1387.31	4691.94	2349.46	0.20	-0.08	0.054	
30.00	-22.88	-1.10	0.00	-101.55	0.00	101.55	2724.09	1362.04	4476.23	2241.44	0.29	-0.09	0.054	
35.00	-21.87	-1.07	0.00	-96.05	0.00	96.05	2671.99	1335.99	4262.83	2134.58	0.40	-0.11	0.053	
40.00	-20.89	-1.05	0.00	-90.69	0.00	90.69	2618.30	1309.15	4051.97	2029.00	0.53	-0.13	0.053	
45.00	-19.94	-1.02	0.00	-85.45	0.00	85.45	2563.04	1281.52	3843.87	1924.79	0.67	-0.15	0.052	
48.50	-19.28	-1.00	0.00	-81.88	0.00	81.88	2523.41	1261.71	3699.97	1852.74	0.79	-0.16	0.052	
50.00	-18.83	-0.99	0.00	-80.37	0.00	80.37	2506.19	1253.10	3638.77	1822.09	0.84	-0.17	0.052	
53.25	-17.86	-0.96	0.00	-77.16	0.00	77.16	1850.79	925.39	2677.47	1340.72	0.96	-0.18	0.067	
55.00	-17.59	-0.96	0.00	-75.48	0.00	75.48	1837.85	918.92	2627.99	1315.95	1.03	-0.19	0.067	
60.00	-16.83	-0.94	0.00	-70.71	0.00	70.71	1799.82	899.91	2487.54	1245.62	1.24	-0.21	0.066	
65.00	-16.09	-0.94	0.00	-65.98	0.00	65.98	1760.21	880.10	2348.61	1176.05	1.48	-0.24	0.065	
70.00	-15.36	-0.94	0.00	-61.29	0.00	61.29	1719.02	859.51	2211.45	1107.37	1.74	-0.27	0.064	
75.00	-14.66	-0.95	0.00	-56.58	0.00	56.58	1676.25	838.13	2076.26	1039.67	2.04	-0.29	0.063	
80.00	-13.97	-0.95	0.00	-51.85	0.00	51.85	1631.90	815.95	1943.29	973.09	2.36	-0.32	0.062	
85.00	-13.31	-0.95	0.00	-47.11	0.00	47.11	1585.97	792.99	1812.75	907.72	2.71	-0.35	0.060	
90.00	-12.66	-0.95	0.00	-42.35	0.00	42.35	1538.46	769.23	1684.87	843.69	3.09	-0.38	0.058	
95.00	-12.03	-0.95	0.00	-37.58	0.00	37.58	1489.37	744.69	1559.88	781.10	3.51	-0.41	0.056	
97.00	-9.30	-0.94	0.00	-35.67	0.00	35.67	1469.29	734.65	1510.75	756.50	3.68	-0.42	0.053	
98.75	-9.11	-0.94	0.00	-34.03	0.00	34.03	1451.52	725.76	1468.18	735.18	3.84	-0.43	0.053	
100.00	-8.91	-0.94	0.00	-32.86	0.00	32.86	1437.39	718.70	1436.71	719.42	3.95	-0.44	0.052	
102.00	-8.58	-0.94	0.00	-30.99	0.00	30.99	990.34	495.17	991.38	496.43	4.14	-0.45	0.071	
105.00	-8.33	-0.94	0.00	-28.18	0.00	28.18	971.88	485.94	945.01	473.21	4.43	-0.47	0.068	
107.00	-5.29	-0.91	0.00	-26.31	0.00	26.31	959.26	479.63	914.39	457.88	4.63	-0.49	0.063	
110.00	-5.07	-0.91	0.00	-23.57	0.00	23.57	939.85	469.93	868.93	435.11	4.94	-0.51	0.060	
115.00	-4.72	-0.90	0.00	-19.00	0.00	19.00	906.24	453.12	794.52	397.85	5.50	-0.55	0.053	
120.00	-4.37	-0.89	0.00	-14.48	0.00	14.48	871.06	435.53	722.01	361.54	6.09	-0.58	0.045	
125.00	-4.04	-0.86	0.00	-10.05	0.00	10.05	834.29	417.15	651.64	326.30	6.71	-0.61	0.036	
130.00	-3.73	-0.83	0.00	-5.74	0.00	5.74	791.03	395.51	580.02	290.44	7.35	-0.63	0.024	
135.00	-3.43	-0.78	0.00	-1.61	0.00	1.61	739.97	369.98	507.20	253.97	8.02	-0.64	0.011	
137.00	-0.09	-0.02	0.00	-0.04	0.00	0.04	719.55	359.77	479.43	240.07	8.29	-0.64	0.000	
139.00	0.00	-0.02	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	8.56	-0.64	0.000	

Seismic Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E				Iterations 23
Gust Response Factor	1.10	Sds	0.23	Ss 0.22
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.34	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		781.99	0.00	0.03	0.02	19.85	
10.00		762.50	0.01	0.05	0.03	27.09	
15.00		743.01	0.02	0.07	0.04	29.84	
20.00		723.53	0.04	0.07	0.04	30.70	
25.00		704.04	0.06	0.07	0.04	30.84	
30.00		684.55	0.09	0.07	0.04	30.78	
35.00		665.06	0.12	0.07	0.03	30.70	
40.00		645.57	0.16	0.07	0.03	30.48	
45.00		626.08	0.20	0.06	0.02	29.81	
48.50	Bot - Section 2	426.66	0.23	0.06	0.02	20.08	
50.00		326.16	0.24	0.06	0.02	15.17	
53.25	Top - Section 1	695.84	0.28	0.05	0.01	30.89	
55.00		165.27	0.30	0.05	0.01	7.05	
60.00		461.69	0.35	0.03	0.01	15.94	
65.00		446.10	0.41	0.01	0.01	9.43	
70.00		430.51	0.48	-0.01	0.01	1.26	
75.00		414.92	0.55	-0.03	0.01	-7.13	
80.00		399.33	0.63	-0.06	0.02	-13.87	
85.00		383.74	0.71	-0.09	0.03	-17.77	
90.00		368.15	0.79	-0.11	0.05	-18.57	
95.00		352.56	0.88	-0.12	0.08	-16.59	
97.00	Appurtenance(s)	2208.0	0.92	-0.12	0.10	-96.37	
98.75	Bot - Section 3	117.53	0.95	-0.12	0.11	-4.67	
100.00		145.97	0.98	-0.11	0.12	-5.31	
102.00	Top - Section 2	230.01	1.02	-0.11	0.14	-6.94	
105.00		145.87	1.08	-0.08	0.17	-2.73	
107.00	Appurtenance(s)	2489.2	1.12	-0.06	0.20	-24.23	
110.00		138.86	1.18	-0.01	0.24	0.81	
115.00		222.07	1.29	0.11	0.33	8.29	
120.00		210.38	1.41	0.30	0.44	15.97	
125.00		198.69	1.53	0.57	0.58	24.18	
130.00		187.00	1.65	0.95	0.74	32.70	
135.00		175.30	1.78	1.46	0.95	41.30	
137.00	Appurtenance(s)	2759.3	1.84	1.71	1.04	723.22	
139.00	Appurtenance(s)	71.48	1.89	1.98	1.14	20.72	
Totals:		20,507.0				1,012.9	Total Wind: 21,544.0

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

Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021	
Site Name: Danbury 1	Exposure: C		
Height: 139.00 (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: 0.9D + 1.0E					Iterations 23
Gust Response Factor 1.10		Sds 0.23			Ss 0.22
Dead Load Factor 0.90	Seismic Load Factor 1.00	Sd1 0.11			S1 0.07
Wind Load Factor 0.00	Structure Frequency (f1) 0.34	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	-22.05	-1.23	0.00	-135.07	0.00	135.07	3003.53	1501.76	5797.25	2902.93		0.00	0.00	0.054
5.00	-21.19	-1.21	0.00	-128.92	0.00	128.92	2960.91	1480.45	5573.38	2790.83		0.01	-0.01	0.053
10.00	-20.35	-1.19	0.00	-122.85	0.00	122.85	2916.70	1458.35	5350.68	2679.32		0.03	-0.03	0.053
15.00	-19.52	-1.17	0.00	-116.89	0.00	116.89	2870.92	1435.46	5129.40	2568.51		0.07	-0.04	0.052
20.00	-18.72	-1.14	0.00	-111.06	0.00	111.06	2823.56	1411.78	4909.74	2458.52		0.13	-0.06	0.052
25.00	-17.93	-1.11	0.00	-105.35	0.00	105.35	2774.61	1387.31	4691.94	2349.46		0.20	-0.08	0.051
30.00	-17.16	-1.09	0.00	-99.78	0.00	99.78	2724.09	1362.04	4476.23	2241.44		0.29	-0.09	0.051
35.00	-16.41	-1.06	0.00	-94.34	0.00	94.34	2671.99	1335.99	4262.83	2134.58		0.39	-0.11	0.050
40.00	-15.67	-1.03	0.00	-89.04	0.00	89.04	2618.30	1309.15	4051.97	2029.00		0.52	-0.13	0.050
45.00	-14.95	-1.01	0.00	-83.88	0.00	83.88	2563.04	1281.52	3843.87	1924.79		0.66	-0.15	0.049
48.50	-14.46	-0.99	0.00	-80.35	0.00	80.35	2523.41	1261.71	3699.97	1852.74		0.78	-0.16	0.049
50.00	-14.12	-0.97	0.00	-78.87	0.00	78.87	2506.19	1253.10	3638.77	1822.09		0.83	-0.17	0.049
53.25	-13.39	-0.94	0.00	-75.71	0.00	75.71	1850.79	925.39	2677.47	1340.72		0.95	-0.18	0.064
55.00	-13.19	-0.94	0.00	-74.06	0.00	74.06	1837.85	918.92	2627.99	1315.95		1.01	-0.19	0.063
60.00	-12.62	-0.93	0.00	-69.37	0.00	69.37	1799.82	899.91	2487.54	1245.62		1.22	-0.21	0.063
65.00	-12.06	-0.92	0.00	-64.74	0.00	64.74	1760.21	880.10	2348.61	1176.05		1.45	-0.24	0.062
70.00	-11.52	-0.92	0.00	-60.14	0.00	60.14	1719.02	859.51	2211.45	1107.37		1.71	-0.26	0.061
75.00	-10.99	-0.92	0.00	-55.54	0.00	55.54	1676.25	838.13	2076.26	1039.67		2.00	-0.29	0.060
80.00	-10.48	-0.93	0.00	-50.92	0.00	50.92	1631.90	815.95	1943.29	973.09		2.32	-0.32	0.059
85.00	-9.98	-0.93	0.00	-46.28	0.00	46.28	1585.97	792.99	1812.75	907.72		2.66	-0.34	0.057
90.00	-9.49	-0.93	0.00	-41.64	0.00	41.64	1538.46	769.23	1684.87	843.69		3.04	-0.37	0.056
95.00	-9.02	-0.93	0.00	-36.99	0.00	36.99	1489.37	744.69	1559.88	781.10		3.45	-0.40	0.053
97.00	-6.97	-0.92	0.00	-35.13	0.00	35.13	1469.29	734.65	1510.75	756.50		3.62	-0.41	0.051
98.75	-6.83	-0.92	0.00	-33.52	0.00	33.52	1451.52	725.76	1468.18	735.18		3.77	-0.43	0.050
100.00	-6.68	-0.92	0.00	-32.37	0.00	32.37	1437.39	718.70	1436.71	719.42		3.88	-0.43	0.050
102.00	-6.43	-0.92	0.00	-30.54	0.00	30.54	990.34	495.17	991.38	496.43		4.07	-0.45	0.068
105.00	-6.25	-0.92	0.00	-27.79	0.00	27.79	971.88	485.94	945.01	473.21		4.35	-0.46	0.065
107.00	-3.97	-0.90	0.00	-25.95	0.00	25.95	959.26	479.63	914.39	457.88		4.55	-0.48	0.061
110.00	-3.80	-0.90	0.00	-23.25	0.00	23.25	939.85	469.93	868.93	435.11		4.86	-0.50	0.057
115.00	-3.53	-0.89	0.00	-18.75	0.00	18.75	906.24	453.12	794.52	397.85		5.40	-0.54	0.051
120.00	-3.28	-0.88	0.00	-14.29	0.00	14.29	871.06	435.53	722.01	361.54		5.98	-0.57	0.043
125.00	-3.03	-0.85	0.00	-9.91	0.00	9.91	834.29	417.15	651.64	326.30		6.59	-0.60	0.034
130.00	-2.79	-0.82	0.00	-5.66	0.00	5.66	791.03	395.51	580.02	290.44		7.23	-0.62	0.023
135.00	-2.57	-0.77	0.00	-1.59	0.00	1.59	739.97	369.98	507.20	253.97		7.88	-0.63	0.010
137.00	-0.07	-0.02	0.00	-0.04	0.00	0.04	719.55	359.77	479.43	240.07		8.15	-0.63	0.000
139.00	0.00	-0.02	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56		8.41	-0.63	0.000

Wind Loading - Shaft

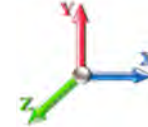
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 30



Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		1.00	0.85	7.442	8.19	221.08	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0	
5.00		1.00	0.85	7.442	8.19	215.67	0.650	0.000	5.00	19.738	12.83	105.0	0.0	782.0	
10.00		1.00	0.85	7.442	8.19	210.27	0.650	0.000	5.00	19.250	12.51	102.4	0.0	762.5	
15.00		1.00	0.85	7.442	8.19	204.86	0.650	0.000	5.00	18.761	12.19	99.8	0.0	743.0	
20.00		1.00	0.90	7.896	8.69	205.45	0.650	0.000	5.00	18.273	11.88	103.2	0.0	723.5	
25.00		1.00	0.95	8.276	9.10	204.63	0.650	0.000	5.00	17.784	11.56	105.2	0.0	704.0	
30.00		1.00	0.98	8.600	9.46	202.79	0.650	0.000	5.00	17.295	11.24	106.3	0.0	684.5	
35.00		1.00	1.01	8.883	9.77	200.20	0.650	0.000	5.00	16.807	10.92	106.8	0.0	665.1	
40.00		1.00	1.04	9.137	10.05	197.04	0.650	0.000	5.00	16.318	10.61	106.6	0.0	645.6	
45.00		1.00	1.07	9.366	10.30	193.44	0.650	0.000	5.00	15.830	10.29	106.0	0.0	626.1	
48.50	Bot - Section 2	1.00	1.09	9.515	10.47	190.69	0.650	0.000	3.50	10.790	7.01	73.4	0.0	426.7	
50.00		1.00	1.09	9.576	10.53	189.46	0.650	0.000	1.50	4.614	3.00	31.6	0.0	326.2	
53.25	Top - Section 1	1.00	1.11	9.704	10.67	186.71	0.650	0.000	3.25	9.847	6.40	68.3	0.0	695.8	
55.00		1.00	1.12	9.770	10.75	187.86	0.650	0.000	1.75	5.217	3.39	36.4	0.0	165.3	
60.00		1.00	1.14	9.951	10.95	183.34	0.650	0.000	5.00	14.575	9.47	103.7	0.0	461.7	
65.00		1.00	1.16	10.120	11.13	178.59	0.650	0.000	5.00	14.087	9.16	101.9	0.0	446.1	
70.00		1.00	1.17	10.279	11.31	173.63	0.650	0.000	5.00	13.598	8.84	99.9	0.0	430.5	
75.00		1.00	1.19	10.430	11.47	168.50	0.650	0.000	5.00	13.109	8.52	97.8	0.0	414.9	
80.00		1.00	1.21	10.572	11.63	163.20	0.650	0.000	5.00	12.621	8.20	95.4	0.0	399.3	
85.00		1.00	1.22	10.708	11.78	157.76	0.650	0.000	5.00	12.132	7.89	92.9	0.0	383.7	
90.00		1.00	1.24	10.838	11.92	152.19	0.650	0.000	5.00	11.644	7.57	90.2	0.0	368.1	
95.00		1.00	1.25	10.962	12.06	146.50	0.650	0.000	5.00	11.155	7.25	87.4	0.0	352.6	
97.00	Appurtenance(s)	1.00	1.26	11.010	12.11	144.19	0.650	0.000	2.00	4.325	2.81	34.0	0.0	136.7	
98.75	Bot - Section 3	1.00	1.26	11.051	12.16	142.16	0.650	0.000	1.75	3.720	2.42	29.4	0.0	117.5	
100.00		1.00	1.27	11.081	12.19	140.70	0.650	0.000	1.25	2.660	1.73	21.1	0.0	146.0	
102.00	Top - Section 2	1.00	1.27	11.127	12.24	138.35	0.650	0.000	2.00	4.193	2.73	33.4	0.0	230.0	
105.00		1.00	1.28	11.195	12.31	136.94	0.650	0.000	3.00	6.143	3.99	49.2	0.0	145.9	
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	134.56	0.650	0.000	2.00	3.998	2.60	32.1	0.0	94.9	
110.00		1.00	1.29	11.305	12.44	130.95	0.650	0.000	3.00	5.850	3.80	47.3	0.0	138.9	
115.00		1.00	1.30	11.412	12.55	124.87	0.650	0.000	5.00	9.359	6.08	76.4	0.0	222.1	
120.00		1.00	1.32	11.514	12.67	118.71	0.650	0.000	5.00	8.871	5.77	73.0	0.0	210.4	
125.00		1.00	1.33	11.614	12.78	112.47	0.650	0.000	5.00	8.382	5.45	69.6	0.0	198.7	
130.00		1.00	1.34	11.710	12.88	106.15	0.650	0.000	5.00	7.893	5.13	66.1	0.0	187.0	
135.00		1.00	1.35	11.803	12.98	99.77	0.650	0.000	5.00	7.405	4.81	62.5	0.0	175.3	
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	97.19	0.650	0.000	2.00	2.825	1.84	23.9	0.0	66.8	
139.00	Appurtenance(s)	1.00	1.36	11.876	13.06	94.61	0.650	0.000	2.00	2.747	1.79	23.3	0.0	65.0	
Totals:									139.00			2,561.7			13,342.3

Discrete Appurtenance Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

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	139.00	6' Lightning rod	1	11.876	13.064	1.00	1.00	0.38	6.50	0.000	0.000	4.96	0.00	0.00	
2	137.00	RFS	3	11.840	13.024	0.56	0.80	34.00	384.00	0.000	0.000	442.86	0.00	0.00	
3	137.00	AIR6449 B41	3	11.840	13.024	0.57	0.80	9.63	309.00	0.000	0.000	125.39	0.00	0.00	
4	137.00	KRY 112 144/1	3	11.840	13.024	0.54	0.80	0.66	33.00	0.000	0.000	8.59	0.00	0.00	
5	137.00	SDX1926Q-43	3	11.840	13.024	0.54	0.80	0.61	21.00	0.000	0.000	7.96	0.00	0.00	
6	137.00	Air 32	3	11.840	13.024	0.70	0.80	13.59	396.60	0.000	0.000	177.03	0.00	0.00	
7	137.00	Radio 4449 B71+B12	3	11.840	13.024	0.54	0.80	2.65	210.00	0.000	0.000	34.56	0.00	0.00	
8	137.00	4415 B25	3	11.840	13.024	0.54	0.80	2.99	138.90	0.000	0.000	38.95	0.00	0.00	
9	137.00	RDS-272	3	11.840	13.024	0.56	0.75	16.88	1200.00	0.000	0.000	219.78	0.00	0.00	
10	107.00	T-Arm Commscope	3	11.240	12.364	0.56	0.75	16.88	534.00	0.000	0.000	208.64	0.00	0.00	
11	107.00	Collar Mount Commscope	1	11.240	12.364	1.00	1.00	5.00	122.40	0.000	0.000	61.82	0.00	0.00	
12	107.00	RRUS-E2	3	11.240	12.364	0.54	0.80	2.65	231.00	0.000	0.000	32.80	0.00	0.00	
13	107.00	DTMABP7819VG12A	3	11.240	12.364	0.54	0.80	1.83	57.60	0.000	0.000	22.66	0.00	0.00	
14	107.00	DBC20056F1V1	3	11.240	12.364	0.54	0.80	0.66	19.80	0.000	0.000	8.15	0.00	0.00	
15	107.00	EPBQ-652L8H6-L2	3	11.240	12.364	0.68	0.80	19.71	218.40	0.000	0.000	243.64	0.00	0.00	
16	107.00	RRUS 12	3	11.240	12.364	0.54	0.80	5.07	174.00	0.000	0.000	62.62	0.00	0.00	
17	107.00	RRUS 4449 B5/B12	3	11.240	12.364	0.54	0.80	2.65	255.00	0.000	0.000	32.80	0.00	0.00	
18	107.00	RRUS-11 700MHz	3	11.240	12.364	0.54	0.80	4.05	152.10	0.000	0.000	50.10	0.00	0.00	
19	107.00	OPA-65R-LCUU-H6	3	11.240	12.364	0.63	0.80	18.32	240.00	0.000	0.000	226.45	0.00	0.00	
20	107.00	RRUS A2	3	11.240	12.364	0.54	0.80	2.99	63.60	0.000	0.000	36.98	0.00	0.00	
21	107.00	RRUS-32	3	11.240	12.364	0.54	0.80	6.22	231.00	0.000	0.000	76.94	0.00	0.00	
22	107.00	DC6-48-60-18-8F	3	11.240	12.364	0.54	0.80	2.36	95.40	0.000	0.000	29.22	0.00	0.00	
23	97.00	Standoff	3	11.010	12.111	0.56	0.75	13.50	1050.00	0.000	0.000	163.50	0.00	0.00	
24	97.00	Commscope	1	11.010	12.111	1.00	1.00	5.60	20.00	0.000	0.000	67.82	0.00	0.00	
25	97.00	Samsung B2/B66A	3	11.010	12.111	0.54	0.80	3.02	210.90	0.000	0.000	36.61	0.00	0.00	
26	97.00	Samsung B5/B13	3	11.010	12.111	0.54	0.80	3.02	253.20	0.000	0.000	36.61	0.00	0.00	
27	97.00	Samsung VZS01	3	11.010	12.111	0.55	0.80	7.12	261.30	0.000	0.000	86.24	0.00	0.00	
28	97.00	JMA MX06FRO660-03	6	11.010	12.111	0.70	0.80	41.22	276.00	0.000	0.000	499.18	0.00	0.00	

Totals: 7,164.70

3,042.87

Total Applied Force Summary

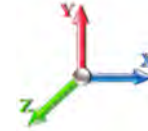
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

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		105.03	953.46	0.00	0.00
10.00		102.43	933.97	0.00	0.00
15.00		99.83	914.48	0.00	0.00
20.00		103.16	894.99	0.00	0.00
25.00		105.23	875.50	0.00	0.00
30.00		106.35	856.01	0.00	0.00
35.00		106.75	836.53	0.00	0.00
40.00		106.60	817.04	0.00	0.00
45.00		106.01	797.55	0.00	0.00
48.50		73.41	546.69	0.00	0.00
50.00		31.60	377.60	0.00	0.00
53.25		68.32	807.30	0.00	0.00
55.00		36.44	225.29	0.00	0.00
60.00		103.70	633.15	0.00	0.00
65.00		101.93	617.56	0.00	0.00
70.00		99.94	601.97	0.00	0.00
75.00		97.76	586.38	0.00	0.00
80.00		95.40	570.79	0.00	0.00
85.00		92.89	555.20	0.00	0.00
90.00		90.23	539.61	0.00	0.00
95.00		87.43	524.02	0.00	0.00
97.00	(19) attachments	924.01	2276.64	0.00	0.00
98.75		29.40	153.78	0.00	0.00
100.00		21.08	171.86	0.00	0.00
102.00		33.36	271.43	0.00	0.00
105.00		49.17	208.01	0.00	0.00
107.00	(37) attachments	1124.96	2530.64	0.00	0.00
110.00		47.29	184.08	0.00	0.00
115.00		76.36	297.44	0.00	0.00
120.00		73.03	285.75	0.00	0.00
125.00		69.60	274.05	0.00	0.00
130.00		66.09	262.36	0.00	0.00
135.00		62.49	250.67	0.00	0.00
137.00	(24) attachments	1079.03	2789.49	0.00	0.00
139.00	(1) attachments	28.29	74.10	0.00	0.00
	Totals:	5,604.59	24,495.40	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

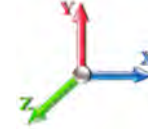
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

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	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	5.20
45.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	1.37
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	5.20
48.50	Safety Cable	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	9.515	0.00	0.96
48.50	Step bolts (ladder)	Yes	3.50	0.000	0.00	0.00	0.00	0.000	0.000	9.515	0.00	3.64
50.00	Safety Cable	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	0.41
50.00	Step bolts (ladder)	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	1.56
53.25	Safety Cable	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	9.704	0.00	0.89
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	9.704	0.00	3.38
55.00	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	0.48
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	1.82
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	5.20
85.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	5.20
90.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	5.20
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	1.37
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	5.20
97.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.010	0.00	0.55
97.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.010	0.00	2.08
98.75	Safety Cable	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	11.051	0.00	0.48
98.75	Step bolts (ladder)	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	11.051	0.00	1.82
100.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	0.34

Linear Appurtenance Segment Forces (Factored)

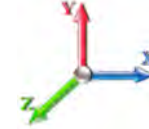
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

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)
100.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	1.30
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.127	0.00	0.55
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.127	0.00	2.08
105.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	0.82
105.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	3.12
107.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.240	0.00	0.55
107.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.240	0.00	2.08
110.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	0.82
110.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	3.12
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	5.20
125.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	5.20
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	1.37
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	5.20
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	5.20
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.840	0.00	0.55
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.840	0.00	2.08
139.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.876	0.00	0.55
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.876	0.00	2.08
Totals:											0.0	182.5

Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind	Iterations 25
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	-24.49	-5.62	0.00	-537.28	0.00	537.28	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.193
5.00	-23.53	-5.54	0.00	-509.20	0.00	509.20	2960.91	1480.45	5573.38	2790.83	0.03	-0.058	0.000	0.190
10.00	-22.59	-5.45	0.00	-481.53	0.00	481.53	2916.70	1458.35	5350.68	2679.32	0.12	-0.116	0.000	0.187
15.00	-21.67	-5.38	0.00	-454.25	0.00	454.25	2870.92	1435.46	5129.40	2568.51	0.28	-0.176	0.000	0.184
20.00	-20.77	-5.29	0.00	-427.38	0.00	427.38	2823.56	1411.78	4909.74	2458.52	0.49	-0.237	0.000	0.181
25.00	-19.89	-5.20	0.00	-400.92	0.00	400.92	2774.61	1387.31	4691.94	2349.46	0.78	-0.299	0.000	0.178
30.00	-19.03	-5.11	0.00	-374.90	0.00	374.90	2724.09	1362.04	4476.23	2241.44	1.12	-0.362	0.000	0.174
35.00	-18.19	-5.02	0.00	-349.34	0.00	349.34	2671.99	1335.99	4262.83	2134.58	1.54	-0.427	0.000	0.170
40.00	-17.37	-4.93	0.00	-324.23	0.00	324.23	2618.30	1309.15	4051.97	2029.00	2.02	-0.492	0.000	0.166
45.00	-16.57	-4.83	0.00	-299.59	0.00	299.59	2563.04	1281.52	3843.87	1924.79	2.57	-0.558	0.000	0.162
48.50	-16.02	-4.76	0.00	-282.68	0.00	282.68	2523.41	1261.71	3699.97	1852.74	3.00	-0.606	0.000	0.159
50.00	-15.64	-4.74	0.00	-275.53	0.00	275.53	2506.19	1253.10	3638.77	1822.09	3.19	-0.626	0.000	0.157
53.25	-14.83	-4.67	0.00	-260.15	0.00	260.15	1850.79	925.39	2677.47	1340.72	3.63	-0.671	0.000	0.202
55.00	-14.60	-4.64	0.00	-251.98	0.00	251.98	1837.85	918.92	2627.99	1315.95	3.88	-0.696	0.000	0.199
60.00	-13.96	-4.55	0.00	-228.77	0.00	228.77	1799.82	899.91	2487.54	1245.62	4.66	-0.777	0.000	0.191
65.00	-13.34	-4.46	0.00	-206.03	0.00	206.03	1760.21	880.10	2348.61	1176.05	5.51	-0.858	0.000	0.183
70.00	-12.73	-4.37	0.00	-183.74	0.00	183.74	1719.02	859.51	2211.45	1107.37	6.45	-0.939	0.000	0.173
75.00	-12.14	-4.27	0.00	-161.91	0.00	161.91	1676.25	838.13	2076.26	1039.67	7.48	-1.019	0.000	0.163
80.00	-11.57	-4.18	0.00	-140.54	0.00	140.54	1631.90	815.95	1943.29	973.09	8.59	-1.097	0.000	0.152
85.00	-11.01	-4.09	0.00	-119.61	0.00	119.61	1585.97	792.99	1812.75	907.72	9.78	-1.173	0.000	0.139
90.00	-10.47	-4.01	0.00	-99.14	0.00	99.14	1538.46	769.23	1684.87	843.69	11.05	-1.244	0.000	0.124
95.00	-9.94	-3.91	0.00	-79.11	0.00	79.11	1489.37	744.69	1559.88	781.10	12.39	-1.311	0.000	0.108
97.00	-7.69	-2.94	0.00	-71.28	0.00	71.28	1469.29	734.65	1510.75	756.50	12.94	-1.336	0.000	0.099
98.75	-7.53	-2.91	0.00	-66.13	0.00	66.13	1451.52	725.76	1468.18	735.18	13.44	-1.358	0.000	0.095
100.00	-7.36	-2.89	0.00	-62.50	0.00	62.50	1437.39	718.70	1436.71	719.42	13.79	-1.373	0.000	0.092
102.00	-7.09	-2.85	0.00	-56.72	0.00	56.72	990.34	495.17	991.38	496.43	14.37	-1.397	0.000	0.121
105.00	-6.88	-2.80	0.00	-48.16	0.00	48.16	971.88	485.94	945.01	473.21	15.26	-1.429	0.000	0.109
107.00	-4.38	-1.62	0.00	-42.56	0.00	42.56	959.26	479.63	914.39	457.88	15.87	-1.455	0.000	0.098
110.00	-4.19	-1.57	0.00	-37.72	0.00	37.72	939.85	469.93	868.93	435.11	16.79	-1.492	0.000	0.091
115.00	-3.90	-1.49	0.00	-29.88	0.00	29.88	906.24	453.12	794.52	397.85	18.39	-1.548	0.000	0.079
120.00	-3.61	-1.41	0.00	-22.45	0.00	22.45	871.06	435.53	722.01	361.54	20.04	-1.599	0.000	0.066
125.00	-3.34	-1.33	0.00	-15.41	0.00	15.41	834.29	417.15	651.64	326.30	21.73	-1.642	0.000	0.051
130.00	-3.08	-1.26	0.00	-8.75	0.00	8.75	791.03	395.51	580.02	290.44	23.47	-1.675	0.000	0.034
135.00	-2.83	-1.19	0.00	-2.44	0.00	2.44	739.97	369.98	507.20	253.97	25.24	-1.694	0.000	0.013
137.00	-0.07	-0.03	0.00	-0.06	0.00	0.06	719.55	359.77	479.43	240.07	25.95	-1.696	0.000	0.000
139.00	0.00	-0.03	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	26.66	-1.696	0.000	0.000

Final Analysis Summary

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	21.6	0.00	29.35	0.00	0.00	2078.36
0.9D + 1.6W 93 mph Wind	21.6	0.00	22.00	0.00	0.00	2054.20
1.2D + 1.0Di + 1.0Wi 50 mph Wind	6.6	0.00	48.58	0.00	0.00	632.16
1.2D + 1.0E	1.2	0.00	29.39	0.00	0.00	137.02
0.9D + 1.0E	1.2	0.00	22.05	0.00	0.00	135.07
1.0D + 1.0W 60 mph Wind	5.6	0.00	24.49	0.00	0.00	537.28

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	-17.04	-18.07	0.00	-1008.7	0.00	-1008.7	1850.79	925.39	2677.47	1340.72	53.25	0.762
0.9D + 1.6W 93 mph Wind	-12.60	-17.85	0.00	-991.38	0.00	-991.38	1850.79	925.39	2677.47	1340.72	53.25	0.747
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-32.58	-5.49	0.00	-305.40	0.00	-305.40	1850.79	925.39	2677.47	1340.72	53.25	0.245
1.2D + 1.0E	-8.58	-0.94	0.00	-30.99	0.00	-30.99	990.34	495.17	991.38	496.43	102.00	0.071
0.9D + 1.0E	-6.43	-0.92	0.00	-30.54	0.00	-30.54	990.34	495.17	991.38	496.43	102.00	0.068
1.0D + 1.0W 60 mph Wind	-14.83	-4.67	0.00	-260.15	0.00	-260.15	1850.79	925.39	2677.47	1340.72	53.25	0.202

Base Plate Summary

Structure: CT13549-S-SB	Code: EIA/TIA-222-G	8/16/2021
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 53.50
Moment (kip-ft): 2074.00	Width (in): 51.50	Number Bolts: 12.00
Axial (kip): 21.70	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 20.70	Polygon Sides: 4.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 9.00	Yield (ksi): 75.00
Moment (kip-ft): 2078.36	Effective Len (in): 9.88	Ultimate (ksi): 100.00
Axial (kip): 29.35	Moment (kip-in): 499.84	Arrangement: Clustered
Shear (kip): 21.60	Allow Stress (ksi): 67.50	Cluster Dist (in): 6.00
	Applied Stress (ksi): 39.83	Start Angle (deg): 45.00
	Stress Ratio: 0.59	Compression
		Force (kip): 159.44
		Allowable (kip): 260.00
		Ratio: 0.63
		Tension
		Force (kip): 151.34
		Allowable (kip): 260.00
		Ratio: 0.60



Monopole Mat Foundation Design

Date

8/16/2021

Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	139
Site Number:	CT13549-S-SBA	Engineer Name:	T. Alajaj
Engr. Number:	114095	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	29.4	Shear Force (Kips):	21.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2078.4

Allowable overstress %: 5.0%

Foundation Geometries:

Diameter of Pier (ft.):	5.5	Mods required -Yes/No ?:	No
Pier Height A. G. (ft.):	0.50	Depth of Base BG (ft.):	6.5
Length of Pad (ft.):	19	Thickness of Pad (ft.):	5.00
		Width of Pad (ft.):	19

Final Length of pad (ft)	19.0	Final width of pad (ft):	19.0
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Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	24	Tie Spacing (in):	12.0	
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):	30	Qty. of Rebar in Pad (W):	30
---------------------------	----	---------------------------	----

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

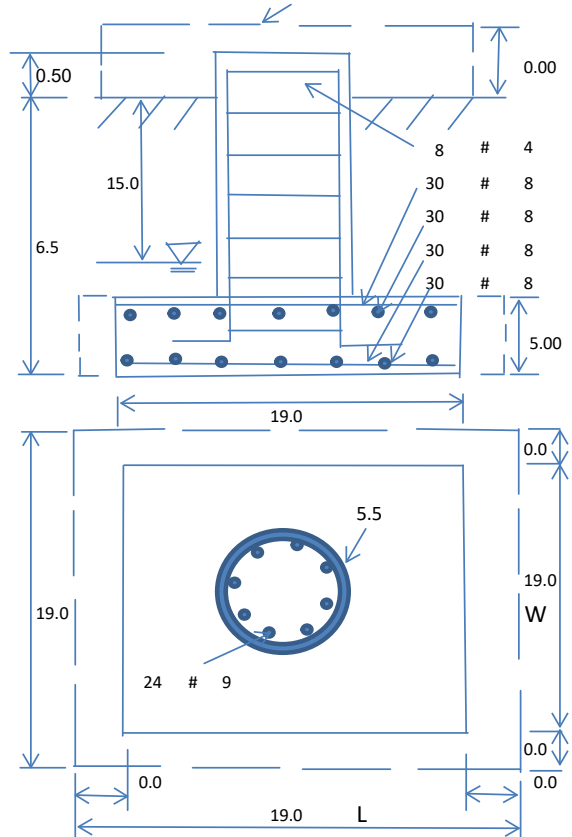
Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf	Angle from Top of Pad:	30
Water Table B.G.S. (ft):	15.0	Unit Weight of Water:	62.4	pcf	Angle from Bottm of Pad:	25
Ultimate Bearing Pressure (psf):	8600	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Reduction factor on the maximum soil bearing pressure:	1.00
Consider soil hor. resist. for OTM.:	Yes					

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	505.86	Total Dry Soil Weight (Kips):	58.17
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	58.17	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1852.52	Total Dry Concrete Weight (Kips):	277.88
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	277.88	Total Vertical Load on Base (Kips):	365.45

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3311	<	Allowable Factored Soil Bearing (psf):	6450	0.51	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3152.5	>	Design Factored Momont (kips-ft):	2044	0.65	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.54					OK!



Check the capacities of Reinforcing Concrete:

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

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	3146.1	> Design Factored Moment (Mu, Kips-F	2121.6	0.67	OK!
Calculated Shear Capacity (Kips):	430.2	> Design Factored Shear (Kips):	21.6	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	1296.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	6006.2	> Design Factored Axial Load (Pu Kips):	29.4	0.00	OK!
Moment & Axial Strength Combination:	0.67	OK! Check Tie Spacing (Design/Required):	1	OK!	
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1222.1	> One-Way Factored Shear (L-D. Kips):	84.7	0.07	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1222.1	> One-Way Factored Shear (W-D., Kips)	84.7	0.07	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	768.9	> One-Way Factored Shear (C-C, Kips):	89.1	0.12	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	5927.9	> Moment at Bottom (L-Dir. K-Ft):	673.1	0.11	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	5927.9	> Moment at Bottom (W-Dir. K-Ft):	673.1	0.11	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	8347.7	> Moment at Bottom (C-C Dir. K-Ft):	951.9	0.11	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	5927.9	> Moment at the top (L-Dir K-Ft):	310.7	0.05	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	5927.9	> Moment at the top (W-Dir K-Ft):	310.7	0.05	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	8347.7	> Moment at the top (C-C Dir. K-Ft):	291.9	0.03	OK!

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

Moment transferred by punching shear:	831.4	k-ft.	Max. factored shear stress $v_{u,CD}$:	2.6	Psi
Max. factored shear stress $v_{u,AB}$:	4.5	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	4.5	Psi	Check Usage of Punching Shear Capacity:	0.02	OK!

EXHIBIT 8



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 140-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT13549-S-SBA / Danbury 1

Customer Site Name: Danbury 1

Carrier Name: T-Mobile (App#: 161986, V1)

Carrier Site ID / Name: CT11796G / Danbury 1

Site Location: 52 Stadley Rough Road

Danbury, Connecticut

Fairfield County

Latitude: 41.433102

Longitude: -73.431916

Exp.10/31/2021



08/13/2021

Analysis Result:

Max Structural Usage: 56.4% [Pass]

Report Prepared By: Esteban Valderrama

Introduction

The purpose of this report is to summarize the analysis results on the (1) T-Arms (Sitepro RDS-272 w/ Extended Face + Support Rail + End Connections) at 137.00' 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	Mapping by Full Metal Tower Services dated 4/25/2019
Antenna Loading	Provided by SBA Application #: 161986, v1 6/16/2021
Proposed Modification	TES Project No. 113967

Analysis Criteria

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

Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent

Operational Wind Speed: 30 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G/IBC 2015/2018 CSBC

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

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

Mount Information

(1) T-Arms (Sitepro RDS-272 w/ Extended Face + Support Rail + End Connections) at 137.00' elevation

Proposed Modifications

Part Number	Item
VZWSMART-PLK3	(3) Support Rail Corner Kit
P396	(3) SitePro Pipe (3 1/2" O.D. x 8'-0") A53 GR-B SCH 40
SCX45-K	(9) SitePro Crossover Plate Kit
P3096	(3) SitePro Pipe (2 7/8" O.D. x 8'-0") A53 GR-B SCH 40
SCX23-K	(9) SitePro Crossover Plate Kit
UB1358	(7) SitePro U-Bolt 1/2" x 3 5/8" I.W. x 5 1/2" I.L. A36 (Or Equivalent)
L3325-5	(3) L3" x 3" x 1/4" x 5'-0" A36
TMP-2	(1) PL 1/4" x 2" x 7" A36
PN 115-203	(1) Safety Cable Guide (TUF-TUG or Equivalent)
---	(3) Bolt 3/8" x 1 1/2" Full Thread SAE GR 5
---	(2) Bolt 5/8" x 2" A325

Final Antenna Configuration

- 3 RFS APXVAARR18_43-U-NA20
- 3 Ericsson Air 32 KRD901146_1_B66A_B2A
- 3 Ericsson AIR6449 B41
- 3 Ericsson KRY 112 144/1
- 3 Commscope SDX1926Q-43
- 3 Ericsson 4449 B71+B85
- 3 Ericsson 4415 B25

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 53.5%, which occurs in the face horizontal. 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: CT13549-S-SBA - Danbury 1

Sector: **A**

8/13/2021

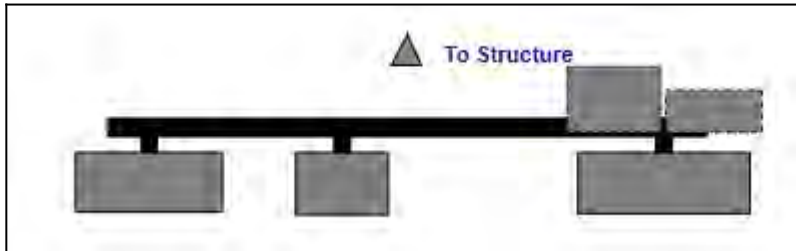


Structure Type: Monopole

Page: 1

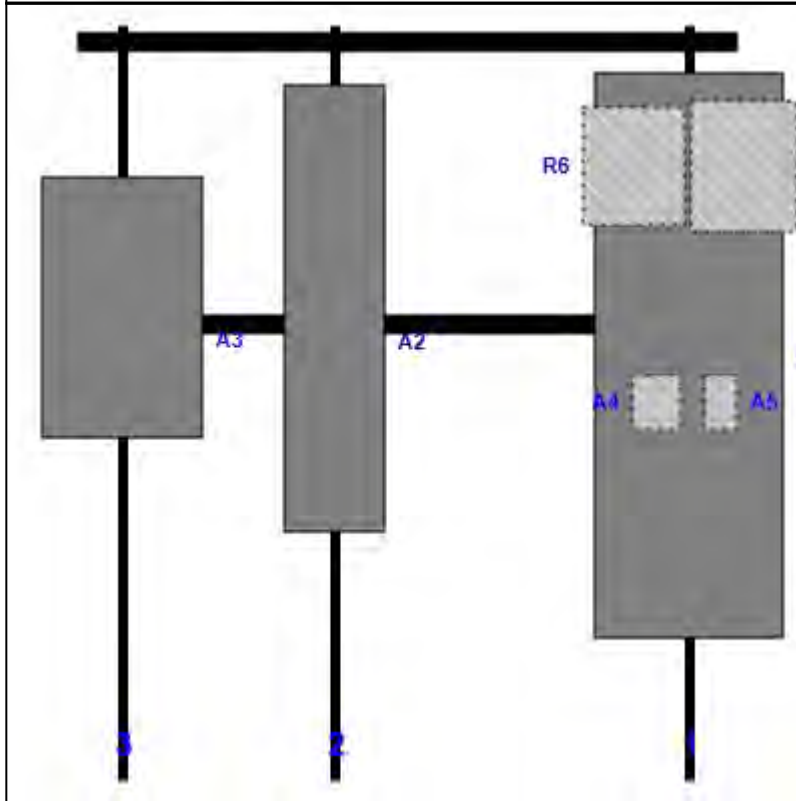
Mount Elev: 137.00

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAARR18_43-U-NA20	72.00	24.00	78.00	1	a	Front	42.00			
A4	KRY 112 144/1	6.90	6.10	78.00	1	a	Behind	48.00	-4.00		
A5	SDX1926Q-43	6.90	4.10	78.00	1	a	Behind	48.00	4.00		
R6	4449 B71+B85	14.90	13.10	78.00	1	a	Behind	18.00	-7.00		
R7	4415 B25	16.50	13.40	78.00	1	a	Behind	18.00	7.00		
A2	Air 32 KRD901146_1_B66A_B2A	56.60	12.90	33.00	2	a	Front	36.00			
A3	AIR6449 B41	33.10	20.50	6.00	3	a	Front	36.00			

Structure: CT13549-S-SBA - Danbury 1

Sector: **B**

8/13/2021

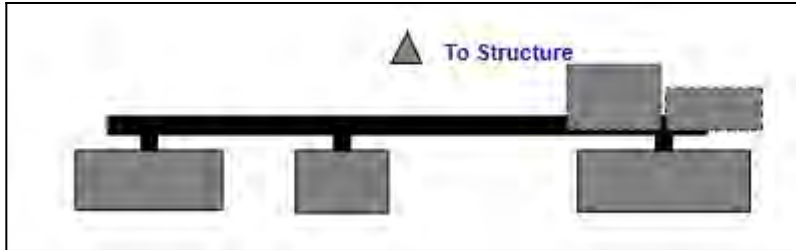
Structure Type: Monopole

Mount Elev: 137.00

Page: 2

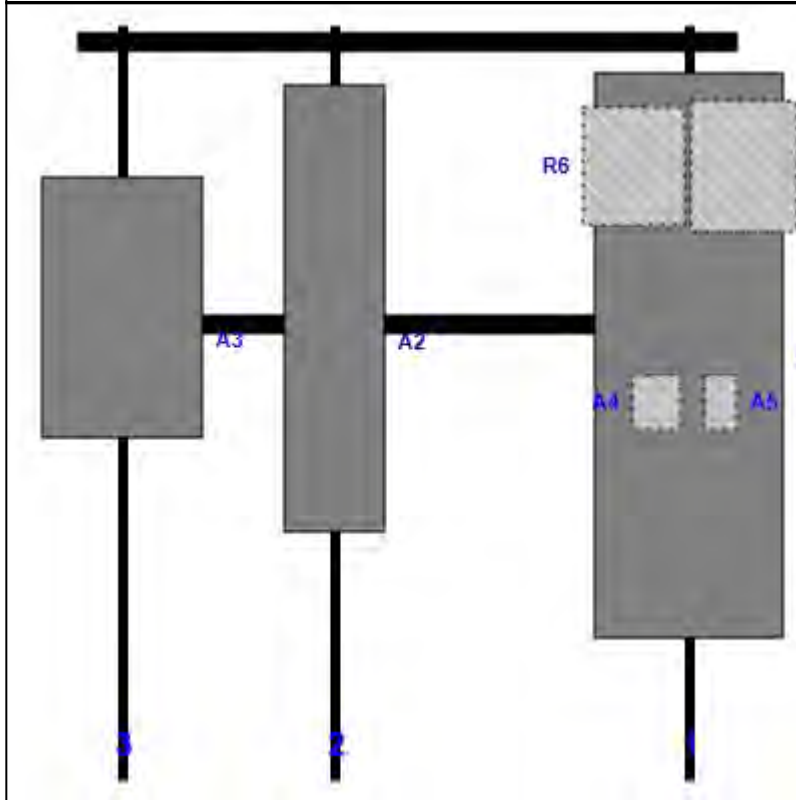


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAARR18_43-U-NA20	72.00	24.00	78.00	1	a	Front	42.00			
A4	KRY 112 144/1	6.90	6.10	78.00	1	a	Behind	48.00	-4.00		
A5	SDX1926Q-43	6.90	4.10	78.00	1	a	Behind	48.00	4.00		
R6	4449 B71+B85	14.90	13.10	78.00	1	a	Behind	18.00	-7.00		
R7	4415 B25	16.50	13.40	78.00	1	a	Behind	18.00	7.00		
A2	Air 32 KRD901146_1_B66A_B2A	56.60	12.90	33.00	2	a	Front	36.00			
A3	AIR6449 B41	33.10	20.50	6.00	3	a	Front	36.00			

Structure: CT13549-S-SBA - Danbury 1

Sector: C

8/13/2021

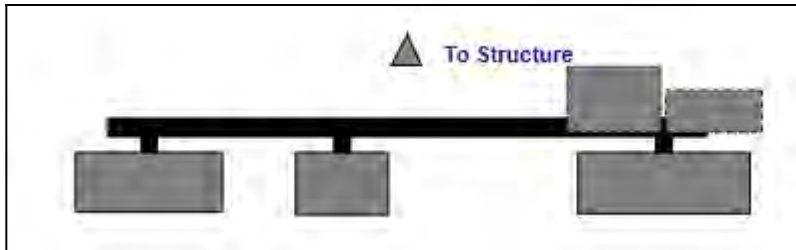


Structure Type: Monopole

Mount Elev: 137.00

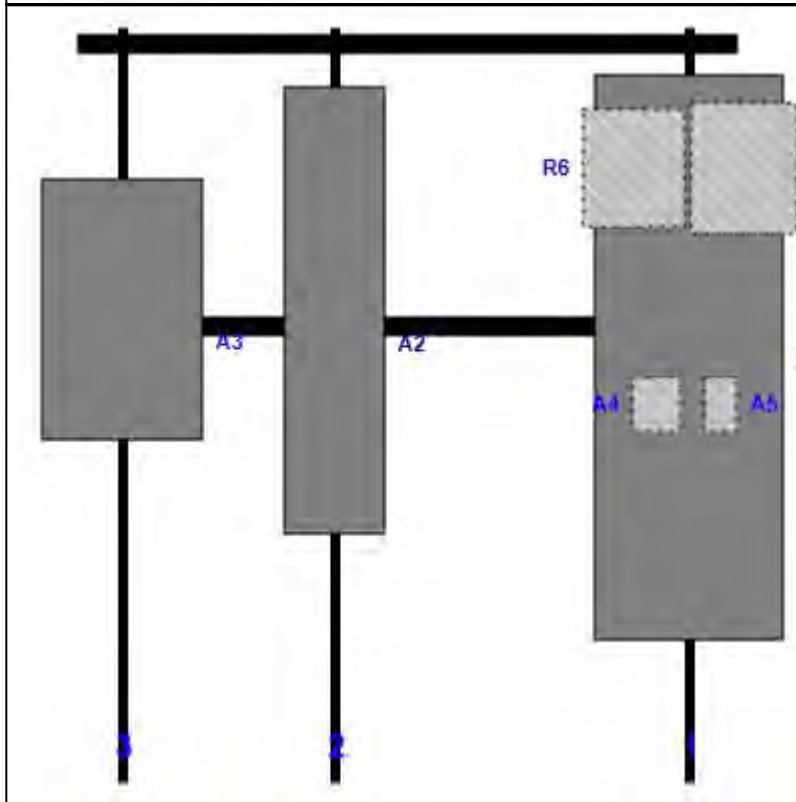
Page: 3

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAARR18_43-U-NA20	72.00	24.00	78.00	1	a	Front	42.00			
A4	KRY 112 144/1	6.90	6.10	78.00	1	a	Behind	48.00	-4.00		
A5	SDX1926Q-43	6.90	4.10	78.00	1	a	Behind	48.00	4.00		
R6	4449 B71+B85	14.90	13.10	78.00	1	a	Behind	18.00	-7.00		
R7	4415 B25	16.50	13.40	78.00	1	a	Behind	18.00	7.00		
A2	Air 32 KRD901146_1_B66A_B2A	56.60	12.90	33.00	2	a	Front	36.00			
A3	AIR6449 B41	33.10	20.50	6.00	3	a	Front	36.00			

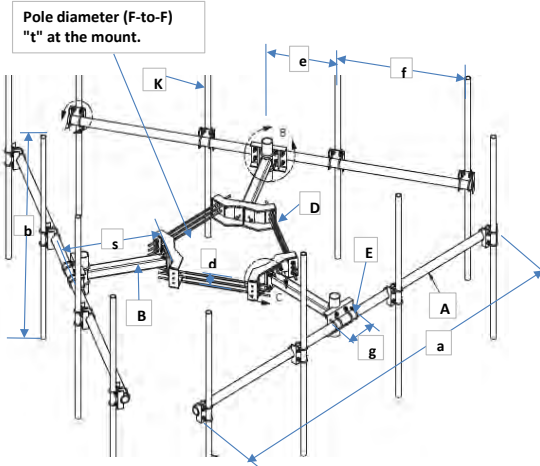


Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)

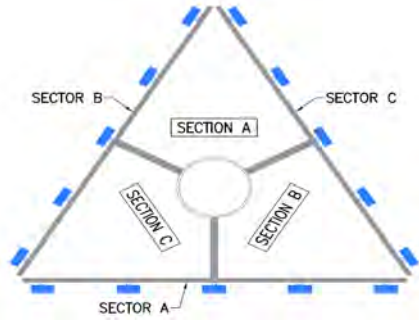
FCC #
1263107

Tower Owner:	SBA Communications	Mapping Date:	4/25/19
Site Name:	Danbury 1	Structure Type:	Monopole
Site Number or ID:	CT13549-S-SBA	Structure Height (Ft.):	140
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	137.3

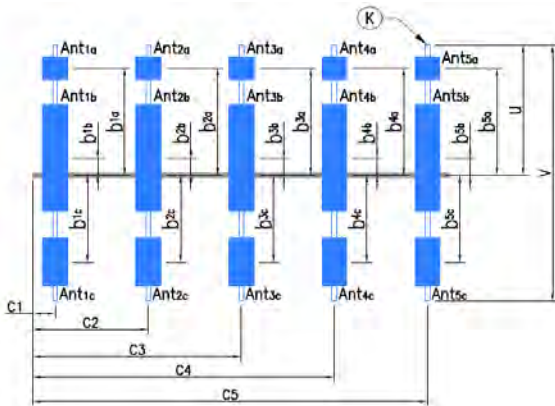
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is 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	60	e	26	j		o		s	26
b	96	f		k		p		t	16
c	N/A	g	8	m		q		u*	38
d	6	h		n		r		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 4x4x3/16	4	4	0.1875	G				
C					H				
D	5/8" Bolt		20		J				
E	1/2" Bolt		U-Bolt		K* (pipe)	2.875 OD x 0.203 Pipe	2.875	2.469	0.203
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									
Please enter the information below if members can't be found from the drop down lists									
(3) TMA's (7"x3"x10") mounted to bottom of Member B.									



Climbing ladder is Located at Section C, at 325° Degree Azimuth

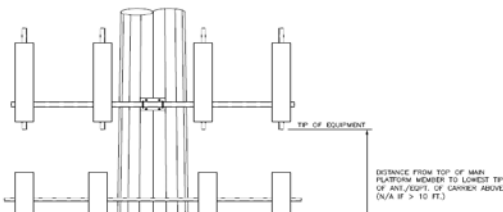


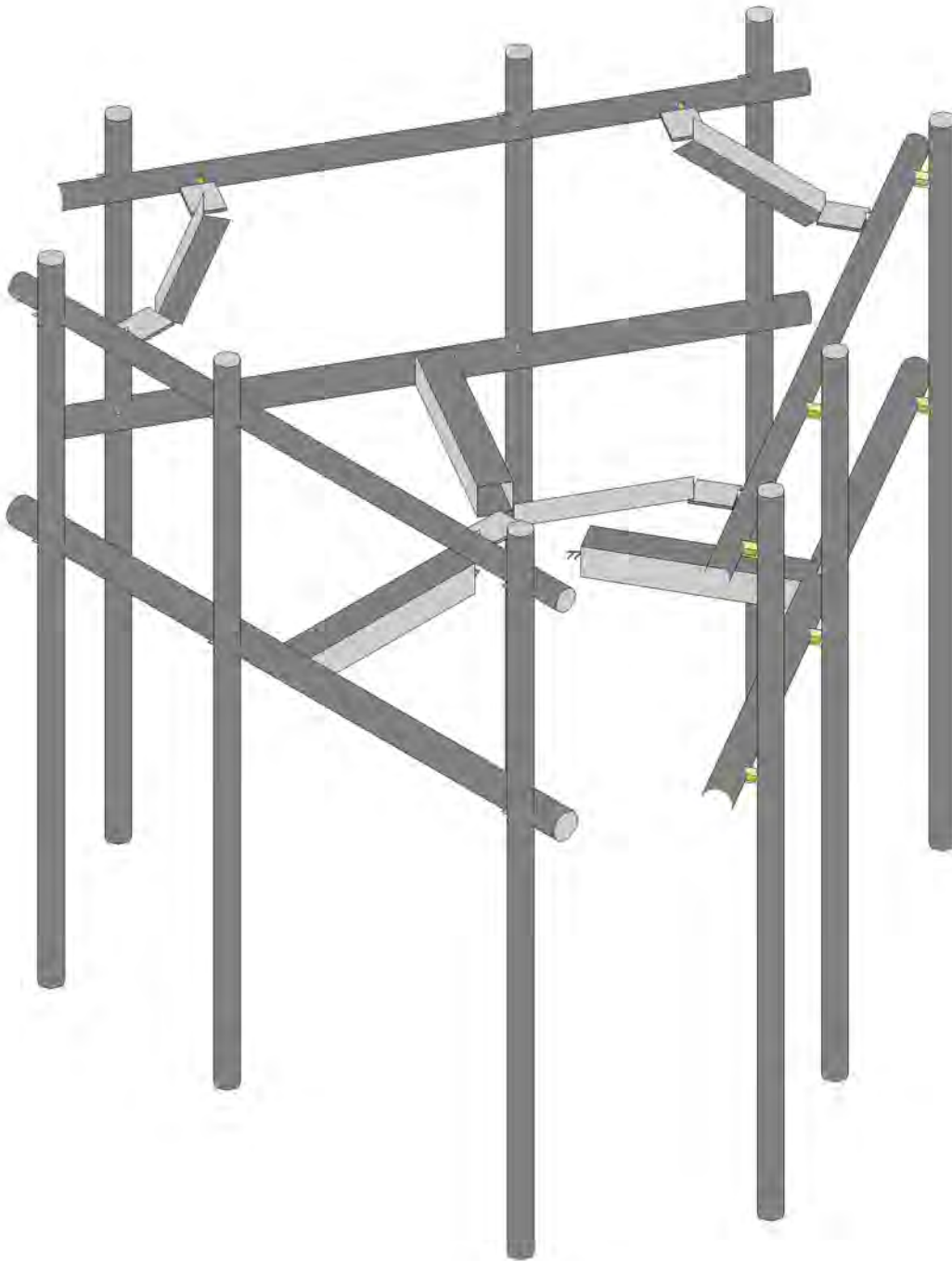
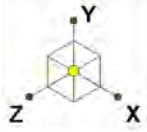
Antenna Layout

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	12	8	56	1/2" (2)	+2"	7	4		
Ant _{1c}										
Ant _{2a}										
Ant _{2b}	Antenna B	14.5	9	77	1/2" (2)	+3"	8	56		
Ant _{2c}	RRH A	17	7	20	1/2" (2)	+30"	N/A	56		
Ant _{3a}										
Ant _{3b}										
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						

Azimuth (Degree) of Each Sector and Climbing Information		
Sector A:	30°	Deg
Sector B:	150°	Deg
Sector C:	280°	Deg
Climbing	325°	Deg Located at Section C
Climbing Facility	Corrosion Type:	No corrosion observed
	Access:	Climbing path was unobstructed.
	Condition:	N/A

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

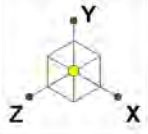




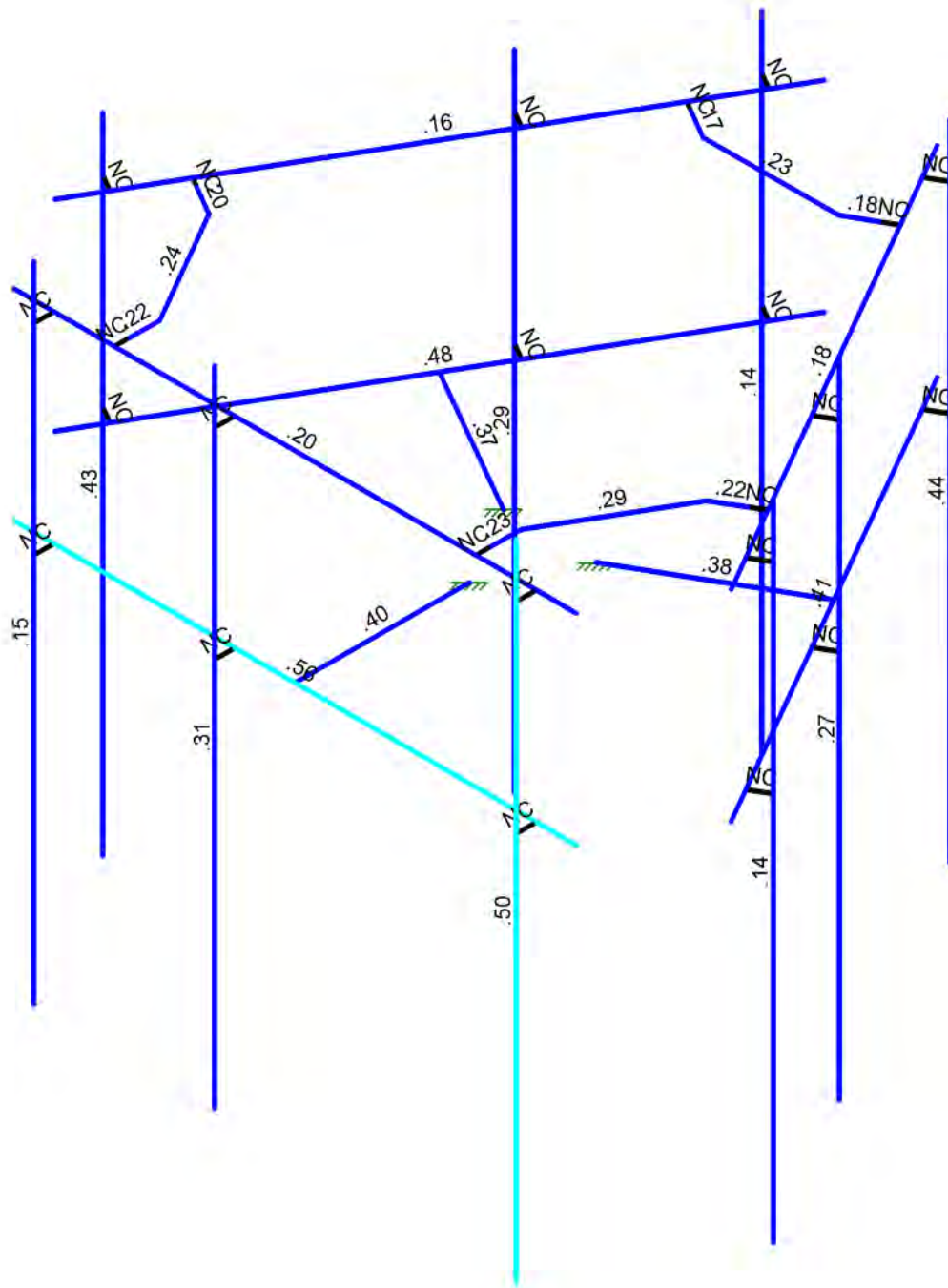
Tower Engineering Solutio...
Esteban Valderrama
TES Project No. 113967

CT13549-S-SBA_MT_LO_Loads Only_G

SK - 1
Aug 13, 2021 at 8:05 PM
CT13549-S-SBA_113967_G_RISA_...



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...	CT13549-S-SBA_MT_LO_Loads Only_G	SK - 2
Esteban Valderrama		Aug 13, 2021 at 8:05 PM
TES Project No. 113967		CT13549-S-SBA_113967_G_RISA_...



Company : Tower Engineering Solutions, LLC
 Designer : Esteban Valderrama
 Job Number : TES Project No. 113967
 Model Name : CT13549-S-SBA_MT_LO_Loads Only_G

Aug 13, 2021
 8:06 PM
 Checked By: _____

6 U_gW@ UX'7 U_gY_g

BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Antenna D	None				30			
2	Antenna Di	None				30			
3	Antenna W Front	None				30			
4	Antenna Wi Front	None				30			
5	Antenna W Side	None				30			
6	Antenna Wi Side	None				30			
7	Service Lm1	None				1			
8	Service Lm2	None				1			
9	Structure D	None	-1						
10	Structure Di	None					27		
11	Structure W Front	None					27		
12	Structure Wi Front	None					27		
13	Structure W Side	None					27		
14	Structure Wi Side	None					27		

@ UX'7 ca VjbU_gcbg

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

>c]bh'7 ccfX]bU_gY_gUbX'HYa dYU_g fY_g

Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0.666667	0
2	N2	0	0	2.833333	0
3	N3	-3.5	0	2.833333	0
4	N4	3.5	0	2.833333	0
5	N5	3	3.166667	3.083333	0
6	N6	3	-4.833333	3.083333	0
7	N7	-3	3.166667	3.083333	0
8	N8	-3	-4.833333	3.083333	0
9	N9	3	0	2.833333	0
10	N10	-3	0	2.833333	0
11	N11	3	0	3.083333	0
12	N12	-3	0	3.083333	0
13	N13	-.75	0	2.833333	0
14	N14	-0.75	3.166667	3.083333	0



Company : Tower Engineering Solutions, LLC
 Designer : Esteban Valderrama
 Job Number : TES Project No. 113967
 Model Name : CT13549-S-SBA_MT_LO_Loads Only_G

Aug 13, 2021
 8:06 PM
 Checked By: _____

>c]bh7ccfX]bUhg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
15	N15	-0.75	-4.833333	3.083333	0	
16	N16	-.75	0	3.083333	0	
17	N17	0.57735	0	-0.333333	0	
18	N18	2.453739	0	-1.416667	0	
19	N19	4.203739	0	1.614422	0	
20	N20	0.703739	0	-4.447756	0	
21	N21	1.170245	3.166667	-4.139743	0	
22	N22	1.170245	-4.833333	-4.139743	0	
23	N23	4.170245	3.166667	1.05641	0	
24	N24	4.170245	-4.833333	1.05641	0	
25	N25	0.953739	0	-4.014743	0	
26	N26	3.953739	0	1.18141	0	
27	N27	1.170245	0	-4.139743	0	
28	N28	4.170245	0	1.05641	0	
29	N29	2.828739	0	-0.767148	0	
30	N30	3.045245	3.166667	-0.892148	0	
31	N31	3.045245	-4.833333	-0.892148	0	
32	N32	3.045245	0	-0.892148	0	
33	N33	-0.57735	0	-0.333333	0	
34	N34	-2.453739	0	-1.416667	0	
35	N35	-0.703739	0	-4.447756	0	
36	N36	-4.203739	0	1.614422	0	
37	N37	-4.170245	3.166667	1.05641	0	
38	N38	-4.170245	-4.833333	1.05641	0	
39	N39	-1.170245	3.166667	-4.139743	0	
40	N40	-1.170245	-4.833333	-4.139743	0	
41	N41	-3.953739	0	1.18141	0	
42	N42	-0.953739	0	-4.014743	0	
43	N43	-4.170245	0	1.05641	0	
44	N44	-1.170245	0	-4.139743	0	
45	N45	-2.078739	0	-2.066186	0	
46	N46	-2.295245	3.166667	-2.191186	0	
47	N47	-2.295245	-4.833333	-2.191186	0	
48	N48	-2.295245	0	-2.191186	0	
49	N49	0	2.5	2.833333	0	
50	N50	-3.5	2.5	2.833333	0	
51	N51	3.5	2.5	2.833333	0	
52	N52	3	2.5	2.833333	0	
53	N53	-3	2.5	2.833333	0	
54	N54	3	2.5	3.083333	0	
55	N55	-3	2.5	3.083333	0	
56	N56	-.75	2.5	2.833333	0	
57	N57	-.75	2.5	3.083333	0	
58	N58	2.453739	2.5	-1.416667	0	
59	N59	4.203739	2.5	1.614422	0	
60	N60	0.703739	2.5	-4.447756	0	
61	N61	0.953739	2.5	-4.014743	0	
62	N62	3.953739	2.5	1.18141	0	
63	N63	1.170245	2.5	-4.139743	0	
64	N64	4.170245	2.5	1.05641	0	
65	N65	2.828739	2.5	-0.767148	0	
66	N66	3.045245	2.5	-0.892148	0	



>c]bh7ccfX]bUhg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
67	N67	-2.453739	2.5	-1.416667	0	
68	N68	-0.703739	2.5	-4.447756	0	
69	N69	-4.203739	2.5	1.614422	0	
70	N70	-3.953739	2.5	1.18141	0	
71	N71	-0.953739	2.5	-4.014743	0	
72	N72	-4.170245	2.5	1.05641	0	
73	N73	-1.170245	2.5	-4.139743	0	
74	N74	-2.078739	2.5	-2.066186	0	
75	N75	-2.295245	2.5	-2.191186	0	
76	N77	-2.25	2.5	2.833333	0	
77	N79	-2.25	2.5	2.6875	0	
78	N81	-2.25	2.5	2.270833	0	
79	N83	2.25	2.5	2.833333	0	
80	N85	2.25	2.5	2.6875	0	
81	N87	2.25	2.5	2.270833	0	
82	N89	3.578739	2.5	0.53189	0	
83	N91	3.452443	2.5	0.604807	0	
84	N93	3.091599	2.5	0.81314	0	
85	N95	1.328739	2.5	-3.365224	0	
86	N97	1.202443	2.5	-3.292307	0	
87	N99	0.841599	2.5	-3.083974	0	
88	N101	-1.328739	2.5	-3.365224	0	
89	N103	-1.202443	2.5	-3.292307	0	
90	N105	-0.841599	2.5	-3.083974	0	
91	N107	-3.578739	2.5	0.53189	0	
92	N109	-3.452443	2.5	0.604807	0	
93	N111	-3.091599	2.5	0.81314	0	

<chFc`YX'GhYY'GYW]cb'GYlg

	Label	Shape	Type	Design List	Material	Desig...	A [in2]	Iyy [i...	Izz [i...	J [in4]
1	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Mounts Pipes	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	Standoff Arm	HSS4X4X3	Beam	SquareTube	A500 Gr.B...	Typical	2.58	6.21	6.21	10
5	Plates	PL3/8x4	Beam	RECT	A36 Gr.36	Typical	1.5	.018	2	.066
6	End Connections	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031

7c`X: cfa YX'GhYY'GYW]cb'GYlg

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF	4CU5.25X0375	Beam	CU	A570 Gr...	Typical	4.854	13.238	12.817	.228

5`i a]bi a 'GYW]cb'GYlg

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19



<chFc`YX`GhY`DfcdYfhYg

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

7c`X: cfa`YX`GhY`DfcdYfhYg

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A570 Gr.33	29500	11346	.3	.65	.49	33	52
2	A607 C1 Gr.55	29500	11346	.3	.65	.49	55	70

5`i`a`j`b`i`a`DfcdYfhYg

	Label	E [ksi]	G [ksi]	Nu	Therm (...Density[...Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct		
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B...	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B...	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B...	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B...	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B...	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B...	1	24	15	15	15	141

A`Ya`VYf`Df`ja`Ufm8`UU

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N3	N4			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
2	M2	N1	N2			Standoff Arm	Beam	SquareTube	A500 Gr.B Rect	Typical
3	MP1A	N5	N6			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
4	MP3A	N7	N8			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
5	M5	N10	N12			RIGID	Beam	None	RIGID	DR1
6	M6	N9	N11			RIGID	Beam	None	RIGID	DR1
7	MP2A	N14	N15			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
8	M8	N13	N16			RIGID	Beam	None	RIGID	DR1
9	M9	N19	N20			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
10	M10	N17	N18			Standoff Arm	Beam	SquareTube	A500 Gr.B Rect	Typical
11	MP1C	N21	N22			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
12	MP3C	N23	N24			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
13	M13	N26	N28			RIGID	Beam	None	RIGID	DR1
14	M14	N25	N27			RIGID	Beam	None	RIGID	DR1
15	MP2C	N30	N31			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
16	M16	N29	N32			RIGID	Beam	None	RIGID	DR1
17	M17	N35	N36			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
18	M18	N33	N34			Standoff Arm	Beam	SquareTube	A500 Gr.B Rect	Typical
19	MP1B	N37	N38			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
20	MP3B	N39	N40			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
21	M21	N42	N44			RIGID	Beam	None	RIGID	DR1
22	M22	N41	N43			RIGID	Beam	None	RIGID	DR1



A Ya Vyf'DfJa Ufm8 UU'f7 cbHbi YXL

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rul...
23	MP2B	N46	N47			Mounts Pipes	Beam	Pipe	A53 Gr.B	Typical
24	M24	N45	N48			RIGID	Beam	None	RIGID	DR1
25	M25	N50	N51			Support Rail	Beam	Pipe	A53 Gr.B	Typical
26	M26	N53	N55			RIGID	Beam	None	RIGID	DR1
27	M27	N52	N54			RIGID	Beam	None	RIGID	DR1
28	M28	N56	N57			RIGID	Beam	None	RIGID	DR1
29	M29	N59	N60			Support Rail	Beam	Pipe	A53 Gr.B	Typical
30	M30	N62	N64			RIGID	Beam	None	RIGID	DR1
31	M31	N61	N63			RIGID	Beam	None	RIGID	DR1
32	M32	N65	N66			RIGID	Beam	None	RIGID	DR1
33	M33	N68	N69			Support Rail	Beam	Pipe	A53 Gr.B	Typical
34	M34	N71	N73			RIGID	Beam	None	RIGID	DR1
35	M35	N70	N72			RIGID	Beam	None	RIGID	DR1
36	M36	N74	N75			RIGID	Beam	None	RIGID	DR1
37	M38	N77	N79			RIGID	Beam	None	RIGID	DR1
38	M40	N79	N81		90	Plates	Beam	RECT	A36 Gr.36	Typical
39	M42	N83	N85			RIGID	Beam	None	RIGID	DR1
40	M44	N85	N87		90	Plates	Beam	RECT	A36 Gr.36	Typical
41	M46	N89	N91			RIGID	Beam	None	RIGID	DR1
42	M48	N91	N93		90	Plates	Beam	RECT	A36 Gr.36	Typical
43	M50	N95	N97			RIGID	Beam	None	RIGID	DR1
44	M52	N97	N99		90	Plates	Beam	RECT	A36 Gr.36	Typical
45	M54	N101	N103			RIGID	Beam	None	RIGID	DR1
46	M56	N103	N105		90	Plates	Beam	RECT	A36 Gr.36	Typical
47	M58	N107	N109			RIGID	Beam	None	RIGID	DR1
48	M60	N109	N111		90	Plates	Beam	RECT	A36 Gr.36	Typical
49	M62	N81	N111			End Connections	Beam	Single Angle	A36 Gr.36	Typical
50	M64	N93	N87			End Connections	Beam	Single Angle	A36 Gr.36	Typical
51	M66	N105	N99			End Connections	Beam	Single Angle	A36 Gr.36	Typical

A Ya Vyf'5 Xj Ub WX'8 UHU

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
1	M1						Yes				None
2	M2						Yes				None
3	MP1A						Yes		-z		None
4	MP3A						Yes		-z		None
5	M5						Yes				None
6	M6						Yes				None
7	MP2A						Yes		-z		None
8	M8						Yes				None
9	M9						Yes				None
10	M10						Yes				None
11	MP1C						Yes		-z		None
12	MP3C						Yes		-z		None
13	M13						Yes				None
14	M14						Yes				None
15	MP2C						Yes		-z		None
16	M16						Yes				None
17	M17						Yes				None
18	M18						Yes				None



A Ya Vyf'5 Xj Ub WX'8 UHfT' c bHbi YXL

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
19	MP1B						Yes		-Z		None
20	MP3B						Yes		-Z		None
21	M21						Yes				None
22	M22						Yes				None
23	MP2B						Yes		-Z		None
24	M24						Yes				None
25	M25						Yes				None
26	M26						Yes				None
27	M27						Yes				None
28	M28						Yes				None
29	M29						Yes				None
30	M30						Yes				None
31	M31						Yes				None
32	M32						Yes				None
33	M33						Yes				None
34	M34						Yes				None
35	M35						Yes				None
36	M36						Yes				None
37	M38						Yes				None
38	M40						Yes				None
39	M42						Yes				None
40	M44						Yes				None
41	M46						Yes				None
42	M48						Yes				None
43	M50						Yes				None
44	M52						Yes				None
45	M54						Yes				None
46	M56						Yes				None
47	M58						Yes				None
48	M60						Yes				None
49	M62						Yes				None
50	M64						Yes				None
51	M66						Yes				None

< chFc`YX'GhYY'8 Yqj[b'DUFUa YHfg

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Face Horizo...	7			Lbyy						Gravity
2	M2	Standoff Arm	2.167			Lbyy						Gravity
3	MP1A	Mounts Pipes	8			Lbyy						Lateral
4	MP3A	Mounts Pipes	8			Lbyy						Lateral
5	MP2A	Mounts Pipes	8			Lbyy						Lateral
6	M9	Face Horizo...	7			Lbyy						Gravity
7	M10	Standoff Arm	2.167			Lbyy						Gravity
8	MP1C	Mounts Pipes	8			Lbyy						Lateral
9	MP3C	Mounts Pipes	8			Lbyy						Lateral
10	MP2C	Mounts Pipes	8			Lbyy						Lateral
11	M17	Face Horizo...	7			Lbyy						Gravity
12	M18	Standoff Arm	2.167			Lbyy						Gravity
13	MP1B	Mounts Pipes	8			Lbyy						Lateral
14	MP3B	Mounts Pipes	8			Lbyy						Lateral



<chFc`YX`GhY`8 YgJ] b`DUfUa Yhfq`f7 cb]bi YXL

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
15	MP2B	Mounts Pipes	8			Lbyy						Lateral
16	M25	Support Rail	7			Lbyy						Gravity
17	M29	Support Rail	7			Lbyy						Gravity
18	M33	Support Rail	7			Lbyy						Gravity
19	M40	Plates	.417			Lbyy						Lateral
20	M44	Plates	.417			Lbyy						Lateral
21	M48	Plates	.417			Lbyy						Lateral
22	M52	Plates	.417			Lbyy						Lateral
23	M56	Plates	.417			Lbyy						Lateral
24	M60	Plates	.417			Lbyy						Lateral
25	M62	End Connec...	1.683			Lbyy						Lateral
26	M64	End Connec...	1.683			Lbyy						Lateral
27	M66	End Connec...	1.683			Lbyy						Lateral

7c`X: cfa YX`GhY`8 YgJ] b`DUfUa Yhfq`

Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...Cm-...	Cb	R	a[ft]	y sw...	z sw...
No Data to Print ...															

5`i a]bi a `8 YgJ] b`DUfUa Yhfq`

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
No Data to Print ...											

>c]bh`@UXg`UbX`9 bZ`fVWX`8]gd`UWYa Yb]g`

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
No Data to Print ...			

A Ya VYf`5 fYU`@UXg`

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

>c]bh6 ci bXUf mi7 cbX]h]cbg

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N17	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N33	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

9bj Y`cdY`>c]bhFYUM]cbg

Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC		
1	N1	max	1555.852	4	2156.566	6	2635.98	1	-1.396	2	2.542	4	1.463	10
2		min	-1467.862	3	850.304	1	-2297.861	2	-4.258	5	-2.616	3	-1.134	9
3	N17	max	2414.477	4	2139.298	7	1792.746	1	2.295	5	2.867	2	3.182	8
4		min	-2157.828	3	822.624	9	-2039.822	2	.44	2	-2.915	1	.832	9
5	N33	max	2216.239	4	2140.272	8	1670.631	1	1.392	7	2.623	1	-1.009	10



9bj YcdY>c]bhFYUM]cbgff cbljbi YXL

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
6		min -2560.879	3	822.242	10	-1761.665	2	.315	4	-2.68	2	-3.705	6
7	Totals:	max 6186.568	4	6419.374	6	6099.357	1						
8		min -6186.569	3	2629.433	1	-6099.347	2						

9bj YcdY5-G7 % h fl * \$!%\$L '@: 8 'GhY'7cXY7\ YWg

Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt...	phi*Mn y-...	phi*Mn...	Cb	Eqn	
1	M1	PIPE 3.0	.564	3.5	1	.240	3.5	2	50160.801	65205	5.749	5.749	1.8	H1-...	
2	M2	HSS4X4X3	.399	0	7	.192	0	y	10	104813.028	106812	12.662	12.662	1.7	H1-...
3	MP1A	PIPE 2.5	.504	3.167	1	.179	3.167		2	30038.461	50715	3.596	3.596	4.0	H1-...
4	MP3A	PIPE 2.5	.150	3.167	9	.060	3.167		3	30038.461	50715	3.596	3.596	4.1	H1-...
5	MP2A	PIPE 2.5	.308	3.167	1	.073	3.167		4	30038.461	50715	3.596	3.596	3.2	H1-...
6	M9	PIPE 3.0	.406	3.5	4	.220	3.5		3	50160.801	65205	5.749	5.749	1.8	H1-...
7	M10	HSS4X4X3	.378	0	4	.111	0	y	5	104813.028	106812	12.662	12.662	1.6	H1-...
8	MP1C	PIPE 2.5	.436	3.167	3	.151	3.167		3	30038.461	50715	3.596	3.596	2.1	H1-...
9	MP3C	PIPE 2.5	.144	3.167	4	.064	3.167		2	30038.461	50715	3.596	3.596	2.7	H1-...
10	MP2C	PIPE 2.5	.272	3.167	4	.083	3.167		2	30038.461	50715	3.596	3.596	2.5	H1-...
11	M17	PIPE 3.0	.477	3.5	3	.167	3.5		3	50160.801	65205	5.749	5.749	1.6	H1-...
12	M18	HSS4X4X3	.369	0	6	.139	0	y	8	104813.028	106812	12.662	12.662	1.8	H1-...
13	MP1B	PIPE 2.5	.425	3.167	4	.146	3.167		3	30038.461	50715	3.596	3.596	2.1	H1-...
14	MP3B	PIPE 2.5	.136	3.167	2	.067	3.167		3	30038.461	50715	3.596	3.596	2.9	H1-...
15	MP2B	PIPE 2.5	.289	3.167	3	.077	3.167		3	30038.461	50715	3.596	3.596	2.5	H1-...
16	M25	PIPE 2.5	.195	5.76	1	.096	5.76		2	33961.614	50715	3.596	3.596	2.2	H1-...
17	M29	PIPE 2.5	.175	5.76	3	.106	5.76		3	33961.614	50715	3.596	3.596	1.8	H1-...
18	M33	PIPE 2.5	.155	2.771	7	.083	5.76		1	33961.614	50715	3.596	3.596	1.8	H1-...
19	M40	PL3/8x4	.220	0	10	.110	0	y	10	43437.13	48600	.38	4.05	1.1	H1-...
20	M44	PL3/8x4	.230	0	1	.145	0	y	10	43437.13	48600	.38	4.05	1.0	H1-...
21	M48	PL3/8x4	.216	0	10	.125	.417	y	10	43437.13	48600	.38	4.05	1.1	H1-...
22	M52	PL3/8x4	.175	0	4	.109	0	y	8	43437.13	48600	.38	4.05	1.0	H1-...
23	M56	PL3/8x4	.174	0	5	.084	0	y	5	43437.13	48600	.38	4.05	1.2	H1-...
24	M60	PL3/8x4	.201	0	3	.119	.417	y	7	43437.13	48600	.38	4.05	1.1	H1-...
25	M62	L3X3X4	.243	1.683	4	.043	1.683	z	10	43817.918	46656	1.688	3.756	2.14	H2-1
26	M64	L3X3X4	.291	1.683	2	.051	1.683	z	10	43817.918	46656	1.688	3.756	2.1	H2-1
27	M66	L3X3X4	.232	1.683	3	.037	0	z	7	43817.918	46656	1.688	3.756	2.1	H2-1

9bj YcdY5-G-G%\$!%\$. '@: 8 7c'X': cfa YX'GHY'7cXY7\ YWg

Memb...	Shape	Code Check	Loc[.....	Shear Check	Loc[.....	phi*P...	phi*T...	phi*...	phi*...	Cb	Eqn
No Data to Print ...											

9bj YcdY55 58A %\$\$. 5 G8 '!6i]X]b['5`i a]bi a '7cXY7\ YWg

Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Pnc/O...	Pnt/Om...	Mny/O...	Mnz/O...	Vny/O...	Vnz/O...	Cb	Eqn
No Data to Print ...																

EXHIBIT 9

MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS EXISTING MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT13549

CARRIER SITE #/NAME: CT11796G / DANBURY 1

COORDINATES (LATITUDE: 41.433102°, LONGITUDE: -73.431916°)

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
D-1	STANDARD DETAILS	0
D-2	STANDARD DETAILS	0
SAF-1	SAFETY CABLE GUIDE DETAILS	0
SCX45-K	SITE PRO CROSSOVER PLATE KIT	0
SCX23-K	SITE PRO CROSSOVER PLATE KIT	0
VZSMART-PLK3	SUPPORT RAIL CORNER BRACKET	0

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 112716, DATED 08/05/2021.



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(800)-487-SITE

TES JOB NO:
113967

CUSTOMER SITE NO:
CT13549-S-SBA
CUSTOMER SITE NAME:
DANBURY 1
52 STADLEY ROUGH ROAD
DANBURY, CT 06811

Exp.10/31/2021



08/13/2021

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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	RA	08/13/21
2			
3			
4			

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TITLE SHEET

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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							
3	3	VZWSMART-PLK3	SUPPORT RAIL CORNER BRACKET	A-1, VZWSMART-PLK3	30.0	90.0	Galvanized
FOLLOWING ITEMS ARE "CUSTOM" PARTS							
3	3	P396	SITE PRO PIPE (3 1/2" O.D. X 8'-0") A53 GR-B SCH 40	A-1	62.03	186.1	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
9	9	SCX45-K	SITE PRO CROSSOVER PLATE KIT	A-1	9.92	93.7	GALVANIZED
3	3	P3096	SITE PRO PIPE (2 7/8" O.D. X 8'-0") A53 GR-B SCH 40	A-1	47.45	149.5	GALVANIZED
9	9	SCX23-K	SITE PRO CROSSOVER PLATE KIT	A-1	8.40	75.6	GALVANIZED
3	3	P3096	SITE PRO PIPE (2 7/8" O.D. X 8'-0") A53 GR-B SCH 40	A-1	47.45	142.4	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
6	7	UB1358	SITE PRO U-BOLT 1/2" X 3 5/8" I.W. X 5 1/2" I.L. A36 (OR EQUIV.)	D-1	1.45	10.7	(2) HHN & LKW-EA GALVANIZED
3	3	L3325-5	L3" X 3" X 1/4" X 5'-0" A36	D-2	25.01	75.0	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
1	1	TMP-2	PL 1/4" X 2" X 7" A36	SAF-1	1.00	1.0	GALVANIZED
1	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)	SAF-1	0.00	0.0	GALVANIZED
2	3	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5	SAF-1	0.00	0.0	(1) HHN & LKW-EA GALVANIZED
1	2	---	BOLT 5/8" X 2" A325	SAF-1	0.38	0.8	(1) HHN & LKW-EA GALVANIZED
					TOTAL WEIGHT (LBS) =	824.7	



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TES JOB NO:
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CUSTOMER SITE NO:
 CT13549-S-SBA
 CUSTOMER SITE NAME:
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	RA	08/13/21

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GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 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-TESORDERS@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 ZINGA 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 ZINGA 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.



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113967

CUSTOMER SITE NO:
CT13549-S-SBA
CUSTOMER SITE NAME:
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GN-1 | 0

SCOPE OF WORK

- 1 A. TEMPORARILY RELOCATE EXISTING ANTENNAS/EQUIPMENT AND ANTENNA MOUNT PIPES TO ACCOMMODATE THE INSTALLATION OF NEW SUPPORT RAIL PIPE.
NOTE:
 CONTRACTOR TO COORDINATE WITH CARRIER PRIOR TO **RELOCATING** OF EXISTING ANTENNA MOUNT PIPES TO DETERMINE IF EXISTING ANTENNAS NEED TO BE TURNED DOWN.
- B. REMOVE EXISTING SUPPORT RAIL PIPE, (1) PER SECTOR.
- C. INSTALL NEW 3" PST SUPPORT RAIL PIPE, (1) PER SECTOR AS SHOWN. SEE SHEET D-1 FOR DETAILS.
NOTE:
 USE PROVIDED U-BOLTS TO CONNECT TO EXISTING T-ARM.
- 2 INSTALL NEW SITE PRO CROSSOVER PLATE KIT, (3) PER SECTOR. SEE SHEET SCX45-K FOR DETAILS.
- 3 A. INSTALL NEW 2 1/2" PST ANTENNA MOUNT PIPE (8'-0" LONG), (1) PER SECTOR AS SHOWN. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.
 B. REINSTALL EXISTING ANTENNA MOUNT PIPES (PINK COLOR) ON NEW SUPPORT RAIL PIPE, THEN RELOCATE EXISTING ANTENNAS/EQUIPMENT TO RELOCATED ANTENNA MOUNT PIPES (TYP), (2) PER SECTOR AS SHOWN. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.
- 4 INSTALL NEW SITE PRO CROSSOVER PLATE KIT, (3) PER SECTOR. SEE SHEET SCX23-K FOR DETAILS.
- 5 INSTALL NEW 2 1/2" PST TOP SUPPORT RAIL PIPE, (1) PER SECTOR AS SHOWN.
- 6 INSTALL NEW VZSMART SUPPORT RAIL CORNER BRACKETS AND END CONNECTION HORIZONTAL ANGLE BRACING ON NEW TOP SUPPORT RAIL PIPE. SEE SHEETS VZSMART-PLK3 AND D-2 FOR DETAILS.
- 7 INSTALL NEW SAFETY CLIMB GUIDE TO PREVENT EXISTING SAFETY CLIMB FROM RUBBING AGAINST EXISTING COLLAR MOUNT. SEE SHEETS SAF-1 AND D-1 FOR DETAILS.
- 8 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.

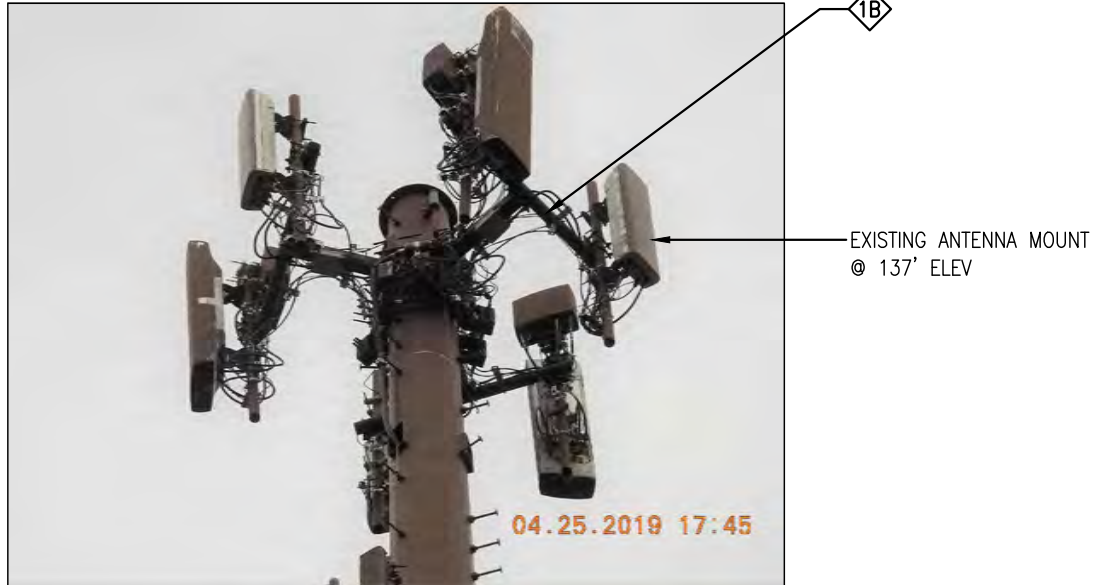
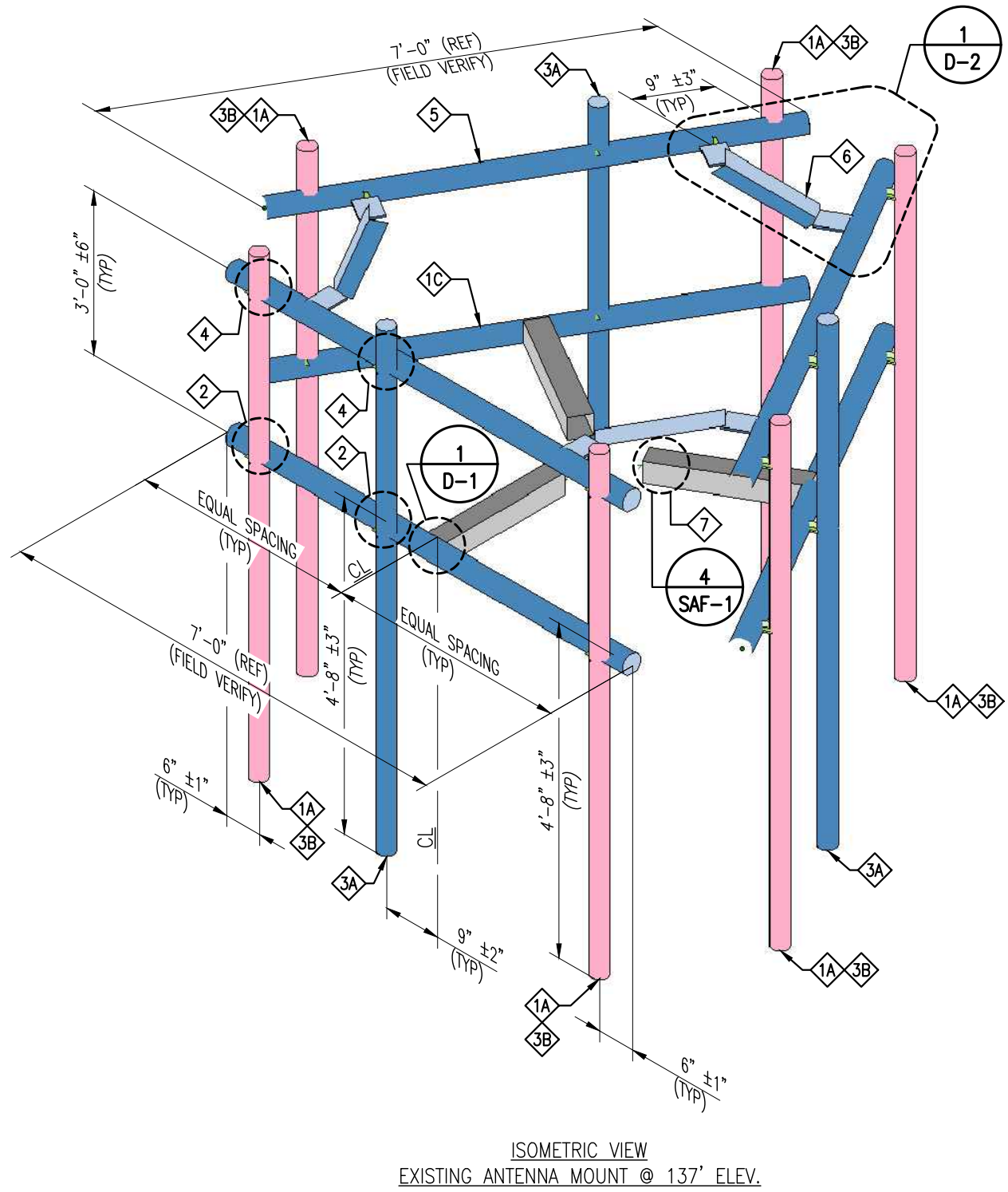


PHOTO 1

- 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 ZINGA COLD GALVANIZING COMPOUND AS PER THE MANUFACTURER'S SPECIFICATIONS TO ALL FIELD CUT AND DRILLED AREAS.
 - 4. MEMBERS IN BLUE COLOR ARE NEW REINFORCEMENTS.

CONTRACTOR NOTE:

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR 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-TESORDERS@TESTOWER.US

NOTE:
 EXISTING TOWER IS PAINTED. CONTRACTOR TO VERIFY WITH TOWER OWNER IF NEW MODIFICATION MEMBERS ARE TO BE PAINTED TO MATCH EXISTING TOWER COLOR.

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	3	P396	SITE PRO PIPE (3 1/2" O.D. X 8'-0") A53 GR-B SCH 40
2	9	SCX45-K	SITE PRO CROSSOVER PLATE KIT
3	3	P3096	SITE PRO PIPE (2 7/8" O.D. X 8'-0") A53 GR-B SCH 40
4	9	SCX23-K	SITE PRO CROSSOVER PLATE KIT
5	3	P3096	SITE PRO PIPE (2 7/8" O.D. X 8'-0") A53 GR-B SCH 40
6	3	VZSMART-PLK3	SUPPORT RAIL CORNER BRACKET



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ANTENNA MOUNT MODIFICATION DETAILS

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SHEET NUMBER: **A-1** REV #: **0**



PHOTO 1

REPLACE EXISTING SUPPORT RAIL PIPE WITH NEW 3" PST SUPPORT RAIL PIPE, (1) PER SECTOR. SEE SHEETS A-1 AND D-1 FOR DETAILS.

- A. TEMPORARILY RELOCATE EXISTING ANTENNAS/EQUIPMENT AND ANTENNA MOUNT PIPES TO ACCOMMODATE THE REPLACEMENT OF EXISTING SUPPORT RAIL PIPE.
- B. REINSTALL EXISTING ANTENNA MOUNT PIPES ON NEW SUPPORT RAIL PIPE, THEN RELOCATE EXISTING ANTENNAS/EQUIPMENT TO RELOCATED ANTENNA MOUNT PIPES (TYP), (2) PER SECTOR. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.



PHOTO 2



PHOTO 3

INSTALL NEW SAFETY CLIMB CABLE GUIDE TO PREVENT EXISTING SAFETY CLIMB FROM RUBBING AGAINST NEW COLLAR MOUNT. SEE SHEETS SAF-1 AND D-1 FOR DETAILS.



PHOTO 4

NOTE:
EXISTING RRUS/EQUIPMENT MAY BE RELOCATED ALONG THE MEMBER TO ACCOMMODATE THE INSTALLATION OF NEW MOUNT MODIFICATION



Tower Engineering Solutions

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IRVING, TX 75038
PH: (972) 483-0607



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

TES JOB NO:
113967

CUSTOMER SITE NO:
CT13549-S-SBA

CUSTOMER SITE NAME:
DANBURY 1

52 STADLEY ROUGH ROAD
DANBURY, CT 06811

DRAWN BY: RA CHECKED BY: EV/

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	RA	08/13/21

SHEET TITLE:

ANTENNA MOUNT
PHOTOS

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SHEET NUMBER: REV #:

A-2

0



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 (800)-487-SITE

TES JOB NO:
 113967

CUSTOMER SITE NO:
 CT13549-S-SBA
 CUSTOMER SITE NAME:
 DANBURY 1
 52 STADLEY ROUGH ROAD
 DANBURY, CT 06811

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SHEET TITLE:

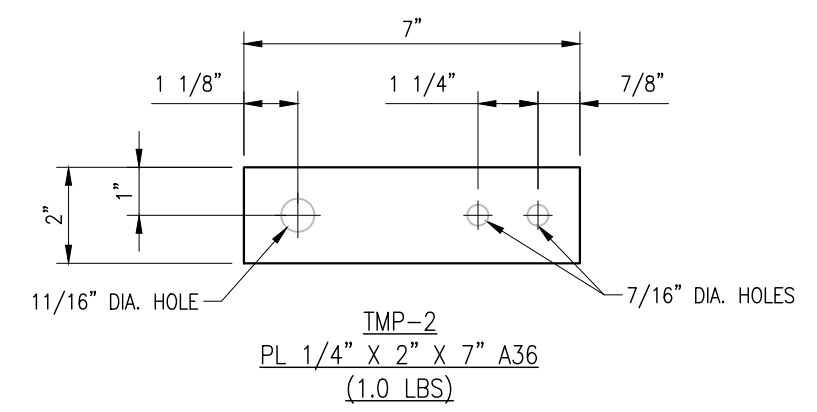
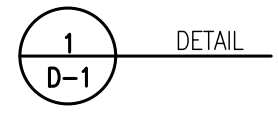
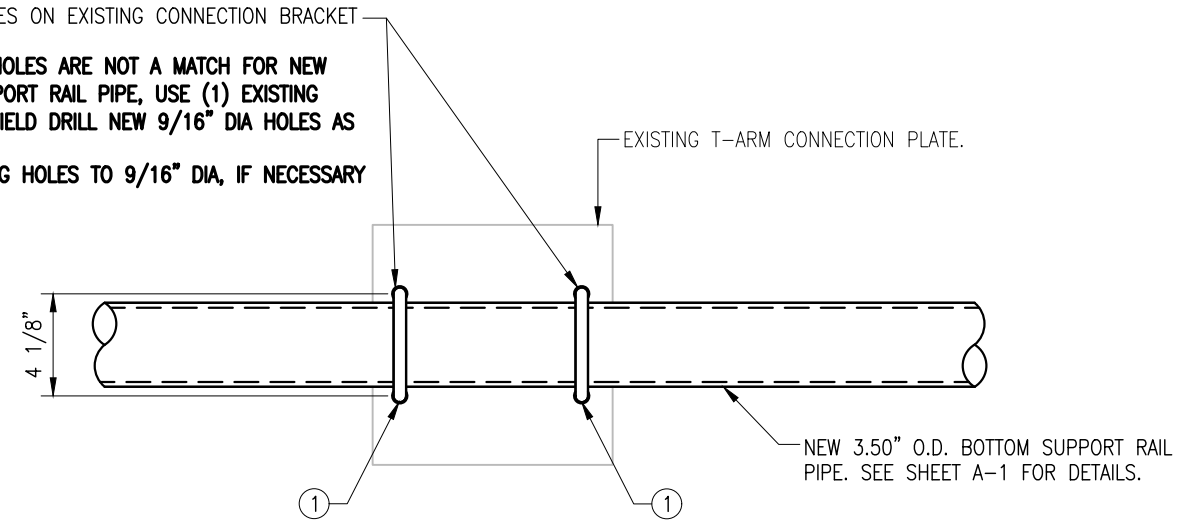
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SHEET NUMBER: D-1	REV #: 0
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REUSE EXISTING HOLES ON EXISTING CONNECTION BRACKET

- NOTE:**
- IF EXISTING HOLES ARE NOT A MATCH FOR NEW BOTTOM SUPPORT RAIL PIPE, USE (1) EXISTING HOLE THEN FIELD DRILL NEW 9/16" DIA HOLES AS SHOWN
 - REAM EXISTING HOLES TO 9/16" DIA, IF NECESSARY



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

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	6	UB1358	SITE PRO U-BOLT 1/2" X 3 5/8" I.W. X 5 1/2" I.L. A36 (OR EQ



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 BOCA RATON, FL 33487
 (800)-487-SITE

TES JOB NO:
 113967
 CUSTOMER SITE NO:
 CT13549-S-SBA
 CUSTOMER SITE NAME:
 DANBURY 1
 52 STADLEY ROUGH ROAD
 DANBURY, CT 06811

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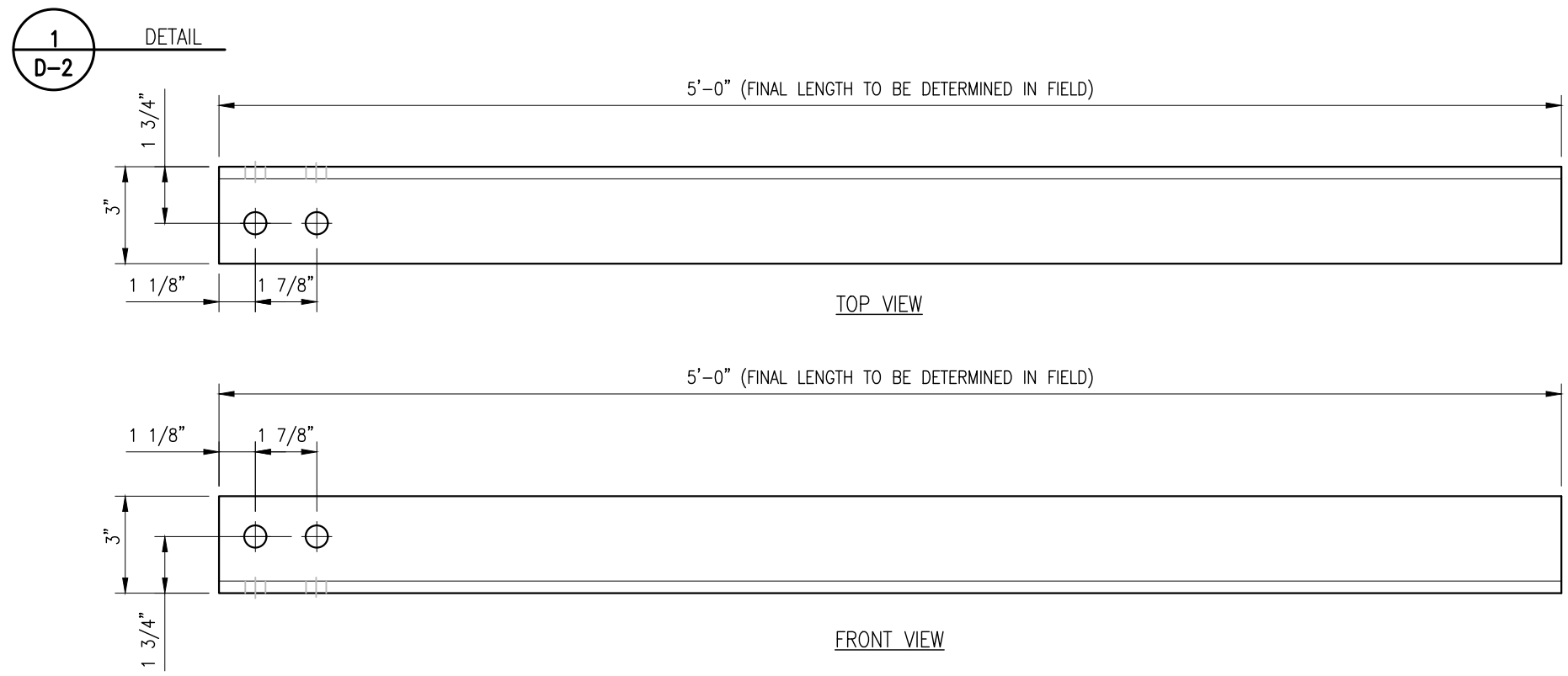
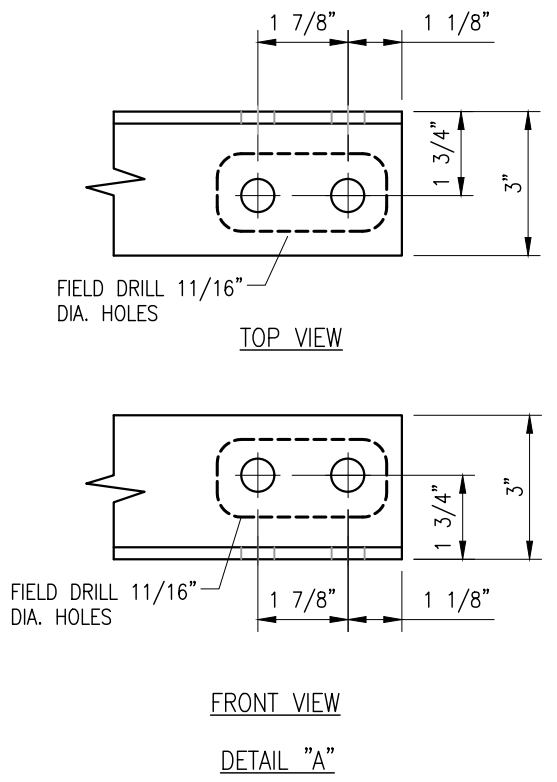
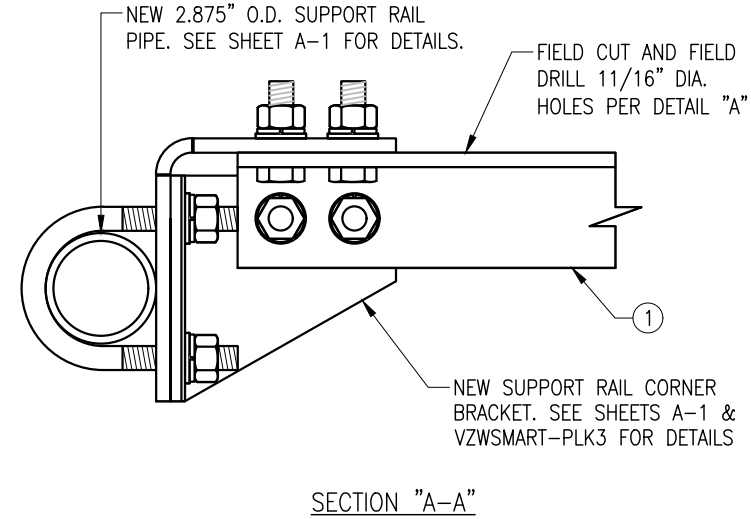
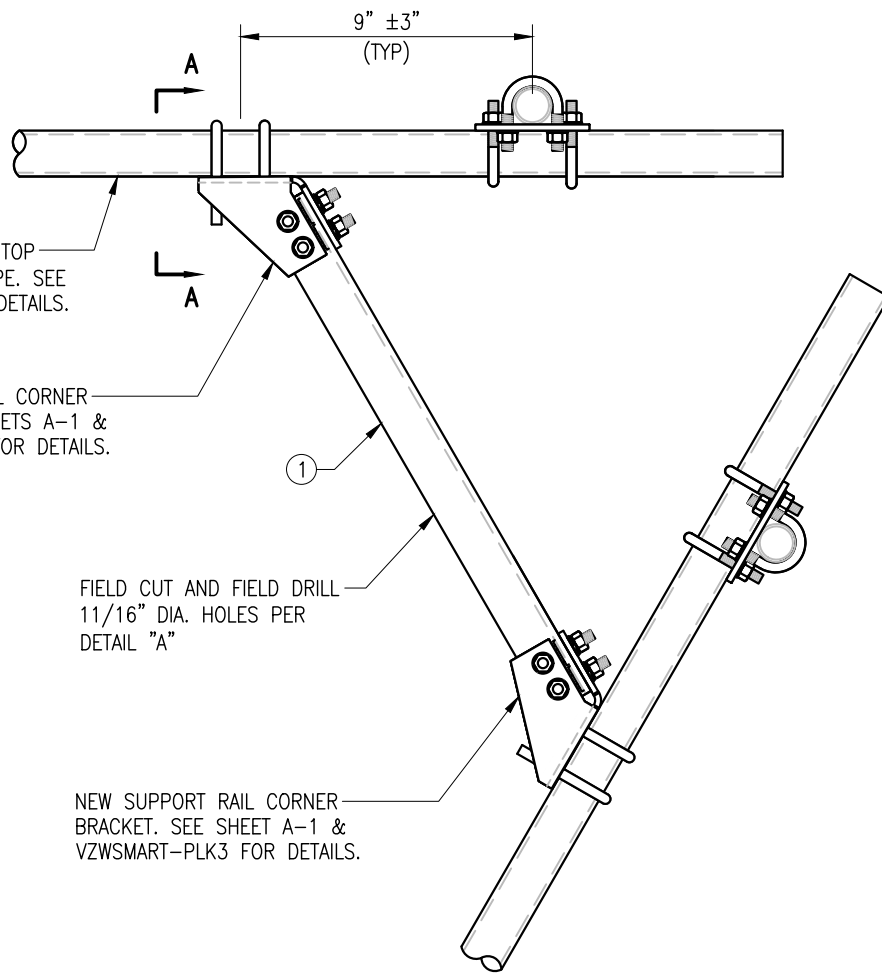
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	RA	08/13/21

SHEET TITLE:

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SHEET NUMBER: D-2	REV #: 0
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L3325-5
 L 3" X 3" X 1/4" A36
 (25.0 LBS)

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	3	L3325-5	L 3" X 3" X 1/4" X 5'-0" A36

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

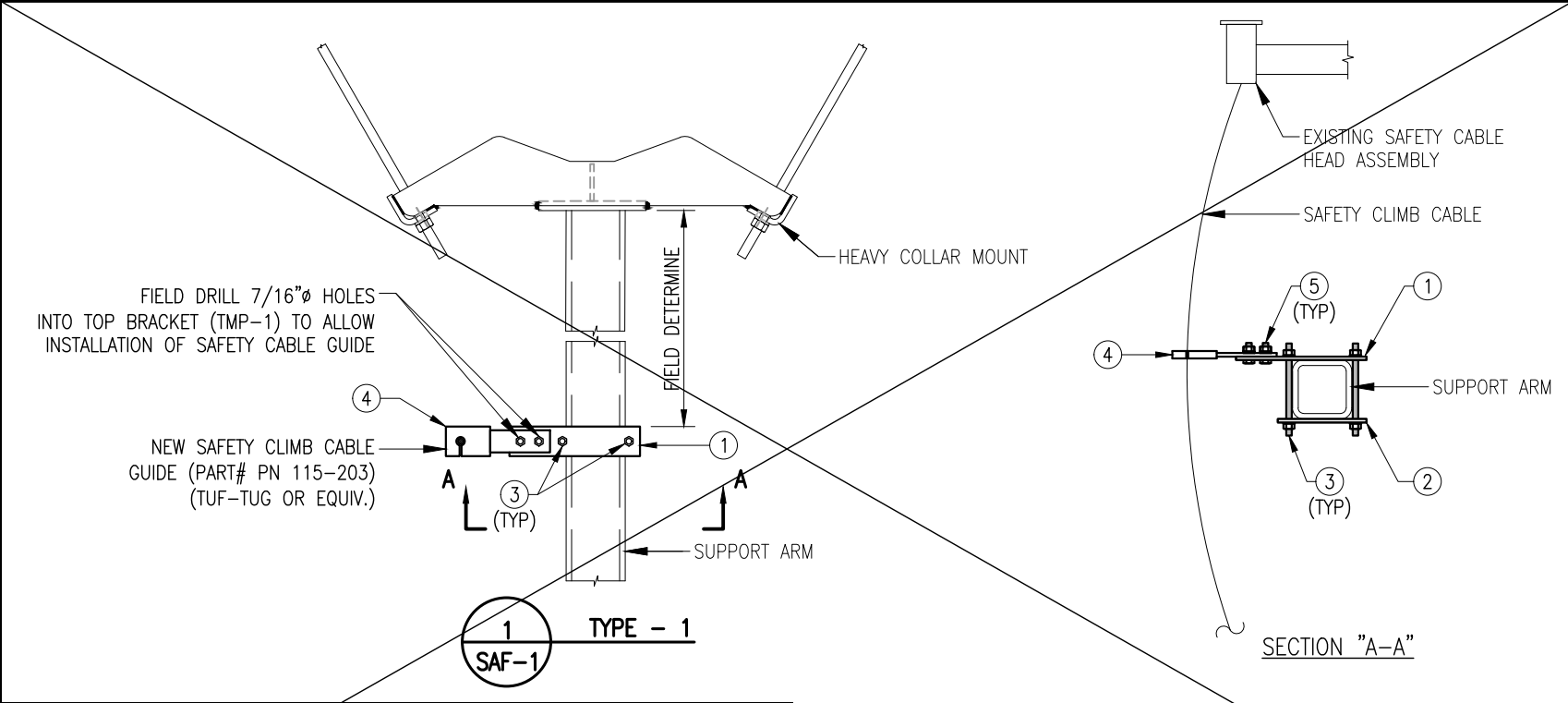


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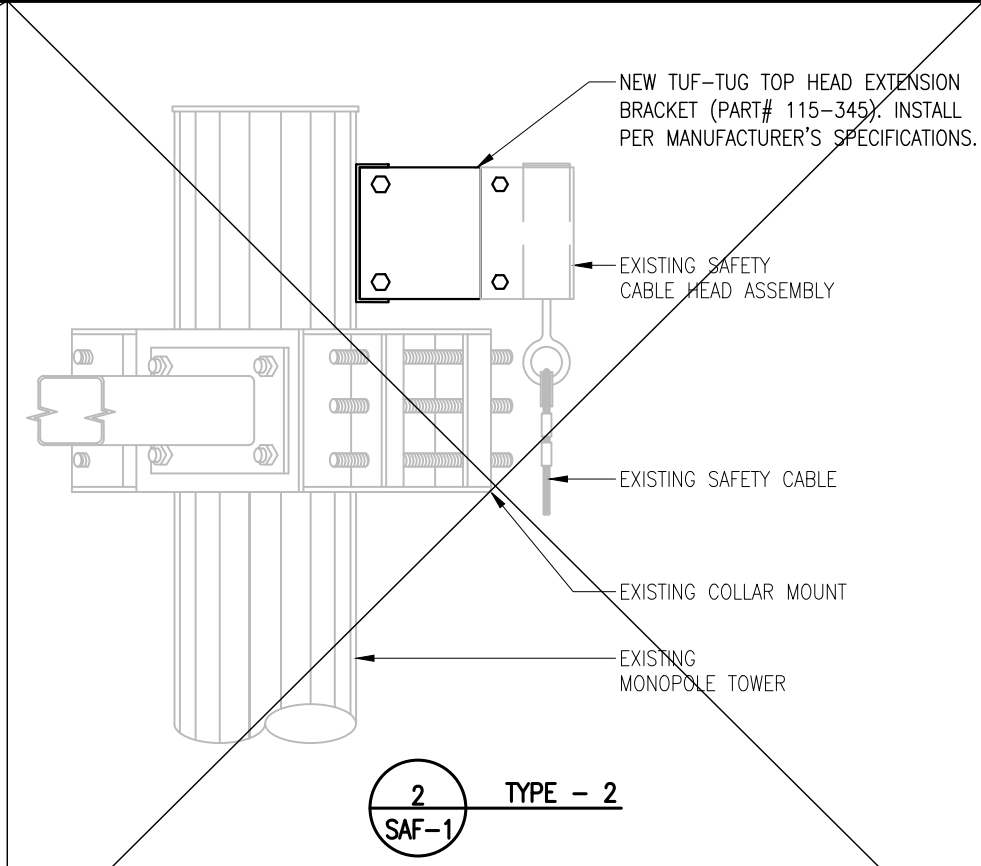
5900 BROKEN SOUND PARKWAY, NW
 BOCA RATON, FL 33487
 (800)-487-SITE

TES JOB NO:
 113967
 CUSTOMER SITE NO:
 CT13549-S-SBA
 CUSTOMER SITE NAME:
 DANBURY 1
 52 STADLEY ROUGH ROAD
 DANBURY, CT 06811

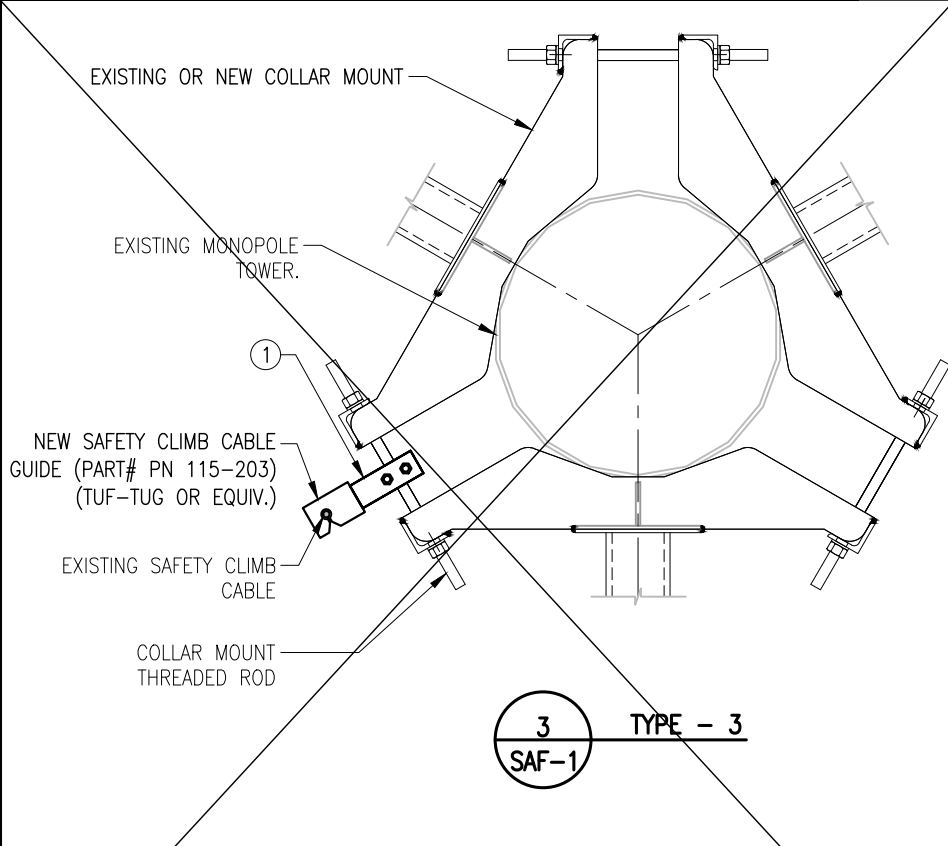


ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	TMP-1	PL 1/4" X 2" X 9 1/2" A36
2	1	BMP-1	PL 1/4" X 2" X 6 1/2" A36
3	2	---	THREADED ROD 3/8" X 8" A36
4	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)
5	2	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5

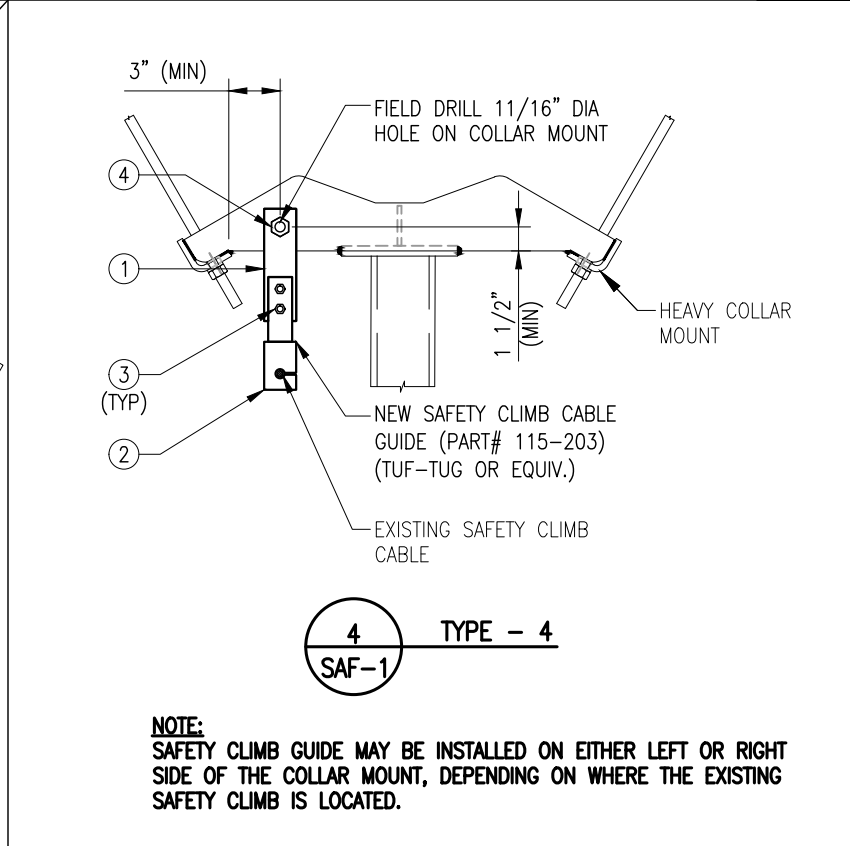
NOTE:
 SAFETY CLIMB GUIDE MAY BE INSTALLED ON EITHER LEFT OR RIGHT SIDE OF THE SUPPORT ARM, DEPENDING ON WHERE THE EXISTING SAFETY CLIMB IS LOCATED.



ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	115-345	TUF-TUG MONOPOLE HEAD EXTENSION ASSEMBLY

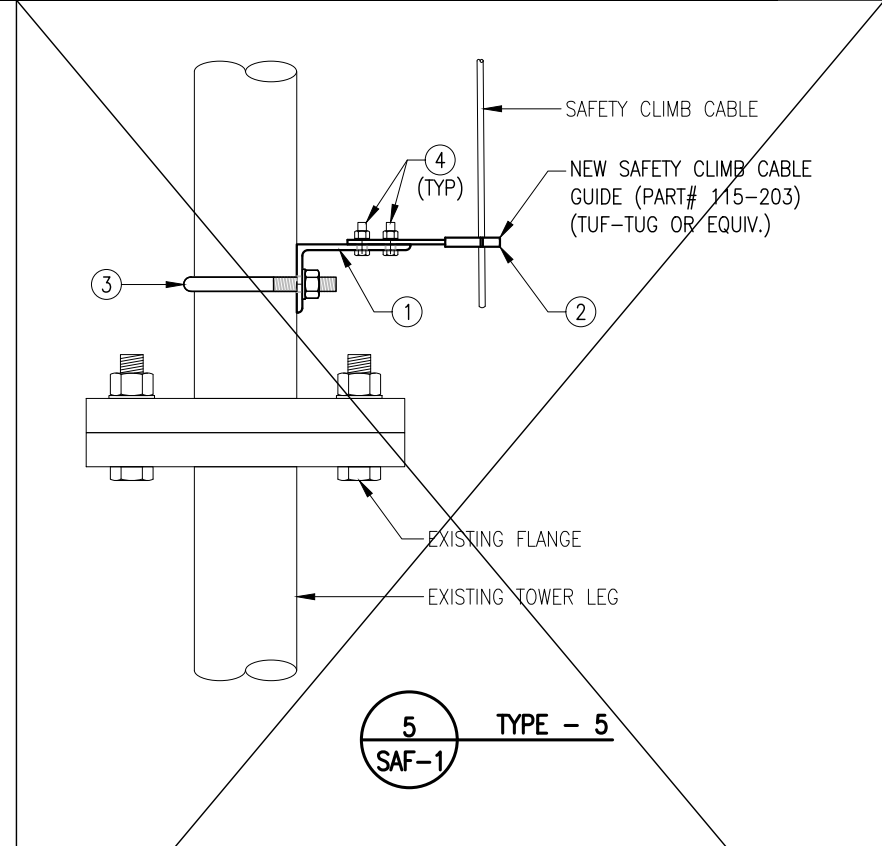


ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)



ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	TMP-2	PL 1/4" X 2" X 7" A36
2	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)
3	2	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5
4	1	---	BOLT 5/8" X 2" A325

NOTE:
 SAFETY CLIMB GUIDE MAY BE INSTALLED ON EITHER LEFT OR RIGHT SIDE OF THE COLLAR MOUNT, DEPENDING ON WHERE THE EXISTING SAFETY CLIMB IS LOCATED.



ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	SCGB-4	L 5" X 3" X 1/4" X 7 1/2" A36
2	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)
3	1	MS02-625-4625-700	RU-BOLT 5/8" X 4 5/8" I.W. X 7" I.L. A36 (OR EQUIV.)
4	2	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5

DRAWN BY: RA CHECKED BY: EV/

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	RA	08/13/21

SHEET TITLE:

SAFETY CABLE GUIDE DETAILS

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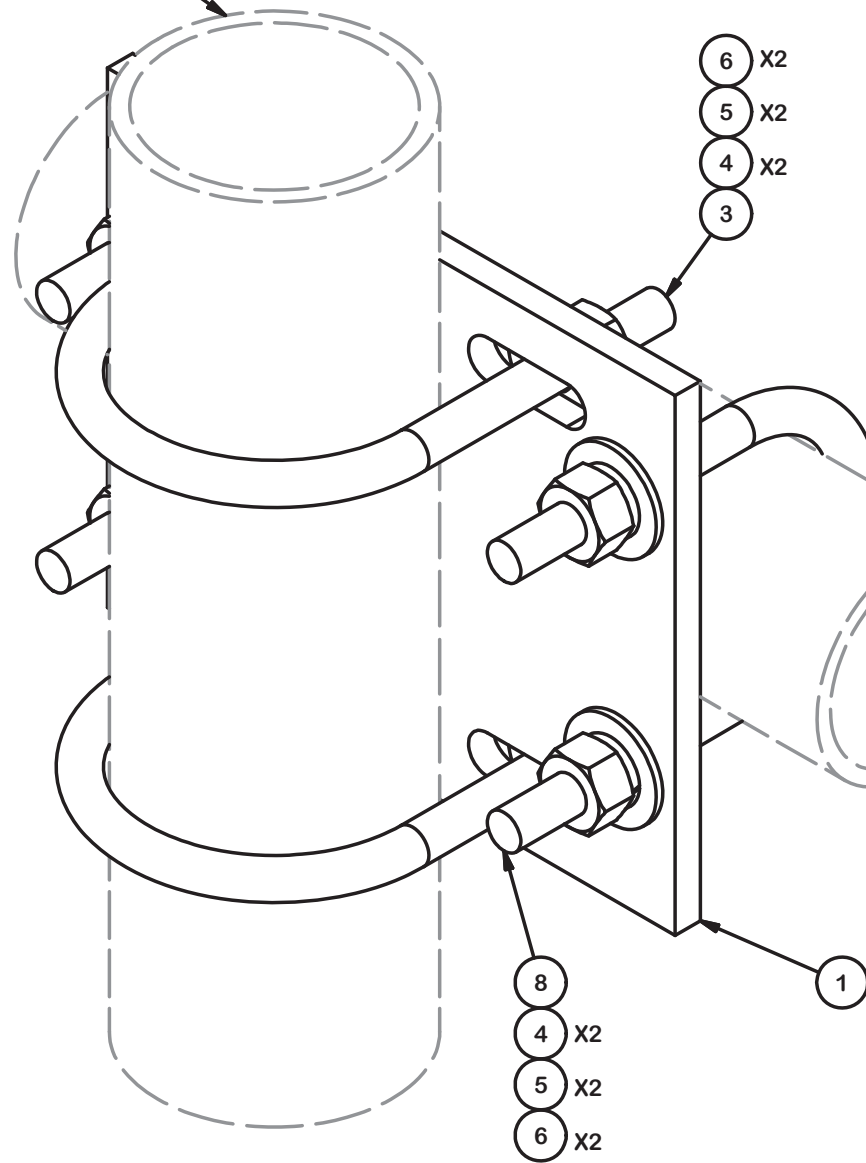
SHEET NUMBER: SAF-1 REV #: 0

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

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	6.02
3	2	X-UB1358	1/2" X 3-5/8" X 5-1/2" X 3" U-BOLT (HDG.)		0.73	1.46
8	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.73	1.46
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	9.92

3-1/2" O.D. ANTENNA PIPE
(ORDERED SEPRATELY)



2-7/8" O.D. ANTENNA PIPE
(ORDERED SEPRATELY)

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION		CROSSOVER PLATE KIT	
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SITE PRO 1
 A valmont COMPANY

Engineering Support Team:
 1-888-753-7446

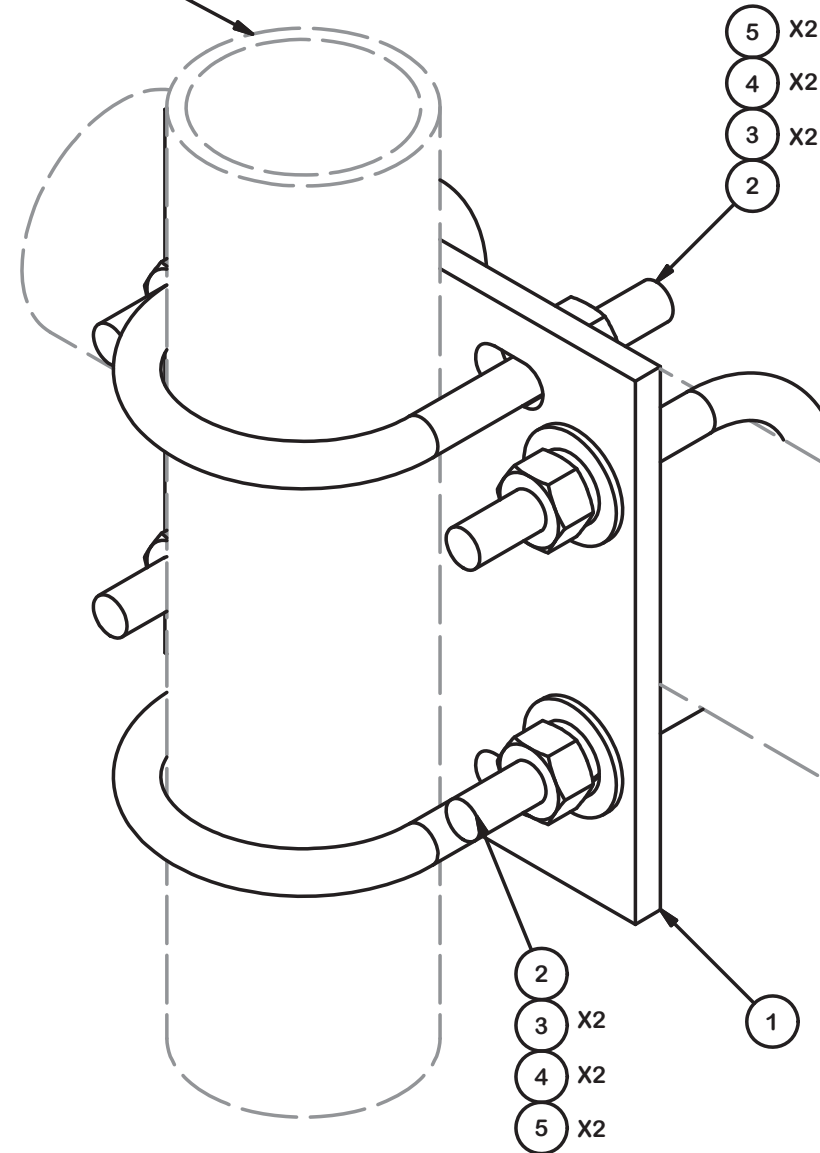
Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

CPD NO.	DRAWN BY CEK 2/19/2015	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
CHECKED BY BMC 2/19/2015		

PART NO.	SCX45-K	PAGE 1 OF 1
DWG. NO.	SCX45-K	

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX2	CROSSOVER PLATE	7 in	4.80	4.80
2	4	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.73	2.93
3	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
4	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
5	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	8.40

2-7/8" O.D. ANTENNA PIPE
(ORDERED SEPARATELY)



2-7/8" O.D. ANTENNA PIPE
(ORDERED SEPARATELY)

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030''$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030''$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010''$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030''$)
 ALL OTHER ASSEMBLY ($\pm 0.060''$)

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DESCRIPTION
CROSSOVER PLATE KIT

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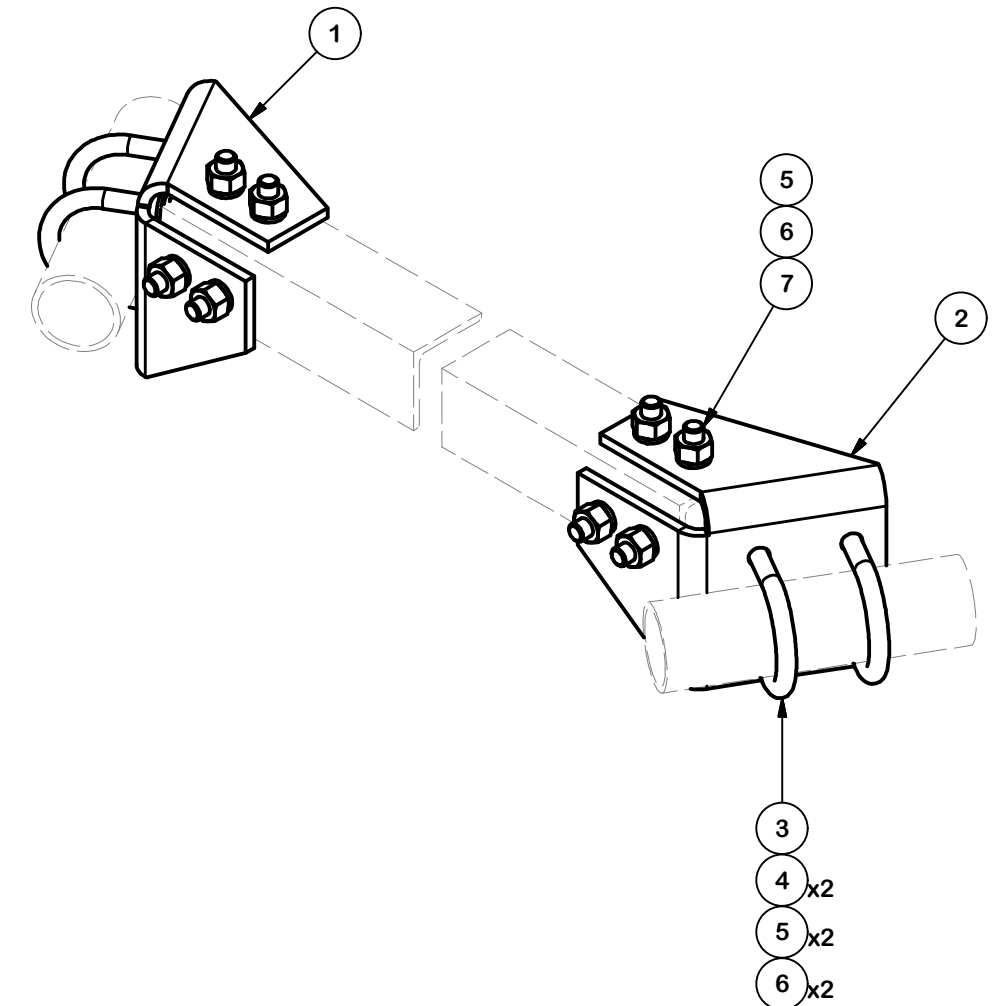
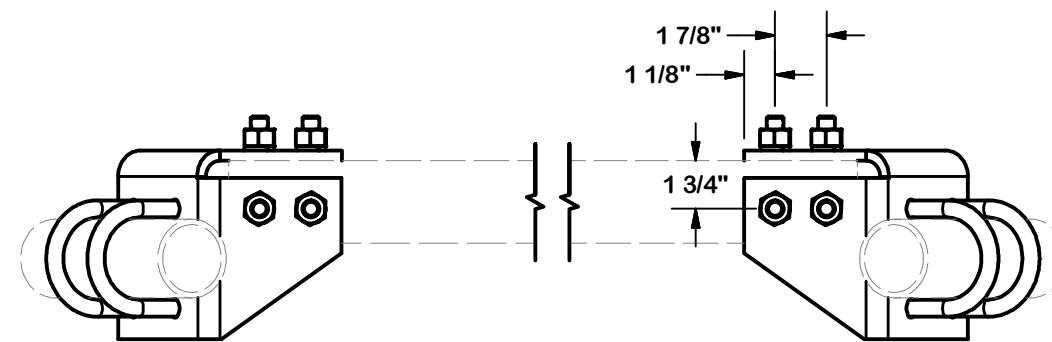
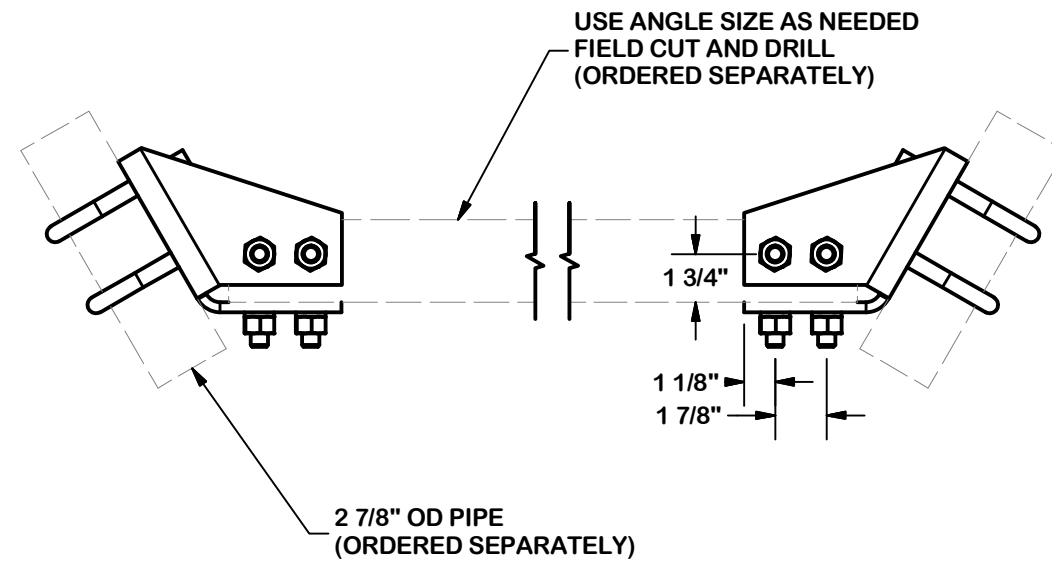
Engineering Support Team:
 1-888-753-7446

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

CPD NO.	DRAWN BY CEK	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
CHECKED BY BMC		DATE 2/19/2015

PART NO.	SCX23-K
DWG. NO.	SCX23-K

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	CBP-L	CORNER BENT PLATE - LEFT	12 3/8 in	9.37	9.37
2	1	CBP-R	CORNER BENT PLATE - RIGHT	12 3/8 in	9.37	9.37
3	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
4	8	G58FW	5/8" HDG USS FLATWASHER		0.07	0.56
5	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
6	16	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.08
7	8	A5802	5/8" x 2" HDG A325 HEX BOLT		0.27	2.17
					TOTAL WT. #	28.56



Valmont Site Pro 1
Paula.Boswell@valmont.com
(972) 236-9843
www.sitepro1.com

TOLERANCE NOTES

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SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
BENDS ARE $\pm 1/2$ DEGREE
ALL OTHER MACHINING ($\pm 0.030"$)
ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
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DESCRIPTION
**SUPPORT RAIL CORNER BRACKETS
(ANGLE & PIPE NOT INCLUDED)**

CPD NO. DRAWN BY JFS 3/18/2020 ENG. APPROVAL 5/11/2020

CLASS 87 SUB 02 DRAWING USAGE SHOP CHECKED BY BMC 5/11/2020

SITE PRO 1
A valmont COMPANY

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

Engineering Support Team:
1-888-753-7446

PART NO. **VZWSMART-PLK3**

DWG. NO. **VZWSMART-PLK3**

EXHIBIT 10

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

T-Mobile Existing Facility

Site ID: CT11796G

CT796/OptasiteCandle_FT
52 Stadley Rough Road
Danbury, Connecticut 06811

December 2, 2020

EBI Project Number: 6220006077

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	29.84%

December 2, 2020

T-Mobile

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

Emissions Analysis for Site: CT11796G - CT796/OptasiteCandle_FT

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **52 Stadley Rough Road in Danbury, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 52 Stadley Rough Road in Danbury, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 9) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 10) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 11) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antennas used in this modeling are the RFS APXVAARR18_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVAARR18_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVAARR18_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative

estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 13) The antenna mounting height centerline of the proposed antennas is 137 feet above ground level (AGL).
- 14) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 15) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAARR18_43-U-NA20	Make / Model:	RFS APXVAARR18_43-U-NA20	Make / Model:	RFS APXVAARR18_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	11.95 dBd / 11.95 dBd / 12.35 dBd / 14.85 dBd / 15.55 dBd	Gain:	11.95 dBd / 11.95 dBd / 12.35 dBd / 14.85 dBd / 15.55 dBd	Gain:	11.95 dBd / 11.95 dBd / 12.35 dBd / 14.85 dBd / 15.55 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	9,043.63	ERP (W):	9,043.63	ERP (W):	9,043.63
Antenna A1 MPE %:	2.59%	Antenna B1 MPE %:	2.59%	Antenna C1 MPE %:	2.59%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A2 MPE %:	2.46%	Antenna B2 MPE %:	2.46%	Antenna C2 MPE %:	2.46%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	38,477.89	ERP (W):	38,477.89	ERP (W):	38,477.89
Antenna A3 MPE %:	7.37%	Antenna B3 MPE %:	7.37%	Antenna C3 MPE %:	7.37%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	12.42%
AT&T	7.9%
Dish Wireless	3.22%
Clearwire	0.18%
Metro PCS	0.39%
Verizon	5.73%
Site Total MPE % :	29.84%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	12.42%
T-Mobile Sector B Total:	12.42%
T-Mobile Sector C Total:	12.42%
Site Total MPE % :	29.84%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE	2	470.03	137.0	1.80	600 MHz LTE	400	0.45%
T-Mobile 600 MHz NR	1	1253.40	137.0	2.40	600 MHz NR	400	0.60%
T-Mobile 700 MHz LTE	2	515.37	137.0	1.97	700 MHz LTE	467	0.42%
T-Mobile 1900 MHz LTE	2	1832.95	137.0	7.02	1900 MHz LTE	1000	0.70%
T-Mobile 2100 MHz UMTS	2	1076.77	137.0	4.13	2100 MHz UMTS	1000	0.41%
T-Mobile 1900 MHz GSM	4	1028.30	137.0	7.88	1900 MHz GSM	1000	0.79%
T-Mobile 1900 MHz LTE	2	2056.61	137.0	7.88	1900 MHz LTE	1000	0.79%
T-Mobile 2100 MHz LTE	2	2307.55	137.0	8.84	2100 MHz LTE	1000	0.88%
T-Mobile 2500 MHz LTE	1	19238.94	137.0	36.85	2500 MHz LTE	1000	3.69%
T-Mobile 2500 MHz NR	1	19238.94	137.0	36.85	2500 MHz NR	1000	3.69%
						Total:	12.42%

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	12.42%
Sector B:	12.42%
Sector C:	12.42%
T-Mobile Maximum MPE % (Sector A):	12.42%
Site Total:	29.84%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **29.84%** 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.