



Filed by:

Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbsite.com

February 8, 2018

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

Notice of Exempt Modification
1428 Monroe Turnpike, Monroe, CT
41 22 35.27 N
-73 11 11.55 W
T-Mobile #: CT11838A_L700

Dear Ms. Bachman:

T-Mobile currently maintains antennas at the 140-foot of the existing 159-foot Monopole at 1428 Monroe Turnpike in Monroe, CT. The tower is owned by SBA Infrastructure, LLC. The property is owned by Jim M. Kimball / Stone Castle Investments, LLC. T-Mobile now intends to replace (6) existing cell antennas with (6) newer technology cell antennas at the 140-foot level of the tower. The proposed full scope of work is as follows:

Remove:

- (6) Remec S20057A1

Remove and Replace:

- Remove (6) existing EMS FR65-17-04DP panel antennas and replace with (3) RFS-APXVAA24-43-U-A20 panel antennas and (3) RFS-APX16DWV-16DWV-S-E-A20 panel antennas

Install:

- (3) RFS Twin Style 3CS-ATMA4P4DBP-1A20 TMAs
- (3) ATSBT-TOP-MF-4G Andrew Smart Bias T
- (12) 1-1/4" lines
- Handrail/Stabilizer/Mounts

At ground level: (No change to compound size or area – all work on existing pad w/in existing leased area)

- (1) battery cabinet on existing pad
- (6) FDAP5002/1A20 diplexers on H-Frame

Existing Equipment to Remain (Including entitlements):

- (6) existing EMS FR65-17-04DP (entitlements only)
- (12) 1-1/4" lines



This facility was originally approved by the CT Siting Council under Docket 210. It granted approval for a monopole no taller than necessary to provide proposed telecommunication services, sufficient to accommodate the antennas of the carrier and other entities both public and private not to exceed a height of 160' above ground level. Appurtenances extending from the top of the tower were not to exceed 15' in height. RF reports were to be run with changes in emissions. Public and private entities were to be granted shared space for fair consideration. And, obsolete antennas were to be removed within 60 days. This modification complies with all conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Monroe's First Selectman, Steve Vavrek, and Planning and Zoning Administrator, William Agresta, as well as to the property owner, Jim M. Kimball/Stone Castle Investments, LLC. (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,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T
508.366.2610 + F
203.446.7700 + C
kpelletier@sbsite.com
Attachments

cc: Steve Vavrek, First Selectman / with attachments
Town of Monroe, 7 Fan Hill Road, Monroe, Connecticut 06468
William Agresta, Planning and Zoning Administrator / with attachments
Town of Monroe, 7 Fan Hill Road, Monroe, Connecticut 06468
Jim M. Kimball / Stone Castle Investments, LLC / with attachments
1428 Monroe Turnpike, Monroe, CT 06468



POWER DENSITY

T-Mobile Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APX16DWV-16DWVS- E-A20	Make / Model:	RFS APX16DWV-16DWVS- E-A20	Make / Model:	RFS APX16DWV-16DWVS- E-A20
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	300	Total TX Power(W):	300	Total TX Power(W):	300
ERP (W):	10,777.69	ERP (W):	10,777.69	ERP (W):	10,777.69
Antenna A1 MPE%	2.16	Antenna B1 MPE%	2.16	Antenna C1 MPE%	2.16
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAA24-43-U-A20	Make / Model:	RFS APXVAA24-43-U-A20	Make / Model:	RFS APXVAA24-43-U-A20
Gain:	13.55 dBd	Gain:	13.55 dBd	Gain:	13.55 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60	Total TX Power(W):	60	Total TX Power(W):	60
ERP (W):	1,233.53	ERP (W):	1,233.53	ERP (W):	1,233.53
Antenna A2 MPE%	0.53	Antenna B2 MPE%	0.53	Antenna C2 MPE%	0.53

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	2.69 %
AT&T	0.79 %
Sprint	0.36 %
Verizon Wireless	3.77 %
Town of Monroe	0.38 %
Site Total MPE %:	7.99 %

T-Mobile Sector A Total:	2.69 %
T-Mobile Sector B Total:	2.69 %
T-Mobile Sector C Total:	2.69 %
Site Total:	7.99 %

T-Mobile_Max Values per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	2	2,143.64	140	8.58	AWS - 2100 MHz	1000	0.86%
T-Mobile PCS - 1900 MHz LTE	2	2,163.47	140	8.66	PCS - 1900 MHz	1000	0.87%
T-Mobile PCS - 1900 MHz GSM	2	1,081.74	140	4.33	PCS - 1900 MHz	1000	0.43%
T-Mobile 700 MHz LTE	2	616.77	140	2.47	700 MHz	467	0.53%
						Total:	2.69%

ORIGIN ID:BBFA (508) 251-0720
KRI BELLETTER
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 08FEB18
ACTWG/ST: 1.00 LB
CAD: 105843304/NET3980

BILL SENDER

TO **STEVE VAVREK, FIRST SELECTMAN**
TOWN OF MONROE
7 FAN HILL ROAD

MONROE CT 06468
(508) 251-0720 X.3804 REF: 10-56-92009-6089
INV:
PO: DEPT:



J18118012681uv

552J1122D/DCA5

TRK# 77114 3477 9910
0201
FRI - 09 FEB 10:30A
PRIORITY OVERNIGHT

EB BCCA
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134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 08FEB18
ACTWGT: 1.00 LB
CAD: 105843304INET3980

BILL SENDER

TO **WILLIAM AGRESTA, PLANNING ADMIN**
TOWN OF MONROE
7 FAN HILL ROAD

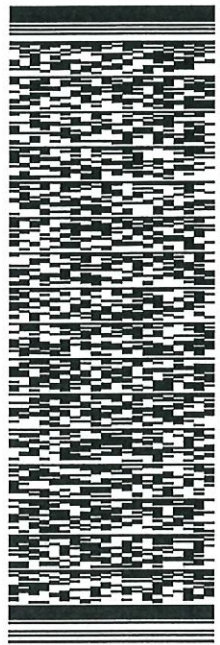
MONROE CT 06468

(508) 251-0720 X 3804

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INV:

DEPT:



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TRK# 77114-3480 0210
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KRI PELLETIER
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 08FEB18
ACTWGT: 1.00 LB
CAD: 109843304INET3980

BILL SENDER

TO **JIM M. KIMBALL**
STONE CASTLE INVESTMENTS, LLC
1428 MONROE TURNPIKE

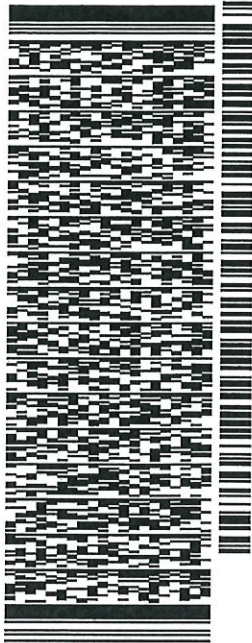
MONROE CT 06468

(508) 251-0720 X 3804

REF: 10-55-92009-6089

INV:

DEPT:



J181118012601uv

552J11122D/DCA5

FRI - 09 FEB 10:30A

PRIORITY OVERNIGHT

TRK# 77114 3481 5212
0201

EB BCCA

06468
CT-US BDL



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1428 MONROE TPKE

Location 1428 MONROE TPKE

Map/Lot 145/ 024/ 01/ /

Acct# 14502401

Owner KIMBALL JILL M

Assessment \$425,700

Appraisal \$608,100

PID 16577

Building Count 1

Survey 3171

Affordable

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2014	\$435,300	\$172,800	\$608,100

Assessment			
Valuation Year	Improvements	Land	Total
2014	\$304,700	\$121,000	\$425,700

Owner of Record

Owner KIMBALL JILL M

Sale Price \$0

Co-Owner

Certificate

Address 1428 MONROE TPKE
MONROE, CT 06468

Book & Page 1904/0251

Sale Date 12/29/2015

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
KIMBALL JILL M	\$0		1904/0251	12/29/2015
STONE CASTLE INVESTMENTS LLC	\$0	1	1789/ 323	07/13/2012
SISTERS OF THE HOLY FAMILY OF NAZARETH U	\$0	2	1603/ 14	07/10/2009

Building Information

Building 1 : Section 1

Year Built: 1936

Living Area: 5,638

Building Photo

Building Attributes	
Field	Description
Style	Colonial
Model	Residential

Stories:	2
Occupancy	1
Exterior Wall 1	Stone
Heat Fuel	Oil
Heat Type:	Central A/C
AC Type:	Central AC
Total Bedrooms:	6
Total Bthrms:	4
Total Half Baths:	1
Total Rooms:	14
Fireplaces	5
Basement Gar.	0
Basement	Full
In Law Apt	0



(http://images.vgsi.com/photos/MonroeCTPhotos//\00\00\66\11.JPG)

Building Layout



FBM[2035]

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	5,638	5,638
BSM	Basement	3,771	0
FBM	Finished Basement	2,035	0
MOP	Masonry Open Porch	300	0
PTO	Patio	280	0
		12,024	5,638

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	101
Description	Single Family
Zone	RF2
Neighborhood	

Land Line Valuation

Size (Acres)	7.21
Appraised Value	\$172,800

Alt Land Approved No
 Category

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$435,300	\$173,300	\$608,600
2009		\$566,300	\$1,188,000

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$304,700	\$121,300	\$426,000
2009		\$396,410	\$831,600

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

T-Mobile Existing Facility

Site ID: CT11838A

CT838/Marion Heights CAT
1428 Monroe Turnpike
Monroe, CT 06468

February 7, 2018

EBI Project Number: 6218000884

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	7.99 %



February 7, 2018

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11838A – CT838/Marion Heights CAT**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1428 Monroe Turnpike, Monroe, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **1428 Monroe Turnpike, Monroe, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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 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.
- 2) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 3) 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
- 4) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) Since all radios are ground mounted there are additional cabling losses accounted for. For each ground mounted RF path, the following losses were calculated. 0.42 dB of additional cable loss for all ground mounted 700 MHz Channels, 0.73 dB of additional cable loss for all ground mounted 1900 MHz channels and 0.77 dB of additional cable loss for all ground mounted 2100 MHz channels were factored into the calculations used for this analysis. This is based on manufacturers Specifications for 60 feet of 1-1/4” coax cable on each path.



- 6) 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.
- 7) 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 manufactures supplied specifications minus 10 dB 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.
- 8) The antennas used in this modeling are the **RFS APX16DWV-16DWVS-E-A20** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **RFS APXVAA24-43-U-A20** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS APX16DWV-16DWVS-E-A20** has a maximum gain of **16.3 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **RFS APXVAA24-43-U-A20** has a maximum gain of **13.55 dBd** at its main lobe at 700 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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.
- 9) The antenna mounting height centerline of the proposed antennas is **140 feet** above ground level (AGL).
- 10) 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.
- 11) 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 APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	6	Channel Count	6	Channel Count	6
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Antenna A1 MPE%	2.16	Antenna B1 MPE%	2.16	Antenna C1 MPE%	2.16
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAA24-43-U-A20	Make / Model:	RFS APXVAA24-43-U-A20	Make / Model:	RFS APXVAA24-43-U-A20
Gain:	13.55 dBd	Gain:	13.55 dBd	Gain:	13.55 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	60	Total TX Power(W):	60	Total TX Power(W):	60
ERP (W):	1,233.53	ERP (W):	1,233.53	ERP (W):	1,233.53
Antenna A2 MPE%	0.53	Antenna B2 MPE%	0.53	Antenna C2 MPE%	0.53

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	2.69 %
AT&T	0.79 %
Sprint	0.36 %
Verizon Wireless	3.77 %
Town of Monroe	0.38 %
Site Total MPE %:	7.99 %

T-Mobile Sector A Total:	2.69 %
T-Mobile Sector B Total:	2.69 %
T-Mobile Sector C Total:	2.69 %
Site Total:	7.99 %

T-Mobile _Max Values per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	2	2,143.64	140	8.58	AWS - 2100 MHz	1000	0.86%
T-Mobile PCS - 1900 MHz LTE	2	2,163.47	140	8.66	PCS - 1900 MHz	1000	0.87%
T-Mobile PCS - 1900 MHz GSM	2	1,081.74	140	4.33	PCS - 1900 MHz	1000	0.43%
T-Mobile 700 MHz LTE	2	616.77	140	2.47	700 MHz	467	0.53%
						Total:	2.69%

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:	2.69 %
Sector B:	2.69 %
Sector C:	2.69 %
T-Mobile Per Sector Maximum:	2.69 %
Site Total:	7.99 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **7.99%** 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.



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freepoint Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 159 ft. SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13055-A

Customer Site Name: Monroe Turnpike

Carrier Name: T-Mobile

Carrier Site ID / Name: CT11838A / CT838/Marion Heights CAT

Site Location: 1428 Monroe Turnpike

Monroe, Connecticut

Fairfield County

Latitude: 41.376463

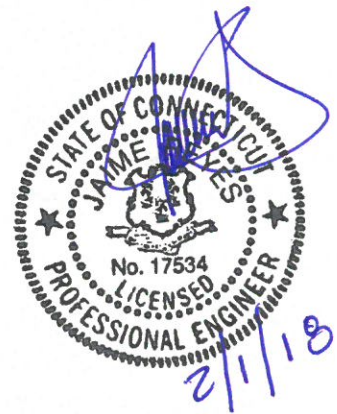
Longitude: -73.186541

Analysis Result:

Max Structural Usage: 82.4% [Pass]

Max Foundation Usage: 75.0% [Pass]

Report Prepared By : Delu Zhou



Introduction

The purpose of this report is to summarize the analysis results on the 159 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	Sabre Communications Corporation, Job No. 04-05018, dated May 23, 2003
Foundation Drawing	Sabre Communications Corporation, Job No. 04-05018, Drawing No. 04-05018-F1, dated May 23, 2003
Geotechnical Report	Geotechnical Report by Dr. Clarence Welti, P.E., P.C., dated April 25, 2003
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. 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:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	$S_5 = 0.205$, $S_1 = 0.065$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines ¹	Owner
1	162.0	3	Powerwave 7770 - Panel	Low Profile Platform	(6) 1 5/8" (1) 7/8" (2) 3/4" DC	AT&T
2		3	Powerwave P65-16-XLH-RR - Panel			
3		6	Powerwave LGP21401 - TMA			
4		6	Ericsson RRUS-11 - RRU			
5		1	Raycap DC6-48-60-18-8F			
6		1	Decibel DB404-B - Omni			
7	151.0	3	RFS - APXVSP18-C-A20 - Panel	Low Profile Platform	(4) 1-1/4" Hybrid	Sprint Nextel
8		3	RFS - APXVTM14-C-I20 - Panel			
9		4	RFS - ACU-A20-N - RET			
10		3	Alcatel Lucent - 1900 MHz RRH			
11		3	Alcatel Lucent - 800 MHz RRH			
12		3	Alcatel Lucent - TD-RRH8x20-25 - RRH			
13		3	Alcatel Lucent - 800 MHz Filters			
-	142.5	12	EMS FR65-17-04DP - Panel	Low Profile Platform	(12) 1 1/4"	T-Mobile
-		6	Remec S20057A1			
19	131.0	3	Kathrein 742 213_2110_P45_02.0	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Hybriflex	Verizon
20		3	Antel BXA-70063/6CF - Panel			
21		3	Antel BXA-171063-12BF - Panel			
22		6	Antel LPA-80063/6CF - Panel			
23		3	Alcatel Lucent RRH2x60-AWS - RRU			
24		6	RFS FD9R6004/2C-3L - Diplexer			
25		1	RFS DB-T1-6Z-8AB-0Z - Distribution Box			
26	110.0	1	Sinclair SCL329-HL - Omni	(1) 4 ft. Standoff	(1) 7/8" ²	Town
27	80.0	1	Sinclair SCL329-HL - Omni	(1) 4 ft. Standoff	(1) 7/8" ²	
29	50.0	1	Decibel 26DB - GPS	(1) 4 ft. Standoff	(1) 1/2" ³	Sprint

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
14	140.0	6	EMS - FR90-16-XXDP - Panel	LP Platform w/ Handrails w/ (3) VSR-MS-B	(24) 1 1/4"	T-Mobile
15		3	RFS - APX16DWV-16DWVW-E-A20 - Panel			
16		3	RFS - APXVAA24_43-U-A20 - Panel			
17		3	RFS - ATMA4P4DBP-1A20 - TMA			
18		3	Andrew - ATSBT-TOP-FM - Bias T			

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:	75.1%	82.4%	60.6%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	3665.0	31.3	41.5
Analysis Reactions	3874.3	32.6	46.4
Factored Reactions*	4947.8	42.2	56.0
% of Design Reactions	78.3%	77.1%	82.9%

* 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 ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.9428 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 ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Antenna Mount Note:

The new proposed mount contributes 1.4% of additional stress to the tower structure.

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 analysis is based on the presumption that the tower 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.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. 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.
8. 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.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 75.13% at 0.0ft

Structure: CT13055-A-SBA
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.000 (ft)

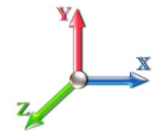
Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

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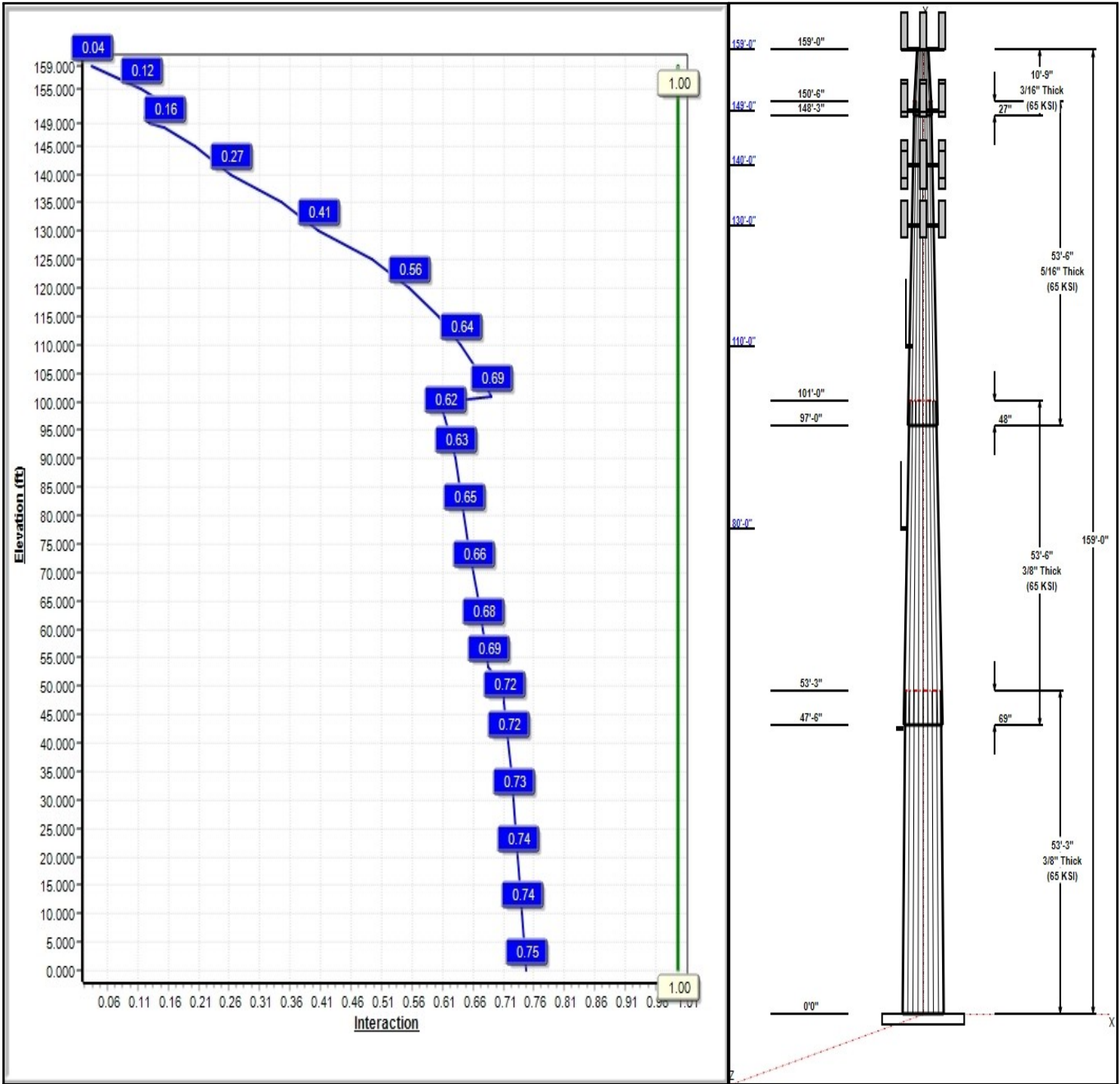
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 25

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Structure: CT13055-A-SBA

Type: Tapered
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.28277

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Shaft Properties

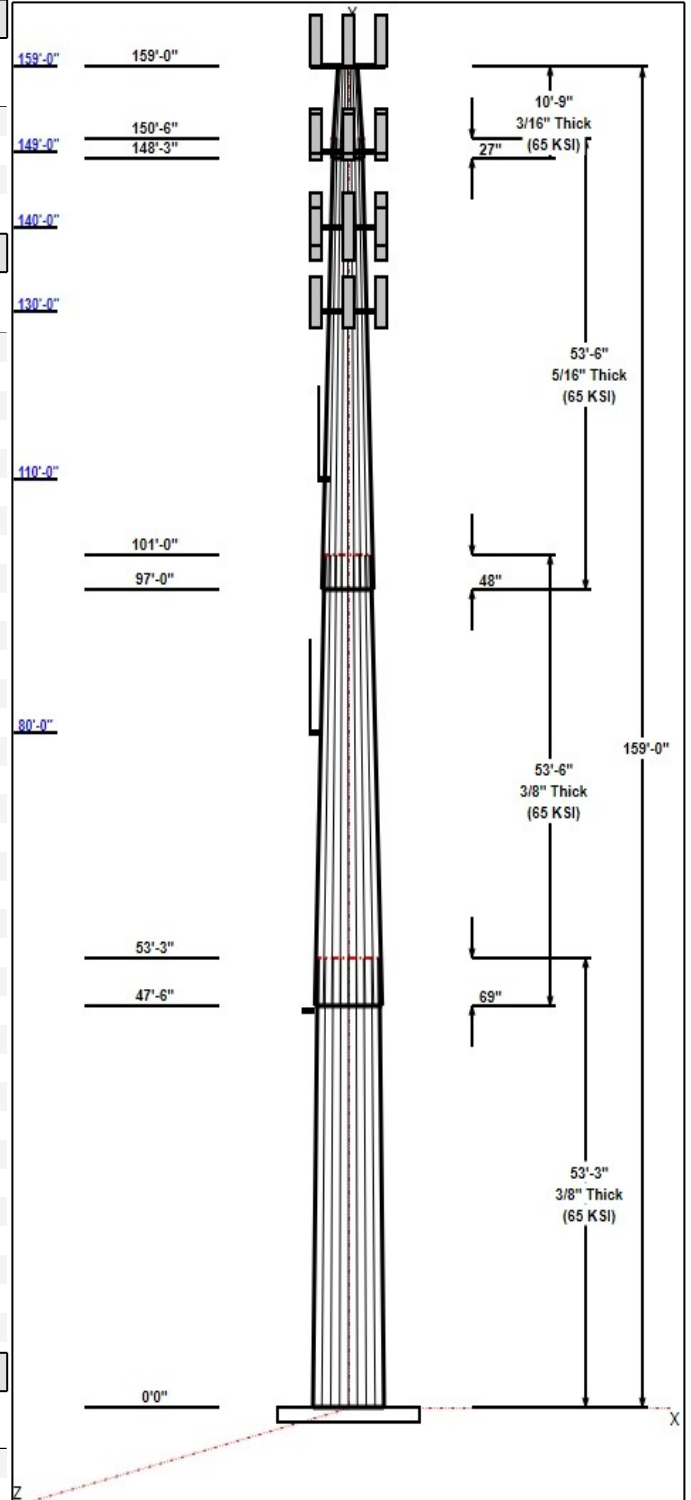
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	43.15	58.21	0.375		0.28277	65
2	53.50	30.40	45.53	0.375	Slip	0.28277	65
3	53.50	17.03	32.16	0.313	Slip	0.28277	65
4	10.75	15.00	18.04	0.188	Slip	0.28277	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
159.00	162.00	3	7770.00	AT&T
159.00	162.00	3	P65-16-XLH-RR	AT&T
159.00	162.00	6	LGP21401	AT&T
159.00	162.00	6	RRUS-11	AT&T
159.00	162.00	1	DC6-48-60-18-8F	AT&T
159.00	159.00	1	Low Profile Platform	AT&T
159.00	162.00	1	DB404-B	Town
149.00	151.00	3	RFS - APXVSPP18-C-A20	Sprint Nextel
149.00	151.00	3	Alcatel Lucent - 1900 MHz	Sprint Nextel
149.00	151.00	3	Alcatel Lucent - 800 MHz	Sprint Nextel
149.00	151.00	3	Alcatel Lucent - 800 MHz	Sprint Nextel
149.00	151.00	4	RFS - ACU-A20-N - RET	Sprint Nextel
149.00	149.00	1	Low Profile Platform	Sprint Nextel
149.00	151.00	3	RFS - APXVTM14-C-I20	Sprint Nextel
149.00	151.00	3	Alcatel Lucent -	Sprint Nextel
140.00	140.00	6	FR90-16-XXDP	T-Mobile
140.00	140.00	3	APX16DWV-16DWVS-E-A	T-Mobile
140.00	140.00	3	APXVAA24_43-U-A20	T-Mobile
140.00	140.00	3	RFS -	T-Mobile
140.00	140.00	3	Andrew - ATSBT-TOP-FM	T-Mobile
140.00	140.00	1	Low Profile Platform w/	T-Mobile
130.00	131.00	3	BXA-70063/6CF	Verizon
130.00	131.00	6	LPA-80063/6CF	Verizon
130.00	131.00	3	BXA-171063-12BF	Verizon
130.00	131.00	3	RRH2X60-AWS	Verizon
130.00	131.00	6	FD9R6004/2C-3L -	Verizon
130.00	131.00	1	DB-T1-6Z-8AB-0Z - Distri	Verizon
130.00	130.00	1	Low Profile Platform	Verizon
130.00	131.00	3	742 213_2110_P45_02.0	Verizon
110.00	110.00	1	4 ft Standoff	Town
110.00	115.55	1	SCL329-HL	Town
80.00	85.55	1	SCL329-HL	Town
80.00	80.00	1	4 ft Standoff	Town
47.00	50.00	1	Decibel 26DB GPS	Sprint Nextel
47.00	47.00	1	4 ft Standoff	Sprint Nextel

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	159.00	Inside	1 5/8" Coax	AT&T
0.00	159.00	Inside	1/2" Fiber	Town
0.00	159.00	Inside	3/4" DC	AT&T
0.00	159.00	Inside	7/8" Coax	AT&T
0.00	151.00	Inside	1-1/4" Hybrid	Sprint Nextel
0.00	140.00	Inside	1 1/4" Coax	T-Mobile
0.00	131.00	Inside	1 5/8" Coax	Verizon



Structure: CT13055-A-SBA

Type: Tapered
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.28277

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0.00	131.00	Inside	1 5/8" Hybriflex	Verizon
0.00	110.00	Outside	7/8" Coax	Town
0.00	80.00	Outside	7/8" Coax	Town
0.00	50.00	Outside	1/2" Coax	Sprint Nextel

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
14	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.2500	71.0	60.0	Round

Reactions

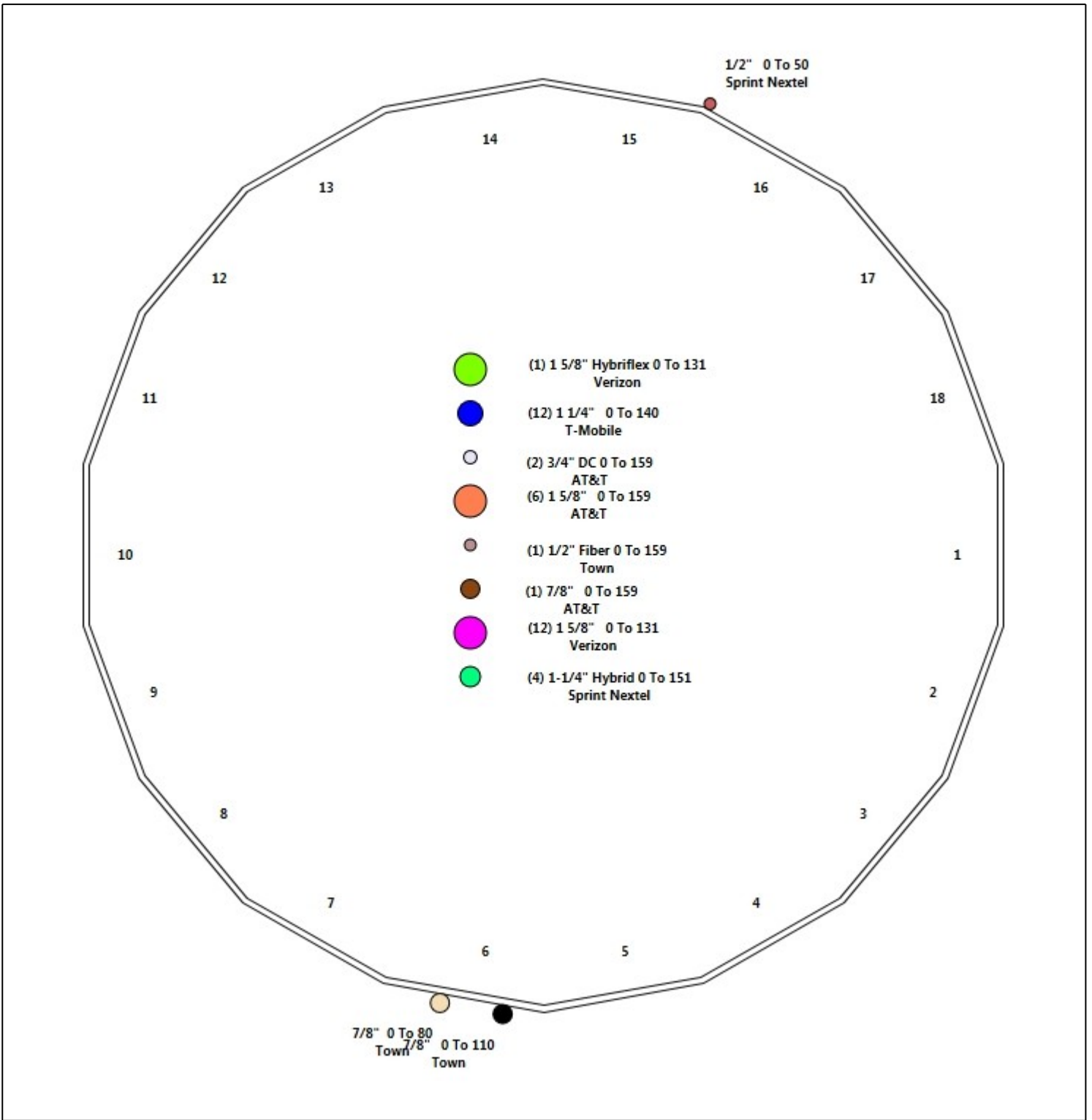
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	3874.3	32.6	46.4
0.9D + 1.6W 93 mph Wind	3827.3	32.5	34.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1204.6	10.2	72.7
1.2D + 1.0E	258.2	2.1	46.4
0.9D + 1.0E	254.8	2.1	34.8
1.0D + 1.0W 60 mph Wind	1001.8	8.5	38.7

Structure: CT13055-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Monroe Turnpike
Height: 159.00 (ft)

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Shaft Properties

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3750	65		0.00	10,849
2	18	53.500	0.3750	65	Slip	69.00	8,145
3	18	53.500	0.3125	65	Slip	48.00	4,384
4	18	10.750	0.1875	65	Slip	27.00	356
Total Shaft Weight:							23,734

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	58.21	0.00	68.84	29090.28	25.96	155.23	43.15	53.25	50.91	11771.3	18.88	115.0	0.282767
2	45.53	47.50	53.74	13843.68	20.00	121.41	30.40	101.00	35.74	4070.49	12.88	81.07	0.282767
3	32.16	97.00	31.58	4046.51	16.73	102.90	17.03	150.50	16.58	585.32	8.20	54.49	0.282767
4	18.04	148.2	10.62	427.78	15.55	96.21	15.00	159.00	8.81	244.36	12.70	80.00	0.282767

Load Summary

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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	159.00	7770.00	3	77.00	5.79	0.77	332.84	7.270	0.80	0.00	3.00
2	159.00	P65-16-XLH-RR	3	102.00	8.53	0.79	367.43	10.417	0.81	0.00	3.00
3	159.00	LGP21401	6	14.10	1.29	0.50	39.25	2.131	0.50	0.00	3.00
4	159.00	RRUS-11	6	51.00	2.52	0.67	123.70	3.157	0.67	0.00	3.00
5	159.00	DC6-48-60-18-8F	1	31.80	0.92	1.00	93.99	1.361	1.00	0.00	3.00
6	159.00	Low Profile Platform	1	1200.00	35.00	1.00	2253.25	64.491	1.00	0.00	0.00
7	159.00	DB404-B	1	14.00	0.00	1.00	14.01	0.000	1.00	0.00	3.00
8	149.00	RFS - APXVSPP18-C-A20	3	106.00	8.42	0.83	373.25	10.288	0.85	0.00	2.00
9	149.00	Alcatel Lucent - 1900 MHz RRH	3	44.00	3.80	0.67	153.09	5.189	0.67	0.00	2.00
10	149.00	Alcatel Lucent - 800 MHz RRH	3	53.00	2.49	0.67	126.91	3.633	0.67	0.00	2.00
11	149.00	Alcatel Lucent - 800 MHz Filters	3	8.80	0.78	0.67	26.43	1.426	0.67	0.00	2.00
12	149.00	RFS - ACU-A20-N - RET	4	1.00	0.14	0.50	5.29	0.436	0.50	0.00	2.00
13	149.00	Low Profile Platform	1	1200.00	35.00	1.00	2246.43	64.300	1.00	0.00	0.00
14	149.00	RFS - APXVTM14-C-I20	3	56.00	6.34	0.78	182.62	7.450	0.81	0.00	2.00
15	149.00	Alcatel Lucent - TD-RRH8x20-25 -	3	70.00	4.05	0.67	167.67	5.463	0.67	0.00	2.00
16	140.00	FR90-16-XXDP	6	18.00	4.36	0.68	115.82	5.339	0.68	0.00	0.00
17	140.00	APX16DWW-16DWWV-E-A20	3	40.70	6.61	0.62	156.95	8.773	0.62	0.00	0.00
18	140.00	APXVAA24_43-U-A20	3	101.40	20.24	0.73	526.20	22.152	0.73	0.00	0.00
19	140.00	RFS - ATMA4P4DBP-1A20 - TMA	3	15.85	1.17	0.67	48.04	1.947	0.67	0.00	0.00
20	140.00	Andrew - ATSBT-TOP-FM - Bias T	3	1.80	0.20	0.67	7.60	0.545	0.67	0.00	0.00
21	140.00	Low Profile Platform w/ Handrails	1	1600.00	34.00	1.00	3685.41	63.465	1.00	0.00	0.00
22	130.00	BXA-70063/6CF	3	66.00	7.98	0.75	305.45	9.820	0.78	0.00	1.00
23	130.00	LPA-80063/6CF	6	76.00	10.01	0.95	412.45	11.946	0.95	0.00	1.00
24	130.00	BXA-171063-12BF	3	64.00	5.13	0.88	246.07	6.906	0.90	0.00	1.00
25	130.00	RRH2X60-AWS	3	55.00	3.50	0.67	133.88	4.278	0.67	0.00	1.00
26	130.00	FD9R6004/2C-3L - Diplexer	6	3.10	0.36	0.50	11.01	0.797	0.50	0.00	1.00
27	130.00	DB-T1-6Z-8AB-OZ - Distri box	1	18.90	4.80	0.71	160.23	5.660	0.76	0.00	1.00
28	130.00	Low Profile Platform	1	1200.00	25.00	1.00	2232.25	45.645	1.00	0.00	0.00
29	130.00	742 213_2110_P45_02.0	3	16.50	3.15	0.72	75.47	4.865	0.72	0.00	1.00
30	110.00	4 ft Standoff	1	53.32	3.50	1.00	157.14	11.249	1.00	0.00	0.00
31	110.00	SCL329-HL	1	10.40	2.22	1.00	68.54	6.060	1.00	0.00	5.55
32	80.00	SCL329-HL	1	10.40	2.22	1.00	66.71	5.940	1.00	0.00	5.55
33	80.00	4 ft Standoff	1	53.32	3.50	1.00	153.88	11.006	1.00	0.00	0.00
34	47.00	Decibel 26DB GPS	1	10.00	0.16	1.00	14.94	0.502	1.00	0.00	3.00
35	47.00	4 ft Standoff	1	53.32	3.50	1.00	148.67	10.617	1.00	0.00	0.00
Totals:			95	9,066.81			25,219.63				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	159.00	(6) 1 5/8" Coax	0.00	Inside
0.00	159.00	(1) 1/2" Fiber	0.00	Inside
0.00	159.00	(2) 3/4" DC	0.00	Inside
0.00	159.00	(1) 7/8" Coax	0.00	Inside
0.00	151.00	(4) 1-1/4" Hybrid	0.00	Inside
0.00	140.00	(24) 1 1/4" Coax	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	131.00	(12) 1 5/8" Coax		0.00							
0.00	131.00	(1) 1 5/8" Hybriflex		0.00							
0.00	110.00	(1) 7/8" Coax		1.11							
0.00	80.00	(1) 7/8" Coax		0.00							
0.00	50.00	(1) 1/2" Coax		0.65							

Shaft Section Properties

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	58.210	68.836	29090.3	25.96	155.23	70.9	984.3	0.0
5.00		0.3750	56.796	67.153	27008.6	25.30	151.46	71.6	936.6	1156.8
10.00		0.3750	55.382	65.470	25028.6	24.63	147.69	72.4	890.1	1128.2
15.00		0.3750	53.968	63.787	23147.9	23.97	143.92	73.2	844.8	1099.6
20.00		0.3750	52.555	62.105	21363.8	23.30	140.15	74.0	800.7	1071.0
25.00		0.3750	51.141	60.422	19673.9	22.64	136.38	74.8	757.7	1042.3
30.00		0.3750	49.727	58.739	18075.5	21.97	132.61	75.6	715.9	1013.7
35.00		0.3750	48.313	57.056	16566.1	21.31	128.84	76.3	675.4	985.1
40.00		0.3750	46.899	55.374	15143.1	20.64	125.06	77.1	636.0	956.4
45.00		0.3750	45.485	53.691	13804.1	19.98	121.29	77.9	597.7	927.8
47.00		0.3750	44.920	53.018	13291.4	19.71	119.79	78.2	582.8	363.1
47.50	Bot - Section 2	0.3750	44.779	52.849	13165.2	19.64	119.41	78.3	579.1	90.1
50.00		0.3750	44.072	52.008	12546.4	19.31	117.52	78.7	560.7	899.6
53.25	Top - Section 1	0.3750	43.903	51.807	12401.4	19.23	117.07	0.0	0.0	1148.1
55.00		0.3750	43.408	51.218	11983.2	19.00	115.75	79.1	543.7	306.7
60.00		0.3750	41.994	49.535	10840.5	18.34	111.98	79.8	508.4	857.1
65.00		0.3750	40.580	47.852	9772.8	17.67	108.21	80.6	474.3	828.5
70.00		0.3750	39.166	46.170	8777.7	17.01	104.44	81.4	441.4	799.8
75.00		0.3750	37.752	44.487	7852.4	16.34	100.67	82.2	409.7	771.2
80.00		0.3750	36.339	42.804	6994.6	15.68	96.90	82.5	379.1	742.6
85.00		0.3750	34.925	41.121	6201.7	15.01	93.13	82.5	349.8	713.9
90.00		0.3750	33.511	39.439	5471.1	14.35	89.36	82.5	321.6	685.3
95.00		0.3750	32.097	37.756	4800.2	13.68	85.59	82.5	294.6	656.7
97.00	Bot - Section 3	0.3750	31.532	37.083	4548.0	13.42	84.08	82.5	284.1	254.7
100.00		0.3750	30.683	36.073	4186.6	13.02	81.82	82.5	268.7	691.5
101.00	Top - Section 2	0.3125	31.026	30.462	3630.5	16.10	99.28	0.0	0.0	226.3
105.00		0.3125	29.894	29.341	3243.9	15.46	95.66	82.5	213.7	407.0
110.00		0.3125	28.481	27.938	2800.7	14.66	91.14	82.5	193.7	487.3
115.00		0.3125	27.067	26.536	2399.8	13.86	86.61	82.5	174.6	463.4
120.00		0.3125	25.653	25.134	2039.1	13.06	82.09	82.5	156.6	439.6
125.00		0.3125	24.239	23.731	1716.5	12.27	77.57	82.5	139.5	415.7
130.00		0.3125	22.825	22.329	1429.8	11.47	73.04	82.5	123.4	391.8
135.00		0.3125	21.411	20.927	1177.0	10.67	68.52	82.5	108.3	368.0
140.00		0.3125	19.998	19.524	955.9	9.87	63.99	82.5	94.1	344.1
145.00		0.3125	18.584	18.122	764.4	9.08	59.47	82.5	81.0	320.3
148.25	Bot - Section 4	0.3125	17.665	17.211	654.7	8.56	56.53	82.5	73.0	195.4
149.00		0.3125	17.453	17.000	631.0	8.44	55.85	82.5	71.2	70.6
150.00		0.3125	17.170	16.720	600.3	8.28	54.94	82.5	68.9	92.8
150.50	Top - Section 3	0.1875	17.404	10.245	383.7	14.96	92.82	0.0	0.0	45.8
155.00		0.1875	16.131	9.488	304.7	13.76	86.03	82.5	37.2	151.1
159.00		0.1875	15.000	8.815	244.4	12.70	80.00	82.5	32.1	124.6

23733.6

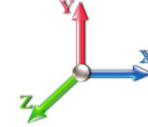
Wind Loading - Shaft

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 9
	Struct Class: II	



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

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	422.34	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	412.08	0.650	0.000	5.00	24.329	15.81	497.6	0.0	1388.2
10.00		1.00	0.85	17.879	19.67	401.82	0.650	0.000	5.00	23.731	15.43	485.4	0.0	1353.9
15.00		1.00	0.85	17.879	19.67	391.56	0.650	0.000	5.00	23.133	15.04	473.2	0.0	1319.5
20.00		1.00	0.90	18.971	20.87	392.77	0.650	0.000	5.00	22.535	14.65	489.1	0.0	1285.1
25.00		1.00	0.95	19.883	21.87	391.29	0.650	0.000	5.00	21.936	14.26	499.0	0.0	1250.8
30.00		1.00	0.98	20.661	22.73	387.84	0.650	0.000	5.00	21.338	13.87	504.4	0.0	1216.4
35.00		1.00	1.01	21.343	23.48	382.98	0.650	0.000	5.00	20.740	13.48	506.4	0.0	1182.1
40.00		1.00	1.04	21.951	24.15	377.03	0.650	0.000	5.00	20.142	13.09	505.8	0.0	1147.7
45.00		1.00	1.07	22.502	24.75	370.23	0.650	0.000	5.00	19.544	12.70	503.1	0.0	1113.4
47.00	Appurtenance(s)	1.00	1.08	22.709	24.98	367.30	0.650	0.000	2.00	7.650	4.97	198.7	0.0	435.7
47.50	Bot - Section 2	1.00	1.08	22.760	25.04	366.56	0.650	0.000	0.50	1.898	1.23	49.4	0.0	108.1
50.00		1.00	1.09	23.007	25.31	362.72	0.650	0.000	2.50	9.557	6.21	251.5	0.0	1079.5
53.25	Top - Section 1	1.00	1.11	23.314	25.65	357.52	0.650	0.000	3.25	12.200	7.93	325.4	0.0	1377.7
55.00		1.00	1.12	23.473	25.82	360.86	0.650	0.000	1.75	6.465	4.20	173.6	0.0	368.1
60.00		1.00	1.14	23.907	26.30	352.32	0.650	0.000	5.00	18.067	11.74	494.1	0.0	1028.5
65.00		1.00	1.16	24.313	26.74	343.34	0.650	0.000	5.00	17.468	11.35	485.9	0.0	994.2
70.00		1.00	1.17	24.696	27.17	333.97	0.650	0.000	5.00	16.870	10.97	476.6	0.0	959.8
75.00		1.00	1.19	25.057	27.56	324.26	0.650	0.000	5.00	16.272	10.58	466.4	0.0	925.5
80.00	Appurtenance(s)	1.00	1.21	25.400	27.94	314.25	0.650	0.000	5.00	15.674	10.19	455.4	0.0	891.1
85.00		1.00	1.22	25.726	28.30	303.95	0.650	0.000	5.00	15.076	9.80	443.7	0.0	856.7
90.00		1.00	1.24	26.037	28.64	293.41	0.650	0.000	5.00	14.477	9.41	431.2	0.0	822.4
95.00		1.00	1.25	26.336	28.97	282.63	0.650	0.000	5.00	13.879	9.02	418.2	0.0	788.0
97.00	Bot - Section 3	1.00	1.26	26.451	29.10	278.26	0.650	0.000	2.00	5.384	3.50	162.9	0.0	305.6
100.00		1.00	1.27	26.621	29.28	271.65	0.650	0.000	3.00	8.055	5.24	245.3	0.0	829.8
101.00	Top - Section 2	1.00	1.27	26.677	29.35	269.42	0.650	0.000	1.00	2.637	1.71	80.5	0.0	271.6
105.00		1.00	1.28	26.896	29.59	266.03	0.650	0.000	4.00	10.310	6.70	317.2	0.0	488.4
110.00	Appurtenance(s)	1.00	1.29	27.161	29.88	254.69	0.650	0.000	5.00	12.349	8.03	383.7	0.0	584.7
115.00		1.00	1.30	27.416	30.16	243.18	0.650	0.000	5.00	11.751	7.64	368.6	0.0	556.1
120.00		1.00	1.32	27.663	30.43	231.51	0.650	0.000	5.00	11.153	7.25	352.9	0.0	527.5
125.00		1.00	1.33	27.902	30.69	219.69	0.650	0.000	5.00	10.555	6.86	336.9	0.0	498.8
130.00	Appurtenance(s)	1.00	1.34	28.133	30.95	207.74	0.650	0.000	5.00	9.956	6.47	320.4	0.0	470.2
135.00		1.00	1.35	28.358	31.19	195.64	0.650	0.000	5.00	9.358	6.08	303.6	0.0	441.6
140.00	Appurtenance(s)	1.00	1.36	28.576	31.43	183.43	0.650	0.000	5.00	8.760	5.69	286.4	0.0	412.9
145.00		1.00	1.37	28.788	31.67	171.09	0.650	0.000	5.00	8.162	5.31	268.8	0.0	384.3
148.25	Bot - Section 4	1.00	1.37	28.922	31.81	163.01	0.650	0.000	3.25	4.984	3.24	164.9	0.0	234.4
149.00	Appurtenance(s)	1.00	1.38	28.953	31.85	161.14	0.650	0.000	0.75	1.138	0.74	37.7	0.0	84.7
150.00		1.00	1.38	28.994	31.89	158.64	0.650	0.000	1.00	1.497	0.97	49.6	0.0	111.4
150.50	Top - Section 3	1.00	1.38	29.014	31.92	157.39	0.650	0.000	0.50	0.739	0.48	24.5	0.0	55.0
155.00		1.00	1.39	29.195	32.11	149.55	0.650	0.000	4.50	6.385	4.15	213.2	0.0	181.3
159.00	Appurtenance(s)	1.00	1.40	29.352	32.29	139.44	0.650	0.000	4.00	5.269	3.42	176.9	0.0	149.5
Totals:								159.00				13,228.3		28,480.3

Discrete Appurtenance Forces

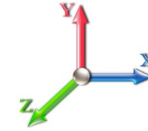
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.00	Low Profile Platform	1	29.352	32.287	1.00	1.00	35.00	1440.00	0.000	0.000	1808.06	0.00	0.00
2	159.00	DC6-48-60-18-8F	1	29.467	32.414	1.00	1.00	0.92	38.16	0.000	3.000	47.71	0.00	143.14
3	159.00	RRUS-11	6	29.467	32.414	0.67	1.00	10.13	367.20	0.000	3.000	525.39	0.00	1576.16
4	159.00	LGP21401	6	29.467	32.414	0.50	1.00	3.87	101.52	0.000	3.000	200.71	0.00	602.12
5	159.00	P65-16-XLH-RR	3	29.467	32.414	0.79	1.00	20.19	367.20	0.000	3.000	1047.13	0.00	3141.39
6	159.00	7770.00	3	29.467	32.414	0.77	1.00	13.31	277.20	0.000	3.000	690.05	0.00	2070.16
7	159.00	DB404-B	1	29.467	32.414	1.00	1.00	0.00	16.80	0.000	3.000	0.00	0.00	0.00
8	149.00	Alcatel Lucent - 1900 MHz	3	29.034	31.938	0.54	0.80	6.11	158.40	0.000	2.000	312.24	0.00	624.49
9	149.00	Alcatel Lucent - 800 MHz	3	29.034	31.938	0.54	0.80	4.00	190.80	0.000	2.000	204.60	0.00	409.20
10	149.00	Alcatel Lucent - 800 MHz	3	29.034	31.938	0.54	0.80	1.25	31.68	0.000	2.000	64.09	0.00	128.18
11	149.00	RFS - APXVSP18-C-A20	3	29.034	31.938	0.66	0.80	16.75	381.60	0.000	2.000	856.06	0.00	1712.11
12	149.00	RFS - APXVTM14-C-I20	3	29.034	31.938	0.63	0.80	11.93	201.60	0.000	2.000	609.59	0.00	1219.19
13	149.00	RFS - ACU-A20-N - RET	4	29.034	31.938	0.40	0.80	0.22	4.80	0.000	2.000	11.45	0.00	22.89
14	149.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	35.00	1440.00	0.000	0.000	1783.50	0.00	0.00
15	149.00	Alcatel Lucent -	3	29.034	31.938	0.54	0.80	6.51	252.00	0.000	2.000	332.79	0.00	665.57
16	140.00	Low Profile Platform w/	1	28.576	31.433	1.00	1.00	34.00	1920.00	0.000	0.000	1709.97	0.00	0.00
17	140.00	Andrew - ATSBT-TOP-FM	3	28.576	31.433	0.50	0.75	0.30	6.48	0.000	0.000	15.16	0.00	0.00
18	140.00	RFS -	3	28.576	31.433	0.50	0.75	1.76	57.06	0.000	0.000	88.71	0.00	0.00
19	140.00	APX16DWV-16DWVS-E-	3	28.576	31.433	0.46	0.75	9.22	146.52	0.000	0.000	463.75	0.00	0.00
20	140.00	FR90-16-XXDP	6	28.576	31.433	0.51	0.75	13.34	129.60	0.000	0.000	670.99	0.00	0.00
21	140.00	APXVAA24_43-U-A20	3	28.576	31.433	0.55	0.75	33.24	365.04	0.000	0.000	1671.96	0.00	0.00
22	130.00	RRH2X60-AWS	3	28.179	30.997	0.54	0.80	5.63	198.00	0.000	1.000	279.12	0.00	279.12
23	130.00	BXA-70063/6CF	3	28.179	30.997	0.60	0.80	14.33	237.60	0.000	1.000	710.48	0.00	710.48
24	130.00	LPA-80063/6CF	6	28.179	30.997	0.76	0.80	45.50	547.20	0.000	1.000	2256.62	0.00	2256.62
25	130.00	BXA-171063-12BF	3	28.179	30.997	0.70	0.80	10.80	230.40	0.000	1.000	535.50	0.00	535.50
26	130.00	FD9R6004/2C-3L -	6	28.179	30.997	0.40	0.80	0.86	22.32	0.000	1.000	42.85	0.00	42.85
27	130.00	DB-T1-6Z-8AB-0Z - Distri	1	28.179	30.997	0.57	0.80	2.73	22.68	0.000	1.000	135.21	0.00	135.21
28	130.00	Low Profile Platform	1	28.133	30.947	1.00	1.00	25.00	1440.00	0.000	0.000	1237.86	0.00	0.00
29	130.00	742 213_2110_P45_02.0	3	28.179	30.997	0.58	0.80	5.44	59.40	0.000	1.000	269.95	0.00	269.95
30	110.00	SCL329-HL	1	27.444	30.188	1.00	1.00	2.22	12.48	0.000	5.550	107.23	0.00	595.12
31	110.00	4 ft Standoff	1	27.161	29.877	1.00	1.00	3.50	63.98	0.000	0.000	167.31	0.00	0.00
32	80.00	4 ft Standoff	1	25.400	27.940	1.00	1.00	3.50	63.98	0.000	0.000	156.46	0.00	0.00
33	80.00	SCL329-HL	1	25.761	28.337	1.00	1.00	2.22	12.48	0.000	5.550	100.65	0.00	558.63
34	47.00	4 ft Standoff	1	22.709	24.980	1.00	1.00	3.50	63.98	0.000	0.000	139.89	0.00	0.00
35	47.00	Decibel 26DB GPS	1	23.007	25.308	1.00	1.00	0.16	12.00	0.000	3.000	6.48	0.00	19.44

Totals: 10,880.17

19,259.53

Total Applied Force Summary

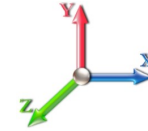
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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		497.63	1641.15	0.00	0.00
10.00		485.39	1606.80	0.00	0.00
15.00		473.16	1572.44	0.00	0.00
20.00		489.06	1538.08	0.00	0.00
25.00		498.97	1503.73	0.00	0.00
30.00		504.36	1469.37	0.00	0.00
35.00		506.39	1435.01	0.00	0.00
40.00		505.80	1400.66	0.00	0.00
45.00		503.10	1366.30	0.00	0.00
47.00	(2) attachments	345.11	612.88	0.00	19.44
47.50		49.41	133.37	0.00	0.00
50.00		251.53	1206.00	0.00	0.00
53.25		325.39	1541.50	0.00	0.00
55.00		173.60	456.29	0.00	0.00
60.00		494.11	1280.50	0.00	0.00
65.00		485.87	1246.14	0.00	0.00
70.00		476.61	1211.78	0.00	0.00
75.00		466.44	1177.43	0.00	0.00
80.00	(2) attachments	712.55	1219.54	0.00	558.63
85.00		443.68	1105.60	0.00	0.00
90.00		431.24	1071.24	0.00	0.00
95.00		418.15	1036.88	0.00	0.00
97.00		162.93	405.13	0.00	0.00
100.00		245.33	979.15	0.00	0.00
101.00		80.49	321.34	0.00	0.00
105.00		317.23	687.48	0.00	0.00
110.00	(2) attachments	658.25	910.04	0.00	595.12
115.00		368.56	801.83	0.00	0.00
120.00		352.95	773.20	0.00	0.00
125.00		336.90	744.57	0.00	0.00
130.00	(26) attachments	5788.04	3473.54	0.00	4229.74
135.00		303.59	622.12	0.00	0.00
140.00	(19) attachments	4906.90	3201.89	0.00	0.00
145.00		268.79	453.52	0.00	0.00
148.25		164.92	279.44	0.00	0.00
149.00	(23) attachments	4212.02	2755.99	0.00	4781.64
150.00		49.64	125.21	0.00	0.00
150.50		24.54	61.92	0.00	0.00
155.00		213.24	225.28	0.00	0.00
159.00	(21) attachments	4495.96	2794.61	0.00	7532.98
	Totals:	32,487.83	46,448.94	0.00	17,717.54

Linear Appurtenance Segment Forces (Factored)

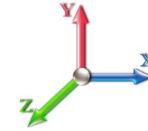
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



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	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.030	0.000	17.879	0.00	3.12
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	17.879	0.00	3.12
5.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.030	0.000	17.879	0.00	0.96
10.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.031	0.000	17.879	0.00	3.12
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.031	0.000	17.879	0.00	3.12
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.031	0.000	17.879	0.00	0.96
15.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.032	0.000	17.879	0.00	3.12
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.032	0.000	17.879	0.00	3.12
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.032	0.000	17.879	0.00	0.96
20.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	18.971	0.00	3.12
20.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	18.971	0.00	3.12
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.033	0.000	18.971	0.00	0.96
25.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	19.883	0.00	3.12
25.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	19.883	0.00	3.12
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.033	0.000	19.883	0.00	0.96
30.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.034	0.000	20.661	0.00	3.12
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	20.661	0.00	3.12
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.034	0.000	20.661	0.00	0.96
35.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.035	0.000	21.343	0.00	3.12
35.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	21.343	0.00	3.12
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.035	0.000	21.343	0.00	0.96
40.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.036	0.000	21.951	0.00	3.12
40.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.036	0.000	21.951	0.00	3.12
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.036	0.000	21.951	0.00	0.96
45.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.038	0.000	22.502	0.00	3.12
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	22.502	0.00	3.12
45.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.038	0.000	22.502	0.00	0.96
47.00	7/8" Coax	Yes	2.00	0.000	1.11	0.19	0.00	0.038	0.000	22.709	0.00	1.25
47.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.038	0.000	22.709	0.00	1.25
47.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.038	0.000	22.709	0.00	0.38
47.50	7/8" Coax	Yes	0.50	0.000	1.11	0.05	0.00	0.039	0.000	22.760	0.00	0.31
47.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.039	0.000	22.760	0.00	0.31
47.50	1/2" Coax	Yes	0.50	0.000	0.65	0.03	0.00	0.039	0.000	22.760	0.00	0.10
50.00	7/8" Coax	Yes	2.50	0.000	1.11	0.23	0.00	0.039	0.000	23.007	0.00	1.56
50.00	7/8" Coax	Yes	2.50	0.000	0.00	0.00	0.00	0.039	0.000	23.007	0.00	1.56
50.00	1/2" Coax	Yes	2.50	0.000	0.65	0.14	0.00	0.039	0.000	23.007	0.00	0.48
53.25	7/8" Coax	Yes	3.25	0.000	1.11	0.30	0.00	0.025	0.000	23.314	0.00	2.03
53.25	7/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.025	0.000	23.314	0.00	2.03
55.00	7/8" Coax	Yes	1.75	0.000	1.11	0.16	0.00	0.025	0.000	23.473	0.00	1.09
55.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.025	0.000	23.473	0.00	1.09
60.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.026	0.000	23.907	0.00	3.12
60.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	23.907	0.00	3.12
65.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.026	0.000	24.313	0.00	3.12
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	24.313	0.00	3.12
70.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.027	0.000	24.696	0.00	3.12
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.027	0.000	24.696	0.00	3.12
75.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.028	0.000	25.057	0.00	3.12

Linear Appurtenance Segment Forces (Factored)

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

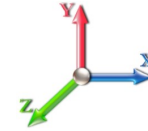


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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



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)
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.028	0.000	25.057	0.00	3.12
80.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.030	0.000	25.400	0.00	3.12
80.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	25.400	0.00	3.12
85.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.031	0.000	25.726	0.00	3.12
90.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.032	0.000	26.037	0.00	3.12
95.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	26.336	0.00	3.12
97.00	7/8" Coax	Yes	2.00	0.000	1.11	0.19	0.00	0.034	0.000	26.451	0.00	1.25
100.00	7/8" Coax	Yes	3.00	0.000	1.11	0.28	0.00	0.035	0.000	26.621	0.00	1.87
101.00	7/8" Coax	Yes	1.00	0.000	1.11	0.09	0.00	0.036	0.000	26.677	0.00	0.62
105.00	7/8" Coax	Yes	4.00	0.000	1.11	0.37	0.00	0.036	0.000	26.896	0.00	2.50
110.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.037	0.000	27.161	0.00	3.12
Totals:											0.0	128.2

Calculated Forces

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

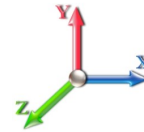


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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

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	-46.39	-32.56	0.00	-3874.2	0.00	3874.28	4390.37	2195.18	10447.7	5231.64	0.00	0.000	0.000	0.751
5.00	-44.65	-32.21	0.00	-3711.4	0.00	3711.46	4330.30	2165.15	10051.2	5033.11	0.10	-0.185	0.000	0.748
10.00	-42.94	-31.86	0.00	-3550.4	0.00	3550.41	4267.86	2133.93	9656.46	4835.41	0.40	-0.377	0.000	0.745
15.00	-41.26	-31.52	0.00	-3391.1	0.00	3391.10	4203.05	2101.52	9263.74	4638.76	0.90	-0.574	0.000	0.741
20.00	-39.61	-31.16	0.00	-3233.5	0.00	3233.50	4135.87	2067.94	8873.53	4443.36	1.61	-0.778	0.000	0.738
25.00	-38.00	-30.78	0.00	-3077.7	0.00	3077.71	4066.33	2033.16	8486.25	4249.43	2.54	-0.988	0.000	0.734
30.00	-36.43	-30.39	0.00	-2923.8	0.00	2923.83	3994.42	1997.21	8102.30	4057.17	3.69	-1.205	0.000	0.730
35.00	-34.89	-29.99	0.00	-2771.9	0.00	2771.91	3920.13	1960.07	7722.12	3866.80	5.07	-1.429	0.000	0.726
40.00	-33.38	-29.58	0.00	-2621.9	0.00	2621.98	3843.48	1921.74	7346.10	3678.51	6.69	-1.660	0.000	0.722
45.00	-31.94	-29.13	0.00	-2474.0	0.00	2474.09	3764.47	1882.23	6974.67	3492.52	8.56	-1.900	0.000	0.717
47.00	-31.31	-28.80	0.00	-2415.8	0.00	2415.82	3732.20	1866.10	6827.48	3418.81	9.37	-2.000	0.000	0.715
47.50	-31.14	-28.78	0.00	-2401.4	0.00	2401.42	3724.07	1862.03	6790.81	3400.45	9.58	-2.026	0.000	0.715
50.00	-29.87	-28.57	0.00	-2329.4	0.00	2329.46	3683.08	1841.54	6608.25	3309.03	10.68	-2.154	0.000	0.712
53.25	-28.28	-28.25	0.00	-2236.6	0.00	2236.62	3673.19	1836.60	6564.80	3287.28	12.20	-2.322	0.000	0.688
55.00	-27.74	-28.14	0.00	-2187.1	0.00	2187.19	3644.05	1822.03	6438.04	3223.81	13.07	-2.416	0.000	0.686
60.00	-26.36	-27.71	0.00	-2046.5	0.00	2046.50	3559.18	1779.59	6079.73	3044.38	15.74	-2.667	0.000	0.680
65.00	-25.02	-27.27	0.00	-1907.9	0.00	1907.98	3471.95	1735.97	5727.45	2867.98	18.67	-2.927	0.000	0.673
70.00	-23.70	-26.85	0.00	-1771.6	0.00	1771.61	3382.35	1691.17	5381.61	2694.80	21.88	-3.194	0.000	0.665
75.00	-22.43	-26.42	0.00	-1637.3	0.00	1637.38	3290.37	1645.19	5042.64	2525.07	25.37	-3.471	0.000	0.656
80.00	-21.13	-25.74	0.00	-1504.7	0.00	1504.71	3180.13	1590.07	4687.51	2347.24	29.15	-3.755	0.000	0.648
85.00	-19.92	-25.33	0.00	-1376.0	0.00	1376.01	3055.11	1527.56	4324.37	2165.40	33.24	-4.048	0.000	0.642
90.00	-18.75	-24.92	0.00	-1249.3	0.00	1249.37	2930.09	1465.05	3975.87	1990.89	37.64	-4.349	0.000	0.634
95.00	-17.66	-24.49	0.00	-1124.7	0.00	1124.78	2805.07	1402.54	3642.00	1823.71	42.36	-4.658	0.000	0.623
97.00	-17.20	-24.34	0.00	-1075.8	0.00	1075.81	2755.06	1377.53	3512.56	1758.89	44.33	-4.788	0.000	0.618
100.00	-16.19	-24.05	0.00	-1002.7	0.00	1002.79	2680.05	1340.03	3322.78	1663.86	47.40	-4.983	0.000	0.609
101.00	-15.81	-23.99	0.00	-978.74	0.00	978.74	2260.99	1130.50	2846.84	1425.54	48.45	-5.051	0.000	0.694
105.00	-15.02	-23.69	0.00	-882.79	0.00	882.79	2179.85	1089.93	2642.58	1323.26	52.79	-5.311	0.000	0.674
110.00	-14.03	-23.04	0.00	-763.73	0.00	763.73	2075.67	1037.84	2394.76	1199.16	58.54	-5.672	0.000	0.644
115.00	-13.13	-22.67	0.00	-648.54	0.00	648.54	1971.49	985.74	2159.14	1081.18	64.67	-6.031	0.000	0.607
120.00	-12.27	-22.31	0.00	-535.18	0.00	535.18	1867.30	933.65	1935.73	969.30	71.16	-6.382	0.000	0.559
125.00	-11.45	-21.96	0.00	-423.63	0.00	423.63	1763.12	881.56	1724.51	863.54	78.01	-6.716	0.000	0.498
130.00	-8.61	-15.84	0.00	-309.62	0.00	309.62	1658.94	829.47	1525.49	763.88	85.20	-7.022	0.000	0.411
135.00	-7.96	-15.49	0.00	-230.44	0.00	230.44	1554.75	777.38	1338.67	670.33	92.69	-7.290	0.000	0.349
140.00	-5.39	-10.23	0.00	-152.97	0.00	152.97	1450.57	725.28	1164.05	582.89	100.43	-7.522	0.000	0.266
145.00	-4.95	-9.92	0.00	-101.80	0.00	101.80	1346.38	673.19	1001.64	501.56	108.39	-7.712	0.000	0.207
148.25	-4.68	-9.72	0.00	-69.56	0.00	69.56	1278.66	639.33	902.61	451.97	113.66	-7.815	0.000	0.158
149.00	-2.52	-5.18	0.00	-57.49	0.00	57.49	1263.04	631.52	880.49	440.90	114.89	-7.837	0.000	0.132
150.00	-2.40	-5.11	0.00	-52.31	0.00	52.31	1242.20	621.10	851.42	426.34	116.53	-7.861	0.000	0.125
150.50	-2.34	-5.08	0.00	-49.76	0.00	49.76	761.18	380.59	536.85	268.82	117.35	-7.874	0.000	0.188
155.00	-2.14	-4.84	0.00	-26.90	0.00	26.90	704.92	352.46	460.03	230.36	124.79	-7.957	0.000	0.120
159.00	0.00	-4.50	0.00	-7.53	0.00	7.53	654.91	327.45	396.72	198.65	131.47	-8.022	0.000	0.038

Wind Loading - Shaft

Structure: CT13055-A-SBA
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

2/1/2018
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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

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	422.34	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	412.08	0.650	0.000	5.00	24.329	15.81	497.6	0.0	1041.2
10.00		1.00	0.85	17.879	19.67	401.82	0.650	0.000	5.00	23.731	15.43	485.4	0.0	1015.4
15.00		1.00	0.85	17.879	19.67	391.56	0.650	0.000	5.00	23.133	15.04	473.2	0.0	989.6
20.00		1.00	0.90	18.971	20.87	392.77	0.650	0.000	5.00	22.535	14.65	489.1	0.0	963.9
25.00		1.00	0.95	19.883	21.87	391.29	0.650	0.000	5.00	21.936	14.26	499.0	0.0	938.1
30.00		1.00	0.98	20.661	22.73	387.84	0.650	0.000	5.00	21.338	13.87	504.4	0.0	912.3
35.00		1.00	1.01	21.343	23.48	382.98	0.650	0.000	5.00	20.740	13.48	506.4	0.0	886.6
40.00		1.00	1.04	21.951	24.15	377.03	0.650	0.000	5.00	20.142	13.09	505.8	0.0	860.8
45.00		1.00	1.07	22.502	24.75	370.23	0.650	0.000	5.00	19.544	12.70	503.1	0.0	835.0
47.00	Appurtenance(s)	1.00	1.08	22.709	24.98	367.30	0.650	0.000	2.00	7.650	4.97	198.7	0.0	326.8
47.50	Bot - Section 2	1.00	1.08	22.760	25.04	366.56	0.650	0.000	0.50	1.898	1.23	49.4	0.0	81.1
50.00		1.00	1.09	23.007	25.31	362.72	0.650	0.000	2.50	9.557	6.21	251.5	0.0	809.6
53.25	Top - Section 1	1.00	1.11	23.314	25.65	357.52	0.650	0.000	3.25	12.200	7.93	325.4	0.0	1033.3
55.00		1.00	1.12	23.473	25.82	360.86	0.650	0.000	1.75	6.465	4.20	173.6	0.0	276.1
60.00		1.00	1.14	23.907	26.30	352.32	0.650	0.000	5.00	18.067	11.74	494.1	0.0	771.4
65.00		1.00	1.16	24.313	26.74	343.34	0.650	0.000	5.00	17.468	11.35	485.9	0.0	745.6
70.00		1.00	1.17	24.696	27.17	333.97	0.650	0.000	5.00	16.870	10.97	476.6	0.0	719.9
75.00		1.00	1.19	25.057	27.56	324.26	0.650	0.000	5.00	16.272	10.58	466.4	0.0	694.1
80.00	Appurtenance(s)	1.00	1.21	25.400	27.94	314.25	0.650	0.000	5.00	15.674	10.19	455.4	0.0	668.3
85.00		1.00	1.22	25.726	28.30	303.95	0.650	0.000	5.00	15.076	9.80	443.7	0.0	642.6
90.00		1.00	1.24	26.037	28.64	293.41	0.650	0.000	5.00	14.477	9.41	431.2	0.0	616.8
95.00		1.00	1.25	26.336	28.97	282.63	0.650	0.000	5.00	13.879	9.02	418.2	0.0	591.0
97.00	Bot - Section 3	1.00	1.26	26.451	29.10	278.26	0.650	0.000	2.00	5.384	3.50	162.9	0.0	229.2
100.00		1.00	1.27	26.621	29.28	271.65	0.650	0.000	3.00	8.055	5.24	245.3	0.0	622.4
101.00	Top - Section 2	1.00	1.27	26.677	29.35	269.42	0.650	0.000	1.00	2.637	1.71	80.5	0.0	203.7
105.00		1.00	1.28	26.896	29.59	266.03	0.650	0.000	4.00	10.310	6.70	317.2	0.0	366.3
110.00	Appurtenance(s)	1.00	1.29	27.161	29.88	254.69	0.650	0.000	5.00	12.349	8.03	383.7	0.0	438.5
115.00		1.00	1.30	27.416	30.16	243.18	0.650	0.000	5.00	11.751	7.64	368.6	0.0	417.1
120.00		1.00	1.32	27.663	30.43	231.51	0.650	0.000	5.00	11.153	7.25	352.9	0.0	395.6
125.00		1.00	1.33	27.902	30.69	219.69	0.650	0.000	5.00	10.555	6.86	336.9	0.0	374.1
130.00	Appurtenance(s)	1.00	1.34	28.133	30.95	207.74	0.650	0.000	5.00	9.956	6.47	320.4	0.0	352.6
135.00		1.00	1.35	28.358	31.19	195.64	0.650	0.000	5.00	9.358	6.08	303.6	0.0	331.2
140.00	Appurtenance(s)	1.00	1.36	28.576	31.43	183.43	0.650	0.000	5.00	8.760	5.69	286.4	0.0	309.7
145.00		1.00	1.37	28.788	31.67	171.09	0.650	0.000	5.00	8.162	5.31	268.8	0.0	288.2
148.25	Bot - Section 4	1.00	1.37	28.922	31.81	163.01	0.650	0.000	3.25	4.984	3.24	164.9	0.0	175.8
149.00	Appurtenance(s)	1.00	1.38	28.953	31.85	161.14	0.650	0.000	0.75	1.138	0.74	37.7	0.0	63.5
150.00		1.00	1.38	28.994	31.89	158.64	0.650	0.000	1.00	1.497	0.97	49.6	0.0	83.5
150.50	Top - Section 3	1.00	1.38	29.014	31.92	157.39	0.650	0.000	0.50	0.739	0.48	24.5	0.0	41.2
155.00		1.00	1.39	29.195	32.11	149.55	0.650	0.000	4.50	6.385	4.15	213.2	0.0	136.0
159.00	Appurtenance(s)	1.00	1.40	29.352	32.29	139.44	0.650	0.000	4.00	5.269	3.42	176.9	0.0	112.1
Totals:								159.00			13,228.3	21,360.2		

Discrete Appurtenance Forces

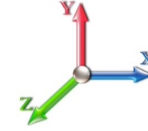
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.00	Low Profile Platform	1	29.352	32.287	1.00	1.00	35.00	1080.00	0.000	0.000	1808.06	0.00	0.00
2	159.00	DC6-48-60-18-8F	1	29.467	32.414	1.00	1.00	0.92	28.62	0.000	3.000	47.71	0.00	143.14
3	159.00	RRUS-11	6	29.467	32.414	0.67	1.00	10.13	275.40	0.000	3.000	525.39	0.00	1576.16
4	159.00	LGP21401	6	29.467	32.414	0.50	1.00	3.87	76.14	0.000	3.000	200.71	0.00	602.12
5	159.00	P65-16-XLH-RR	3	29.467	32.414	0.79	1.00	20.19	275.40	0.000	3.000	1047.13	0.00	3141.39
6	159.00	7770.00	3	29.467	32.414	0.77	1.00	13.31	207.90	0.000	3.000	690.05	0.00	2070.16
7	159.00	DB404-B	1	29.467	32.414	1.00	1.00	0.00	12.60	0.000	3.000	0.00	0.00	0.00
8	149.00	Alcatel Lucent - 1900 MHz	3	29.034	31.938	0.54	0.80	6.11	118.80	0.000	2.000	312.24	0.00	624.49
9	149.00	Alcatel Lucent - 800 MHz	3	29.034	31.938	0.54	0.80	4.00	143.10	0.000	2.000	204.60	0.00	409.20
10	149.00	Alcatel Lucent - 800 MHz	3	29.034	31.938	0.54	0.80	1.25	23.76	0.000	2.000	64.09	0.00	128.18
11	149.00	RFS - APXVSP18-C-A20	3	29.034	31.938	0.66	0.80	16.75	286.20	0.000	2.000	856.06	0.00	1712.11
12	149.00	RFS - APXVTM14-C-I20	3	29.034	31.938	0.63	0.80	11.93	151.20	0.000	2.000	609.59	0.00	1219.19
13	149.00	RFS - ACU-A20-N - RET	4	29.034	31.938	0.40	0.80	0.22	3.60	0.000	2.000	11.45	0.00	22.89
14	149.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	35.00	1080.00	0.000	0.000	1783.50	0.00	0.00
15	149.00	Alcatel Lucent -	3	29.034	31.938	0.54	0.80	6.51	189.00	0.000	2.000	332.79	0.00	665.57
16	140.00	Low Profile Platform w/	1	28.576	31.433	1.00	1.00	34.00	1440.00	0.000	0.000	1709.97	0.00	0.00
17	140.00	Andrew - ATSBT-TOP-FM	3	28.576	31.433	0.50	0.75	0.30	4.86	0.000	0.000	15.16	0.00	0.00
18	140.00	RFS -	3	28.576	31.433	0.50	0.75	1.76	42.80	0.000	0.000	88.71	0.00	0.00
19	140.00	APX16DWV-16DWVS-E-	3	28.576	31.433	0.46	0.75	9.22	109.89	0.000	0.000	463.75	0.00	0.00
20	140.00	FR90-16-XXDP	6	28.576	31.433	0.51	0.75	13.34	97.20	0.000	0.000	670.99	0.00	0.00
21	140.00	APXVAA24_43-U-A20	3	28.576	31.433	0.55	0.75	33.24	273.78	0.000	0.000	1671.96	0.00	0.00
22	130.00	RRH2X60-AWS	3	28.179	30.997	0.54	0.80	5.63	148.50	0.000	1.000	279.12	0.00	279.12
23	130.00	BXA-70063/6CF	3	28.179	30.997	0.60	0.80	14.33	178.20	0.000	1.000	710.48	0.00	710.48
24	130.00	LPA-80063/6CF	6	28.179	30.997	0.76	0.80	45.50	410.40	0.000	1.000	2256.62	0.00	2256.62
25	130.00	BXA-171063-12BF	3	28.179	30.997	0.70	0.80	10.80	172.80	0.000	1.000	535.50	0.00	535.50
26	130.00	FD9R6004/2C-3L -	6	28.179	30.997	0.40	0.80	0.86	16.74	0.000	1.000	42.85	0.00	42.85
27	130.00	DB-T1-6Z-8AB-0Z - Distri	1	28.179	30.997	0.57	0.80	2.73	17.01	0.000	1.000	135.21	0.00	135.21
28	130.00	Low Profile Platform	1	28.133	30.947	1.00	1.00	25.00	1080.00	0.000	0.000	1237.86	0.00	0.00
29	130.00	742 213_2110_P45_02.0	3	28.179	30.997	0.58	0.80	5.44	44.55	0.000	1.000	269.95	0.00	269.95
30	110.00	SCL329-HL	1	27.444	30.188	1.00	1.00	2.22	9.36	0.000	5.550	107.23	0.00	595.12
31	110.00	4 ft Standoff	1	27.161	29.877	1.00	1.00	3.50	47.99	0.000	0.000	167.31	0.00	0.00
32	80.00	4 ft Standoff	1	25.400	27.940	1.00	1.00	3.50	47.99	0.000	0.000	156.46	0.00	0.00
33	80.00	SCL329-HL	1	25.761	28.337	1.00	1.00	2.22	9.36	0.000	5.550	100.65	0.00	558.63
34	47.00	4 ft Standoff	1	22.709	24.980	1.00	1.00	3.50	47.99	0.000	0.000	139.89	0.00	0.00
35	47.00	Decibel 26DB GPS	1	23.007	25.308	1.00	1.00	0.16	9.00	0.000	3.000	6.48	0.00	19.44
Totals:									8,160.13			19,259.53		

Total Applied Force Summary

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

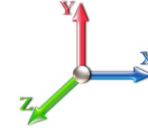


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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		497.63	1230.86	0.00	0.00
10.00		485.39	1205.10	0.00	0.00
15.00		473.16	1179.33	0.00	0.00
20.00		489.06	1153.56	0.00	0.00
25.00		498.97	1127.80	0.00	0.00
30.00		504.36	1102.03	0.00	0.00
35.00		506.39	1076.26	0.00	0.00
40.00		505.80	1050.49	0.00	0.00
45.00		503.10	1024.73	0.00	0.00
47.00	(2) attachments	345.11	459.66	0.00	19.44
47.50		49.41	100.02	0.00	0.00
50.00		251.53	904.50	0.00	0.00
53.25		325.39	1156.12	0.00	0.00
55.00		173.60	342.22	0.00	0.00
60.00		494.11	960.37	0.00	0.00
65.00		485.87	934.61	0.00	0.00
70.00		476.61	908.84	0.00	0.00
75.00		466.44	883.07	0.00	0.00
80.00	(2) attachments	712.55	914.65	0.00	558.63
85.00		443.68	829.20	0.00	0.00
90.00		431.24	803.43	0.00	0.00
95.00		418.15	777.66	0.00	0.00
97.00		162.93	303.85	0.00	0.00
100.00		245.33	734.36	0.00	0.00
101.00		80.49	241.01	0.00	0.00
105.00		317.23	515.61	0.00	0.00
110.00	(2) attachments	658.25	682.53	0.00	595.12
115.00		368.56	601.37	0.00	0.00
120.00		352.95	579.90	0.00	0.00
125.00		336.90	558.42	0.00	0.00
130.00	(26) attachments	5788.04	2605.15	0.00	4229.74
135.00		303.59	466.59	0.00	0.00
140.00	(19) attachments	4906.90	2401.42	0.00	0.00
145.00		268.79	340.14	0.00	0.00
148.25		164.92	209.58	0.00	0.00
149.00	(23) attachments	4212.02	2066.99	0.00	4781.64
150.00		49.64	93.91	0.00	0.00
150.50		24.54	46.44	0.00	0.00
155.00		213.24	168.96	0.00	0.00
159.00	(21) attachments	4495.96	2095.96	0.00	7532.98
	Totals:	32,487.83	34,836.70	0.00	17,717.54

Linear Appurtenance Segment Forces (Factored)

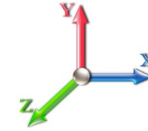
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



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	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.030	0.000	17.879	0.00	2.34
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	17.879	0.00	2.34
5.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.030	0.000	17.879	0.00	0.72
10.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.031	0.000	17.879	0.00	2.34
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.031	0.000	17.879	0.00	2.34
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.031	0.000	17.879	0.00	0.72
15.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.032	0.000	17.879	0.00	2.34
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.032	0.000	17.879	0.00	2.34
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.032	0.000	17.879	0.00	0.72
20.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	18.971	0.00	2.34
20.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	18.971	0.00	2.34
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.033	0.000	18.971	0.00	0.72
25.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	19.883	0.00	2.34
25.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	19.883	0.00	2.34
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.033	0.000	19.883	0.00	0.72
30.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.034	0.000	20.661	0.00	2.34
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	20.661	0.00	2.34
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.034	0.000	20.661	0.00	0.72
35.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.035	0.000	21.343	0.00	2.34
35.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	21.343	0.00	2.34
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.035	0.000	21.343	0.00	0.72
40.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.036	0.000	21.951	0.00	2.34
40.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.036	0.000	21.951	0.00	2.34
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.036	0.000	21.951	0.00	0.72
45.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.038	0.000	22.502	0.00	2.34
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	22.502	0.00	2.34
45.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.038	0.000	22.502	0.00	0.72
47.00	7/8" Coax	Yes	2.00	0.000	1.11	0.19	0.00	0.038	0.000	22.709	0.00	0.94
47.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.038	0.000	22.709	0.00	0.94
47.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.038	0.000	22.709	0.00	0.29
47.50	7/8" Coax	Yes	0.50	0.000	1.11	0.05	0.00	0.039	0.000	22.760	0.00	0.23
47.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.039	0.000	22.760	0.00	0.23
47.50	1/2" Coax	Yes	0.50	0.000	0.65	0.03	0.00	0.039	0.000	22.760	0.00	0.07
50.00	7/8" Coax	Yes	2.50	0.000	1.11	0.23	0.00	0.039	0.000	23.007	0.00	1.17
50.00	7/8" Coax	Yes	2.50	0.000	0.00	0.00	0.00	0.039	0.000	23.007	0.00	1.17
50.00	1/2" Coax	Yes	2.50	0.000	0.65	0.14	0.00	0.039	0.000	23.007	0.00	0.36
53.25	7/8" Coax	Yes	3.25	0.000	1.11	0.30	0.00	0.025	0.000	23.314	0.00	1.52
53.25	7/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.025	0.000	23.314	0.00	1.52
55.00	7/8" Coax	Yes	1.75	0.000	1.11	0.16	0.00	0.025	0.000	23.473	0.00	0.82
55.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.025	0.000	23.473	0.00	0.82
60.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.026	0.000	23.907	0.00	2.34
60.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	23.907	0.00	2.34
65.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.026	0.000	24.313	0.00	2.34
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	24.313	0.00	2.34
70.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.027	0.000	24.696	0.00	2.34
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.027	0.000	24.696	0.00	2.34
75.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.028	0.000	25.057	0.00	2.34

Linear Appurtenance Segment Forces (Factored)

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

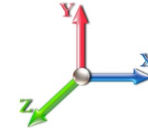


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



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)
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.028	0.000	25.057	0.00	2.34
80.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.030	0.000	25.400	0.00	2.34
80.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	25.400	0.00	2.34
85.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.031	0.000	25.726	0.00	2.34
90.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.032	0.000	26.037	0.00	2.34
95.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	26.336	0.00	2.34
97.00	7/8" Coax	Yes	2.00	0.000	1.11	0.19	0.00	0.034	0.000	26.451	0.00	0.94
100.00	7/8" Coax	Yes	3.00	0.000	1.11	0.28	0.00	0.035	0.000	26.621	0.00	1.40
101.00	7/8" Coax	Yes	1.00	0.000	1.11	0.09	0.00	0.036	0.000	26.677	0.00	0.47
105.00	7/8" Coax	Yes	4.00	0.000	1.11	0.37	0.00	0.036	0.000	26.896	0.00	1.87
110.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.037	0.000	27.161	0.00	2.34
Totals:											0.0	96.1

Calculated Forces

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

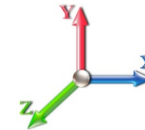


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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

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	-34.78	-32.54	0.00	-3827.2	0.00	3827.27	4390.37	2195.18	10447.7	5231.64	0.00	0.000	0.000	0.740
5.00	-33.45	-32.15	0.00	-3664.5	0.00	3664.55	4330.30	2165.15	10051.2	5033.11	0.10	-0.183	0.000	0.736
10.00	-32.14	-31.77	0.00	-3503.7	0.00	3503.79	4267.86	2133.93	9656.46	4835.41	0.39	-0.372	0.000	0.732
15.00	-30.86	-31.39	0.00	-3344.9	0.00	3344.94	4203.05	2101.52	9263.74	4638.76	0.89	-0.567	0.000	0.729
20.00	-29.60	-31.00	0.00	-3187.9	0.00	3187.98	4135.87	2067.94	8873.53	4443.36	1.59	-0.767	0.000	0.725
25.00	-28.37	-30.58	0.00	-3033.0	0.00	3033.00	4066.33	2033.16	8486.25	4249.43	2.50	-0.974	0.000	0.721
30.00	-27.16	-30.16	0.00	-2880.0	0.00	2880.08	3994.42	1997.21	8102.30	4057.17	3.64	-1.188	0.000	0.717
35.00	-25.98	-29.73	0.00	-2729.2	0.00	2729.26	3920.13	1960.07	7722.12	3866.80	5.00	-1.409	0.000	0.713
40.00	-24.82	-29.30	0.00	-2580.5	0.00	2580.59	3843.48	1921.74	7346.10	3678.51	6.60	-1.637	0.000	0.708
45.00	-23.73	-28.84	0.00	-2434.0	0.00	2434.09	3764.47	1882.23	6974.67	3492.52	8.44	-1.872	0.000	0.703
47.00	-23.25	-28.50	0.00	-2376.4	0.00	2376.40	3732.20	1866.10	6827.48	3418.81	9.24	-1.972	0.000	0.702
47.50	-23.12	-28.48	0.00	-2362.1	0.00	2362.15	3724.07	1862.03	6790.81	3400.45	9.45	-1.997	0.000	0.701
50.00	-22.15	-28.25	0.00	-2290.9	0.00	2290.95	3683.08	1841.54	6608.25	3309.03	10.53	-2.123	0.000	0.699
53.25	-20.95	-27.93	0.00	-2199.1	0.00	2199.14	3673.19	1836.60	6564.80	3287.28	12.03	-2.288	0.000	0.675
55.00	-20.53	-27.80	0.00	-2150.2	0.00	2150.26	3644.05	1822.03	6438.04	3223.81	12.89	-2.380	0.000	0.673
60.00	-19.47	-27.35	0.00	-2011.2	0.00	2011.25	3559.18	1779.59	6079.73	3044.38	15.52	-2.627	0.000	0.666
65.00	-18.44	-26.91	0.00	-1874.4	0.00	1874.49	3471.95	1735.97	5727.45	2867.98	18.40	-2.882	0.000	0.659
70.00	-17.43	-26.46	0.00	-1739.9	0.00	1739.96	3382.35	1691.17	5381.61	2694.80	21.56	-3.145	0.000	0.651
75.00	-16.45	-26.03	0.00	-1607.6	0.00	1607.64	3290.37	1645.19	5042.64	2525.07	25.00	-3.416	0.000	0.642
80.00	-15.46	-25.34	0.00	-1476.9	0.00	1476.95	3180.13	1590.07	4687.51	2347.24	28.72	-3.696	0.000	0.634
85.00	-14.53	-24.91	0.00	-1350.2	0.00	1350.27	3055.11	1527.56	4324.37	2165.40	32.75	-3.983	0.000	0.629
90.00	-13.64	-24.50	0.00	-1225.7	0.00	1225.71	2930.09	1465.05	3975.87	1990.89	37.07	-4.279	0.000	0.621
95.00	-12.80	-24.07	0.00	-1103.2	0.00	1103.24	2805.07	1402.54	3642.00	1823.71	41.71	-4.581	0.000	0.610
97.00	-12.45	-23.91	0.00	-1055.1	0.00	1055.11	2755.06	1377.53	3512.56	1758.89	43.66	-4.709	0.000	0.605
100.00	-11.68	-23.63	0.00	-983.36	0.00	983.36	2680.05	1340.03	3322.78	1663.86	46.68	-4.901	0.000	0.596
101.00	-11.38	-23.57	0.00	-959.73	0.00	959.73	2260.99	1130.50	2846.84	1425.54	47.71	-4.967	0.000	0.679
105.00	-10.77	-23.26	0.00	-865.47	0.00	865.47	2179.85	1089.93	2642.58	1323.26	51.98	-5.222	0.000	0.659
110.00	-10.02	-22.60	0.00	-748.56	0.00	748.56	2075.67	1037.84	2394.76	1199.16	57.63	-5.576	0.000	0.630
115.00	-9.32	-22.23	0.00	-635.54	0.00	635.54	1971.49	985.74	2159.14	1081.18	63.65	-5.927	0.000	0.593
120.00	-8.65	-21.87	0.00	-524.37	0.00	524.37	1867.30	933.65	1935.73	969.30	70.03	-6.271	0.000	0.546
125.00	-8.02	-21.52	0.00	-415.00	0.00	415.00	1763.12	881.56	1724.51	863.54	76.77	-6.599	0.000	0.486
130.00	-6.04	-15.50	0.00	-303.17	0.00	303.17	1658.94	829.47	1525.49	763.88	83.83	-6.898	0.000	0.401
135.00	-5.55	-15.16	0.00	-225.69	0.00	225.69	1554.75	777.38	1338.67	670.33	91.18	-7.161	0.000	0.341
140.00	-3.75	-10.00	0.00	-149.89	0.00	149.89	1450.57	725.28	1164.05	582.89	98.79	-7.388	0.000	0.260
145.00	-3.42	-9.70	0.00	-99.87	0.00	99.87	1346.38	673.19	1001.64	501.56	106.61	-7.574	0.000	0.202
148.25	-3.23	-9.51	0.00	-68.35	0.00	68.35	1278.66	639.33	902.61	451.97	111.79	-7.676	0.000	0.154
149.00	-1.74	-5.06	0.00	-56.43	0.00	56.43	1263.04	631.52	880.49	440.90	112.99	-7.697	0.000	0.129
150.00	-1.65	-5.00	0.00	-51.37	0.00	51.37	1242.20	621.10	851.42	426.34	114.60	-7.721	0.000	0.122
150.50	-1.61	-4.97	0.00	-48.87	0.00	48.87	761.18	380.59	536.85	268.82	115.41	-7.733	0.000	0.184
155.00	-1.46	-4.74	0.00	-26.49	0.00	26.49	704.92	352.46	460.03	230.36	122.72	-7.815	0.000	0.117
159.00	0.00	-4.50	0.00	-7.53	0.00	7.53	654.91	327.45	396.72	198.65	129.28	-7.879	0.000	0.038

Wind Loading - Shaft

Structure: CT13055-A-SBA
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

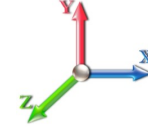
Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

2/1/2018
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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	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	25.364	30.44	173.0	451.6	1839.8
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	24.840	29.81	169.5	472.9	1826.8
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	24.288	29.15	165.7	480.7	1800.2
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	23.724	28.47	171.7	482.4	1767.6
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	23.152	27.78	175.6	480.7	1731.5
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	22.576	27.09	178.0	476.6	1693.1
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	21.997	26.40	179.1	470.9	1653.0
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	21.416	25.70	179.4	463.8	1611.6
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	20.833	25.00	178.9	455.8	1569.2
47.00	Appurtenance(s)	1.00	1.08	6.564	7.22	0.00	1.200	1.554	2.00	8.168	9.80	70.8	180.9	616.7
47.50	Bot - Section 2	1.00	1.08	6.579	7.24	0.00	1.200	1.556	0.50	2.027	2.43	17.6	45.1	153.2
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.50	10.208	12.25	89.6	227.1	1306.7
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	1.574	3.25	13.052	15.66	116.1	291.3	1669.0
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	1.75	6.925	8.31	62.0	155.7	523.8
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	19.394	23.27	176.9	434.7	1463.2
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	18.806	22.57	174.5	424.1	1418.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	18.218	21.86	171.7	413.1	1372.9
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	17.629	21.15	168.5	401.6	1327.1
80.00	Appurtenance(s)	1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	17.039	20.45	165.1	389.8	1280.9
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	16.450	19.74	161.5	377.6	1234.4
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	15.859	19.03	157.6	365.2	1187.6
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	15.269	18.32	153.4	352.5	1140.5
97.00	Bot - Section 3	1.00	1.26	7.646	8.41	0.00	1.200	1.671	2.00	5.941	7.13	60.0	138.9	444.5
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	3.00	8.893	10.67	90.3	207.7	1037.5
101.00	Top - Section 2	1.00	1.27	7.711	8.48	0.00	1.200	1.678	1.00	2.917	3.50	29.7	68.7	340.3
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	4.00	11.433	13.72	117.3	266.4	754.8
110.00	Appurtenance(s)	1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	13.759	16.51	142.6	319.6	904.4
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	13.167	15.80	137.7	306.1	862.2
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	12.575	15.09	132.7	292.3	819.8
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	11.983	14.38	127.6	278.4	777.3
130.00	Appurtenance(s)	1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	11.390	13.67	122.3	264.4	734.6
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	10.797	12.96	116.8	250.1	691.7
140.00	Appurtenance(s)	1.00	1.36	8.260	9.09	0.00	1.200	1.733	5.00	10.204	12.25	111.3	235.7	648.7
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	9.611	11.53	105.6	221.2	605.5
148.25	Bot - Section 4	1.00	1.37	8.360	9.20	0.00	1.200	1.743	3.25	5.929	7.11	65.4	137.6	372.1
149.00	Appurtenance(s)	1.00	1.38	8.369	9.21	0.00	1.200	1.744	0.75	1.356	1.63	15.0	32.0	116.8
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	1.00	1.787	2.14	19.8	42.1	153.5
150.50	Top - Section 3	1.00	1.38	8.387	9.23	0.00	1.200	1.746	0.50	0.885	1.06	9.8	20.9	75.9
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	4.50	7.698	9.24	85.7	176.3	357.6
159.00	Appurtenance(s)	1.00	1.40	8.484	9.33	0.00	1.200	1.755	4.00	6.439	7.73	72.1	147.2	296.7
Totals:								159.00			4,817.8	40,180.6		

Discrete Appurtenance Forces

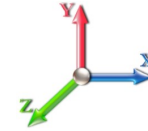
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	159.00	Low Profile Platform	1	8.484	9.333	1.00	1.00	64.49	2193.25	0.000	0.000	601.86	0.00	0.00	
2	159.00	DC6-48-60-18-8F	1	8.518	9.369	1.00	1.00	1.36	82.65	0.000	3.000	12.75	0.00	38.24	
3	159.00	RRUS-11	6	8.518	9.369	0.67	1.00	12.69	707.37	0.000	3.000	118.91	0.00	356.72	
4	159.00	LGP21401	6	8.518	9.369	0.50	1.00	6.39	209.80	0.000	3.000	59.89	0.00	179.66	
5	159.00	P65-16-XLH-RR	3	8.518	9.369	0.81	1.00	25.44	1168.88	0.000	3.000	238.33	0.00	715.00	
6	159.00	7770.00	3	8.518	9.369	0.80	1.00	17.38	277.20	0.000	3.000	162.86	0.00	488.58	
7	159.00	DB404-B	1	8.518	9.369	1.00	1.00	0.00	30.81	0.000	3.000	0.00	0.00	0.00	
8	149.00	Alcatel Lucent - 1900 MHz	3	8.392	9.232	0.54	0.80	8.34	392.07	0.000	2.000	77.03	0.00	154.06	
9	149.00	Alcatel Lucent - 800 MHz	3	8.392	9.232	0.54	0.80	5.84	349.23	0.000	2.000	53.93	0.00	107.86	
10	149.00	Alcatel Lucent - 800 MHz	3	8.392	9.232	0.54	0.80	2.29	69.57	0.000	2.000	21.17	0.00	42.35	
11	149.00	RFS - APXVSPP18-C-A20	3	8.392	9.232	0.68	0.80	21.01	1181.84	0.000	2.000	193.98	0.00	387.95	
12	149.00	RFS - APXVTM14-C-I20	3	8.392	9.232	0.65	0.80	14.47	473.75	0.000	2.000	133.54	0.00	267.08	
13	149.00	RFS - ACU-A20-N - RET	4	8.392	9.232	0.40	0.80	0.70	16.77	0.000	2.000	6.45	0.00	12.90	
14	149.00	Low Profile Platform	1	8.369	9.206	1.00	1.00	64.30	2186.43	0.000	0.000	591.93	0.00	0.00	
15	149.00	Alcatel Lucent -	3	8.392	9.232	0.54	0.80	8.78	479.00	0.000	2.000	81.09	0.00	162.18	
16	140.00	Low Profile Platform w/	1	8.260	9.086	1.00	1.00	63.46	3405.41	0.000	0.000	576.63	0.00	0.00	
17	140.00	Andrew - ATSBT-TOP-FM	3	8.260	9.086	0.50	0.75	0.82	18.78	0.000	0.000	7.46	0.00	0.00	
18	140.00	RFS -	3	8.260	9.086	0.50	0.75	2.94	139.37	0.000	0.000	26.67	0.00	0.00	
19	140.00	APX16DWV-16DWVS-E-	3	8.260	9.086	0.46	0.75	12.24	394.78	0.000	0.000	111.19	0.00	0.00	
20	140.00	FR90-16-XXDP	6	8.260	9.086	0.51	0.75	16.34	716.53	0.000	0.000	148.43	0.00	0.00	
21	140.00	APXVAA24_43-U-A20	3	8.260	9.086	0.55	0.75	36.38	1639.44	0.000	0.000	330.58	0.00	0.00	
22	130.00	RRH2X60-AWS	3	8.145	8.960	0.54	0.80	6.88	374.33	0.000	1.000	61.63	0.00	61.63	
23	130.00	BXA-70063/6CF	3	8.145	8.960	0.62	0.80	18.34	981.15	0.000	1.000	164.28	0.00	164.28	
24	130.00	LPA-80063/6CF	6	8.145	8.960	0.76	0.80	54.53	3021.90	0.000	1.000	488.56	0.00	488.56	
25	130.00	BXA-171063-12BF	3	8.145	8.960	0.72	0.80	14.85	842.02	0.000	1.000	133.05	0.00	133.05	
26	130.00	FD9R6004/2C-3L -	6	8.145	8.960	0.40	0.80	1.91	55.99	0.000	1.000	17.14	0.00	17.14	
27	130.00	DB-T1-6Z-8AB-0Z - Distri	1	8.145	8.960	0.61	0.80	3.44	164.01	0.000	1.000	30.83	0.00	30.83	
28	130.00	Low Profile Platform	1	8.132	8.945	1.00	1.00	45.65	2172.25	0.000	0.000	408.30	0.00	0.00	
29	130.00	742 213_2110_P45_02.0	3	8.145	8.960	0.58	0.80	8.41	184.70	0.000	1.000	75.32	0.00	75.32	
30	110.00	SCL329-HL	1	7.933	8.726	1.00	1.00	6.06	53.52	0.000	5.550	52.88	0.00	293.49	
31	110.00	4 ft Standoff	1	7.851	8.636	1.00	1.00	11.25	137.12	0.000	0.000	97.15	0.00	0.00	
32	80.00	4 ft Standoff	1	7.342	8.076	1.00	1.00	11.01	133.87	0.000	0.000	88.89	0.00	0.00	
33	80.00	SCL329-HL	1	7.446	8.191	1.00	1.00	5.94	51.69	0.000	5.550	48.65	0.00	270.02	
34	47.00	4 ft Standoff	1	6.564	7.220	1.00	1.00	10.62	128.66	0.000	0.000	76.66	0.00	0.00	
35	47.00	Decibel 26DB GPS	1	6.650	7.315	1.00	1.00	0.50	15.44	0.000	3.000	3.67	0.00	11.02	
Totals:									24,449.57						5,301.68

Total Applied Force Summary

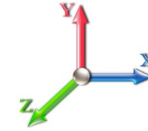
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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		173.03	2136.08	0.00	0.00
10.00		169.46	2128.27	0.00	0.00
15.00		165.69	2105.03	0.00	0.00
20.00		171.72	2074.96	0.00	0.00
25.00		175.64	2040.92	0.00	0.00
30.00		177.97	2004.23	0.00	0.00
35.00		179.13	1965.65	0.00	0.00
40.00		179.37	1925.63	0.00	0.00
45.00		178.87	1884.45	0.00	0.00
47.00	(2) attachments	151.11	887.05	0.00	11.02
47.50		17.60	184.80	0.00	0.00
50.00		89.61	1464.88	0.00	0.00
53.25		116.11	1861.98	0.00	0.00
55.00		62.02	627.76	0.00	0.00
60.00		176.90	1760.96	0.00	0.00
65.00		174.46	1716.62	0.00	0.00
70.00		171.66	1671.78	0.00	0.00
75.00		168.54	1626.51	0.00	0.00
80.00	(2) attachments	302.67	1766.41	0.00	270.02
85.00		161.46	1507.48	0.00	0.00
90.00		157.55	1460.93	0.00	0.00
95.00		153.42	1414.09	0.00	0.00
97.00		59.96	553.99	0.00	0.00
100.00		90.33	1201.77	0.00	0.00
101.00		29.69	395.04	0.00	0.00
105.00		117.32	973.96	0.00	0.00
110.00	(2) attachments	292.62	1369.15	0.00	293.49
115.00		137.74	1107.91	0.00	0.00
120.00		132.73	1065.54	0.00	0.00
125.00		127.57	1022.99	0.00	0.00
130.00	(26) attachments	1501.38	8776.64	0.00	970.81
135.00		116.82	872.24	0.00	0.00
140.00	(19) attachments	1312.22	7127.23	0.00	0.00
145.00		105.57	674.75	0.00	0.00
148.25		65.42	417.06	0.00	0.00
149.00	(23) attachments	1174.10	5275.82	0.00	1134.37
150.00		19.77	167.35	0.00	0.00
150.50		9.80	82.84	0.00	0.00
155.00		85.75	401.61	0.00	0.00
159.00	(21) attachments	1266.70	5003.71	0.00	1778.20
	Totals:	10,119.46	72,706.08	0.00	4,457.91

Linear Appurtenance Segment Forces (Factored)

Structure: CT13055-A-SBA
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

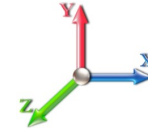
Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

2/1/2018
 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)
5.00	7/8" Coax	Yes	5.00	0.000	1.11	1.50	0.00	0.030	0.000	5.168	0.00	18.42
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	5.168	0.00	18.42
5.00	1/2" Coax	Yes	5.00	0.000	0.65	1.31	0.00	0.030	0.000	5.168	0.00	13.70
10.00	7/8" Coax	Yes	5.00	0.000	1.11	1.57	0.00	0.031	0.000	5.168	0.00	20.21
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.031	0.000	5.168	0.00	20.21
10.00	1/2" Coax	Yes	5.00	0.000	0.65	1.38	0.00	0.031	0.000	5.168	0.00	15.33
15.00	7/8" Coax	Yes	5.00	0.000	1.11	1.62	0.00	0.032	0.000	5.168	0.00	21.36
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.032	0.000	5.168	0.00	21.36
15.00	1/2" Coax	Yes	5.00	0.000	0.65	1.43	0.00	0.032	0.000	5.168	0.00	16.38
20.00	7/8" Coax	Yes	5.00	0.000	1.11	1.65	0.00	0.033	0.000	5.483	0.00	22.23
20.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	5.483	0.00	22.23
20.00	1/2" Coax	Yes	5.00	0.000	0.65	1.46	0.00	0.033	0.000	5.483	0.00	17.18
25.00	7/8" Coax	Yes	5.00	0.000	1.11	1.68	0.00	0.033	0.000	5.747	0.00	22.93
25.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	5.747	0.00	22.93
25.00	1/2" Coax	Yes	5.00	0.000	0.65	1.49	0.00	0.033	0.000	5.747	0.00	17.83
30.00	7/8" Coax	Yes	5.00	0.000	1.11	1.70	0.00	0.034	0.000	5.972	0.00	23.53
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	5.972	0.00	23.53
30.00	1/2" Coax	Yes	5.00	0.000	0.65	1.51	0.00	0.034	0.000	5.972	0.00	18.38
35.00	7/8" Coax	Yes	5.00	0.000	1.11	1.72	0.00	0.035	0.000	6.169	0.00	24.05
35.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	6.169	0.00	24.05
35.00	1/2" Coax	Yes	5.00	0.000	0.65	1.53	0.00	0.035	0.000	6.169	0.00	18.86
40.00	7/8" Coax	Yes	5.00	0.000	1.11	1.74	0.00	0.036	0.000	6.345	0.00	24.52
40.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.036	0.000	6.345	0.00	24.52
40.00	1/2" Coax	Yes	5.00	0.000	0.65	1.55	0.00	0.036	0.000	6.345	0.00	19.29
45.00	7/8" Coax	Yes	5.00	0.000	1.11	1.75	0.00	0.038	0.000	6.504	0.00	24.94
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	6.504	0.00	24.94
45.00	1/2" Coax	Yes	5.00	0.000	0.65	1.56	0.00	0.038	0.000	6.504	0.00	19.67
47.00	7/8" Coax	Yes	2.00	0.000	1.11	0.70	0.00	0.038	0.000	6.564	0.00	10.04
47.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.038	0.000	6.564	0.00	10.04
47.00	1/2" Coax	Yes	2.00	0.000	0.65	0.63	0.00	0.038	0.000	6.564	0.00	7.93
47.50	7/8" Coax	Yes	0.50	0.000	1.11	0.18	0.00	0.039	0.000	6.579	0.00	2.51
47.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.039	0.000	6.579	0.00	2.51
47.50	1/2" Coax	Yes	0.50	0.000	0.65	0.16	0.00	0.039	0.000	6.579	0.00	1.99
50.00	7/8" Coax	Yes	2.50	0.000	1.11	0.88	0.00	0.039	0.000	6.650	0.00	12.66
50.00	7/8" Coax	Yes	2.50	0.000	0.00	0.00	0.00	0.039	0.000	6.650	0.00	12.66
50.00	1/2" Coax	Yes	2.50	0.000	0.65	0.79	0.00	0.039	0.000	6.650	0.00	10.01
53.25	7/8" Coax	Yes	3.25	0.000	1.11	1.15	0.00	0.025	0.000	6.739	0.00	16.61
53.25	7/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.025	0.000	6.739	0.00	16.61
55.00	7/8" Coax	Yes	1.75	0.000	1.11	0.62	0.00	0.025	0.000	6.785	0.00	8.98
55.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.025	0.000	6.785	0.00	8.98
60.00	7/8" Coax	Yes	5.00	0.000	1.11	1.79	0.00	0.026	0.000	6.910	0.00	26.00
60.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	6.910	0.00	26.00
65.00	7/8" Coax	Yes	5.00	0.000	1.11	1.80	0.00	0.026	0.000	7.028	0.00	26.30
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	7.028	0.00	26.30
70.00	7/8" Coax	Yes	5.00	0.000	1.11	1.81	0.00	0.027	0.000	7.138	0.00	26.59
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.027	0.000	7.138	0.00	26.59
75.00	7/8" Coax	Yes	5.00	0.000	1.11	1.82	0.00	0.028	0.000	7.243	0.00	26.86

Linear Appurtenance Segment Forces (Factored)

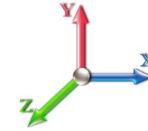
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 25

Load Case: 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)
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.028	0.000	7.243	0.00	26.86
80.00	7/8" Coax	Yes	5.00	0.000	1.11	1.83	0.00	0.030	0.000	7.342	0.00	27.12
80.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	7.342	0.00	27.12
85.00	7/8" Coax	Yes	5.00	0.000	1.11	1.84	0.00	0.031	0.000	7.436	0.00	27.36
90.00	7/8" Coax	Yes	5.00	0.000	1.11	1.84	0.00	0.032	0.000	7.526	0.00	27.59
95.00	7/8" Coax	Yes	5.00	0.000	1.11	1.85	0.00	0.033	0.000	7.612	0.00	27.81
97.00	7/8" Coax	Yes	2.00	0.000	1.11	0.74	0.00	0.034	0.000	7.646	0.00	11.16
100.00	7/8" Coax	Yes	3.00	0.000	1.11	1.12	0.00	0.035	0.000	7.695	0.00	16.81
101.00	7/8" Coax	Yes	1.00	0.000	1.11	0.37	0.00	0.036	0.000	7.711	0.00	5.61
105.00	7/8" Coax	Yes	4.00	0.000	1.11	1.49	0.00	0.036	0.000	7.774	0.00	22.58
110.00	7/8" Coax	Yes	5.00	0.000	1.11	1.87	0.00	0.037	0.000	7.851	0.00	28.42
Totals:											0.0	1,115.6

Calculated Forces

Structure: CT13055-A-SBA
Site Name: Monroe Turnpike
Height: 159.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

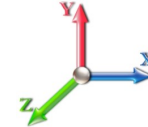
Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

2/1/2018
 Page: 26



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

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	-72.70	-10.16	0.00	-1204.6	0.00	1204.62	4390.37	2195.18	10447.7	5231.64	0.00	0.000	0.000	0.247
5.00	-70.55	-10.05	0.00	-1153.8	0.00	1153.84	4330.30	2165.15	10051.2	5033.11	0.03	-0.058	0.000	0.246
10.00	-68.42	-9.95	0.00	-1103.5	0.00	1103.56	4267.86	2133.93	9656.46	4835.41	0.12	-0.117	0.000	0.244
15.00	-66.30	-9.86	0.00	-1053.8	0.00	1053.80	4203.05	2101.52	9263.74	4638.76	0.28	-0.178	0.000	0.243
20.00	-64.22	-9.75	0.00	-1004.5	0.00	1004.52	4135.87	2067.94	8873.53	4443.36	0.50	-0.242	0.000	0.242
25.00	-62.16	-9.63	0.00	-955.79	0.00	955.79	4066.33	2033.16	8486.25	4249.43	0.79	-0.307	0.000	0.240
30.00	-60.15	-9.52	0.00	-907.62	0.00	907.62	3994.42	1997.21	8102.30	4057.17	1.15	-0.374	0.000	0.239
35.00	-58.17	-9.39	0.00	-860.04	0.00	860.04	3920.13	1960.07	7722.12	3866.80	1.57	-0.444	0.000	0.237
40.00	-56.24	-9.27	0.00	-813.06	0.00	813.06	3843.48	1921.74	7346.10	3678.51	2.08	-0.516	0.000	0.236
45.00	-54.35	-9.12	0.00	-766.71	0.00	766.71	3764.47	1882.23	6974.67	3492.52	2.66	-0.590	0.000	0.234
47.00	-53.46	-8.98	0.00	-748.45	0.00	748.45	3732.20	1866.10	6827.48	3418.81	2.91	-0.621	0.000	0.233
47.50	-53.27	-8.98	0.00	-743.96	0.00	743.96	3724.07	1862.03	6790.81	3400.45	2.98	-0.629	0.000	0.233
50.00	-51.80	-8.92	0.00	-721.50	0.00	721.50	3683.08	1841.54	6608.25	3309.03	3.32	-0.669	0.000	0.232
53.25	-49.93	-8.82	0.00	-692.51	0.00	692.51	3673.19	1836.60	6564.80	3287.28	3.79	-0.721	0.000	0.224
55.00	-49.30	-8.79	0.00	-677.09	0.00	677.09	3644.05	1822.03	6438.04	3223.81	4.06	-0.750	0.000	0.224
60.00	-47.53	-8.66	0.00	-633.13	0.00	633.13	3559.18	1779.59	6079.73	3044.38	4.89	-0.828	0.000	0.221
65.00	-45.80	-8.52	0.00	-589.85	0.00	589.85	3471.95	1735.97	5727.45	2867.98	5.80	-0.908	0.000	0.219
70.00	-44.12	-8.39	0.00	-547.24	0.00	547.24	3382.35	1691.17	5381.61	2694.80	6.79	-0.991	0.000	0.216
75.00	-42.49	-8.25	0.00	-505.31	0.00	505.31	3290.37	1645.19	5042.64	2525.07	7.88	-1.076	0.000	0.213
80.00	-40.71	-7.98	0.00	-463.78	0.00	463.78	3180.13	1590.07	4687.51	2347.24	9.05	-1.164	0.000	0.210
85.00	-39.20	-7.85	0.00	-423.88	0.00	423.88	3055.11	1527.56	4324.37	2165.40	10.32	-1.254	0.000	0.209
90.00	-37.73	-7.72	0.00	-384.64	0.00	384.64	2930.09	1465.05	3975.87	1990.89	11.68	-1.347	0.000	0.206
95.00	-36.31	-7.57	0.00	-346.04	0.00	346.04	2805.07	1402.54	3642.00	1823.71	13.14	-1.442	0.000	0.203
97.00	-35.75	-7.53	0.00	-330.89	0.00	330.89	2755.06	1377.53	3512.56	1758.89	13.75	-1.482	0.000	0.201
100.00	-34.55	-7.43	0.00	-308.30	0.00	308.30	2680.05	1340.03	3322.78	1663.86	14.70	-1.542	0.000	0.198
101.00	-34.14	-7.42	0.00	-300.87	0.00	300.87	2260.99	1130.50	2846.84	1425.54	15.03	-1.562	0.000	0.226
105.00	-33.16	-7.34	0.00	-271.17	0.00	271.17	2179.85	1089.93	2642.58	1323.26	16.37	-1.642	0.000	0.220
110.00	-31.79	-7.06	0.00	-234.21	0.00	234.21	2075.67	1037.84	2394.76	1199.16	18.15	-1.753	0.000	0.211
115.00	-30.67	-6.95	0.00	-198.89	0.00	198.89	1971.49	985.74	2159.14	1081.18	20.05	-1.863	0.000	0.200
120.00	-29.60	-6.84	0.00	-164.15	0.00	164.15	1867.30	933.65	1935.73	969.30	22.06	-1.971	0.000	0.185
125.00	-28.57	-6.72	0.00	-129.97	0.00	129.97	1763.12	881.56	1724.51	863.54	24.18	-2.073	0.000	0.167
130.00	-19.85	-4.93	0.00	-95.40	0.00	95.40	1658.94	829.47	1525.49	763.88	26.40	-2.167	0.000	0.137
135.00	-18.97	-4.80	0.00	-70.77	0.00	70.77	1554.75	777.38	1338.67	670.33	28.72	-2.250	0.000	0.118
140.00	-11.90	-3.22	0.00	-46.77	0.00	46.77	1450.57	725.28	1164.05	582.89	31.11	-2.321	0.000	0.088
145.00	-11.23	-3.09	0.00	-30.68	0.00	30.68	1346.38	673.19	1001.64	501.56	33.58	-2.379	0.000	0.070
148.25	-10.81	-3.01	0.00	-20.63	0.00	20.63	1278.66	639.33	902.61	451.97	35.21	-2.410	0.000	0.054
149.00	-5.59	-1.62	0.00	-17.23	0.00	17.23	1263.04	631.52	880.49	440.90	35.59	-2.416	0.000	0.044
150.00	-5.43	-1.59	0.00	-15.61	0.00	15.61	1242.20	621.10	851.42	426.34	36.09	-2.423	0.000	0.041
150.50	-5.34	-1.58	0.00	-14.82	0.00	14.82	761.18	380.59	536.85	268.82	36.35	-2.427	0.000	0.062
155.00	-4.94	-1.48	0.00	-7.70	0.00	7.70	704.92	352.46	460.03	230.36	38.65	-2.452	0.000	0.040
159.00	0.00	-1.27	0.00	-1.78	0.00	1.78	654.91	327.45	396.72	198.65	40.71	-2.469	0.000	0.009

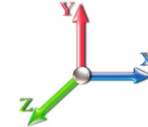
Seismic Segment Forces (Factored)

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E					Iterations 23
Gust Response Factor	1.10			Sds 0.22	Ss 0.20
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1 0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.35	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		1156.8	0.00	0.03	0.02	24.81	
10.00		1128.2	0.01	0.05	0.03	35.08	
15.00		1099.5	0.02	0.06	0.04	39.51	
20.00		1070.9	0.03	0.07	0.04	41.19	
25.00		1042.3	0.05	0.07	0.04	41.60	
30.00		1013.7	0.07	0.07	0.04	41.51	
35.00		985.07	0.09	0.07	0.04	41.27	
40.00		956.43	0.12	0.07	0.03	40.98	
45.00		927.80	0.15	0.07	0.03	40.54	
47.00	Appurtenance(s)	426.43	0.17	0.07	0.03	18.74	
47.50	Bot - Section 2	90.06	0.17	0.07	0.03	3.96	
50.00		899.61	0.19	0.06	0.02	39.72	
53.25	Top - Section 1	1148.0	0.21	0.06	0.02	50.53	
55.00		306.75	0.23	0.06	0.02	13.41	
60.00		857.10	0.27	0.05	0.02	35.76	
65.00		828.47	0.32	0.04	0.01	30.91	
70.00		799.84	0.37	0.03	0.01	23.74	
75.00		771.21	0.42	0.01	0.01	14.17	
80.00	Appurtenance(s)	806.30	0.48	-0.01	0.01	3.12	
85.00		713.95	0.54	-0.03	0.01	-8.62	
90.00		685.32	0.61	-0.05	0.02	-18.40	
95.00		656.69	0.67	-0.08	0.03	-25.04	
97.00	Bot - Section 3	254.66	0.70	-0.09	0.03	-10.52	
100.00		691.53	0.75	-0.10	0.04	-30.79	
101.00	Top - Section 2	226.31	0.76	-0.10	0.04	-10.22	
105.00		406.99	0.82	-0.12	0.06	-18.53	
110.00	Appurtenance(s)	550.99	0.90	-0.12	0.09	-22.70	
115.00		463.41	0.99	-0.11	0.13	-14.67	
120.00		439.55	1.08	-0.08	0.17	-7.49	
125.00		415.69	1.17	-0.02	0.23	1.09	
130.00	Appurtenance(s)	2689.8	1.26	0.07	0.30	73.48	
135.00		367.97	1.36	0.22	0.39	21.01	
140.00	Appurtenance(s)	2531.3	1.47	0.42	0.50	233.04	
145.00		320.26	1.57	0.69	0.63	42.37	
148.25	Bot - Section 4	195.37	1.64	0.92	0.73	31.53	
149.00	Appurtenance(s)	2288.0	1.66	0.98	0.75	385.30	
150.00		92.81	1.68	1.06	0.79	16.52	
150.50	Top - Section 3	45.83	1.69	1.10	0.80	8.38	
155.00		151.08	1.80	1.52	0.97	34.62	
159.00	Appurtenance(s)	2297.9	1.89	1.98	1.14	630.05	
Totals:		32,800.4				1,891.0	Total Wind: 32,487.8

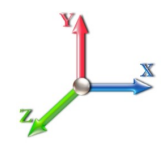
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E						Iterations 23
Gust Response Factor	1.10			Sds	0.22	Ss 0.20
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.35	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	-46.45	-2.06	0.00	-258.17	0.00	258.17	4390.37	2195.18	10447.7	5231.64	0.00	0.00	0.00	0.060
5.00	-44.81	-2.05	0.00	-247.86	0.00	247.86	4330.30	2165.15	10051.2	5033.11	0.01	-0.01	0.060	
10.00	-43.20	-2.02	0.00	-237.62	0.00	237.62	4267.86	2133.93	9656.46	4835.41	0.03	-0.03	0.059	
15.00	-41.63	-1.99	0.00	-227.52	0.00	227.52	4203.05	2101.52	9263.74	4638.76	0.06	-0.04	0.059	
20.00	-40.09	-1.96	0.00	-217.56	0.00	217.56	4135.87	2067.94	8873.53	4443.36	0.11	-0.05	0.059	
25.00	-38.58	-1.92	0.00	-207.77	0.00	207.77	4066.33	2033.16	8486.25	4249.43	0.17	-0.07	0.058	
30.00	-37.11	-1.89	0.00	-198.15	0.00	198.15	3994.42	1997.21	8102.30	4057.17	0.25	-0.08	0.058	
35.00	-35.68	-1.86	0.00	-188.69	0.00	188.69	3920.13	1960.07	7722.12	3866.80	0.34	-0.10	0.058	
40.00	-34.28	-1.82	0.00	-179.41	0.00	179.41	3843.48	1921.74	7346.10	3678.51	0.45	-0.11	0.058	
45.00	-32.91	-1.79	0.00	-170.29	0.00	170.29	3764.47	1882.23	6974.67	3492.52	0.57	-0.13	0.058	
47.00	-32.30	-1.77	0.00	-166.72	0.00	166.72	3732.20	1866.10	6827.48	3418.81	0.63	-0.14	0.057	
47.50	-32.16	-1.77	0.00	-165.83	0.00	165.83	3724.07	1862.03	6790.81	3400.45	0.64	-0.14	0.057	
50.00	-30.96	-1.73	0.00	-161.41	0.00	161.41	3683.08	1841.54	6608.25	3309.03	0.72	-0.15	0.057	
53.25	-29.42	-1.68	0.00	-155.79	0.00	155.79	3673.19	1836.60	6564.80	3287.28	0.82	-0.16	0.055	
55.00	-28.96	-1.67	0.00	-152.85	0.00	152.85	3644.05	1822.03	6438.04	3223.81	0.88	-0.16	0.055	
60.00	-27.68	-1.64	0.00	-144.49	0.00	144.49	3559.18	1779.59	6079.73	3044.38	1.06	-0.18	0.055	
65.00	-26.43	-1.61	0.00	-136.29	0.00	136.29	3471.95	1735.97	5727.45	2867.98	1.26	-0.20	0.055	
70.00	-25.22	-1.60	0.00	-128.21	0.00	128.21	3382.35	1691.17	5381.61	2694.80	1.48	-0.22	0.055	
75.00	-24.04	-1.58	0.00	-120.24	0.00	120.24	3290.37	1645.19	5042.64	2525.07	1.72	-0.24	0.055	
80.00	-22.82	-1.59	0.00	-112.31	0.00	112.31	3180.13	1590.07	4687.51	2347.24	1.99	-0.26	0.055	
85.00	-21.72	-1.59	0.00	-104.39	0.00	104.39	3055.11	1527.56	4324.37	2165.40	2.27	-0.28	0.055	
90.00	-20.64	-1.59	0.00	-96.44	0.00	96.44	2930.09	1465.05	3975.87	1990.89	2.58	-0.31	0.055	
95.00	-19.61	-1.59	0.00	-88.49	0.00	88.49	2805.07	1402.54	3642.00	1823.71	2.91	-0.33	0.056	
97.00	-19.20	-1.59	0.00	-85.31	0.00	85.31	2755.06	1377.53	3512.56	1758.89	3.05	-0.34	0.055	
100.00	-18.22	-1.59	0.00	-80.52	0.00	80.52	2680.05	1340.03	3322.78	1663.86	3.27	-0.36	0.055	
101.00	-17.90	-1.59	0.00	-78.93	0.00	78.93	2260.99	1130.50	2846.84	1425.54	3.35	-0.36	0.063	
105.00	-17.21	-1.60	0.00	-72.56	0.00	72.56	2179.85	1089.93	2642.58	1323.26	3.66	-0.38	0.063	
110.00	-16.30	-1.60	0.00	-64.58	0.00	64.58	2075.67	1037.84	2394.76	1199.16	4.07	-0.41	0.062	
115.00	-15.50	-1.60	0.00	-56.59	0.00	56.59	1971.49	985.74	2159.14	1081.18	4.52	-0.44	0.060	
120.00	-14.72	-1.60	0.00	-48.58	0.00	48.58	1867.30	933.65	1935.73	969.30	5.00	-0.47	0.058	
125.00	-13.98	-1.60	0.00	-40.57	0.00	40.57	1763.12	881.56	1724.51	863.54	5.52	-0.51	0.055	
130.00	-10.51	-1.50	0.00	-32.55	0.00	32.55	1658.94	829.47	1525.49	763.88	6.06	-0.54	0.049	
135.00	-9.88	-1.48	0.00	-25.03	0.00	25.03	1554.75	777.38	1338.67	670.33	6.64	-0.56	0.044	
140.00	-6.68	-1.22	0.00	-17.63	0.00	17.63	1450.57	725.28	1164.05	582.89	7.24	-0.59	0.035	
145.00	-6.23	-1.17	0.00	-11.53	0.00	11.53	1346.38	673.19	1001.64	501.56	7.87	-0.61	0.028	
148.25	-5.95	-1.14	0.00	-7.72	0.00	7.72	1278.66	639.33	902.61	451.97	8.30	-0.62	0.022	
149.00	-3.20	-0.72	0.00	-6.86	0.00	6.86	1263.04	631.52	880.49	440.90	8.39	-0.63	0.018	
150.00	-3.07	-0.71	0.00	-6.14	0.00	6.14	1242.20	621.10	851.42	426.34	8.53	-0.63	0.017	
150.50	-3.01	-0.70	0.00	-5.79	0.00	5.79	761.18	380.59	536.85	268.82	8.59	-0.63	0.025	
155.00	-2.79	-0.66	0.00	-2.65	0.00	2.65	704.92	352.46	460.03	230.36	9.19	-0.64	0.015	
159.00	0.00	-0.63	0.00	0.00	0.00	0.00	654.91	327.45	396.72	198.65	9.73	-0.64	0.000	

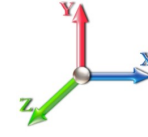
Seismic Segment Forces (Factored)

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E					Iterations 23
Gust Response Factor	1.10			Sds 0.22	Ss 0.20
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1 0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.35	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		1156.8	0.00	0.03	0.02	24.81	
10.00		1128.2	0.01	0.05	0.03	35.08	
15.00		1099.5	0.02	0.06	0.04	39.51	
20.00		1070.9	0.03	0.07	0.04	41.19	
25.00		1042.3	0.05	0.07	0.04	41.60	
30.00		1013.7	0.07	0.07	0.04	41.51	
35.00		985.07	0.09	0.07	0.04	41.27	
40.00		956.43	0.12	0.07	0.03	40.98	
45.00		927.80	0.15	0.07	0.03	40.54	
47.00	Appurtenance(s)	426.43	0.17	0.07	0.03	18.74	
47.50	Bot - Section 2	90.06	0.17	0.07	0.03	3.96	
50.00		899.61	0.19	0.06	0.02	39.72	
53.25	Top - Section 1	1148.0	0.21	0.06	0.02	50.53	
55.00		306.75	0.23	0.06	0.02	13.41	
60.00		857.10	0.27	0.05	0.02	35.76	
65.00		828.47	0.32	0.04	0.01	30.91	
70.00		799.84	0.37	0.03	0.01	23.74	
75.00		771.21	0.42	0.01	0.01	14.17	
80.00	Appurtenance(s)	806.30	0.48	-0.01	0.01	3.12	
85.00		713.95	0.54	-0.03	0.01	-8.62	
90.00		685.32	0.61	-0.05	0.02	-18.40	
95.00		656.69	0.67	-0.08	0.03	-25.04	
97.00	Bot - Section 3	254.66	0.70	-0.09	0.03	-10.52	
100.00		691.53	0.75	-0.10	0.04	-30.79	
101.00	Top - Section 2	226.31	0.76	-0.10	0.04	-10.22	
105.00		406.99	0.82	-0.12	0.06	-18.53	
110.00	Appurtenance(s)	550.99	0.90	-0.12	0.09	-22.70	
115.00		463.41	0.99	-0.11	0.13	-14.67	
120.00		439.55	1.08	-0.08	0.17	-7.49	
125.00		415.69	1.17	-0.02	0.23	1.09	
130.00	Appurtenance(s)	2689.8	1.26	0.07	0.30	73.48	
135.00		367.97	1.36	0.22	0.39	21.01	
140.00	Appurtenance(s)	2531.3	1.47	0.42	0.50	233.04	
145.00		320.26	1.57	0.69	0.63	42.37	
148.25	Bot - Section 4	195.37	1.64	0.92	0.73	31.53	
149.00	Appurtenance(s)	2288.0	1.66	0.98	0.75	385.30	
150.00		92.81	1.68	1.06	0.79	16.52	
150.50	Top - Section 3	45.83	1.69	1.10	0.80	8.38	
155.00		151.08	1.80	1.52	0.97	34.62	
159.00	Appurtenance(s)	2297.9	1.89	1.98	1.14	630.05	
Totals:		32,800.4				1,891.0	Total Wind: 32,487.8

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

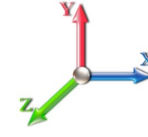
Calculated Forces

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 23
Gust Response Factor	1.10			Sds	0.22	Ss 0.20
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency	0.35	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	-34.84	-2.06	0.00	-254.79	0.00	254.79	4390.37	2195.18	10447.7	5231.64	0.00	0.00	0.00	0.057
5.00	-33.61	-2.04	0.00	-244.49	0.00	244.49	4330.30	2165.15	10051.2	5033.11	0.01	-0.01	0.056	
10.00	-32.40	-2.02	0.00	-234.27	0.00	234.27	4267.86	2133.93	9656.46	4835.41	0.03	-0.02	0.056	
15.00	-31.22	-1.98	0.00	-224.19	0.00	224.19	4203.05	2101.52	9263.74	4638.76	0.06	-0.04	0.056	
20.00	-30.07	-1.95	0.00	-214.28	0.00	214.28	4135.87	2067.94	8873.53	4443.36	0.11	-0.05	0.055	
25.00	-28.94	-1.91	0.00	-204.55	0.00	204.55	4066.33	2033.16	8486.25	4249.43	0.17	-0.07	0.055	
30.00	-27.84	-1.88	0.00	-194.99	0.00	194.99	3994.42	1997.21	8102.30	4057.17	0.24	-0.08	0.055	
35.00	-26.76	-1.84	0.00	-185.61	0.00	185.61	3920.13	1960.07	7722.12	3866.80	0.33	-0.09	0.055	
40.00	-25.71	-1.80	0.00	-176.41	0.00	176.41	3843.48	1921.74	7346.10	3678.51	0.44	-0.11	0.055	
45.00	-24.68	-1.77	0.00	-167.38	0.00	167.38	3764.47	1882.23	6974.67	3492.52	0.57	-0.13	0.054	
47.00	-24.22	-1.75	0.00	-163.85	0.00	163.85	3732.20	1866.10	6827.48	3418.81	0.62	-0.13	0.054	
47.50	-24.12	-1.75	0.00	-162.98	0.00	162.98	3724.07	1862.03	6790.81	3400.45	0.63	-0.13	0.054	
50.00	-23.22	-1.71	0.00	-158.61	0.00	158.61	3683.08	1841.54	6608.25	3309.03	0.71	-0.14	0.054	
53.25	-22.06	-1.66	0.00	-153.05	0.00	153.05	3673.19	1836.60	6564.80	3287.28	0.81	-0.16	0.053	
55.00	-21.72	-1.65	0.00	-150.15	0.00	150.15	3644.05	1822.03	6438.04	3223.81	0.87	-0.16	0.053	
60.00	-20.76	-1.62	0.00	-141.91	0.00	141.91	3559.18	1779.59	6079.73	3044.38	1.05	-0.18	0.052	
65.00	-19.82	-1.59	0.00	-133.82	0.00	133.82	3471.95	1735.97	5727.45	2867.98	1.24	-0.20	0.052	
70.00	-18.91	-1.57	0.00	-125.87	0.00	125.87	3382.35	1691.17	5381.61	2694.80	1.46	-0.22	0.052	
75.00	-18.03	-1.56	0.00	-118.03	0.00	118.03	3290.37	1645.19	5042.64	2525.07	1.70	-0.24	0.052	
80.00	-17.12	-1.56	0.00	-110.24	0.00	110.24	3180.13	1590.07	4687.51	2347.24	1.95	-0.26	0.052	
85.00	-16.29	-1.56	0.00	-102.46	0.00	102.46	3055.11	1527.56	4324.37	2165.40	2.23	-0.28	0.053	
90.00	-15.48	-1.56	0.00	-94.67	0.00	94.67	2930.09	1465.05	3975.87	1990.89	2.54	-0.30	0.053	
95.00	-14.70	-1.56	0.00	-86.86	0.00	86.86	2805.07	1402.54	3642.00	1823.71	2.86	-0.32	0.053	
97.00	-14.40	-1.56	0.00	-83.74	0.00	83.74	2755.06	1377.53	3512.56	1758.89	3.00	-0.33	0.053	
100.00	-13.66	-1.56	0.00	-79.05	0.00	79.05	2680.05	1340.03	3322.78	1663.86	3.22	-0.35	0.053	
101.00	-13.42	-1.56	0.00	-77.49	0.00	77.49	2260.99	1130.50	2846.84	1425.54	3.29	-0.35	0.060	
105.00	-12.91	-1.57	0.00	-71.24	0.00	71.24	2179.85	1089.93	2642.58	1323.26	3.60	-0.38	0.060	
110.00	-12.22	-1.57	0.00	-63.41	0.00	63.41	2075.67	1037.84	2394.76	1199.16	4.01	-0.41	0.059	
115.00	-11.62	-1.57	0.00	-55.58	0.00	55.58	1971.49	985.74	2159.14	1081.18	4.45	-0.44	0.057	
120.00	-11.04	-1.57	0.00	-47.74	0.00	47.74	1867.30	933.65	1935.73	969.30	4.92	-0.47	0.055	
125.00	-10.48	-1.57	0.00	-39.89	0.00	39.89	1763.12	881.56	1724.51	863.54	5.42	-0.50	0.052	
130.00	-7.88	-1.48	0.00	-32.04	0.00	32.04	1658.94	829.47	1525.49	763.88	5.96	-0.53	0.047	
135.00	-7.41	-1.46	0.00	-24.65	0.00	24.65	1554.75	777.38	1338.67	670.33	6.53	-0.55	0.042	
140.00	-5.01	-1.20	0.00	-17.38	0.00	17.38	1450.57	725.28	1164.05	582.89	7.12	-0.58	0.033	
145.00	-4.67	-1.16	0.00	-11.38	0.00	11.38	1346.38	673.19	1001.64	501.56	7.74	-0.60	0.026	
148.25	-4.46	-1.12	0.00	-7.62	0.00	7.62	1278.66	639.33	902.61	451.97	8.16	-0.61	0.020	
149.00	-2.40	-0.72	0.00	-6.78	0.00	6.78	1263.04	631.52	880.49	440.90	8.25	-0.62	0.017	
150.00	-2.30	-0.70	0.00	-6.06	0.00	6.06	1242.20	621.10	851.42	426.34	8.38	-0.62	0.016	
150.50	-2.26	-0.69	0.00	-5.71	0.00	5.71	761.18	380.59	536.85	268.82	8.45	-0.62	0.024	
155.00	-2.09	-0.65	0.00	-2.61	0.00	2.61	704.92	352.46	460.03	230.36	9.04	-0.63	0.014	
159.00	0.00	-0.63	0.00	0.00	0.00	0.00	654.91	327.45	396.72	198.65	9.57	-0.63	0.000	

Wind Loading - Shaft

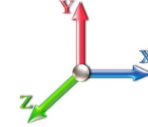
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

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	272.47	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	265.86	0.650	0.000	5.00	24.329	15.81	129.5	0.0	1156.8
10.00		1.00	0.85	7.442	8.19	259.24	0.650	0.000	5.00	23.731	15.43	126.3	0.0	1128.2
15.00		1.00	0.85	7.442	8.19	252.62	0.650	0.000	5.00	23.133	15.04	123.1	0.0	1099.6
20.00		1.00	0.90	7.896	8.69	253.40	0.650	0.000	5.00	22.535	14.65	127.2	0.0	1071.0
25.00		1.00	0.95	8.276	9.10	252.44	0.650	0.000	5.00	21.936	14.26	129.8	0.0	1042.3
30.00		1.00	0.98	8.600	9.46	250.22	0.650	0.000	5.00	21.338	13.87	131.2	0.0	1013.7
35.00		1.00	1.01	8.883	9.77	247.08	0.650	0.000	5.00	20.740	13.48	131.7	0.0	985.1
40.00		1.00	1.04	9.137	10.05	243.25	0.650	0.000	5.00	20.142	13.09	131.6	0.0	956.4
45.00		1.00	1.07	9.366	10.30	238.86	0.650	0.000	5.00	19.544	12.70	130.9	0.0	927.8
47.00	Appurtenance(s)	1.00	1.08	9.452	10.40	236.97	0.650	0.000	2.00	7.650	4.97	51.7	0.0	363.1
47.50	Bot - Section 2	1.00	1.08	9.473	10.42	236.49	0.650	0.000	0.50	1.898	1.23	12.9	0.0	90.1
50.00		1.00	1.09	9.576	10.53	234.01	0.650	0.000	2.50	9.557	6.21	65.4	0.0	899.6
53.25	Top - Section 1	1.00	1.11	9.704	10.67	230.66	0.650	0.000	3.25	12.200	7.93	84.6	0.0	1148.1
55.00		1.00	1.12	9.770	10.75	232.81	0.650	0.000	1.75	6.465	4.20	45.2	0.0	306.7
60.00		1.00	1.14	9.951	10.95	227.30	0.650	0.000	5.00	18.067	11.74	128.5	0.0	857.1
65.00		1.00	1.16	10.120	11.13	221.51	0.650	0.000	5.00	17.468	11.35	126.4	0.0	828.5
70.00		1.00	1.17	10.279	11.31	215.47	0.650	0.000	5.00	16.870	10.97	124.0	0.0	799.8
75.00		1.00	1.19	10.430	11.47	209.20	0.650	0.000	5.00	16.272	10.58	121.3	0.0	771.2
80.00	Appurtenance(s)	1.00	1.21	10.572	11.63	202.74	0.650	0.000	5.00	15.674	10.19	118.5	0.0	742.6
85.00		1.00	1.22	10.708	11.78	196.10	0.650	0.000	5.00	15.076	9.80	115.4	0.0	713.9
90.00		1.00	1.24	10.838	11.92	189.30	0.650	0.000	5.00	14.477	9.41	112.2	0.0	685.3
95.00		1.00	1.25	10.962	12.06	182.34	0.650	0.000	5.00	13.879	9.02	108.8	0.0	656.7
97.00	Bot - Section 3	1.00	1.26	11.010	12.11	179.52	0.650	0.000	2.00	5.384	3.50	42.4	0.0	254.7
100.00		1.00	1.27	11.081	12.19	175.26	0.650	0.000	3.00	8.055	5.24	63.8	0.0	691.5
101.00	Top - Section 2	1.00	1.27	11.104	12.21	173.82	0.650	0.000	1.00	2.637	1.71	20.9	0.0	226.3
105.00		1.00	1.28	11.195	12.31	171.63	0.650	0.000	4.00	10.310	6.70	82.5	0.0	407.0
110.00	Appurtenance(s)	1.00	1.29	11.305	12.44	164.31	0.650	0.000	5.00	12.349	8.03	99.8	0.0	487.3
115.00		1.00	1.30	11.412	12.55	156.89	0.650	0.000	5.00	11.751	7.64	95.9	0.0	463.4
120.00		1.00	1.32	11.514	12.67	149.36	0.650	0.000	5.00	11.153	7.25	91.8	0.0	439.6
125.00		1.00	1.33	11.614	12.78	141.74	0.650	0.000	5.00	10.555	6.86	87.6	0.0	415.7
130.00	Appurtenance(s)	1.00	1.34	11.710	12.88	134.02	0.650	0.000	5.00	9.956	6.47	83.4	0.0	391.8
135.00		1.00	1.35	11.803	12.98	126.22	0.650	0.000	5.00	9.358	6.08	79.0	0.0	368.0
140.00	Appurtenance(s)	1.00	1.36	11.894	13.08	118.34	0.650	0.000	5.00	8.760	5.69	74.5	0.0	344.1
145.00		1.00	1.37	11.982	13.18	110.38	0.650	0.000	5.00	8.162	5.31	69.9	0.0	320.3
148.25	Bot - Section 4	1.00	1.37	12.038	13.24	105.17	0.650	0.000	3.25	4.984	3.24	42.9	0.0	195.4
149.00	Appurtenance(s)	1.00	1.38	12.051	13.26	103.96	0.650	0.000	0.75	1.138	0.74	9.8	0.0	70.6
150.00		1.00	1.38	12.068	13.27	102.35	0.650	0.000	1.00	1.497	0.97	12.9	0.0	92.8
150.50	Top - Section 3	1.00	1.38	12.077	13.28	101.54	0.650	0.000	0.50	0.739	0.48	6.4	0.0	45.8
155.00		1.00	1.39	12.152	13.37	96.49	0.650	0.000	4.50	6.385	4.15	55.5	0.0	151.1
159.00	Appurtenance(s)	1.00	1.40	12.217	13.44	89.96	0.650	0.000	4.00	5.269	3.42	46.0	0.0	124.6
Totals:								159.00			3,441.3	23,733.6		

Discrete Appurtenance Forces

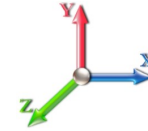
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	159.00	Low Profile Platform	1	12.217	13.439	1.00	1.00	35.00	1200.00	0.000	0.000	470.36	0.00	0.00
2	159.00	DC6-48-60-18-8F	1	12.265	13.492	1.00	1.00	0.92	31.80	0.000	3.000	12.41	0.00	37.24
3	159.00	RRUS-11	6	12.265	13.492	0.67	1.00	10.13	306.00	0.000	3.000	136.68	0.00	410.03
4	159.00	LGP21401	6	12.265	13.492	0.50	1.00	3.87	84.60	0.000	3.000	52.21	0.00	156.64
5	159.00	P65-16-XLH-RR	3	12.265	13.492	0.79	1.00	20.19	306.00	0.000	3.000	272.41	0.00	817.22
6	159.00	7770.00	3	12.265	13.492	0.77	1.00	13.31	231.00	0.000	3.000	179.51	0.00	538.54
7	159.00	DB404-B	1	12.265	13.492	1.00	1.00	0.00	14.00	0.000	3.000	0.00	0.00	0.00
8	149.00	Alcatel Lucent - 1900 MHz	3	12.085	13.294	0.54	0.80	6.11	132.00	0.000	2.000	81.23	0.00	162.46
9	149.00	Alcatel Lucent - 800 MHz	3	12.085	13.294	0.54	0.80	4.00	159.00	0.000	2.000	53.23	0.00	106.45
10	149.00	Alcatel Lucent - 800 MHz	3	12.085	13.294	0.54	0.80	1.25	26.40	0.000	2.000	16.67	0.00	33.35
11	149.00	RFS - APXVSPP18-C-A20	3	12.085	13.294	0.66	0.80	16.75	318.00	0.000	2.000	222.70	0.00	445.40
12	149.00	RFS - APXVTM14-C-I20	3	12.085	13.294	0.63	0.80	11.93	168.00	0.000	2.000	158.58	0.00	317.17
13	149.00	RFS - ACU-A20-N - RET	4	12.085	13.294	0.40	0.80	0.22	4.00	0.000	2.000	2.98	0.00	5.96
14	149.00	Low Profile Platform	1	12.051	13.256	1.00	1.00	35.00	1200.00	0.000	0.000	463.97	0.00	0.00
15	149.00	Alcatel Lucent -	3	12.085	13.294	0.54	0.80	6.51	210.00	0.000	2.000	86.57	0.00	173.15
16	140.00	Low Profile Platform w/	1	11.894	13.084	1.00	1.00	34.00	1600.00	0.000	0.000	444.84	0.00	0.00
17	140.00	Andrew - ATSBT-TOP-FM	3	11.894	13.084	0.50	0.75	0.30	5.40	0.000	0.000	3.94	0.00	0.00
18	140.00	RFS -	3	11.894	13.084	0.50	0.75	1.76	47.55	0.000	0.000	23.08	0.00	0.00
19	140.00	APX16DWV-16DWVS-E-	3	11.894	13.084	0.46	0.75	9.22	122.10	0.000	0.000	120.64	0.00	0.00
20	140.00	FR90-16-XXDP	6	11.894	13.084	0.51	0.75	13.34	108.00	0.000	0.000	174.56	0.00	0.00
21	140.00	APXVAA24_43-U-A20	3	11.894	13.084	0.55	0.75	33.24	304.20	0.000	0.000	434.95	0.00	0.00
22	130.00	RRH2X60-AWS	3	11.729	12.902	0.54	0.80	5.63	165.00	0.000	1.000	72.61	0.00	72.61
23	130.00	BXA-70063/6CF	3	11.729	12.902	0.60	0.80	14.33	198.00	0.000	1.000	184.83	0.00	184.83
24	130.00	LPA-80063/6CF	6	11.729	12.902	0.76	0.80	45.50	456.00	0.000	1.000	587.05	0.00	587.05
25	130.00	BXA-171063-12BF	3	11.729	12.902	0.70	0.80	10.80	192.00	0.000	1.000	139.31	0.00	139.31
26	130.00	FD9R6004/2C-3L -	6	11.729	12.902	0.40	0.80	0.86	18.60	0.000	1.000	11.15	0.00	11.15
27	130.00	DB-T1-6Z-8AB-0Z - Distri	1	11.729	12.902	0.57	0.80	2.73	18.90	0.000	1.000	35.18	0.00	35.18
28	130.00	Low Profile Platform	1	11.710	12.881	1.00	1.00	25.00	1200.00	0.000	0.000	322.03	0.00	0.00
29	130.00	742 213_2110_P45_02.0	3	11.729	12.902	0.58	0.80	5.44	49.50	0.000	1.000	70.23	0.00	70.23
30	110.00	SCL329-HL	1	11.423	12.565	1.00	1.00	2.22	10.40	0.000	5.550	27.90	0.00	154.82
31	110.00	4 ft Standoff	1	11.305	12.436	1.00	1.00	3.50	53.32	0.000	0.000	43.53	0.00	0.00
32	80.00	4 ft Standoff	1	10.572	11.629	1.00	1.00	3.50	53.32	0.000	0.000	40.70	0.00	0.00
33	80.00	SCL329-HL	1	10.723	11.795	1.00	1.00	2.22	10.40	0.000	5.550	26.18	0.00	145.32
34	47.00	4 ft Standoff	1	9.452	10.398	1.00	1.00	3.50	53.32	0.000	0.000	36.39	0.00	0.00
35	47.00	Decibel 26DB GPS	1	9.576	10.534	1.00	1.00	0.16	10.00	0.000	3.000	1.69	0.00	5.06
Totals:									9,066.81			5,010.28		

Total Applied Force Summary

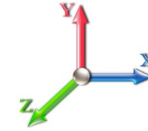
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		129.46	1367.63	0.00	0.00
10.00		126.27	1339.00	0.00	0.00
15.00		123.09	1310.37	0.00	0.00
20.00		127.23	1281.74	0.00	0.00
25.00		129.81	1253.11	0.00	0.00
30.00		131.21	1224.48	0.00	0.00
35.00		131.73	1195.85	0.00	0.00
40.00		131.58	1167.21	0.00	0.00
45.00		130.88	1138.58	0.00	0.00
47.00	(2) attachments	89.78	510.74	0.00	5.06
47.50		12.85	111.14	0.00	0.00
50.00		65.43	1005.00	0.00	0.00
53.25		84.65	1284.58	0.00	0.00
55.00		45.16	380.24	0.00	0.00
60.00		128.54	1067.08	0.00	0.00
65.00		126.40	1038.45	0.00	0.00
70.00		123.99	1009.82	0.00	0.00
75.00		121.34	981.19	0.00	0.00
80.00	(2) attachments	185.37	1016.28	0.00	145.32
85.00		115.42	921.33	0.00	0.00
90.00		112.18	892.70	0.00	0.00
95.00		108.78	864.07	0.00	0.00
97.00		42.38	337.61	0.00	0.00
100.00		63.82	815.96	0.00	0.00
101.00		20.94	267.79	0.00	0.00
105.00		82.53	572.90	0.00	0.00
110.00	(2) attachments	171.24	758.37	0.00	154.82
115.00		95.88	668.19	0.00	0.00
120.00		91.82	644.33	0.00	0.00
125.00		87.64	620.47	0.00	0.00
130.00	(26) attachments	1505.73	2894.61	0.00	1100.35
135.00		78.98	518.43	0.00	0.00
140.00	(19) attachments	1276.51	2668.25	0.00	0.00
145.00		69.92	377.94	0.00	0.00
148.25		42.90	232.87	0.00	0.00
149.00	(23) attachments	1095.74	2296.66	0.00	1243.92
150.00		12.91	104.34	0.00	0.00
150.50		6.38	51.60	0.00	0.00
155.00		55.47	187.73	0.00	0.00
159.00	(21) attachments	1169.60	2328.84	0.00	1959.67
	Totals:	8,451.57	38,707.45	0.00	4,609.14

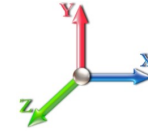
Linear Appurtenance Segment Forces (Factored)

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 34
	Struct Class: II	



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

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	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.030	0.000	7.442	0.00	2.60
5.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	7.442	0.00	2.60
5.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.030	0.000	7.442	0.00	0.80
10.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.031	0.000	7.442	0.00	2.60
10.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.031	0.000	7.442	0.00	2.60
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.031	0.000	7.442	0.00	0.80
15.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.032	0.000	7.442	0.00	2.60
15.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.032	0.000	7.442	0.00	2.60
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.032	0.000	7.442	0.00	0.80
20.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	7.896	0.00	2.60
20.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	7.896	0.00	2.60
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.033	0.000	7.896	0.00	0.80
25.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	8.276	0.00	2.60
25.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.033	0.000	8.276	0.00	2.60
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.033	0.000	8.276	0.00	0.80
30.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.034	0.000	8.600	0.00	2.60
30.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.034	0.000	8.600	0.00	2.60
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.034	0.000	8.600	0.00	0.80
35.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.035	0.000	8.883	0.00	2.60
35.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.035	0.000	8.883	0.00	2.60
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.035	0.000	8.883	0.00	0.80
40.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.036	0.000	9.137	0.00	2.60
40.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.036	0.000	9.137	0.00	2.60
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.036	0.000	9.137	0.00	0.80
45.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.038	0.000	9.366	0.00	2.60
45.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.038	0.000	9.366	0.00	2.60
45.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.038	0.000	9.366	0.00	0.80
47.00	7/8" Coax	Yes	2.00	0.000	1.11	0.19	0.00	0.038	0.000	9.452	0.00	1.04
47.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.038	0.000	9.452	0.00	1.04
47.00	1/2" Coax	Yes	2.00	0.000	0.65	0.11	0.00	0.038	0.000	9.452	0.00	0.32
47.50	7/8" Coax	Yes	0.50	0.000	1.11	0.05	0.00	0.039	0.000	9.473	0.00	0.26
47.50	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.039	0.000	9.473	0.00	0.26
47.50	1/2" Coax	Yes	0.50	0.000	0.65	0.03	0.00	0.039	0.000	9.473	0.00	0.08
50.00	7/8" Coax	Yes	2.50	0.000	1.11	0.23	0.00	0.039	0.000	9.576	0.00	1.30
50.00	7/8" Coax	Yes	2.50	0.000	0.00	0.00	0.00	0.039	0.000	9.576	0.00	1.30
50.00	1/2" Coax	Yes	2.50	0.000	0.65	0.14	0.00	0.039	0.000	9.576	0.00	0.40
53.25	7/8" Coax	Yes	3.25	0.000	1.11	0.30	0.00	0.025	0.000	9.704	0.00	1.69
53.25	7/8" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.025	0.000	9.704	0.00	1.69
55.00	7/8" Coax	Yes	1.75	0.000	1.11	0.16	0.00	0.025	0.000	9.770	0.00	0.91
55.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.025	0.000	9.770	0.00	0.91
60.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.026	0.000	9.951	0.00	2.60
60.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	9.951	0.00	2.60
65.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.026	0.000	10.120	0.00	2.60
65.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.026	0.000	10.120	0.00	2.60
70.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.027	0.000	10.279	0.00	2.60
70.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.027	0.000	10.279	0.00	2.60
75.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.028	0.000	10.430	0.00	2.60

Linear Appurtenance Segment Forces (Factored)

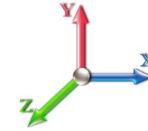
Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

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)
75.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.028	0.000	10.430	0.00	2.60
80.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.030	0.000	10.572	0.00	2.60
80.00	7/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.030	0.000	10.572	0.00	2.60
85.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.031	0.000	10.708	0.00	2.60
90.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.032	0.000	10.838	0.00	2.60
95.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.033	0.000	10.962	0.00	2.60
97.00	7/8" Coax	Yes	2.00	0.000	1.11	0.19	0.00	0.034	0.000	11.010	0.00	1.04
100.00	7/8" Coax	Yes	3.00	0.000	1.11	0.28	0.00	0.035	0.000	11.081	0.00	1.56
101.00	7/8" Coax	Yes	1.00	0.000	1.11	0.09	0.00	0.036	0.000	11.104	0.00	0.52
105.00	7/8" Coax	Yes	4.00	0.000	1.11	0.37	0.00	0.036	0.000	11.195	0.00	2.08
110.00	7/8" Coax	Yes	5.00	0.000	1.11	0.46	0.00	0.037	0.000	11.305	0.00	2.60
Totals:											0.0	106.8

Calculated Forces

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

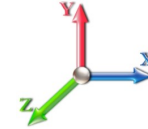


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

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	-38.70	-8.47	0.00	-1001.8	0.00	1001.85	4390.37	2195.18	10447.7	5231.64	0.00	0.000	0.000	0.200
5.00	-37.33	-8.37	0.00	-959.51	0.00	959.51	4330.30	2165.15	10051.2	5033.11	0.03	-0.048	0.000	0.199
10.00	-35.98	-8.27	0.00	-917.67	0.00	917.67	4267.86	2133.93	9656.46	4835.41	0.10	-0.097	0.000	0.198
15.00	-34.67	-8.18	0.00	-876.30	0.00	876.30	4203.05	2101.52	9263.74	4638.76	0.23	-0.148	0.000	0.197
20.00	-33.38	-8.08	0.00	-835.41	0.00	835.41	4135.87	2067.94	8873.53	4443.36	0.42	-0.201	0.000	0.196
25.00	-32.12	-7.97	0.00	-795.02	0.00	795.02	4066.33	2033.16	8486.25	4249.43	0.66	-0.255	0.000	0.195
30.00	-30.88	-7.87	0.00	-755.15	0.00	755.15	3994.42	1997.21	8102.30	4057.17	0.95	-0.311	0.000	0.194
35.00	-29.68	-7.76	0.00	-715.81	0.00	715.81	3920.13	1960.07	7722.12	3866.80	1.31	-0.369	0.000	0.193
40.00	-28.51	-7.65	0.00	-677.02	0.00	677.02	3843.48	1921.74	7346.10	3678.51	1.73	-0.429	0.000	0.191
45.00	-27.36	-7.53	0.00	-638.77	0.00	638.77	3764.47	1882.23	6974.67	3492.52	2.21	-0.491	0.000	0.190
47.00	-26.85	-7.44	0.00	-623.70	0.00	623.70	3732.20	1866.10	6827.48	3418.81	2.42	-0.517	0.000	0.190
47.50	-26.74	-7.44	0.00	-619.98	0.00	619.98	3724.07	1862.03	6790.81	3400.45	2.48	-0.523	0.000	0.190
50.00	-25.73	-7.38	0.00	-601.38	0.00	601.38	3683.08	1841.54	6608.25	3309.03	2.76	-0.556	0.000	0.189
53.25	-24.44	-7.30	0.00	-577.39	0.00	577.39	3673.19	1836.60	6564.80	3287.28	3.15	-0.600	0.000	0.182
55.00	-24.06	-7.27	0.00	-564.62	0.00	564.62	3644.05	1822.03	6438.04	3223.81	3.38	-0.624	0.000	0.182
60.00	-22.98	-7.15	0.00	-528.28	0.00	528.28	3559.18	1779.59	6079.73	3044.38	4.07	-0.689	0.000	0.180
65.00	-21.94	-7.04	0.00	-492.51	0.00	492.51	3471.95	1735.97	5727.45	2867.98	4.82	-0.756	0.000	0.178
70.00	-20.92	-6.93	0.00	-457.31	0.00	457.31	3382.35	1691.17	5381.61	2694.80	5.65	-0.825	0.000	0.176
75.00	-19.93	-6.82	0.00	-422.67	0.00	422.67	3290.37	1645.19	5042.64	2525.07	6.56	-0.896	0.000	0.173
80.00	-18.91	-6.64	0.00	-388.44	0.00	388.44	3180.13	1590.07	4687.51	2347.24	7.53	-0.970	0.000	0.171
85.00	-17.98	-6.53	0.00	-355.24	0.00	355.24	3055.11	1527.56	4324.37	2165.40	8.59	-1.045	0.000	0.170
90.00	-17.08	-6.43	0.00	-322.58	0.00	322.58	2930.09	1465.05	3975.87	1990.89	9.73	-1.123	0.000	0.168
95.00	-16.22	-6.32	0.00	-290.44	0.00	290.44	2805.07	1402.54	3642.00	1823.71	10.95	-1.203	0.000	0.165
97.00	-15.87	-6.28	0.00	-277.81	0.00	277.81	2755.06	1377.53	3512.56	1758.89	11.46	-1.237	0.000	0.164
100.00	-15.06	-6.21	0.00	-258.97	0.00	258.97	2680.05	1340.03	3322.78	1663.86	12.25	-1.287	0.000	0.161
101.00	-14.78	-6.19	0.00	-252.77	0.00	252.77	2260.99	1130.50	2846.84	1425.54	12.52	-1.304	0.000	0.184
105.00	-14.21	-6.11	0.00	-228.01	0.00	228.01	2179.85	1089.93	2642.58	1323.26	13.64	-1.371	0.000	0.179
110.00	-13.44	-5.95	0.00	-197.28	0.00	197.28	2075.67	1037.84	2394.76	1199.16	15.13	-1.465	0.000	0.171
115.00	-12.77	-5.85	0.00	-167.55	0.00	167.55	1971.49	985.74	2159.14	1081.18	16.71	-1.557	0.000	0.161
120.00	-12.12	-5.76	0.00	-138.29	0.00	138.29	1867.30	933.65	1935.73	969.30	18.40	-1.648	0.000	0.149
125.00	-11.49	-5.67	0.00	-109.48	0.00	109.48	1763.12	881.56	1724.51	863.54	20.17	-1.734	0.000	0.133
130.00	-8.64	-4.09	0.00	-80.02	0.00	80.02	1658.94	829.47	1525.49	763.88	22.03	-1.813	0.000	0.110
135.00	-8.12	-4.00	0.00	-59.57	0.00	59.57	1554.75	777.38	1338.67	670.33	23.97	-1.883	0.000	0.094
140.00	-5.49	-2.64	0.00	-39.56	0.00	39.56	1450.57	725.28	1164.05	582.89	25.97	-1.943	0.000	0.072
145.00	-5.12	-2.56	0.00	-26.34	0.00	26.34	1346.38	673.19	1001.64	501.56	28.03	-1.992	0.000	0.056
148.25	-4.88	-2.51	0.00	-18.01	0.00	18.01	1278.66	639.33	902.61	451.97	29.40	-2.019	0.000	0.044
149.00	-2.63	-1.34	0.00	-14.88	0.00	14.88	1263.04	631.52	880.49	440.90	29.72	-2.024	0.000	0.036
150.00	-2.52	-1.32	0.00	-13.54	0.00	13.54	1242.20	621.10	851.42	426.34	30.14	-2.031	0.000	0.034
150.50	-2.47	-1.31	0.00	-12.88	0.00	12.88	761.18	380.59	536.85	268.82	30.35	-2.034	0.000	0.051
155.00	-2.29	-1.25	0.00	-6.97	0.00	6.97	704.92	352.46	460.03	230.36	32.28	-2.055	0.000	0.034
159.00	0.00	-1.17	0.00	-1.96	0.00	1.96	654.91	327.45	396.72	198.65	34.01	-2.072	0.000	0.010

Final Analysis Summary

Structure: CT13055-A-SBA	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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	32.6	0.00	46.39	0.00	0.00	3874.28
0.9D + 1.6W 93 mph Wind	32.5	0.00	34.78	0.00	0.00	3827.27
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.2	0.00	72.70	0.00	0.00	1204.62
1.2D + 1.0E	2.1	0.00	46.45	0.00	0.00	258.17
0.9D + 1.0E	2.1	0.00	34.84	0.00	0.00	254.79
1.0D + 1.0W 60 mph Wind	8.5	0.00	38.70	0.00	0.00	1001.85

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	-46.39	-32.56	0.00	-3874.2	0.00	-3874.2	4390.37	2195.1	10447.7	5231.64	0.00	0.751
0.9D + 1.6W 93 mph Wind	-34.78	-32.54	0.00	-3827.2	0.00	-3827.2	4390.37	2195.1	10447.7	5231.64	0.00	0.740
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-72.70	-10.16	0.00	-1204.6	0.00	-1204.6	4390.37	2195.1	10447.7	5231.64	0.00	0.247
1.2D + 1.0E	-17.90	-1.59	0.00	-78.93	0.00	-78.93	2260.99	1130.5	2846.84	1425.54	101.00	0.063
0.9D + 1.0E	-13.42	-1.56	0.00	-77.49	0.00	-77.49	2260.99	1130.5	2846.84	1425.54	101.00	0.060
1.0D + 1.0W 60 mph Wind	-38.70	-8.47	0.00	-1001.8	0.00	-1001.8	4390.37	2195.1	10447.7	5231.64	0.00	0.200

Base Plate Summary

Structure: CT13055-A-SB	Code: EIA/TIA-222-G	2/1/2018
Site Name: Monroe Turnpike	Exposure: C	
Height: 159.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 65.00
Moment (kip-ft): 3665.00	Width (in): 71.00	Number Bolts: 14.00
Axial (kip): 41.45	Style: Round	Bolt Type: 2.25" 18J
Shear (kip): 31.29	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 3874.28	Effective Len (in): 17.18	Ultimate (ksi): 100.00
Axial (kip): 72.70	Moment (kip-in): 711.42	Arrangement: Radial
Shear (kip): 32.56	Allow Stress (ksi): 81.00	Cluster Dist (in): 0.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 0.00
Moment Design %: 105.71	Stress Ratio: 0.61	Compression
		Force (kip): 209.55
		Allowable (kip): 260.00
		Ratio: 0.82
		Tension
		Force (kip): 199.16
		Allowable (kip): 260.00
		Ratio: 0.78



Monopole Mat Foundation Design

Date

2/1/2018

Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	159
Site Number:	CT13055-A-SBA	Engineer Name:	D. Zhou
Engr. Number:	46909	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	46.4	Shear Force (Kips):	32.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3874.3

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	25.5	Width of Pad (ft.):	25.5
Final Length of pad (ft)	25.5	Final width of pad (ft):	25.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0

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:	32	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
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):	41	Qty. of Rebar in Pad (W):	41	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	41	Qty. of Rebar in Pad (W):	41	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

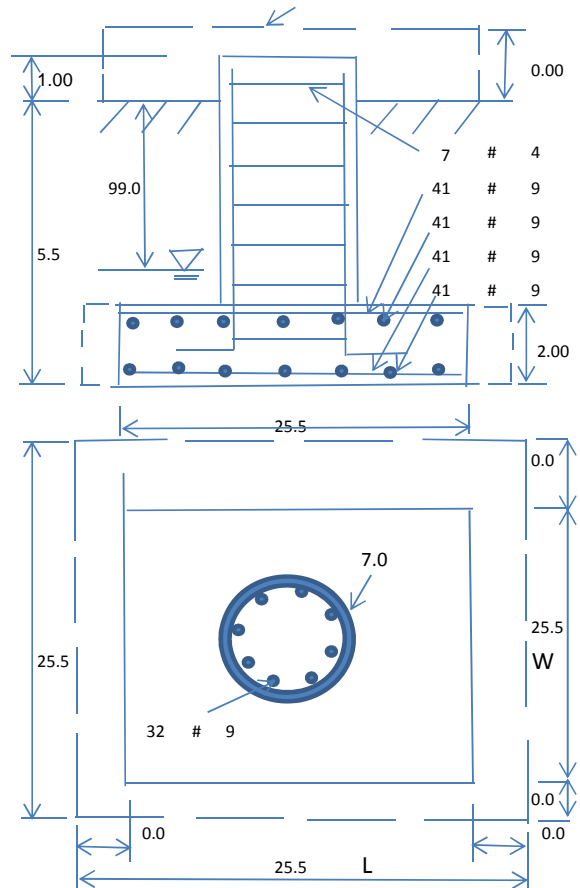
Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:		Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	2141.18	Total Dry Soil Weight (Kips):	246.24
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	246.24	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1473.68	Total Dry Concrete Weight (Kips):	221.05
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	221.05	Total Vertical Load on Base (Kips):	513.68

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2738	<	Allowable Factored Soil Bearing (psf):	9000	0.30	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5953.6	>	Design Factored Momont (kips-ft):	4086	0.69	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.46					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		

(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):	5377.0	> Design Factored Moment (Mu, Kips-Ft)	4021.0	0.75	OK!
Calculated Shear Capacity (Kips):	660.1	> Design Factored Shear (Kips):	32.6	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	1728.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9741.3	> Design Factored Axial Load (Pu Kips):	46.4	0.00	OK!
Moment & Axial Strength Combination:	0.75	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.006	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	593.3	> One-Way Factored Shear (L-D. Kips):	260.4	0.44	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	593.3	> One-Way Factored Shear (W-D., Kips):	260.4	0.44	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	676.2	> One-Way Factored Shear (C-C, Kips):	271.0	0.40	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0066	OK! Lower Steel Pad Reinf. Ratio (W-Direct.):	0.0066		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3552.6	> Moment at Bottom (L-Direct. K-Ft):	982.6	0.28	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3552.6	> Moment at Bottom (W-Direct. K-Ft):	982.6	0.28	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4949.8	> Moment at Bottom (C-C Dir. K-Ft):	1389.7	0.28	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0066	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0066		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3552.6	> Moment at the top (L-Dir Kips-Ft):	233.1	0.07	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3552.6	> Moment at the top (W-Dir Kips-Ft):	233.1	0.07	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4949.8	> Moment at the top (C-C Direc. K-Ft):	493.1	0.10	OK!

Michael F. Plahovinsak
 Digitally signed by Michael F. Plahovinsak
 Date: 2018.01.08 18:36:05 -05'00'

SITE NAME:
 CT11838A/CT838/MARION HEIGHT CAT
 1428 MONROE TURNPIKE
 MONROE, CT 06468

SITE NUMBER:
 CT11838A

DESIGN GUIDELINE: T-MOBILE L700
 SITE CONFIGURATION: 704G



T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002



SBA COMMUNICATIONS CORP.
 134 FLANDERS RD, SUITE 125
 WESTBOROUGH, MA 01581



1825 W. WALNUT HILL LANE, SUITE 302
 IRVING, TEXAS 75038
 1-855-669-5421



MICHAEL F. PLAHOVINSAK, P.E. #25849
 Sole Proprietor - Independent Engineer
 18301 S.R. 161, Plain City, OH 43064
 614-398-6250 / mlk@mtpeeng.com

DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY.

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	01/08/18	ISSUE FOR CONSTRUCTION	GRN

SITE INFORMATION

SITE NAME:
 CT11838A/CT838/MARION HEIGHT CAT
 SITE NUMBER:
 CT11838A
 SITE ADDRESS:
 1428 MONROE TURNPIKE
 MONROE, CT 06468

SHEET DESCRIPTION

TITLE SHEET

SHEET No.

T-1

GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE NORTHEAST, LLC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE NORTHEAST, LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SPECIAL STRUCTURAL NOTES

- TOWER OWNER SHALL PROVIDE GLOBAL STRUCTURAL STABILITY ANALYSIS OF EXISTING ANTENNA SUPPORT STRUCTURE. GENERAL CONTRACTOR SCOPE OF WORK SHALL INCLUDE ALL REQUIRED STRUCTURAL MODIFICATIONS, RE-BUNDLING OF COAXIAL CABLES OR OTHER SPECIAL MODIFICATIONS AS OUTLINED THEREIN.
- TRYLON TSF INC. ASSUMES THAT THE TOWER IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTION ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES.

BUILDING CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL AUTHORITIES HAVING JURISDICTION.

- 2016 CONNECTICUT BUILDING CODE
- 2014 NATIONAL ELECTRICAL CODE

VICINITY MAP



APPROVALS

PROJECT MANAGER	DATE	ZONING/SITE AQC.	DATE
CONSTRUCTION	DATE	OPERATIONS	DATE
RF ENGINEERING	DATE	TOWER OWNER	DATE

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS	CAUTION: OSHA-APPROVED PORTABLE 8' STEP-LADDER REQUIRED
SECTOR A:	ACCESS NOT PERMITTED	**LOW VOLTAGE, 24" NEC WORKSPACE MINIMUM, 36" OSHA ACCESS/EGRESS MINIMUM
SECTOR B:	ACCESS NOT PERMITTED	
SECTOR C:	ACCESS NOT PERMITTED	DIG SAFE SYSTEM (MA, ME, NH, RI, VT): 1-888-344-7233
GPS/LMU:	UNRESTRICTED*	
RRU/DIPLEXERS:	UNRESTRICTED**	CALL BEFORE YOU DIG (CT): 1-800-922-4455 (NJ): 1-800-272-1000 (NY): 1-800-962-7962
RADIO CABINETS:	UNRESTRICTED	
PPC DISCONNECT:	UNRESTRICTED	
MAIN CIRCUIT D/C:	UNRESTRICTED	
NIU/T DEMARC:	UNRESTRICTED	
OTHER/SPECIAL:	NONE	

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY T-MOBILE EQUIPMENT MODERNIZATION.

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

SITE ADDRESS: 1428 MONROE TURNPIKE
 MONROE, CT 06468

LATITUDE: 41.37639025
 LONGITUDE: -73.18638610

JURISDICTION: CITY OF MONROE

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

TOWER OWNER: SBA MONARCH TOWERS III, LLC

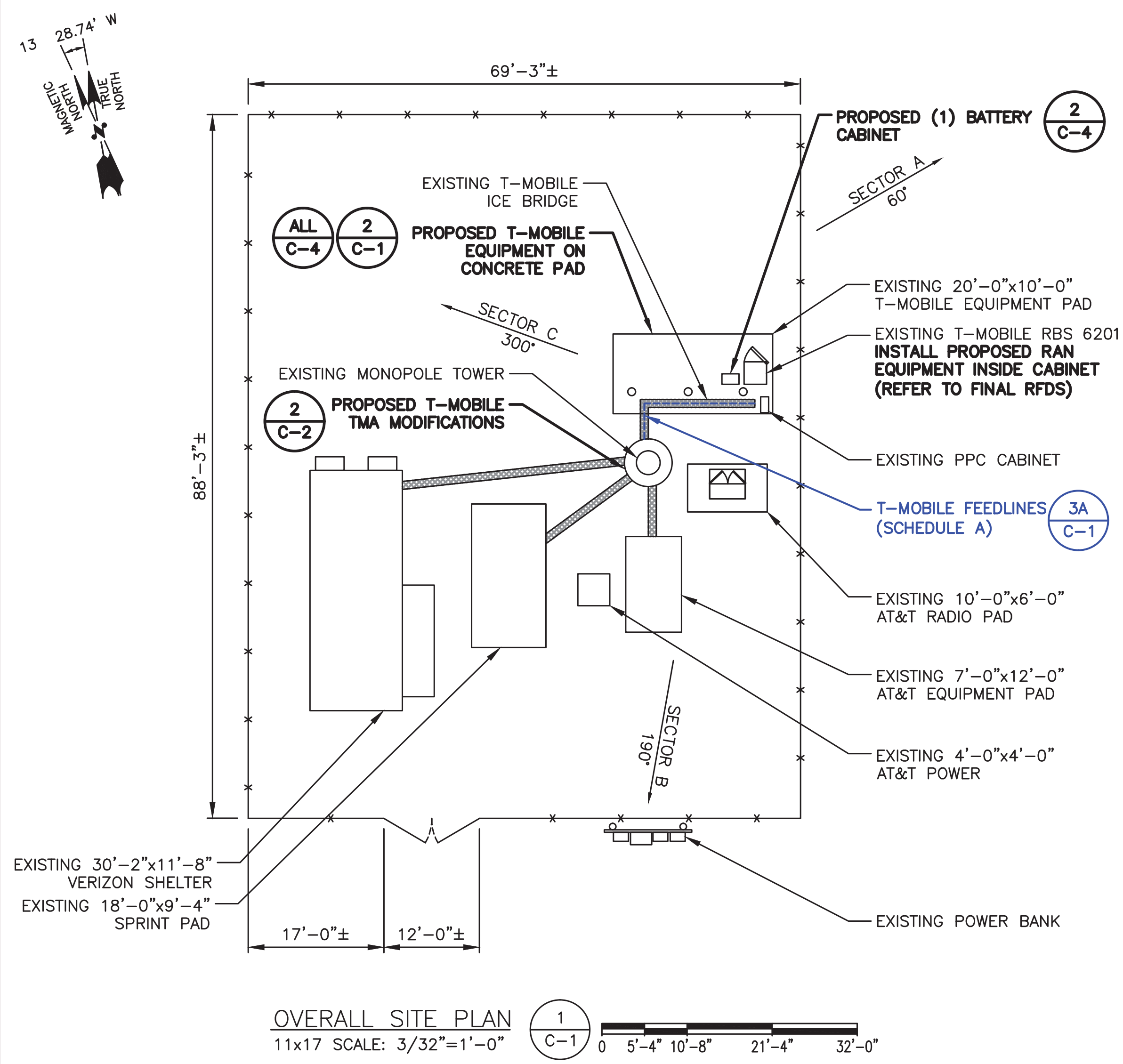
SBA SITE ID: CT13055-A

SBA SITE NAME: MONROE TURNPIKE

SBA REGIONAL SITE MANAGER: STEPHEN ROTH
 (860) 539-4920; sroth@sbsite.com

SHEET INDEX

SHEET #	DESCRIPTION	REVISION #
T-1	TITLE SHEET	0
C-1	COMPOUND AND ELEVATION PLAN	0
C-2	EXISTING AND PROPOSED ANTENNA PLAN	0
C-3	DETAILS	0
C-4	DETAILS	0
E-1	GROUNDING DETAILS AND NOTES	0



SPECIAL PRE-CONSTRUCTION WORK NOTE:
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.

ANTENNA MOUNT STRUCTURAL DESIGN NOTE:
ENGINEER-OF-RECORD HAS MADE A VISUAL ASSESSMENT ONLY OF EXISTING ANTENNA MOUNT ASSEMBLIES, WITHOUT THE BENEFIT OF A RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS, AND RECOMMENDS THAT EXISTING AND PROPOSED TOWER TOP EQUIPMENT BE INSTALLED AS DEPICTED HEREIN. STRUCTURAL DETAILS AS DEPICTED HEREIN FOR MODIFICATION OF EXISTING ANTENNA MOUNT ASSEMBLIES ARE PRELIMINARY ONLY AND THAT FINAL CONSTRUCTION DETAILS MAY BE SUBJECT TO CHANGE PENDING THE COMPLETION OF A SEPARATE SUPPLEMENTAL ANTENNA MOUNT STRUCTURAL ASSESSMENT, SUPPLEMENTAL STRUCTURAL MAPPING/CONDITIONS ASSESSMENT REPORT AND/OR SUPPLEMENTAL RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS.

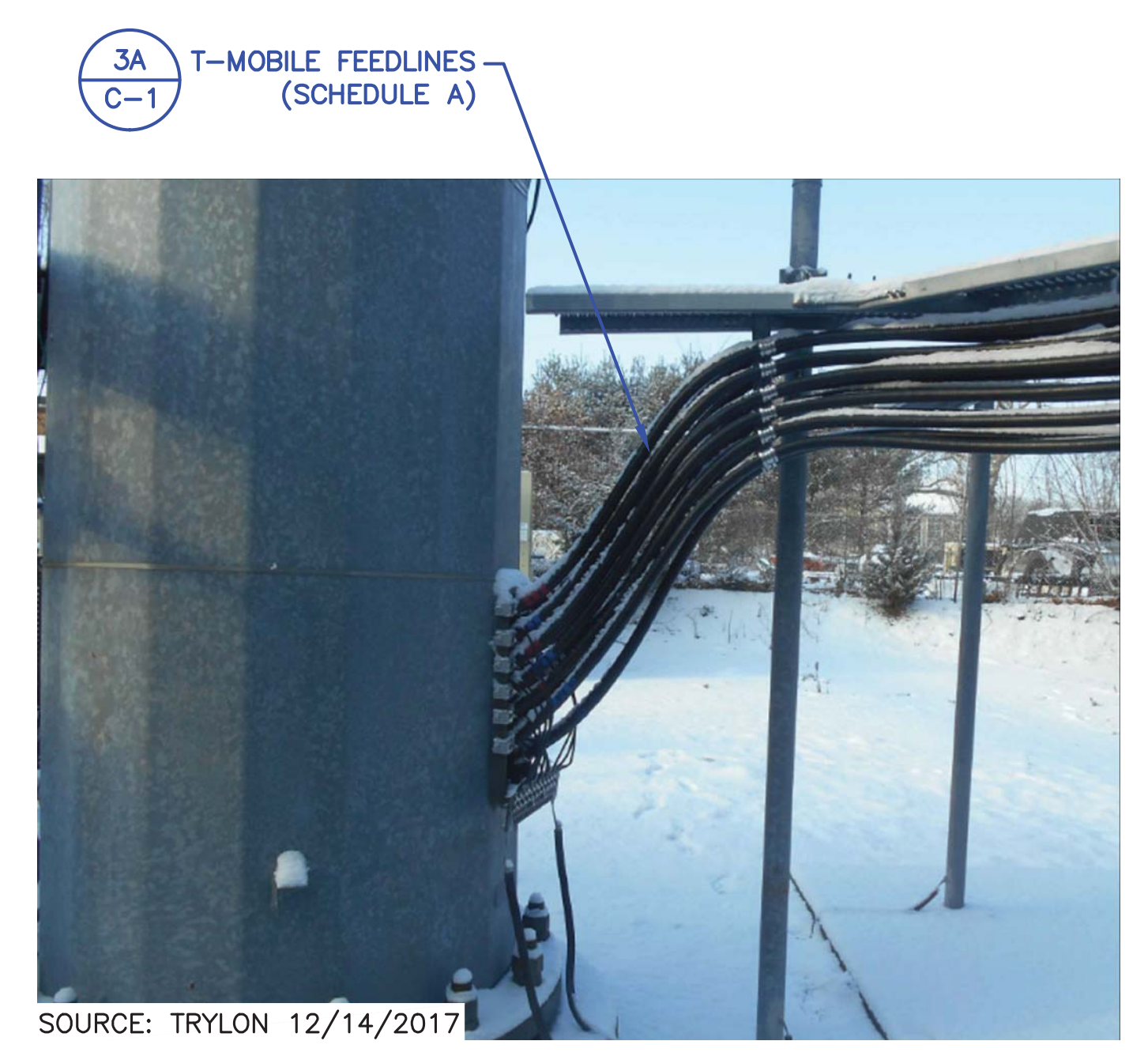
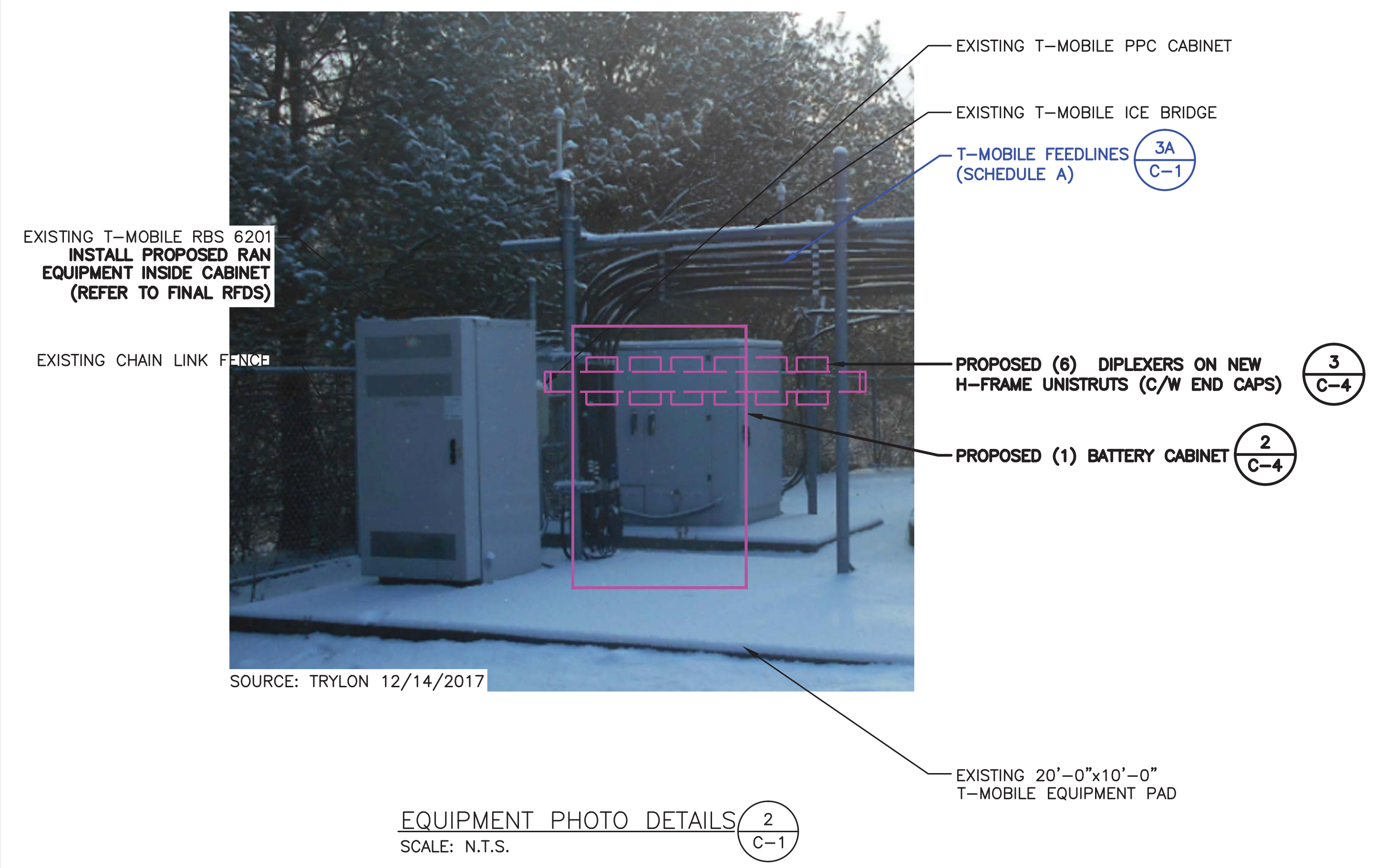
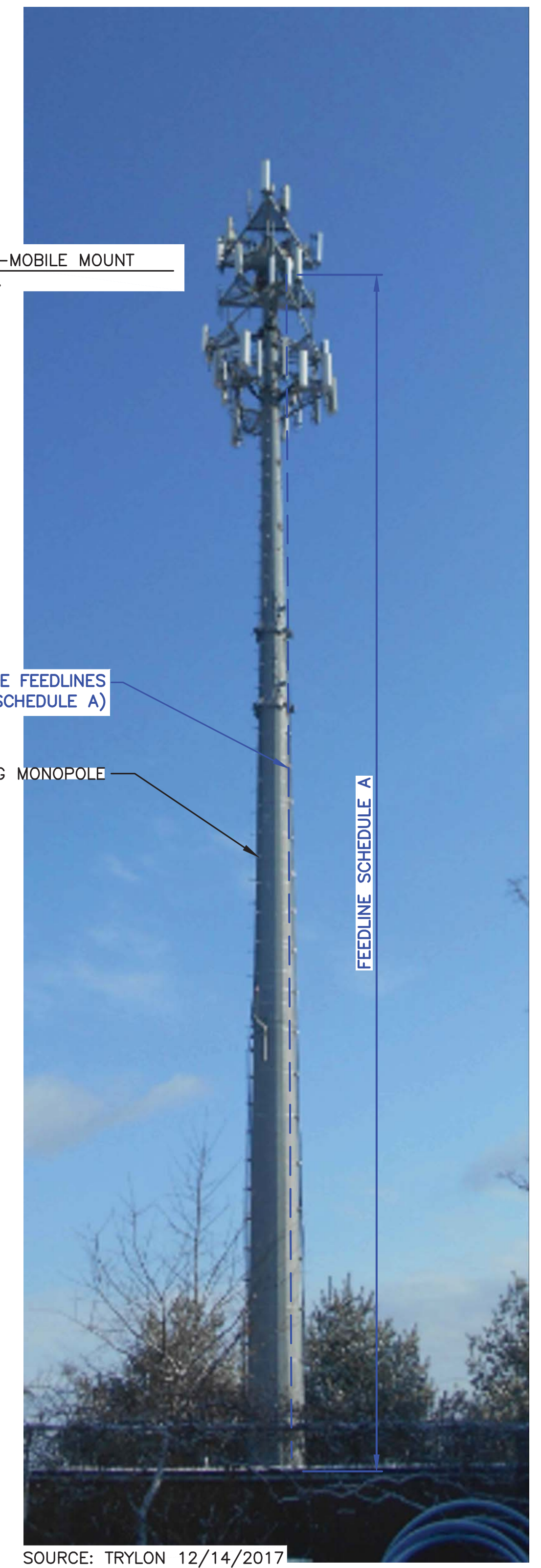
FEEDLINES		
FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	(12) EXISTING ACTIVE 1-1/4" COAX TO REMAIN	ROUTED WITH HANGERS UNDER ICE BRIDGE AND INSIDE MONOPOLE

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

FEEDLINE SCHEDULE (3A) C-1
SCALE: N.T.S.

☉ OF EXISTING T-MOBILE MOUNT
ELEV.=140'±A.G.L.

(2) C-2, (ALL) C-3



T-Mobile

T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS RD, SUITE 125
WESTBOROUGH, MA 01581

Trylon

1825 W. WALNUT HILL LANE, SUITE 302
IRVING, TEXAS 75038
1-855-669-5421

STATE OF CONNECTICUT
MICHAEL F. FLADOVINSKAR, P.E. #25849
Professional Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mikeemfeng.com

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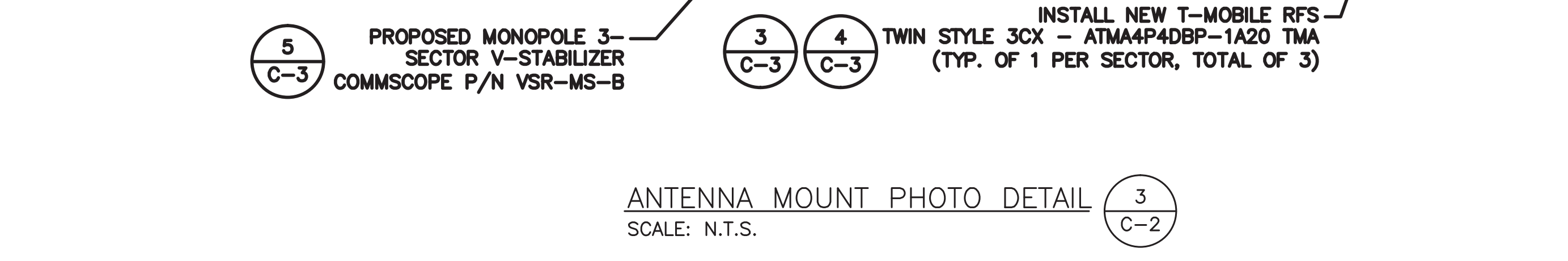
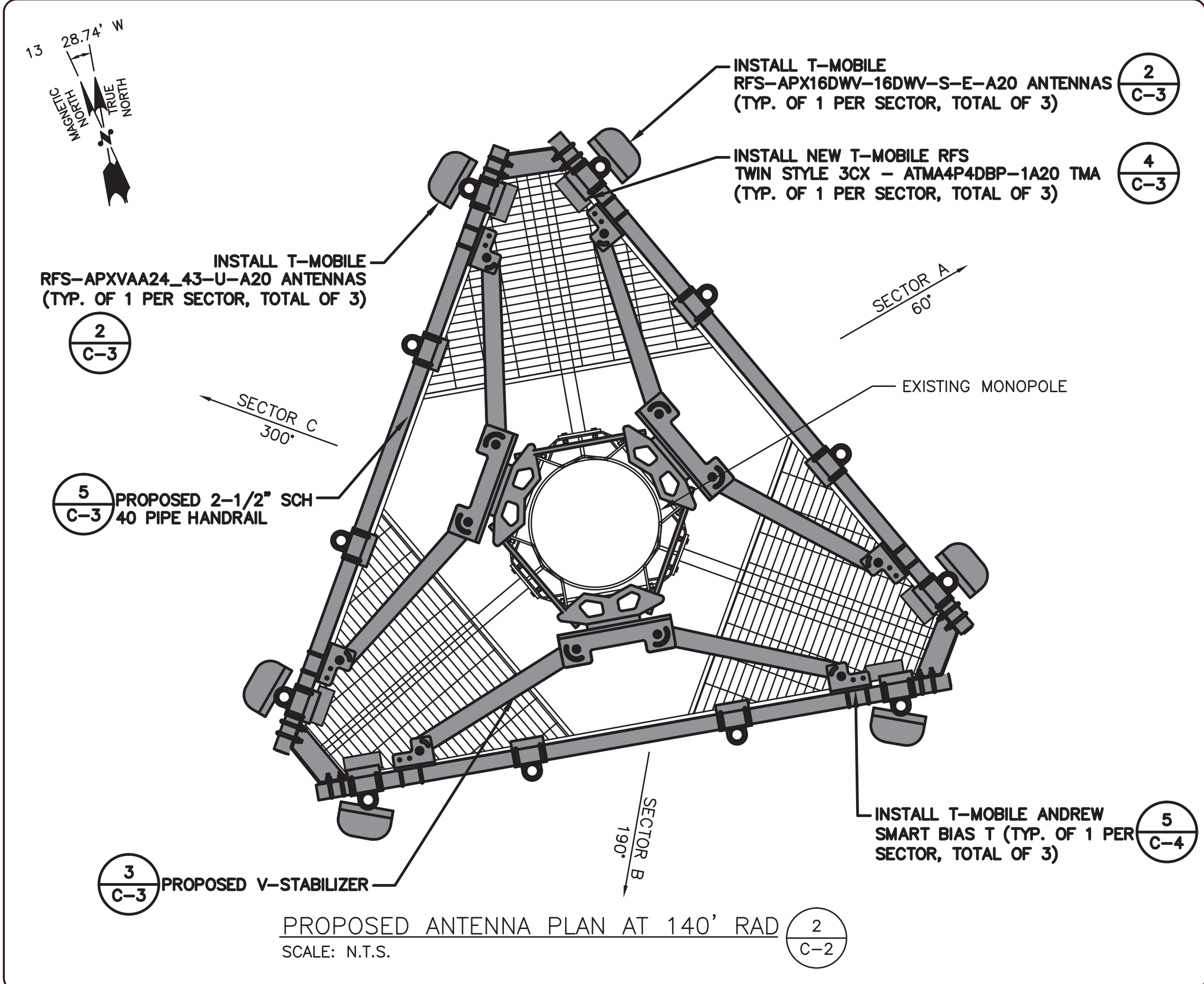
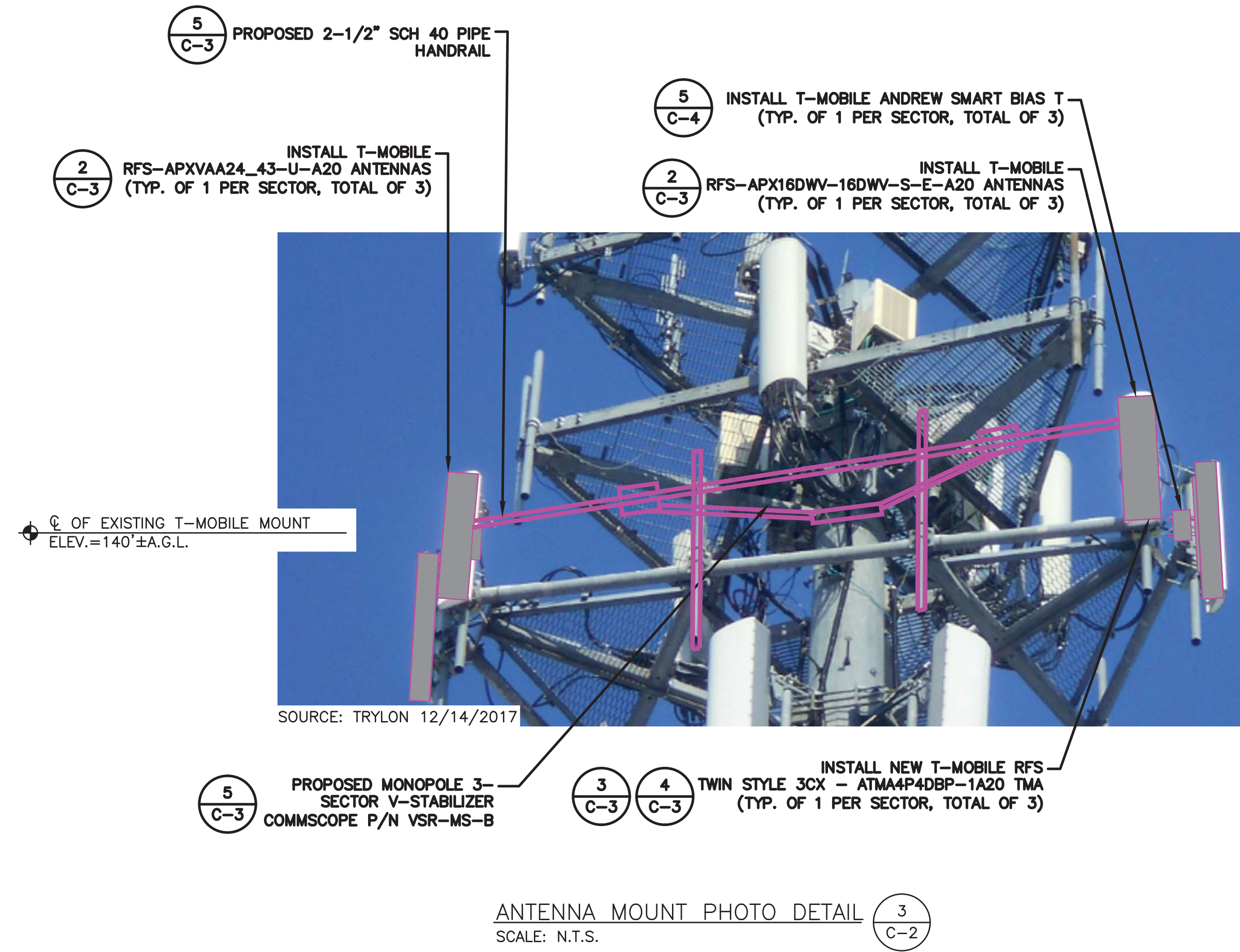
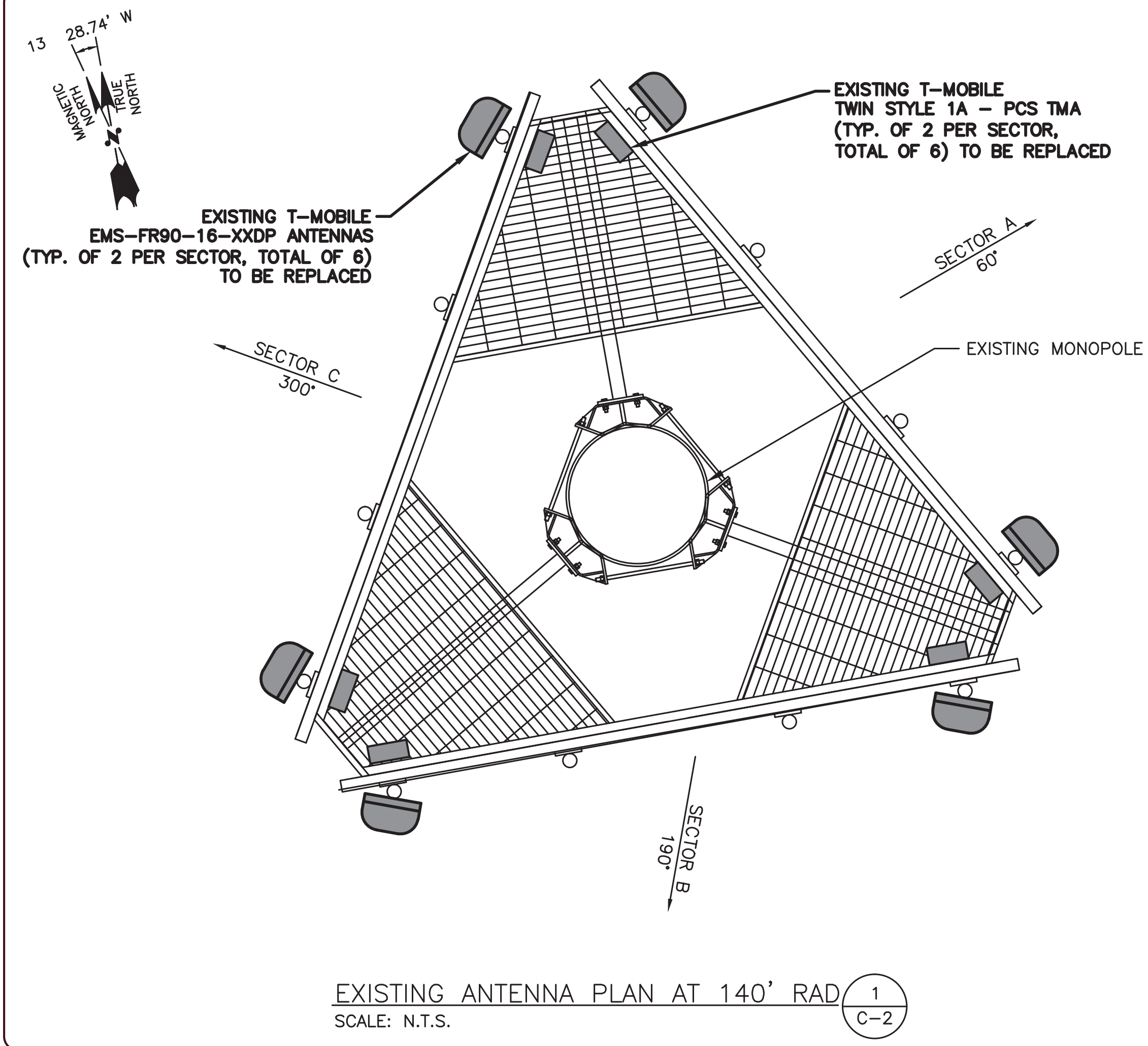
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CT11838A/CT838/MARION HEIGHT CAT
SITE NUMBER:
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1428 MONROE TURNPIKE
MONROE, CT 06468

SHEET DESCRIPTION

COMPOUND AND ELEVATION PLAN

SHEET No.

C-1



ANTENNA MOUNT STRUCTURAL DESIGN NOTE:
ENGINEER-OF-RECORD HAS MADE A VISUAL ASSESSMENT ONLY OF EXISTING ANTENNA MOUNT ASSEMBLIES, WITHOUT THE BENEFIT OF A RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS, AND RECOMMENDS THAT EXISTING AND PROPOSED TOWER TOP EQUIPMENT BE INSTALLED AS DEPICTED HEREIN. STRUCTURAL DETAILS AS DEPICTED HEREIN FOR MODIFICATION OF EXISTING ANTENNA MOUNT ASSEMBLIES ARE PRELIMINARY ONLY AND THAT FINAL CONSTRUCTION DETAILS MAY BE SUBJECT TO CHANGE PENDING THE COMPLETION OF A SEPARATE SUPPLEMENTAL ANTENNA MOUNT STRUCTURAL ASSESSMENT, SUPPLEMENTAL STRUCTURAL MAPPING/CONDITIONS ASSESSMENT REPORT AND/OR SUPPLEMENTAL RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS.

NOTE:
AT TIME OF CONSTRUCTION, CONTRACTOR TO VERIFY AZIMUTHS OF EXISTING ANTENNAS. IF DIFFERENT FROM RFDS, PLEASE NOTIFY THE RF ENGINEER AND CONSTRUCTION MANAGER WITH ACTUAL AZIMUTH TO ENSURE T-MOBILE'S DATABASE IS ACCURATE AND UP-TO-DATE.

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

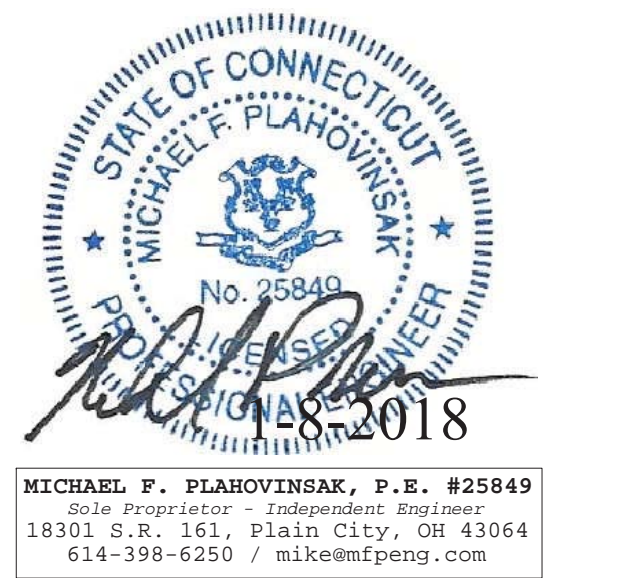
SPECIAL INSTALLATION NOTE:
INSTALL PROPOSED V-STABILIZER COLAR CLAMP BETWEEN LADDER PEGS.

SPECIAL INSTALLATION NOTE:
LOCATE PROPOSED HANDRAIL KIT MIN 24" ABOVE PLATFORM HORIZONTAL FACE FRAME OR AT THE TOP OF ANTENNA PIPE MASTS, WHICHEVER IS GREATER.

T-Mobile
T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS RD, SUITE 125
WESTBOROUGH, MA 01581

Trylon
1825 W. WALNUT HILL LANE, SUITE 302
IRVING, TEXAS 75038
1-855-669-5421



DRAWING SCALES ARE INTENDED FOR 11"x17" SIZE PRINTED MEDIA ONLY.

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
0	01/08/18	ISSUE FOR CONSTRUCTION	GRN

SITE INFORMATION

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CT11838A/CT838/MARION
HEIGHT CAT
SITE NUMBER:
CT11838A

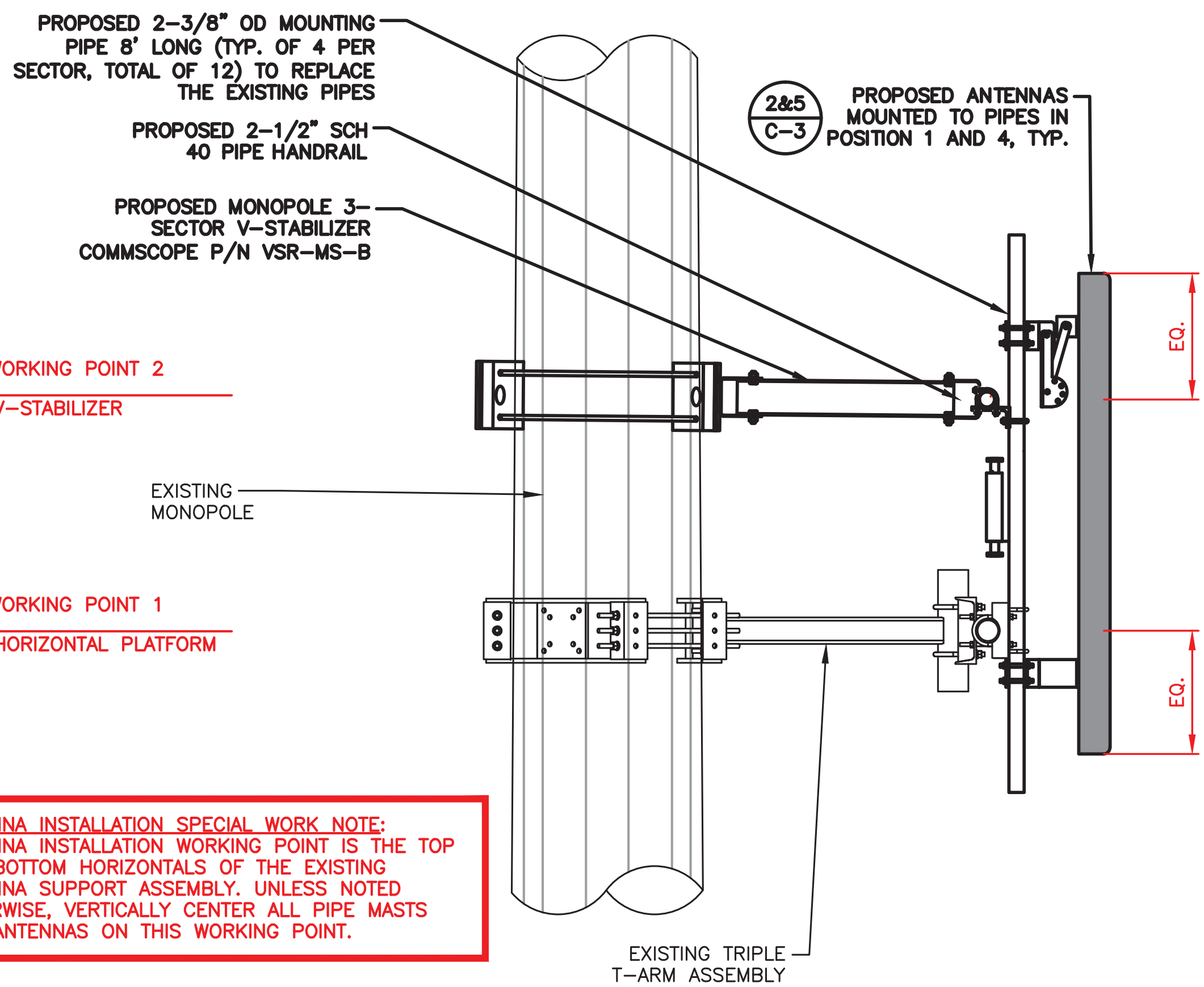
SITE ADDRESS:
1428 MONROE TURNPIKE
MONROE, CT 06468

SHEET DESCRIPTION

EXISTING AND PROPOSED
ANTENNA PLAN

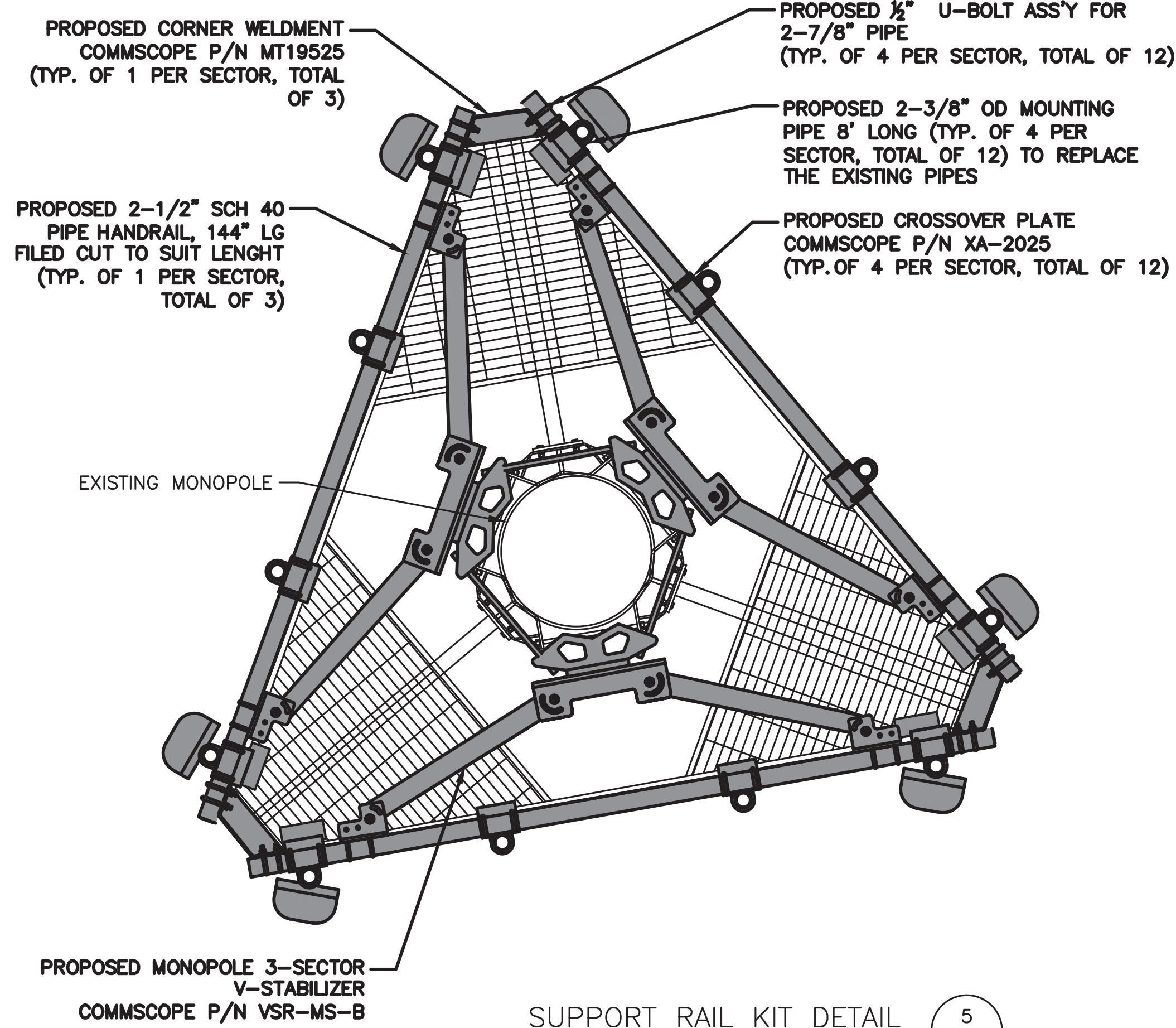
SHEET No.

C-2



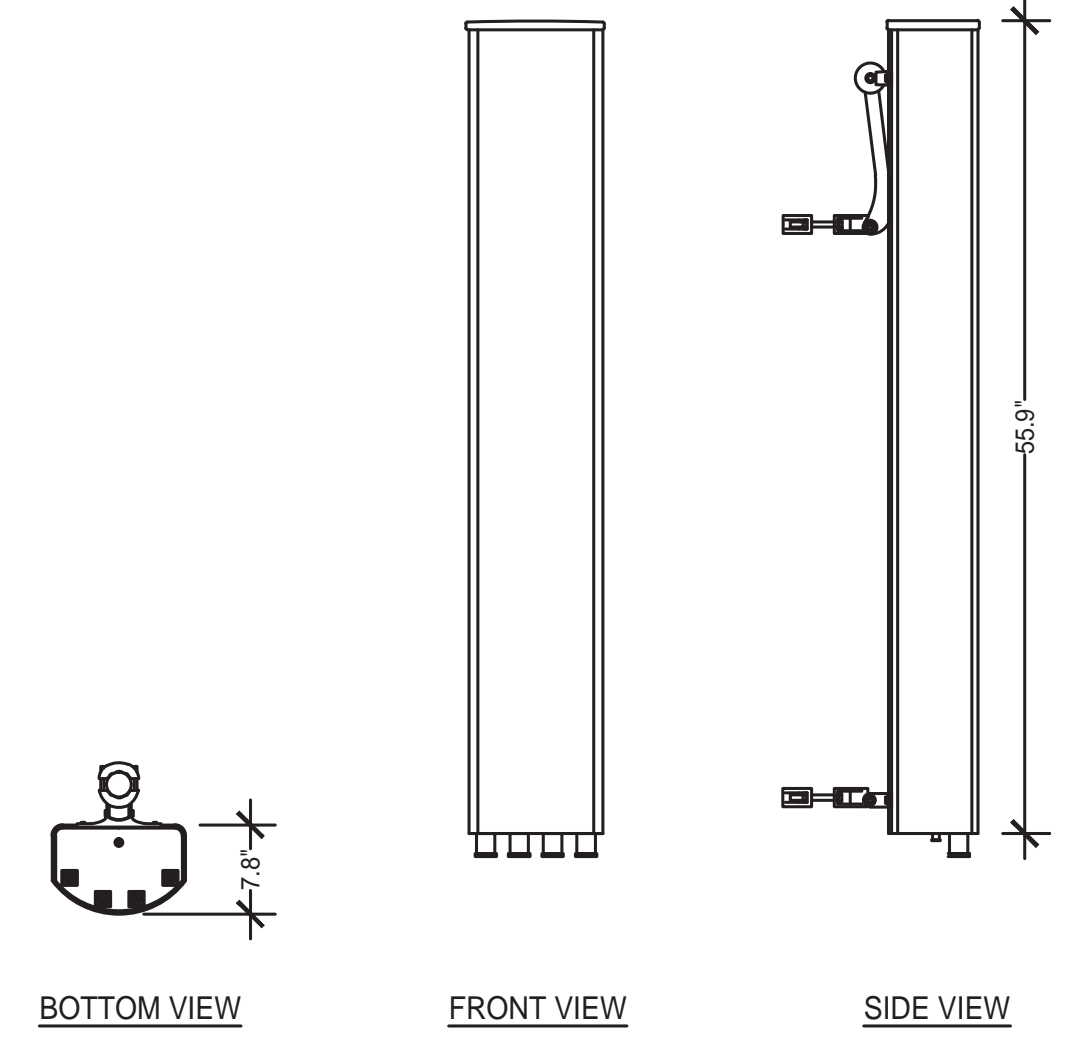
PROPOSED ANTENNA MOUNTING DETAIL AT 140' RAD
SCALE: N.T.S. 1
C-3

ANTENNA INSTALLATION SPECIAL WORK NOTE:
ANTENNA INSTALLATION WORKING POINT IS THE TOP AND BOTTOM HORIZONTALS OF THE EXISTING ANTENNA SUPPORT ASSEMBLY. UNLESS NOTED OTHERWISE, VERTICALLY CENTER ALL PIPE MASTS AND ANTENNAS ON THIS WORKING POINT.



SUPPORT RAIL KIT DETAIL
SCALE: N.T.S. 5
C-3

ANTENNA SPECIFICATION	
MODEL #	APX16DWV-16DWV-S-E-A20
MANUF.	RFS
WIDTH	13.0"
DEPTH	3.15"
HEIGHT	55.9"
WEIGHT	40.7 LBS.



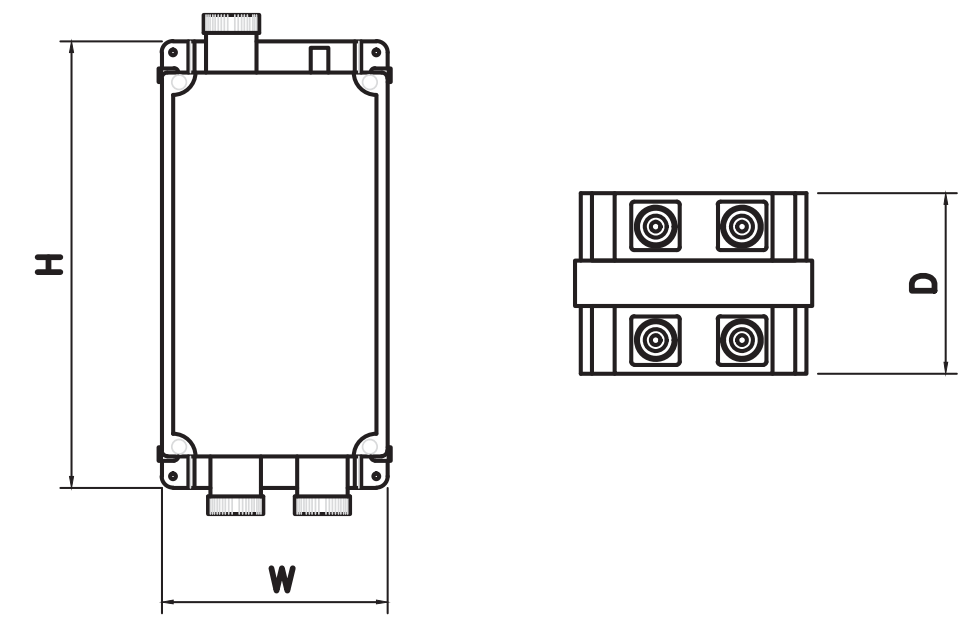
APX16DWV-16DWV-S-E-A20 ANTENNA DETAIL 2
C-3
SCALE: N.T.S.

ANTENNA MOUNT STRUCTURAL DESIGN NOTE:
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SPECIAL PRE-CONSTRUCTION WORK NOTE :
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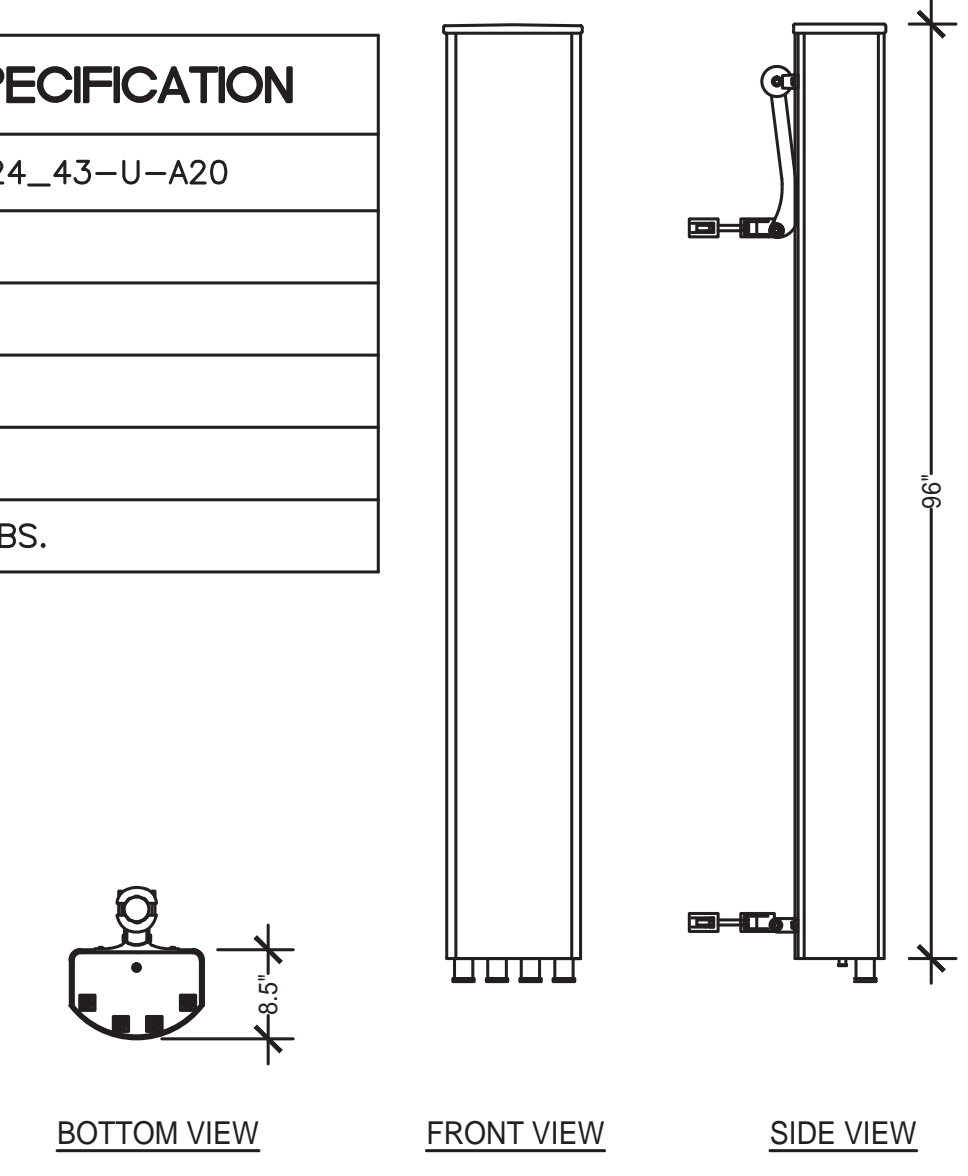
STRUCTURAL NOTES:
PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY SBA TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL INSTALLATION REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING, OR RELOCATION ARRANGEMENTS.

STYLE 3CX TMA	
MODEL #	ATMA4P4DBP-1A20
MANUF.	RFS
WIDTH	8.0"
DEPTH	4.9"
HEIGHT	11.2"
WEIGHT	15.85 LBS.



STYLE 3CX TMA DETAIL 3
C-3
SCALE: N.T.S.

ANTENNA SPECIFICATION	
MODEL #	APXVAA24_43-U-A20
MANUF.	RFS
WIDTH	24.0"
DEPTH	8.5"
HEIGHT	96.0"
WEIGHT	101.4 LBS.



APXVAA24_43-U-A20 ANTENNA DETAIL 4
C-3
SCALE: N.T.S.



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1825 W. WALNUT HILL LANE, SUITE 302
IRVING, TEXAS 75038
1-855-669-5421



MICHAEL F. PLAHOVINSAK, P.E. #25849
Soilie Professional - Independent Registered Professional Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / m.f.plahovinsak@gmail.com

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SUBMITTALS			
REV	DATE	DESCRIPTION	BY
0	01/08/18	ISSUE FOR CONSTRUCTION	GRN

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HEIGHT CAT
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CT11838A
SITE ADDRESS:
1428 MONROE TURNPIKE
MONROE, CT 06468

SHEET DESCRIPTION

DETAILS

SHEET No.

C-3



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MICHAEL P. PLAHOVINSAK, P.E. #25849
Sole Proprietor - Independent Engineer
18301 S.R. 161, Plain City, OH 43064
614-398-6250 / mlk@mlkeng.com

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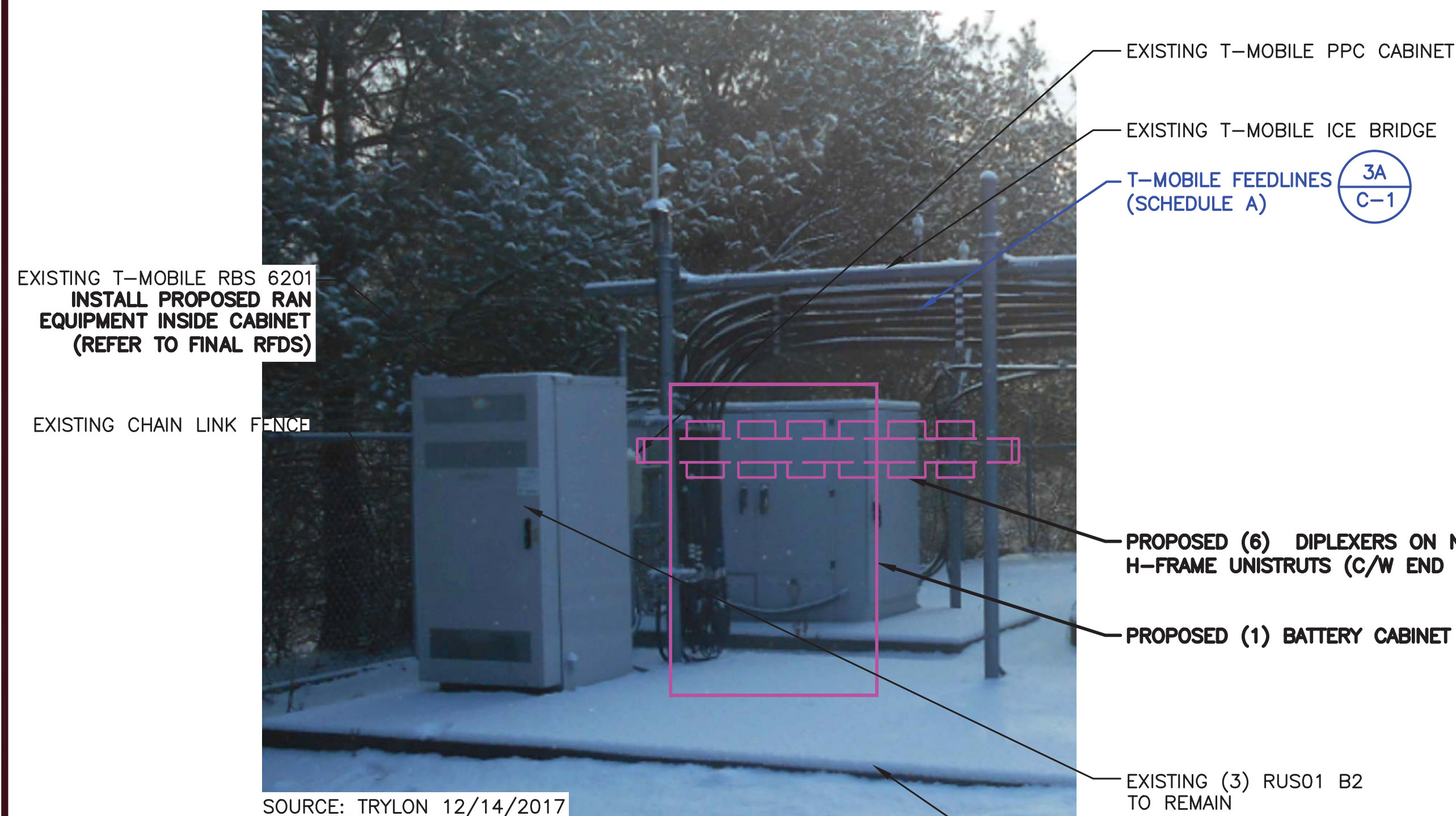
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DETAILS

SHEET No.

C-4



SOURCE: TRYLON 12/14/2017

EXISTING T-MOBILE PPC CABINET

EXISTING T-MOBILE ICE BRIDGE

T-MOBILE FEEDLINES (SCHEDULE A) 3A
C-1

EXISTING T-MOBILE RBS 6201
INSTALL PROPOSED RAN
EQUIPMENT INSIDE CABINET
(REFER TO FINAL RFDS)

EXISTING CHAIN LINK FENCE

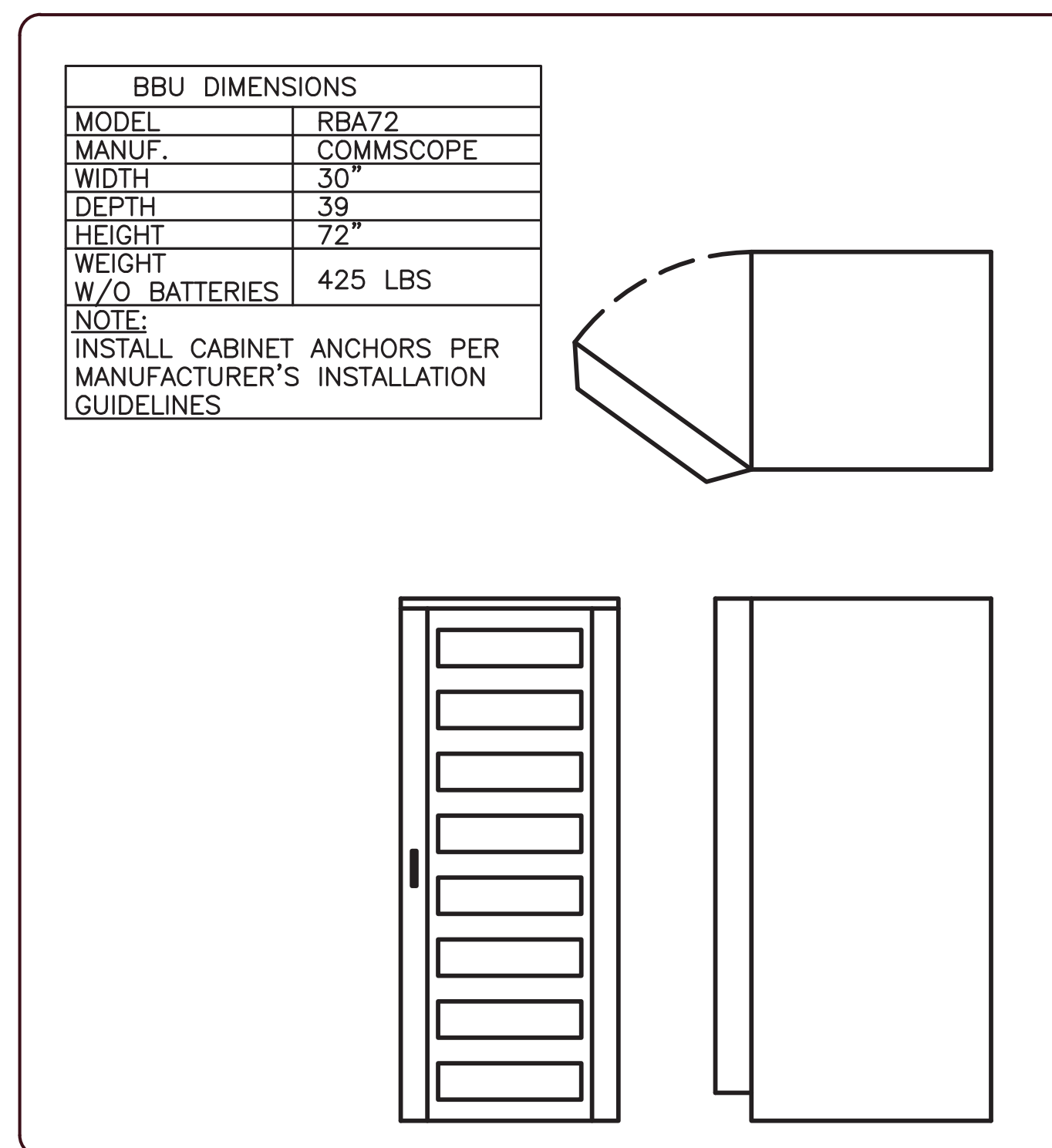
PROPOSED (6) DIPLEXERS ON NEW
H-FRAME UNISTRUTS (C/W END CAPS) 3
C-4

PROPOSED (1) BATTERY CABINET 2
C-4

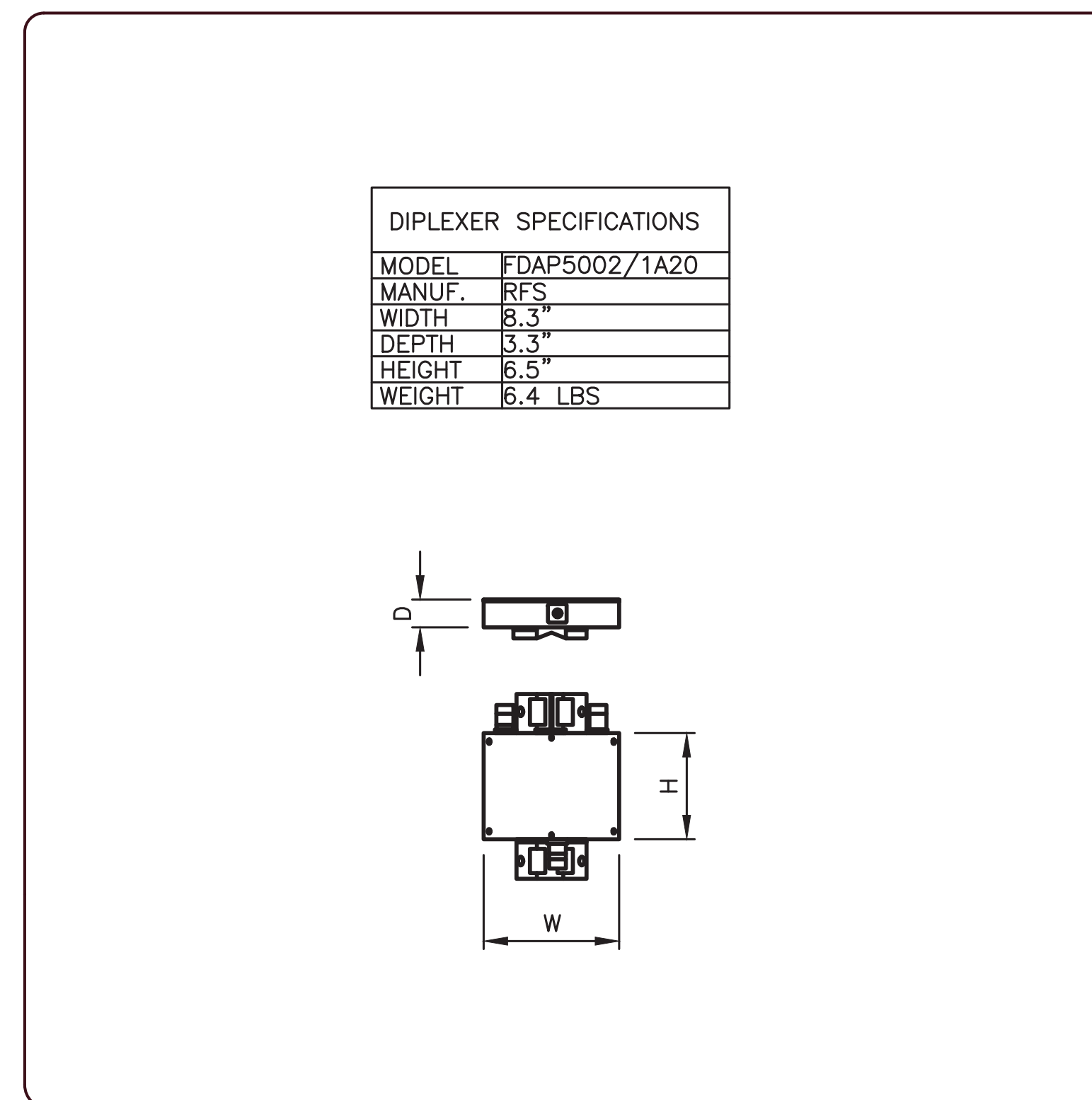
EXISTING (3) RUS01 B2
TO REMAIN

EXISTING 20'-0"x10'-0"
T-MOBILE EQUIPMENT PAD

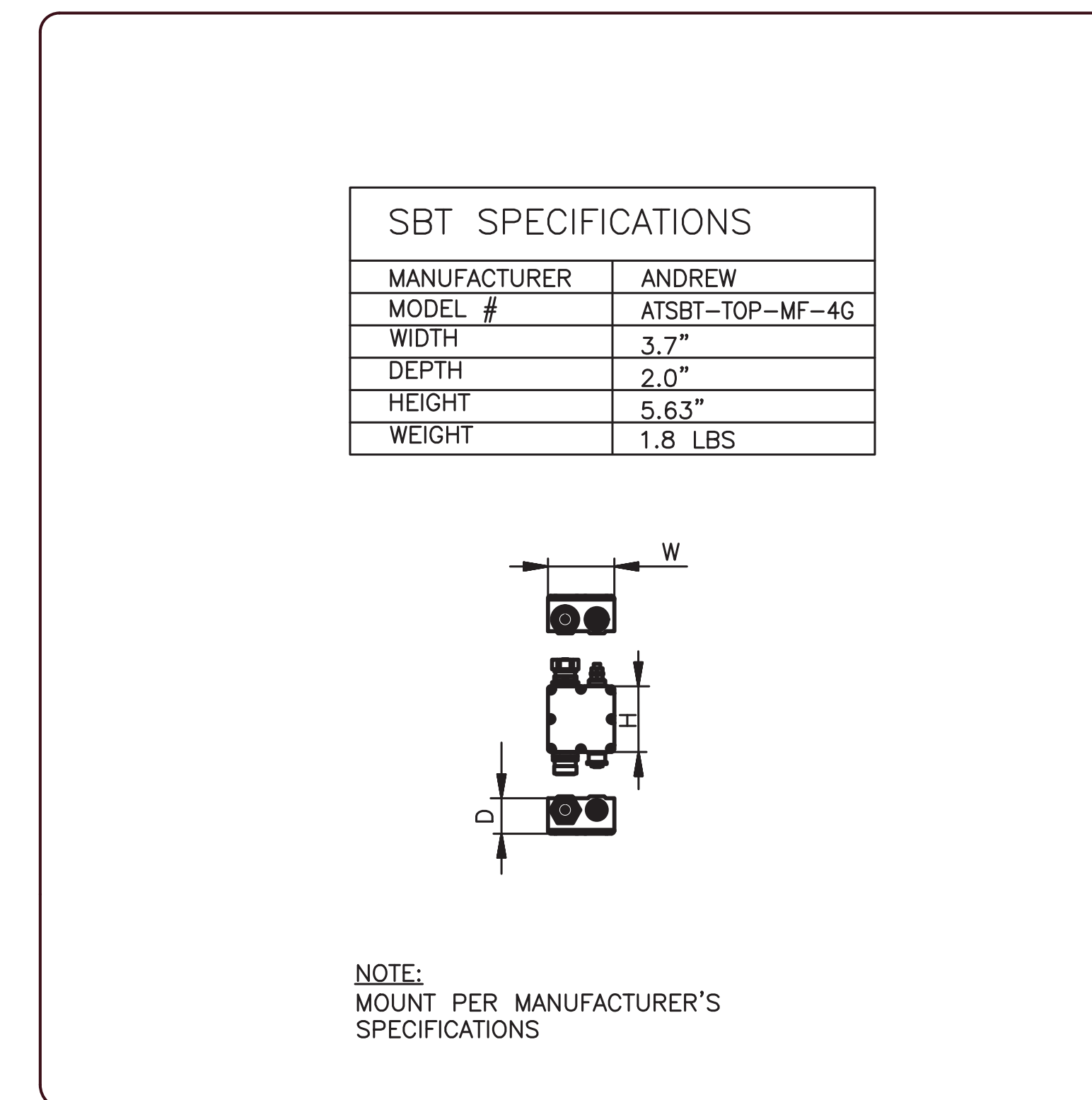
RRU AND DIPLEXER MOUNTING PHOTO DETAIL 1
C-4
SCALE: NTS



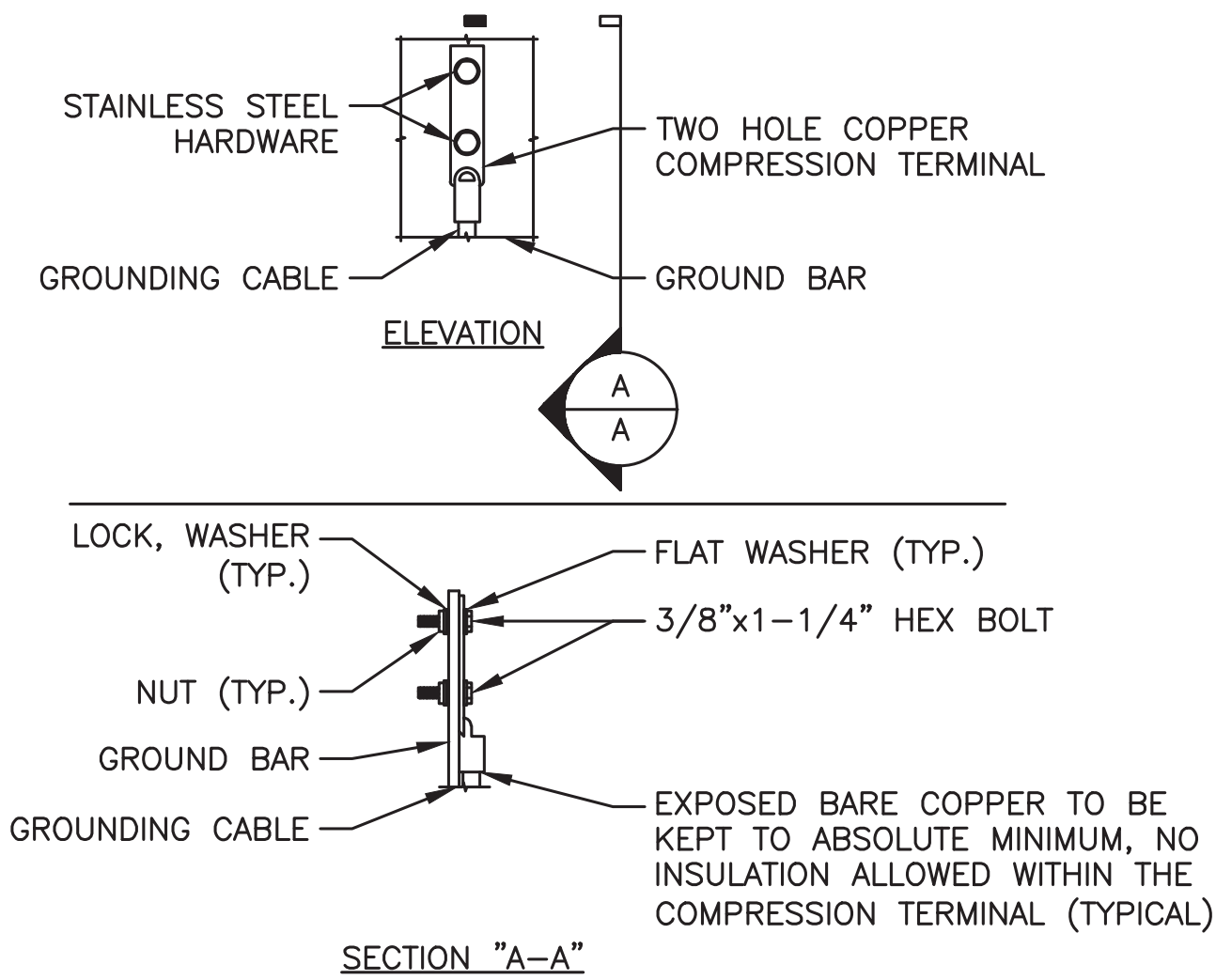
PROPOSED BATTERY CABINET DETAIL 2
C-4
SCALE: NTS



PROPOSED GENERIC AWS/PCS DIPLEXER DETAIL 3
C-4
SCALE: NTS

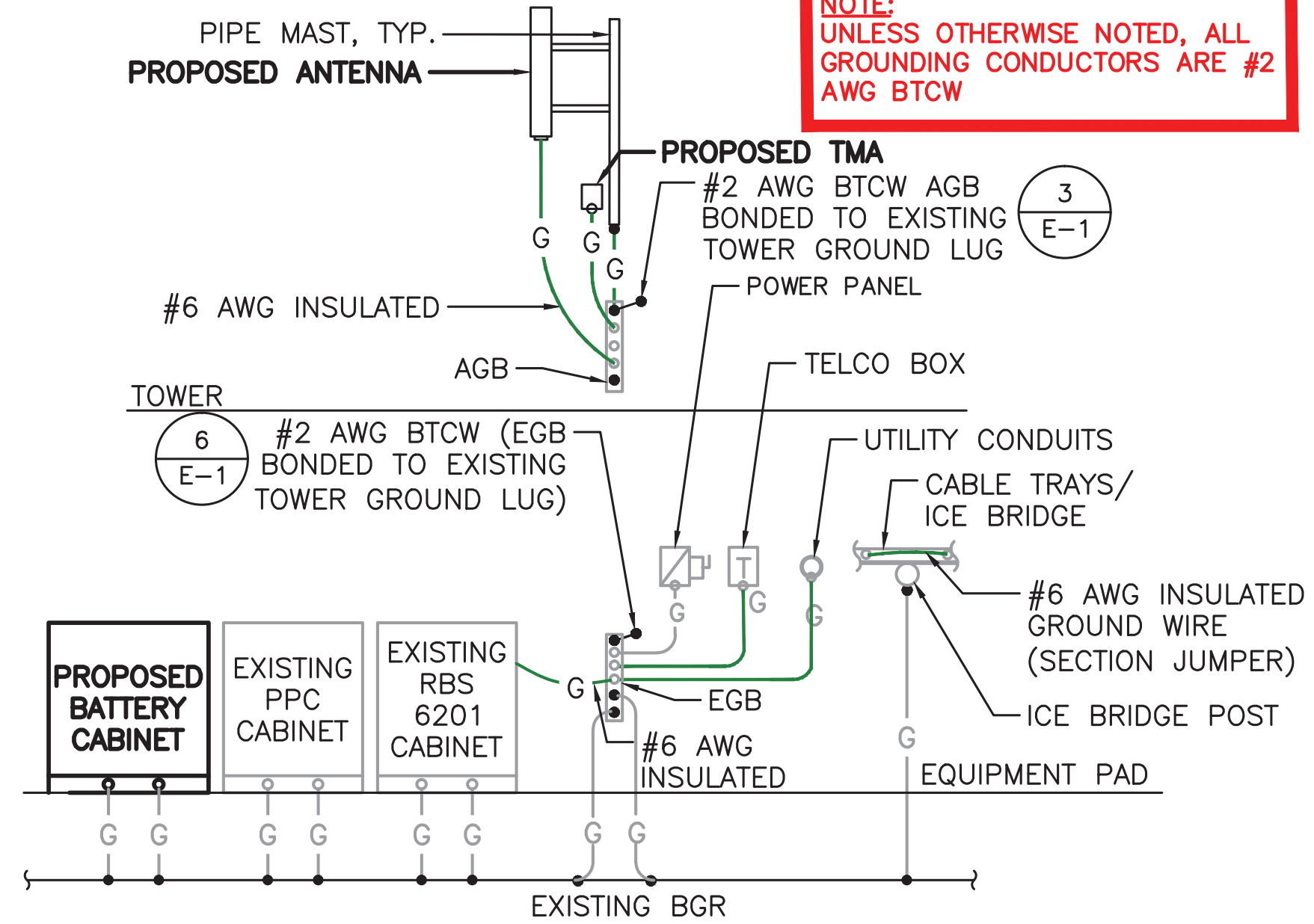


SMART BIAS TEE (SBT) DETAIL 4
C-4
SCALE: NTS

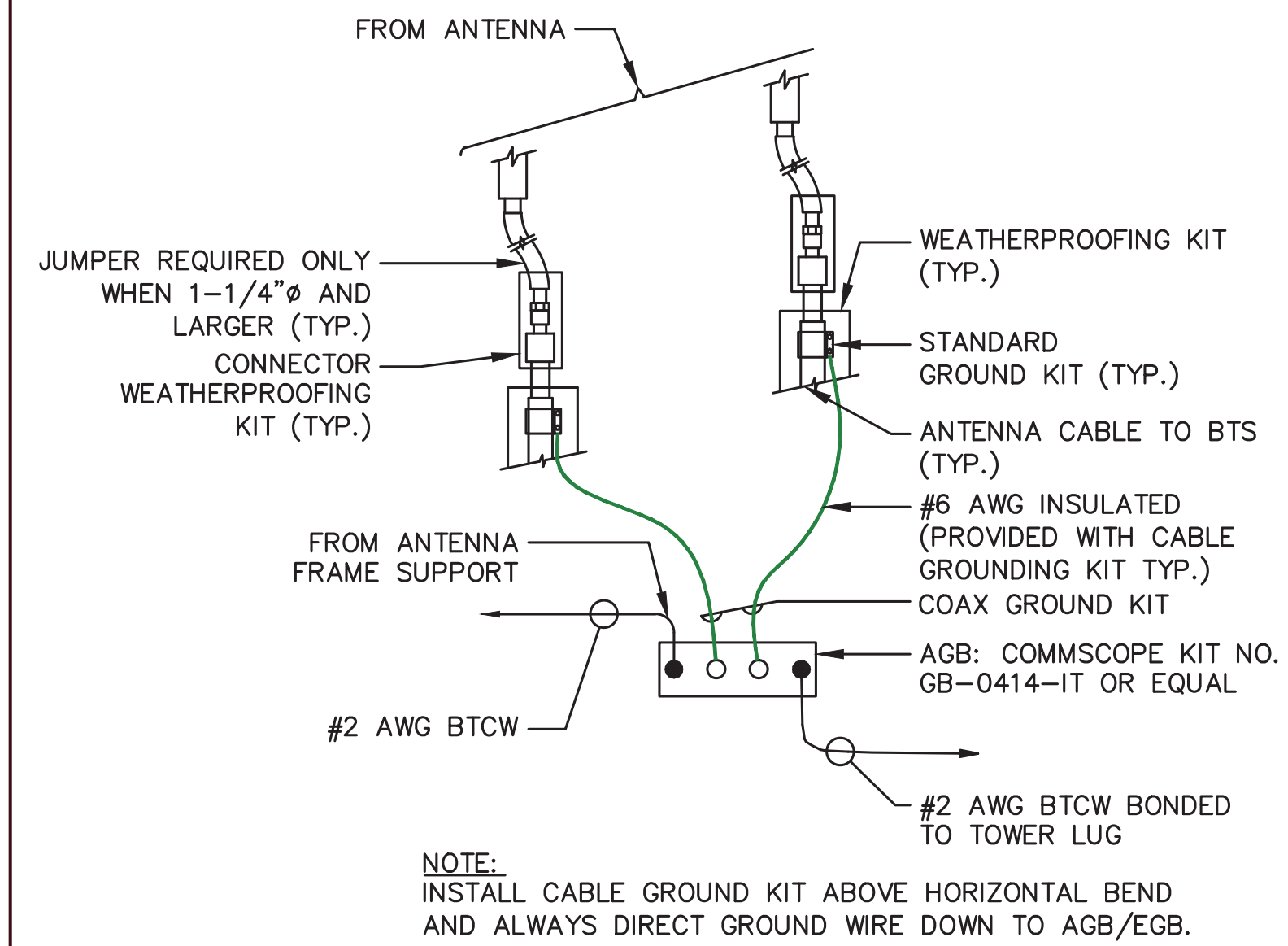


- NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

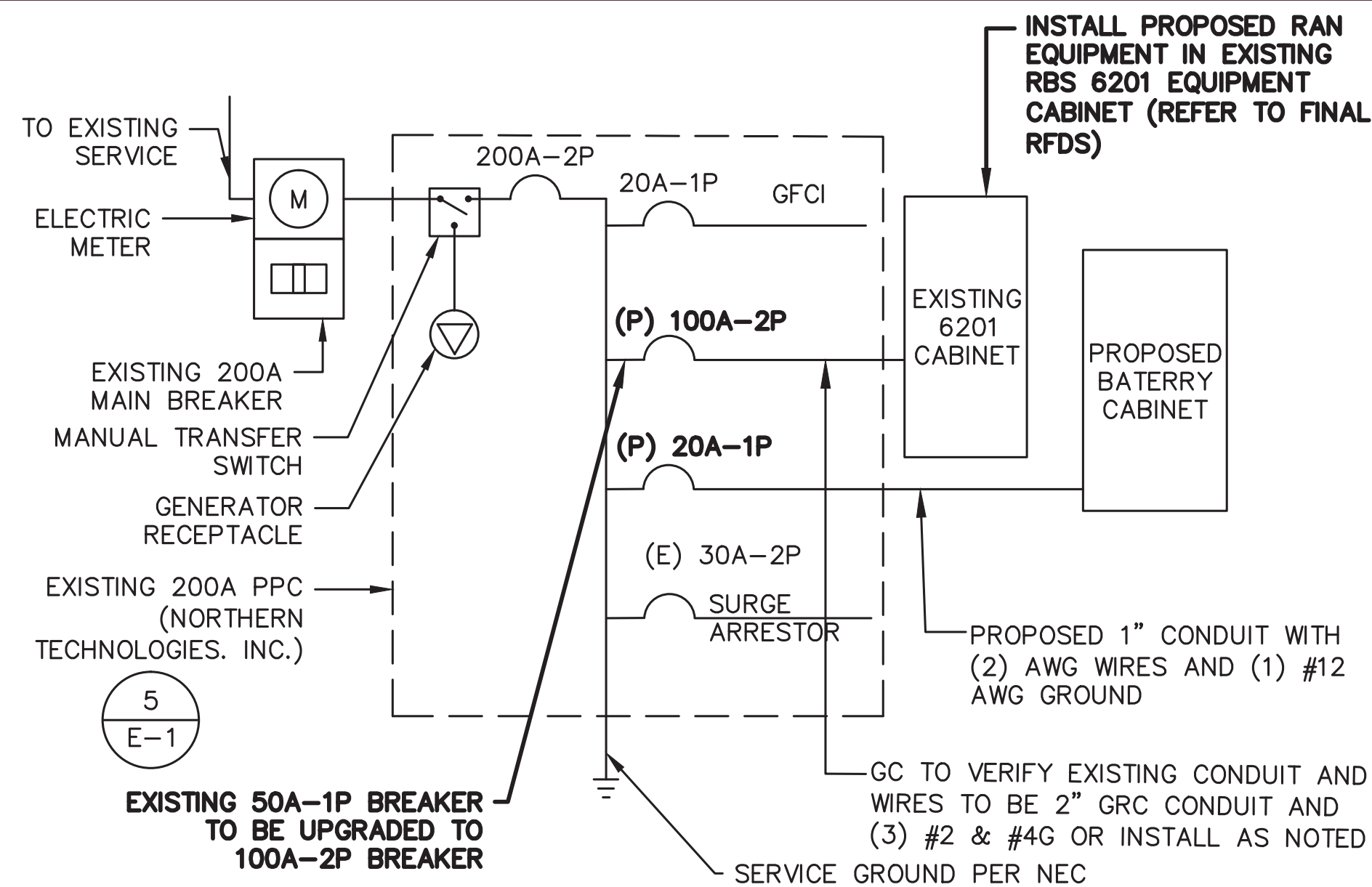
TYPICAL GROUND BAR CONNECTION DETAIL (1)
SCALE: N.T.S.



TYPICAL GROUNDING RISER DIAGRAM (2)
SCALE: N.T.S.



TOWER TOP CABLE GROUNDING DETAIL (3)
SCALE: N.T.S.

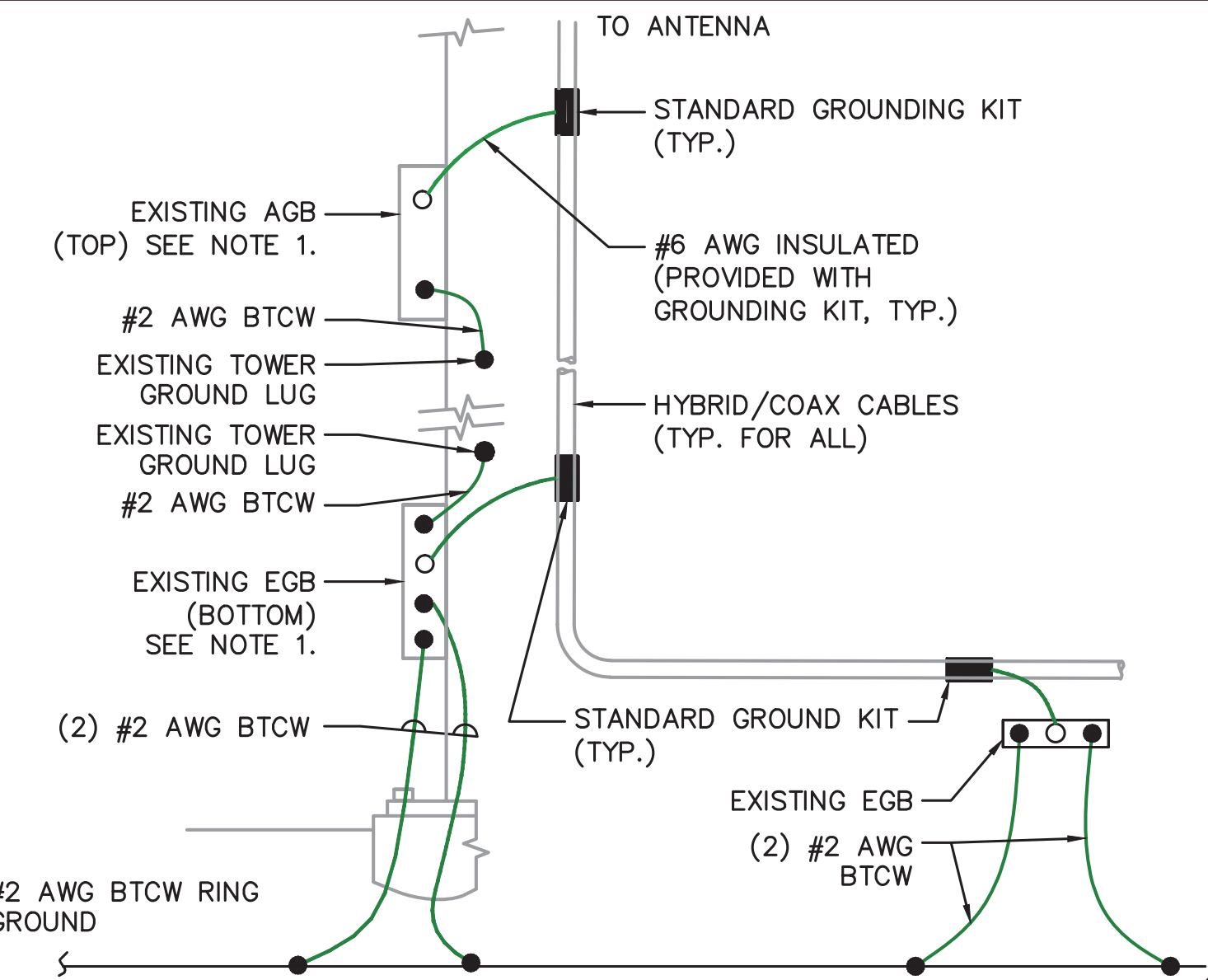


NOTE: RBS 6201 ODE UL-RATING PRESENTLY 60A MAXIMUM SERVICE ENTRANCE, GENERAL CONTRACTOR/ELECTRICIAN SHALL UPGRADE INTERNAL POWER SUPPLY COMPONENTS FOR UL-APPROVED 100A SERVICE ENTRANCE RATING (REFER TO ERICSSON DOCUMENTATION FOR INSTALLATION OF PCU AC 06 AND PCF 02 07).

ONE LINE POWER DIAGRAM (4)
SCALE: N.T.S.



PHOTO DETAIL: PPC PANEL (5)
SCALE: N.T.S.



TOWER BOTTOM CABLE GROUNDING DETAIL (6)
SCALE: N.T.S.

ELECTRICAL LEGEND

A	AMPERE	○	MECHANICAL CONNECTION
V	VOLT	●	CADWELD CONNECTION
KWH	KILOWATT - HOUR	○	EQUIPMENT GROUND BAR/ANTENNA GROUND BAR
C	CONDUIT	—	GROUND COPPER WIRE, SIZE AS NOTED
GRC	GALVANIZED RIGID CONDUIT	—	EXPOSED WIRING
BTCW	BARE TINNED (SOLID) COPPER WIRE (#2 AWG, UNLESS NOTES OTHERWISE)	—	INSULATED GROUNDING CONDUCTOR (#6 AWG STRANDED, UNLESS NOTED OTHERWISE)
⊕	GROUND	⊙	5/8"x10' COPPER CLAD STAINLESS STEEL GROUND ROD
MGB	MASTER GROUND BAR	●	EXOTHERMIC (CAD WELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION
AGB/EGB	EQUIPMENT GROUND BAR/ANTENNA GROUND BAR	⊗	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL
○	MECHANICAL CONNECTION		
●	CADWELD CONNECTION		
—	GROUND COPPER WIRE, SIZE AS NOTED		
—	EXPOSED WIRING		
—	INSULATED GROUNDING CONDUCTOR (#6 AWG STRANDED, UNLESS NOTED OTHERWISE)		
⊙	5/8"x10' COPPER CLAD STAINLESS STEEL GROUND ROD		
●	EXOTHERMIC (CAD WELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION		
⊗	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL		

ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) 2014 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 SPECIFICATIONS 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.
- RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION AS REQUIRED BY NEC.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL 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 PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- GROUNDING SHALL COMPLY WITH NEC ART. 250.
- 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 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
- CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LYGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
- BOND ANTENNA EGB'S AND MGB TO WATER MAIN/GROUND RING.
- TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
- BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
- VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.



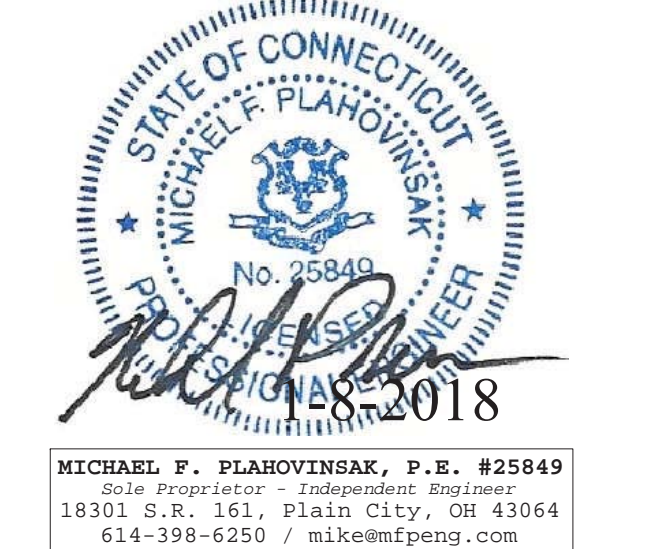
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GROUNDING DETAILS AND NOTES

SHEET No.

E-1