



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

August 16, 2022

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

**RE: Notice of Exempt Modification for T-Mobile: CTHA602A
Crown Site#845994
151 Young Street, East Hampton, CT 06424
Latitude: 41° 32' 38.12" / Longitude: -72° 30' 22.44"**

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 130-foot mount on the existing 140-foot monopole tower located at 151 Young Street, East Hampton, CT. The property is owned by Kevin G and Kim S Kiely and the tower is owned by Crown Castle. T-Mobile now intends to replace six (6) antennas and ancillary equipment at the 140ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:

- (3) Ericsson – AIR6419 B41 Antennas
- (3) Commscope W-65B-R1 Antennas
- (3) Ericsson- 4460 B25+B66 RRH
- (2) Hybrid Cable 6x24

Remove:

- (3) Ericsson AIR32 KRD901146-1_B66A_B2A Antennas
- (3) RFS APX16DWV-16DWV-S-E-A20 Antenna
- (3) Ericsson 4415 B66A RRH
- (3) Generic Twin Style - 1B-AWS TMAs

Ground:

Install New:

- (1) 6160 Cabinet
- (1) B160 Battery Cabinet
- (1) RP 6651
- (2) PSU 4813 vR2A
- (1) CRS IXRc V2

The Foundation for a Wireless World.
CrownCastle.com

Melanie A. Bachman

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Remove:

(1) DUW 30.

The facility was approved by the Connecticut Siting Council Docket No. 253 on October 29, 2003.

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 David Cox, Town Manager, Town of East Hampton and Jeremy DeCarli, Planning & Zoning Official, Town of East Hampton. Kevin & Kim Kiely are the property owners and Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification 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 Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,


Jeffrey Barbadora
Site Acquisition Specialist
1800 W. Park Drive, STE 250
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments

Melanie A. Bachman

Page 3

cc:

David Cox, Town Manager
Town of East Hampton
1 Community Drive
East Hampton, CT 06424
860-267-4468

Jeremy DeCarli, Planning & Zoning Official
Town of East Hampton
1 Community Drive
East Hampton, CT 06424
860-267-7450

Kevin & Kim Kiely, Property Owner
151 Young Street
East Hampton, CT 06424

Crown Castle, Tower Owner

DOCKET NO. 253 - AT&T Wireless PCS, LLC d/b/a AT&T }
Wireless application for a Certificate of Environmental }
Compatibility and Public Need for the construction, maintenance }
and operation of a wireless telecommunications facility at 151 }
Young Street or 162 Young Street, East Hampton, Connecticut. }

Connecticut

Siting

Council

October 29, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to AT&T Wireless PCS d/b/a AT&T Wireless for the construction, maintenance and operation of a wireless telecommunications facility at Site A, 151 Young Street, East Hampton, Connecticut. The Council denies certification of Site B, 162 Young Street, East Hampton, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T Wireless PCS, LLC and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level.
2. The tower foundation shall be of sufficient capacity to support a monopole extension to 150 feet above ground level.
3. Panel antennas shall be installed on the monopole using a flush mount or T-arm mount design.
4. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a detailed site development plan that depicts the location of the access road, compound, tower, utility line, erosion and sedimentation control features, and landscaping;
 - b) specifications for the tower, tower foundation, antennas, equipment building, and security fence; and
 - c) construction plans for site clearing, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
 - d) visual simulations of the monopole and appropriate monopole stealth options including a flagpole and tree tower design.

5. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. The Certificate Holder shall provide space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
8. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.
10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

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

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

The parties and intervenors to this proceeding are:

Applicant

AT&T Wireless PCS, LLC
d/b/a AT&T Wireless

Its Representative

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
90 Maple Avenue
White Plains, New York 10601
(914) 761-1300

151 YOUNG ST

Location 151 YOUNG ST

Mblu 13/ 32/ 7/ 1/

Acct# R02394

Owner KIELY KEVIN G +

Assessment \$351,900

Appraisal \$502,700

PID 2270

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$399,270	\$103,430	\$502,700

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$279,490	\$72,410	\$351,900

Owner of Record

Owner KIELY KEVIN G +

Co-Owner KIELY KIM S

Address 151 YOUNG ST
EAST HAMPTON, CT 06424

Sale Price \$0

Certificate

Book & Page 0150/0331

Sale Date 08/27/1980

Instrument 29

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
KIELY KEVIN G +	\$0		0150/0331	29	08/27/1980

Building Information

Building 1 : Section 1

Year Built: 1710

Living Area: 3,704

Replacement Cost: \$376,898

Building Percent Good: 84

Replacement Cost

Less Depreciation: \$316,590

Building Attributes

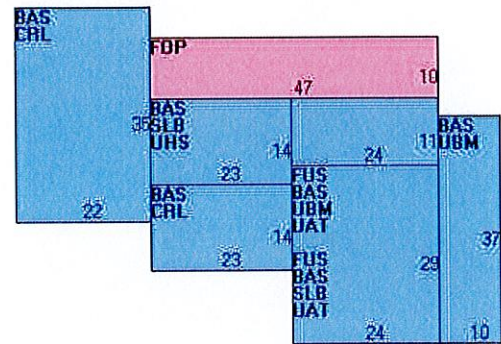
Field	Description
Style	Conventional
Model	Residential
Grade:	B+
Story Height	2 Stories
Foundation	Stone
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable
Roof Cover	Wood Shingle
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	5 Bedrooms
Total Bthrms:	3
Total Half Baths:	0
# Extra Fixtures	1
Total Rooms:	9
Bath Style:	Average
Kitchen Style:	Average
Fireplace	00
Cndtn	
Fin Basement	0
Fin Bsmt Qual	
Bsmt. Garages	0
Num Park	
Fireplaces	
Solar	
Gas Fireplace	1 Gas

Building Photo



(<https://images.vgsi.com/photos/EastHamptonCTPhotos/A00\00\62\81.jpg>)

Building Layout



(https://images.vgsi.com/photos/EastHamptonCTPhotos//Sketches/2270_2)

Building Sub-Areas (sq ft)			Legend	
Code	Description	Gross Area	Living Area	
BAS	First Floor	2,744	2,744	
FUS	Finished Upper Story	960	960	
CRL	Crawl Space	1,092	0	
FOP	Framed Open Porch	470	0	
SLB	Slab	586	0	
UAT	Unfinished Attic	960	0	
UBM	Unfin Basement	1,066	0	
UHS	Unfinished Half Story	322	0	
		8,200	3,704	

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code 101
 Description Single Family
 Zone R-4
 Neighborhood 200
 Alt Land Appr No
 Category

Land Line Valuation

Size (Acres) 2
 Frontage
 Depth
 Assessed Value \$72,410
 Appraised Value \$103,430

Outbuildings

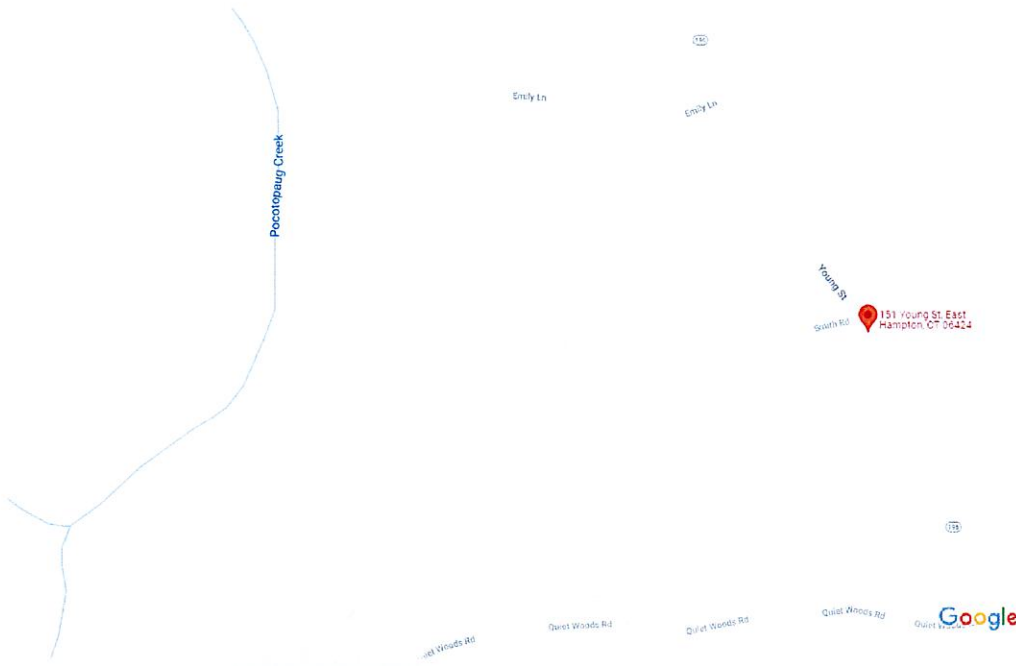
Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
BRN1	Barn 1 Story	FR	Frame	1672.00 S.F.	\$41,380	1
SPL1	InGround Pool			512.00 S.F.	\$11,520	1
GAR1	Garage	FR	Frame	950.00 S.F.	\$17,810	1
SHD1	Shed	FR	Frame	100.00 S.F.	\$1,500	1
BRN8	Pole Barn	FR	Frame	529.00 S.F.	\$10,470	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$399,270	\$103,430	\$502,700
2020	\$399,270	\$103,430	\$502,700
2020	\$414,610	\$90,960	\$505,570
2020	\$414,610	\$90,960	\$505,570

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$279,490	\$72,410	\$351,900
2020	\$279,490	\$72,410	\$351,900
2020	\$290,230	\$63,680	\$353,910
2020	\$290,230	\$63,680	\$353,910

151 Young St







Map data ©2022 200 ft



151 Young St

East Hampton, CT 06424

- 
Directions
- 
Save
- 
Nearby
- 
Send to phone
- 
Share

GFWR5 East Hampton, Connecticut

Photos

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, August 18, 2022 10:08 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777674898385: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Thu, 08/18/2022 at
10:06am.



Delivered to 1 COMMUNITY RD, EAST HAMPTON, CT 06424
Received by K.VILEDEAU

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777674898385](#)

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of East Hampton David Cox, Town Manager 1 Community Drive EAST HAMPTON, CT, US, 06424
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 8/17/2022 05:40 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	EAST HAMPTON, CT, US, 06424
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, August 18, 2022 10:08 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777674931767: Your package has been delivered

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Hi. Your package was
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10:06am.



Delivered to 1 COMMUNITY RD, EAST HAMPTON, CT 06424
Received by K.VILEDEAU

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777674931767](#)

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of East Hampton Jeremy DeCarli, Planning & Zoning 1 Community Drive EAST HAMPTON, CT, US, 06424
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 8/17/2022 05:40 PM
DELIVERED TO	Receptionist/Front Desk
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SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, August 18, 2022 10:49 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777674965261: Your package has been delivered

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Hi. Your package was
delivered Thu, 08/18/2022 at
10:47am.



Delivered to 151 YOUNG ST, EAST HAMPTON, CT 06424

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777674965261](#)

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Property Owner Kevin & Kim Kiely 151 Young Street EAST HAMPTON, CT, US, 06424
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 8/17/2022 05:40 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	EAST HAMPTON, CT, US, 06424
SPECIAL HANDLING	Deliver Weekday Residential Delivery
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Date: **June 16, 2022**



MTS Engineering, P.L.L.C.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Subject: **Structural Analysis Report**

Carrier Designation: **T-Mobile Co-Locate**
Site Number: CTHA602A
Site Name: UCTHA602A

Crown Castle Designation: **BU Number:** 845994
Site Name: East Hampton - Young Street
JDE Job Number: 721543
Work Order Number: 2128454
Order Number: 621578 Rev. 0

Engineering Firm Designation: **Project Number:** 152728.005.01

Site Data: **151 YOUNG STREET, EAST HAMPTON, Middlesex County, CT**
Latitude 41° 32' 38.12", Longitude -72° 30' 22.44"
140 Foot - Monopole Tower

We are pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

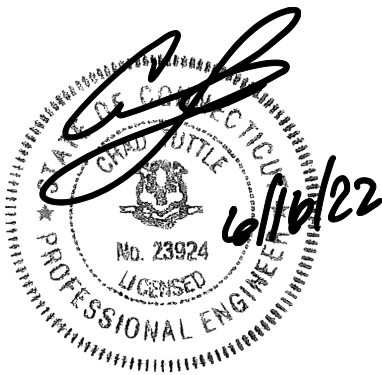
LC7: Proposed Equipment Configuration

Sufficient Capacity -59.7%

This analysis utilizes an ultimate 3-second gust wind speed of 121 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Carlon Bethell II

Respectfully submitted by: MTS Engineering, P.L.L.C.
COA: PEC.0001564; Expires: 02/10/2022



Chad E. Tuttle, P.E.

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1) INTRODUCTION

This tower is a 120 ft Monopole designed by PennSummit Tubular, LLC.

The tower has been modified per reinforcement drawings prepared by GPD Group, in July of 2010. Reinforcement consists of a 20 ft tower extensions bringing the overall height of the tower to 140 ft

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	121 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
128.0	130.0	3	Commscope	VV-65B-R1_TMO	2 3	1-5/8 1-1/4
		3	Ericsson	AIR 6419 B41_TMO		
		3	Ericsson	RADIO 4449 B71/B85A		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
	3	Rfs Celwave	APXVAA24_43-U-A20			
	128.0	1	--	Platform Mount [LP 303-1_KCKR-HR-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
142.0	142.0	1	Cambium Networks	PTP 820C_CCIV2	1 1	7/8 1/4
		1	Telewave	ANT500D6-9		
		1	--	Side Arm Mount [SO 701-1]		
139.0	140.0	6	Antel	LPA-80063-6CF-EDIN	14	1-5/8
		3	Commscope	CBC78T-DS-43-2X		
		3	Commscope	JAHH-65B-R3B		
		3	Commscope	JAHH-65B-R3B		
		1	Raycap	RCMDC-6627-PF-48		
		3	Samsung Telecomm.	MT6407-77A		
		3	Samsung Telecomm.	RFV01U-D1A		
	3	Samsung Telecomm.	RFV01U-D2A			
	139.0	1	--	T-Arm Mount [TA 602-3_KCKR]		
118.0	120.0	3	Ericsson	RRUS-11	12	1-5/8
		2	Kmw Comm.	AM-X-CD-16-65-00T-RET	2	7/8

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		6	Powerwave Tech.	7770.00	1	3/8
		6	Powerwave Tech.	LGP13519		
		6	Powerwave Tech.	LGP21401		
		1	Powerwave Tech.	P65-17-XLH-RR		
	118.0	1	Raycap	DC6-48-60-18-8F		
		1	--	Sector Mount [SM 901-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawings	5236444	CCI Sites
Tower Modification Drawings	7869934	CCI Sites
Post Modification Inspection	7870082	CCI Sites
Foundation Drawings	4301090	CCI Sites
Geotech Report	6109303	CCI Sites
Crown CAD Package	Date: 06/14/2022	CCI Sites

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

- 1) The tower and structures were maintained in accordance with the - TIA-222 standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. We should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	140 - 120	Pole	TP24x24x0.375	1	-9.461	920.561	29.5	Pass
L2	120 - 80	Pole	TP36.379x24x0.219	2	-16.698	1482.778	59.7	Pass
L3	80 - 39.5	Pole	TP44.261x34.549x0.313	3	-25.382	2605.281	51.3	Pass
L4	39.5 - 0	Pole	TP51.75x42.449x0.375	4	-38.982	3756.081	48.8	Pass
							Summary	
						Pole (L2)	59.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
						Rating =	59.7	Pass

Table 5 - Tower Component Stresses vs. Capacity-LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Flange Connections	120.0	44.3	Pass
1,2	Anchor Rods	Base	41.8	Pass
1,2	Base Plate	Base	37.2	Pass
1,2	Base Foundation (Structure)	Base	33.9	Pass
1,2	Base Foundation (Soil Interaction)	Base	30.9	Pass

Structure Rating (max from all components) =	59.7%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H Section 15.5.

4.1) Recommendations

The tower and its foundations have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

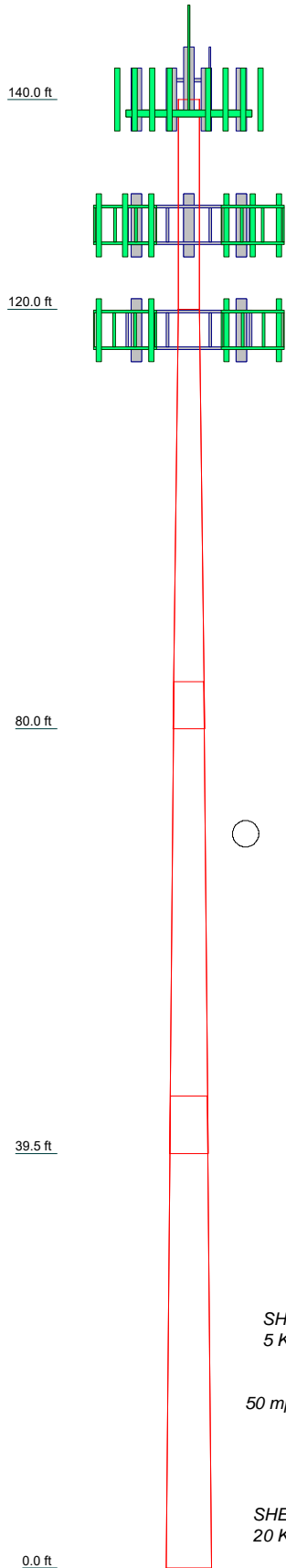
TNXTOWER OUTPUT

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A572-65	65 ksi	80 ksi

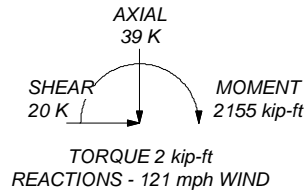
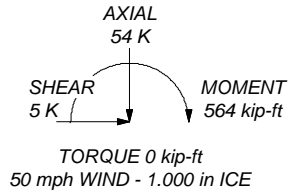
TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 121 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 59.7%



Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	20.000	1	0.375	24.000	24.000		A53-B-35	1.9
2	40.000	18	0.219	4.500	24.000	36.379	A53-B-35	2.8
3	45.000	18	0.313	5.500	34.549	44.261	A572-65	5.9
4	45.000	18	0.375	42.449	51.750			8.5
								19.2

ALL REACTIONS ARE FACTORED



MTS Engineering, P.L.L.C.
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
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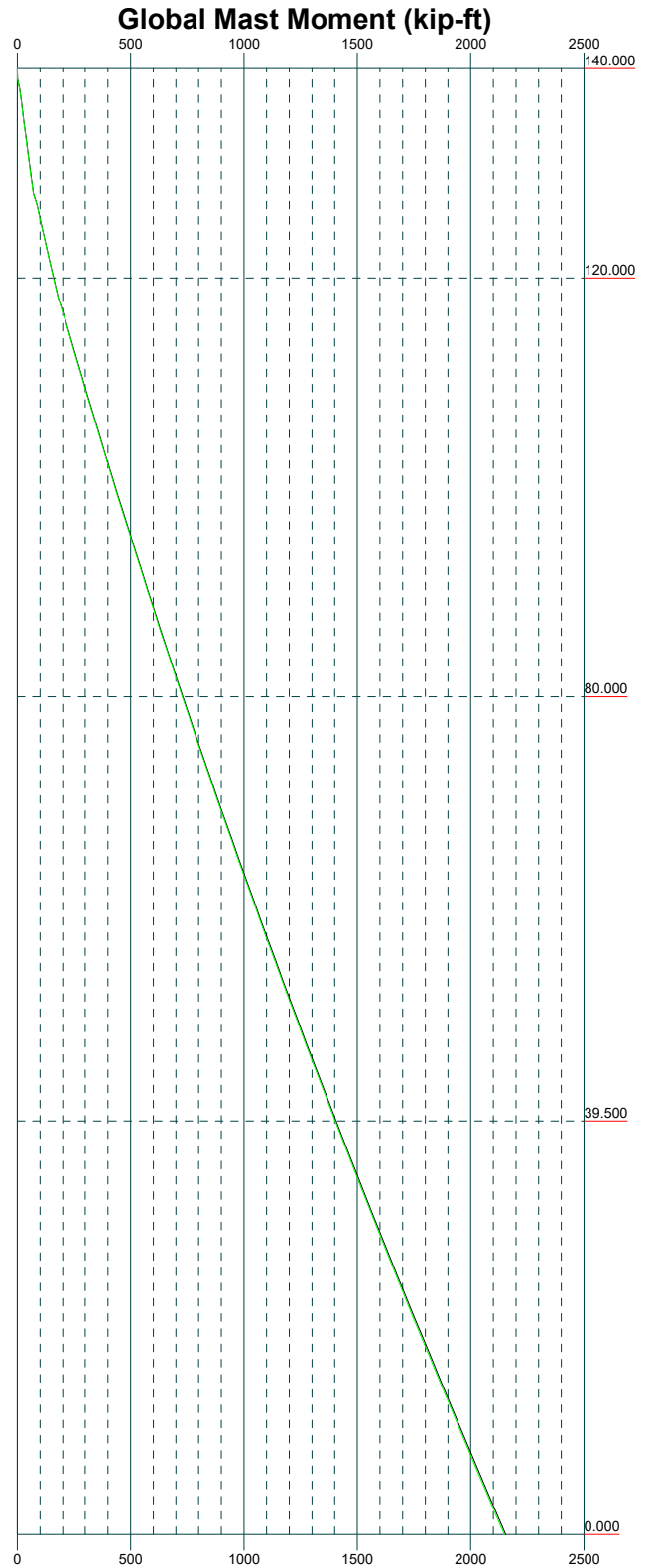
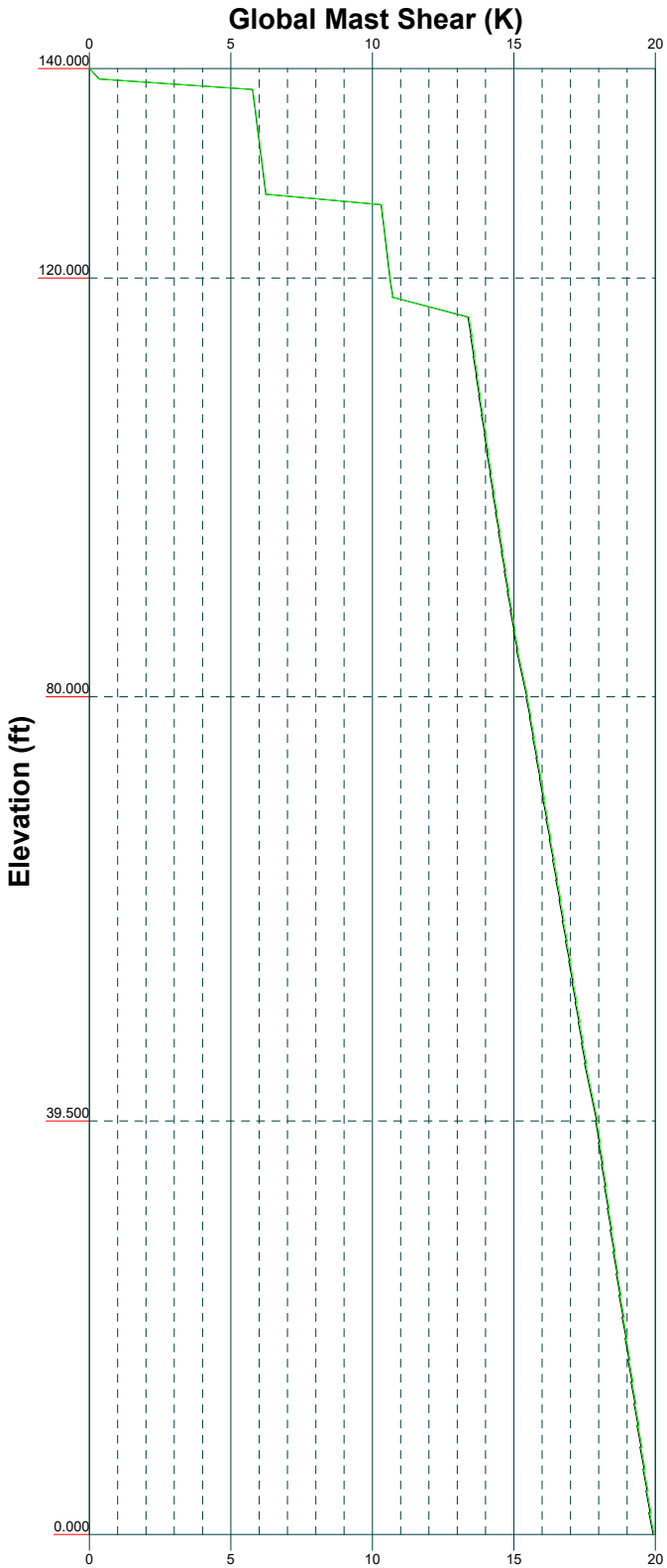
Job: 152728.005.01 - EAST HAMPTON - YOUNG STREET, CT (BU# 84599)		
Project:		
Client: Crown Castle	Drawn by: S Shetty	App'd:
Code: TIA-222-H	Date: 06/16/22	Scale: NTS
Path:		Dwg No. E-1

Vx

Vz

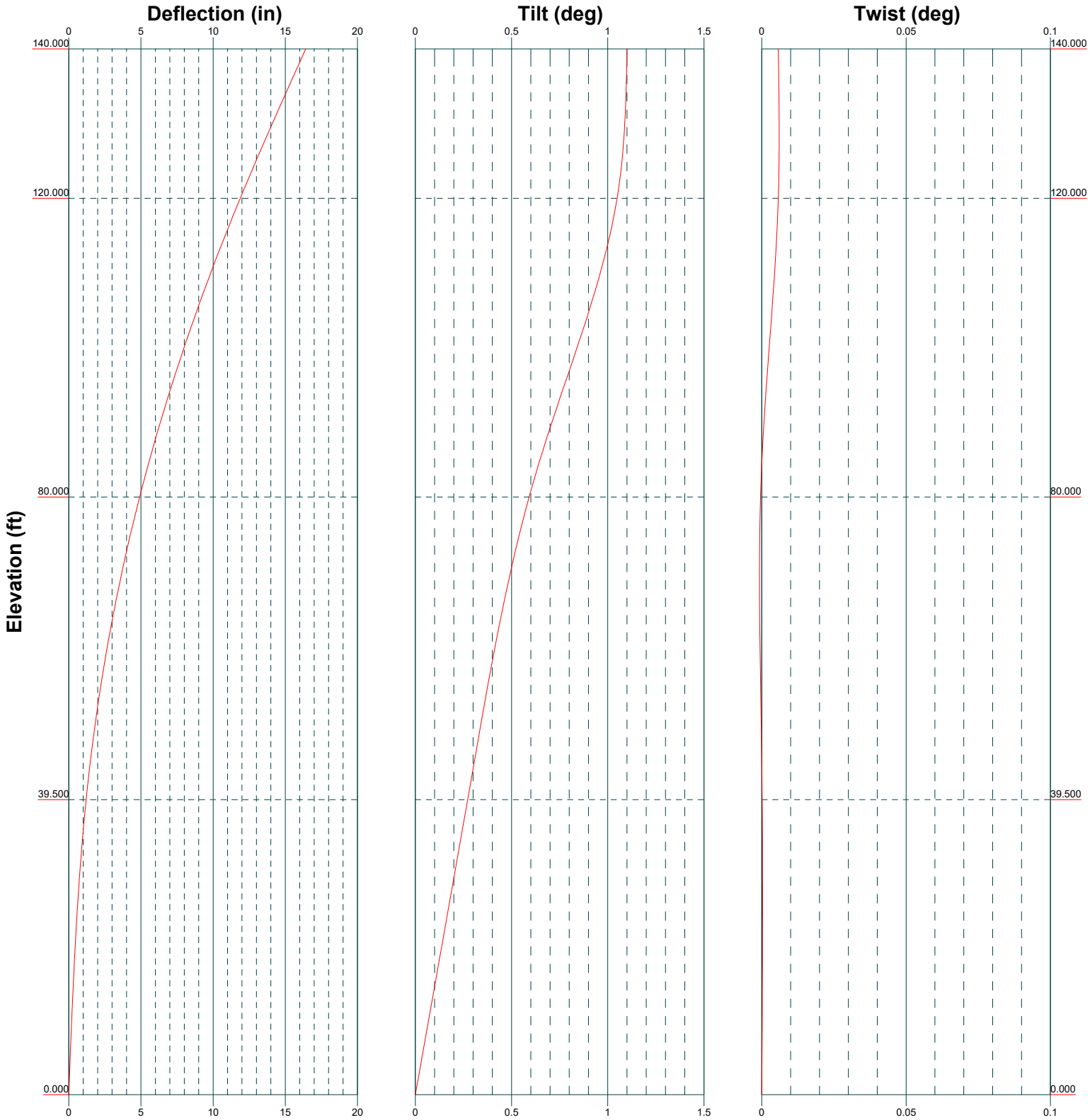
Mx

Mz



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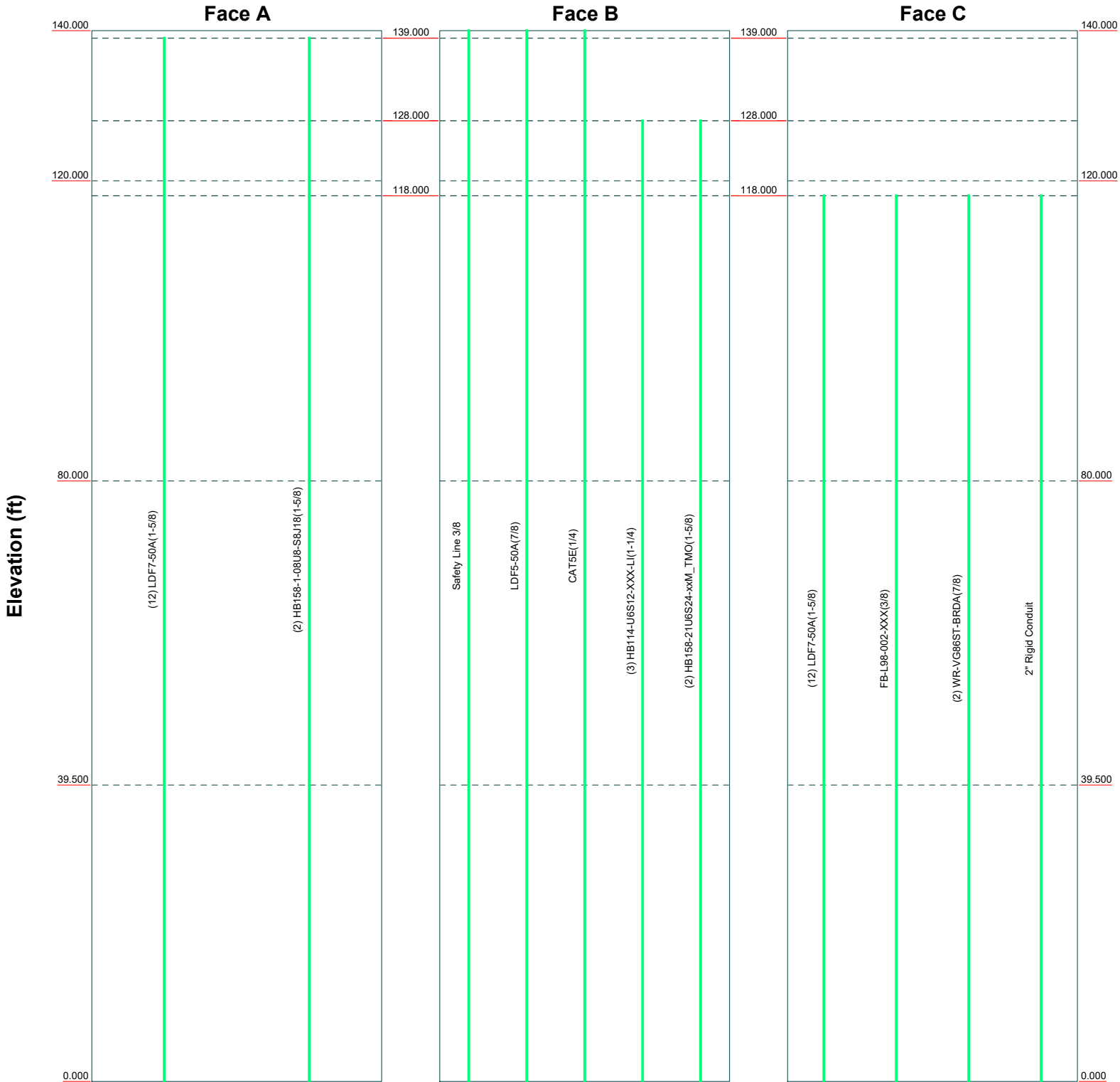
Job: 152728.005.01 - EAST HAMPTON - YOUNG STREET, CT (BU# 84599)		
Project:		
Client: Crown Castle	Drawn by: S Shetty	App'd:
Code: TIA-222-H	Date: 06/16/22	Scale: NTS
Path:	Dwg No. E-4	



Feed Line Distribution Chart

0' - 140'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



	MTS Engineering, P.L.L.C.		Job: 152728.005.01 - EAST HAMPTON - YOUNG STREET, CT (BU# 84599)		
	1717 S. Boulder, Suite 300		Client: Crown Castle		
	Tulsa, OK 74119		Drawn by: S Shetty		
	Phone: (918) 587-4630		Date: 06/16/22		
FAX: (918) 295-0265		Code: TIA-222-H		App'd: _____	
		Path: _____		Scale: NTS	
				Dwg No. E-7	

<p>tnxTower</p> <p>MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 152728.005.01 - EAST HAMPTON - YOUNG STREET, CT (BU# 845994)</p>	<p>Page 1 of 16</p>
	<p>Project</p>	<p>Date 14:54:57 06/16/22</p>
	<p>Client Crown Castle</p>	<p>Designed by S Shetty</p>

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

- Tower is located in Middlesex County, Connecticut.
- Tower base elevation above sea level: 465.000 ft.
- Basic wind speed of 121 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- TIA-222-H Annex S.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets √ Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|---|

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Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	140.000-120.000	20.000	0.000	Round	24.000	24.000	0.375		A53-B-35 (35 ksi)
L2	120.000-80.000	40.000	4.500	18	24.000	36.379	0.219	0.875	A572-65 (65 ksi)
L3	80.000-39.500	45.000	5.500	18	34.549	44.261	0.313	1.250	A572-65 (65 ksi)
L4	39.500-0.000	45.000		18	42.449	51.750	0.375	1.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I ² /Q in ²	w in	w/t
L1	24.000	27.833	1942.299	8.354	12.000	161.858	3884.597	13.908	0.000	0
	24.000	27.833	1942.299	8.354	12.000	161.858	3884.597	13.908	0.000	0
L2	24.336	16.512	1179.768	8.442	12.192	96.766	2361.088	8.257	3.839	17.55
	36.906	25.107	4147.503	12.837	18.481	224.426	8300.463	12.556	6.018	27.51
L3	36.020	33.958	5028.717	12.154	17.551	286.523	10064.052	16.982	5.531	17.698
	44.896	43.591	10637.181	15.602	22.485	473.088	21288.359	21.800	7.240	23.168
L4	44.200	50.079	11199.944	14.936	21.564	519.380	22414.625	25.044	6.811	18.163
	52.490	61.149	20390.654	18.238	26.289	775.634	40808.138	30.580	8.448	22.528

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 140.000-120.000				1	1	1			
L2 120.000-80.000				1	1	1			
L3 80.000-39.500				1	1	1			
L4 39.500-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Shield Leg	Allow	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
*											

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Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight klf
Safety Line 3/8	B	No	No	CaAa (Out Of Face)	140.000 - 0.000	1	No Ice	0.037	0.000
							1/2" Ice	0.137	0.001
							1" Ice	0.238	0.001
*									
LDF5-50A(7/8)	B	No	No	Inside Pole	140.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
CAT5E(1/4)	B	No	No	Inside Pole	140.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
*									
LDF7-50A(1-5/8)	A	No	No	Inside Pole	139.000 - 0.000	12	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
HB158-1-08U8-S8J 18(1-5/8)	A	No	No	Inside Pole	139.000 - 0.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
*									
HB114-U6S12-XXX-LI(1-1/4)	B	No	No	Inside Pole	128.000 - 0.000	3	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
HB158-21U6S24-xx M_TMO(1-5/8)	B	No	No	Inside Pole	128.000 - 0.000	2	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
*									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	118.000 - 0.000	12	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
FB-L98-002-XXX(3/8)	C	No	No	Inside Pole	118.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
WR-VG86ST-BRD A(7/8)	C	No	No	Inside Pole	118.000 - 0.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
2" Rigid Conduit	C	No	No	Inside Pole	118.000 - 0.000	1	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	140.000-120.000	A	0.000	0.000	0.000	0.000	0.236
		B	0.000	0.000	0.000	0.750	0.093
		C	0.000	0.000	0.000	0.000	0.000
L2	120.000-80.000	A	0.000	0.000	0.000	0.000	0.498
		B	0.000	0.000	0.000	1.500	0.428
		C	0.000	0.000	0.000	0.000	0.534
L3	80.000-39.500	A	0.000	0.000	0.000	0.000	0.504

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Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{A_A} In Face ft ²	C _{A_A} Out Face ft ²	Weight K
L4	39.500-0.000	B	0.000	0.000	0.000	1.519	0.433
		C	0.000	0.000	0.000	0.000	0.570
		A	0.000	0.000	0.000	0.000	0.491
		B	0.000	0.000	0.000	1.481	0.422
		C	0.000	0.000	0.000	0.000	0.556

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{A_A} In Face ft ²	C _{A_A} Out Face ft ²	Weight K
L1	140.000-120.000	A	0.975	0.000	0.000	0.000	0.000	0.236
		B		0.000	0.000	0.000	4.650	0.113
		C		0.000	0.000	0.000	0.000	0.000
L2	120.000-80.000	A	0.949	0.000	0.000	0.000	0.000	0.498
		B		0.000	0.000	0.000	9.089	0.468
		C		0.000	0.000	0.000	0.000	0.534
L3	80.000-39.500	A	0.902	0.000	0.000	0.000	0.000	0.504
		B		0.000	0.000	0.000	9.203	0.474
		C		0.000	0.000	0.000	0.000	0.570
L4	39.500-0.000	A	0.805	0.000	0.000	0.000	0.000	0.491
		B		0.000	0.000	0.000	8.604	0.460
		C		0.000	0.000	0.000	0.000	0.556

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	140.000-120.000	0.416	0.240	0.925	0.534
L2	120.000-80.000	0.298	0.172	0.926	0.535
L3	80.000-39.500	0.300	0.173	0.957	0.553
L4	39.500-0.000	0.301	0.174	0.937	0.541

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{A_A} Front ft ²	C _{A_A} Side ft ²	Weight K	
Lighting Rod 3/4" x 8'	C	None		0.000	144.000	No Ice	0.600	0.600	0.030
						1/2" Ice	1.415	1.415	0.036
						1" Ice	2.246	2.246	0.047

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						°
*										
PTP 820C_CCIV2 w/ Mount Pipe	A	From Leg	3.000	0.000	0.000	142.000	No Ice 1/2" Ice 1" Ice	0.858 1.029 1.213	0.582 0.774 0.982	0.021 0.031 0.044
ANT500D6-9	A	From Leg	3.000	0.000	0.000	142.000	No Ice 1/2" Ice 1" Ice	2.859 4.217 4.591	2.859 4.217 4.591	0.028 0.070 0.116
6' x 2" Mount Pipe	A	From Leg	3.000	0.000	0.000	142.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
Side Arm Mount [SO 701-1]	A	From Leg	2.000	0.000	0.000	142.000	No Ice 1/2" Ice 1" Ice	0.850 1.140 1.430	1.670 2.340 3.010	0.065 0.079 0.093
*										
(2) LPA-80063-6CF-EDIN w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	9.970 10.541 11.077	10.248 11.422 12.309	0.052 0.145 0.247
(2) LPA-80063-6CF-EDIN w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	9.970 10.541 11.077	10.248 11.422 12.309	0.052 0.145 0.247
(2) LPA-80063-6CF-EDIN w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	9.970 10.541 11.077	10.248 11.422 12.309	0.052 0.145 0.247
JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	5.500 5.970 6.450	4.380 4.840 5.300	0.096 0.169 0.254
JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	5.500 5.970 6.450	4.380 4.840 5.300	0.096 0.169 0.254
JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	5.500 5.970 6.450	4.380 4.840 5.300	0.096 0.169 0.254
JAHH-65B-R3B	A	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	5.290 5.750 6.220	3.050 3.480 3.930	0.063 0.121 0.186
JAHH-65B-R3B	B	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	5.290 5.750 6.220	3.050 3.480 3.930	0.063 0.121 0.186
JAHH-65B-R3B	C	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	5.290 5.750 6.220	3.050 3.480 3.930	0.063 0.121 0.186
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	4.907 5.256 5.615	2.682 3.145 3.624	0.096 0.136 0.180
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	4.907 5.256 5.615	2.682 3.145 3.624	0.096 0.136 0.180
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	4.907 5.256 5.615	2.682 3.145 3.624	0.096 0.136 0.180
RFV01U-D1A	A	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	1.875 2.045 2.223	1.250 1.393 1.543	0.084 0.103 0.124
RFV01U-D1A	B	From Leg	4.000	0.000	0.000	139.000	No Ice 1/2" Ice 1" Ice	1.875 2.045 2.223	1.250 1.393 1.543	0.084 0.103 0.124
RFV01U-D1A	C	From Leg	4.000	0.000	0.000	139.000	No Ice	1.875	1.250	0.084

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			Horz Lateral ft	Vert ft					
			0.000			1/2" Ice	2.045	1.393	0.103
			1.000			1" Ice	2.223	1.543	0.124
RFV01U-D2A	A	From Leg	4.000	0.000	139.000	No Ice	1.875	1.013	0.070
			0.000			1/2" Ice	2.045	1.145	0.087
			1.000			1" Ice	2.223	1.284	0.106
RFV01U-D2A	B	From Leg	4.000	0.000	139.000	No Ice	1.875	1.013	0.070
			0.000			1/2" Ice	2.045	1.145	0.087
			1.000			1" Ice	2.223	1.284	0.106
RFV01U-D2A	C	From Leg	4.000	0.000	139.000	No Ice	1.875	1.013	0.070
			0.000			1/2" Ice	2.045	1.145	0.087
			1.000			1" Ice	2.223	1.284	0.106
CBC78T-DS-43-2X	A	From Leg	4.000	0.000	139.000	No Ice	0.368	0.512	0.021
			0.000			1/2" Ice	0.446	0.605	0.027
			1.000			1" Ice	0.531	0.705	0.035
CBC78T-DS-43-2X	B	From Leg	4.000	0.000	139.000	No Ice	0.368	0.512	0.021
			0.000			1/2" Ice	0.446	0.605	0.027
			1.000			1" Ice	0.531	0.705	0.035
CBC78T-DS-43-2X	C	From Leg	4.000	0.000	139.000	No Ice	0.368	0.512	0.021
			0.000			1/2" Ice	0.446	0.605	0.027
			1.000			1" Ice	0.531	0.705	0.035
RCMDC-6627-PF-48	A	From Leg	4.000	0.000	139.000	No Ice	4.056	3.098	0.032
			0.000			1/2" Ice	4.316	3.335	0.068
			1.000			1" Ice	4.582	3.580	0.109
T-Arm Mount [TA 602-3_KCKR]	C	None		0.000	139.000	No Ice	23.410	23.410	1.049
						1/2" Ice	28.720	28.720	1.424
						1" Ice	34.480	34.480	1.904
Side Arm Mount [SO 102-3]	C	None		0.000	139.000	No Ice	3.600	3.600	0.075
						1/2" Ice	4.180	4.180	0.105
						1" Ice	4.750	4.750	0.135
*									
APXVAA24_43-U-A20 w/ Mount Pipe	A	From Leg	4.000	0.000	128.000	No Ice	14.690	6.870	0.157
			0.000			1/2" Ice	15.460	7.550	0.285
			2.000			1" Ice	16.230	8.250	0.427
APXVAA24_43-U-A20 w/ Mount Pipe	B	From Leg	4.000	0.000	128.000	No Ice	14.690	6.870	0.157
			0.000			1/2" Ice	15.460	7.550	0.285
			2.000			1" Ice	16.230	8.250	0.427
APXVAA24_43-U-A20 w/ Mount Pipe	C	From Leg	4.000	0.000	128.000	No Ice	14.690	6.870	0.157
			0.000			1/2" Ice	15.460	7.550	0.285
			2.000			1" Ice	16.230	8.250	0.427
RADIO 4449 B71/B85A	A	From Leg	4.000	0.000	128.000	No Ice	1.644	1.310	0.075
			0.000			1/2" Ice	1.804	1.455	0.092
			2.000			1" Ice	1.972	1.608	0.112
RADIO 4449 B71/B85A	B	From Leg	4.000	0.000	128.000	No Ice	1.644	1.310	0.075
			0.000			1/2" Ice	1.804	1.455	0.092
			2.000			1" Ice	1.972	1.608	0.112
RADIO 4449 B71/B85A	C	From Leg	4.000	0.000	128.000	No Ice	1.644	1.310	0.075
			0.000			1/2" Ice	1.804	1.455	0.092
			2.000			1" Ice	1.972	1.608	0.112
AIR 6419 B41_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	128.000	No Ice	6.580	3.500	0.111
			0.000			1/2" Ice	7.060	3.900	0.162
			2.000			1" Ice	7.570	4.320	0.220
AIR 6419 B41_TMO w/ Mount Pipe	B	From Leg	4.000	0.000	128.000	No Ice	6.580	3.500	0.111
			0.000			1/2" Ice	7.060	3.900	0.162
			2.000			1" Ice	7.570	4.320	0.220
AIR 6419 B41_TMO w/ Mount Pipe	C	From Leg	4.000	0.000	128.000	No Ice	6.580	3.500	0.111
			0.000			1/2" Ice	7.060	3.900	0.162
			2.000			1" Ice	7.570	4.320	0.220

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
VV-65B-R1_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	128.000	No Ice	8.154	5.426	0.067
			0.000				1/2" Ice	8.704	6.558	0.127
			2.000				1" Ice	9.219	7.414	0.196
VV-65B-R1_TMO w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	128.000	No Ice	8.154	5.426	0.067
			0.000				1/2" Ice	8.704	6.558	0.127
			2.000				1" Ice	9.219	7.414	0.196
VV-65B-R1_TMO w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	128.000	No Ice	8.154	5.426	0.067
			0.000				1/2" Ice	8.704	6.558	0.127
			2.000				1" Ice	9.219	7.414	0.196
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000	0.000	0.000	128.000	No Ice	2.139	1.686	0.109
			0.000				1/2" Ice	2.321	1.850	0.131
			2.000				1" Ice	2.511	2.022	0.156
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.000	0.000	0.000	128.000	No Ice	2.139	1.686	0.109
			0.000				1/2" Ice	2.321	1.850	0.131
			2.000				1" Ice	2.511	2.022	0.156
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.000	0.000	0.000	128.000	No Ice	2.139	1.686	0.109
			0.000				1/2" Ice	2.321	1.850	0.131
			2.000				1" Ice	2.511	2.022	0.156
8' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	128.000	No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
			0.000				1" Ice	3.401	3.401	0.063
8' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	128.000	No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
			0.000				1" Ice	3.401	3.401	0.063
8' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	128.000	No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
			0.000				1" Ice	3.401	3.401	0.063
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.000	0.000	128.000	No Ice	28.310	28.310	1.770
							1/2" Ice	35.690	35.690	2.297
							1" Ice	43.110	43.110	2.943
*										
P65-17-XLH-RR w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	118.000	No Ice	7.480	5.290	0.095
			0.000				1/2" Ice	8.170	5.960	0.173
			2.000				1" Ice	8.880	6.640	0.264
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	118.000	No Ice	5.746	4.254	0.055
			0.000				1/2" Ice	6.179	5.014	0.103
			2.000				1" Ice	6.607	5.711	0.157
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	118.000	No Ice	5.746	4.254	0.055
			0.000				1/2" Ice	6.179	5.014	0.103
			2.000				1" Ice	6.607	5.711	0.157
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	118.000	No Ice	5.746	4.254	0.055
			0.000				1/2" Ice	6.179	5.014	0.103
			2.000				1" Ice	6.607	5.711	0.157
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	118.000	No Ice	4.630	3.270	0.074
			0.000				1/2" Ice	5.060	3.690	0.133
			2.000				1" Ice	5.510	4.120	0.203
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	118.000	No Ice	4.630	3.270	0.074
			0.000				1/2" Ice	5.060	3.690	0.133
			2.000				1" Ice	5.510	4.120	0.203
RRUS-11	A	From Leg	4.000	0.000	0.000	118.000	No Ice	2.784	1.187	0.048
			0.000				1/2" Ice	2.992	1.334	0.068
			2.000				1" Ice	3.207	1.490	0.092
RRUS-11	B	From Leg	4.000	0.000	0.000	118.000	No Ice	2.784	1.187	0.048
			0.000				1/2" Ice	2.992	1.334	0.068
			2.000				1" Ice	3.207	1.490	0.092
RRUS-11	C	From Leg	4.000	0.000	0.000	118.000	No Ice	2.784	1.187	0.048
			0.000				1/2" Ice	2.992	1.334	0.068

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(2) LGP21401	A	From Leg	2.000 4.000 0.000	0.000	118.000	1" Ice 3.207 No Ice 1.104 1/2" Ice 1.239	1.490 0.207 0.274	0.092 0.014 0.021
(2) LGP21401	B	From Leg	2.000 4.000 0.000	0.000	118.000	1" Ice 1.381 No Ice 1.104 1/2" Ice 1.239	0.348 0.207 0.274	0.030 0.014 0.021
(2) LGP21401	C	From Leg	2.000 4.000 0.000	0.000	118.000	1" Ice 1.381 No Ice 1.104 1/2" Ice 1.239	0.348 0.207 0.274	0.030 0.014 0.021
(2) LGP13519	A	From Leg	2.000 4.000 0.000	0.000	118.000	1" Ice 1.381 No Ice 0.290 1/2" Ice 0.362	0.348 0.181 0.241	0.030 0.005 0.008
(2) LGP13519	B	From Leg	2.000 4.000 0.000	0.000	118.000	1" Ice 0.441 No Ice 0.290 1/2" Ice 0.362	0.310 0.181 0.241	0.012 0.005 0.008
(2) LGP13519	C	From Leg	2.000 4.000 0.000	0.000	118.000	1" Ice 0.441 No Ice 0.290 1/2" Ice 0.362	0.310 0.181 0.241	0.012 0.005 0.008
DC6-48-60-18-8F	A	From Leg	2.000 0.000 0.000	0.000	118.000	1" Ice 0.441 No Ice 1.212 1/2" Ice 1.892	0.310 1.212 1.892	0.012 0.033 0.055
8' x 2" Mount Pipe	A	From Leg	0.000 2.000 0.000	0.000	118.000	1" Ice 2.105 No Ice 1.900 1/2" Ice 2.728	2.105 1.900 2.728	0.080 0.029 0.044
8' x 2" Mount Pipe	B	From Leg	0.000 2.000 0.000	0.000	118.000	1" Ice 3.401 No Ice 1.900 1/2" Ice 2.728	3.401 1.900 2.728	0.063 0.029 0.044
8' x 2" Mount Pipe	C	From Leg	0.000 2.000 0.000	0.000	118.000	1" Ice 3.401 No Ice 1.900 1/2" Ice 2.728	3.401 1.900 2.728	0.063 0.029 0.044
Sector Mount [SM 901-3]	C	None	0.000	0.000	118.000	1" Ice 3.401 No Ice 12.780 1/2" Ice 15.530 1" Ice 18.180	3.401 12.780 15.530 18.180	0.063 1.257 1.449 1.686
*								
*								

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
*										

Load Combinations

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Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	140 - 120	Pole	Max Tension	2	0.000	0.000	-0.000
			Max. Compression	26	-17.496	-0.025	1.830
			Max. Mx	8	-9.465	-159.146	0.705

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L2	120 - 80	Pole	Max. My	2	-9.461	-0.005	160.150
			Max. Vy	8	10.621	-159.146	0.705
			Max. Vx	2	-10.637	-0.005	160.150
			Max. Torque	8			1.589
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-27.797	-0.080	2.537
			Max. Mx	8	-16.702	-658.791	1.020
			Max. My	2	-16.698	-0.016	661.476
			Max. Vy	8	15.118	-658.791	1.020
			Max. Vx	2	-15.159	-0.016	661.476
L3	80 - 39.5	Pole	Max. Torque	8			2.003
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-38.165	-0.151	2.496
			Max. Mx	8	-25.384	-1304.680	1.060
			Max. My	2	-25.382	-0.031	1308.926
			Max. Vy	8	17.531	-1304.680	1.060
			Max. Vx	2	-17.571	-0.031	1308.926
			Max. Torque	8			1.966
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-53.819	-0.244	2.443
L4	39.5 - 0	Pole	Max. Mx	8	-38.982	-2148.536	1.058
			Max. My	2	-38.982	-0.051	2154.502
			Max. Vy	8	19.922	-2148.536	1.058
			Max. Vx	2	-19.960	-0.051	2154.502
			Max. Torque	8			1.924

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	53.819	-0.000	5.368
	Max. H _x	20	38.993	19.900	0.000
	Max. H _z	2	38.993	-0.000	19.938
	Max. M _x	2	2154.502	-0.000	19.938
	Max. M _z	8	2148.536	-19.900	0.000
	Max. Torsion	8	1.885	-19.900	0.000
	Min. Vert	19	29.245	17.234	-9.969
	Min. H _x	8	38.993	-19.900	0.000
	Min. H _z	14	38.993	-0.000	-19.938
	Min. M _x	14	-2152.361	-0.000	-19.938
	Min. M _z	20	-2148.433	19.900	0.000
	Min. Torsion	20	-1.885	19.900	0.000

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	32.494	0.000	0.000	-0.834	-0.041	-0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	38.993	0.000	-19.938	-2154.502	-0.051	0.216
0.9 Dead+1.0 Wind 0 deg - No Ice	29.245	0.000	-19.938	-2130.440	-0.038	0.216

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Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Ice						
1.2 Dead+1.0 Wind 30 deg - No Ice	38.993	9.950	-17.267	-1866.008	-1074.295	-0.755
0.9 Dead+1.0 Wind 30 deg - No Ice	29.245	9.950	-17.267	-1845.124	-1062.416	-0.746
1.2 Dead+1.0 Wind 60 deg - No Ice	38.993	17.234	-9.969	-1077.788	-1860.698	-1.524
0.9 Dead+1.0 Wind 60 deg - No Ice	29.245	17.234	-9.969	-1065.611	-1840.133	-1.508
1.2 Dead+1.0 Wind 90 deg - No Ice	38.993	19.900	-0.000	-1.058	-2148.536	-1.885
0.9 Dead+1.0 Wind 90 deg - No Ice	29.245	19.900	0.000	-0.776	-2124.794	-1.866
1.2 Dead+1.0 Wind 120 deg - No Ice	38.993	17.234	9.969	1075.666	-1860.687	-1.741
0.9 Dead+1.0 Wind 120 deg - No Ice	29.245	17.234	9.969	1064.056	-1840.125	-1.725
1.2 Dead+1.0 Wind 150 deg - No Ice	38.993	9.950	17.267	1863.874	-1074.284	-1.130
0.9 Dead+1.0 Wind 150 deg - No Ice	29.245	9.950	17.267	1843.559	-1062.408	-1.121
1.2 Dead+1.0 Wind 180 deg - No Ice	38.993	0.000	19.938	2152.361	-0.051	-0.216
0.9 Dead+1.0 Wind 180 deg - No Ice	29.245	0.000	19.938	2128.870	-0.038	-0.216
1.2 Dead+1.0 Wind 210 deg - No Ice	38.993	-9.950	17.267	1863.873	1074.183	0.755
0.9 Dead+1.0 Wind 210 deg - No Ice	29.245	-9.950	17.267	1843.558	1062.333	0.746
1.2 Dead+1.0 Wind 240 deg - No Ice	38.993	-17.234	9.969	1075.665	1860.584	1.525
0.9 Dead+1.0 Wind 240 deg - No Ice	29.245	-17.234	9.969	1064.055	1840.049	1.508
1.2 Dead+1.0 Wind 270 deg - No Ice	38.993	-19.900	-0.000	-1.058	2148.433	1.885
0.9 Dead+1.0 Wind 270 deg - No Ice	29.245	-19.900	0.000	-0.776	2124.718	1.866
1.2 Dead+1.0 Wind 300 deg - No Ice	38.993	-17.234	-9.969	-1077.787	1860.595	1.740
0.9 Dead+1.0 Wind 300 deg - No Ice	29.245	-17.234	-9.969	-1065.611	1840.057	1.724
1.2 Dead+1.0 Wind 330 deg - No Ice	38.993	-9.950	-17.267	-1866.007	1074.194	1.129
0.9 Dead+1.0 Wind 330 deg - No Ice	29.245	-9.950	-17.267	-1845.123	1062.341	1.120
1.2 Dead+1.0 Ice+1.0 Temp	53.819	0.000	-0.000	-2.443	-0.244	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	53.819	0.000	-5.368	-564.335	-0.252	0.222
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	53.819	2.683	-4.648	-489.072	-281.091	-0.006
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	53.819	4.647	-2.684	-283.449	-486.679	-0.232
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	53.819	5.366	-0.000	-2.564	-561.929	-0.397
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	53.819	4.647	2.684	278.321	-486.678	-0.455
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	53.819	2.683	4.648	483.943	-281.090	-0.391
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	53.819	0.000	5.368	559.206	-0.252	-0.222
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	53.819	-2.683	4.648	483.943	280.586	0.006

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Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	53.819	-4.647	2.684	278.321	486.174	0.233
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	53.819	-5.366	-0.000	-2.564	561.425	0.397
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	53.819	-4.647	-2.684	-283.449	486.175	0.455
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	53.819	-2.683	-4.648	-489.072	280.587	0.391
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	32.494	0.000	-4.623	-497.091	-0.043	0.050
Dead+Wind 30 deg - Service	32.494	2.307	-4.003	-430.612	-247.575	-0.185
Dead+Wind 60 deg - Service	32.494	3.996	-2.311	-248.987	-428.783	-0.371
Dead+Wind 90 deg - Service	32.494	4.614	-0.000	-0.882	-495.108	-0.457
Dead+Wind 120 deg - Service	32.494	3.996	2.311	247.222	-428.781	-0.421
Dead+Wind 150 deg - Service	32.494	2.307	4.003	428.848	-247.576	-0.272
Dead+Wind 180 deg - Service	32.494	0.000	4.623	495.325	-0.043	-0.050
Dead+Wind 210 deg - Service	32.494	-2.307	4.003	428.846	247.490	0.185
Dead+Wind 240 deg - Service	32.494	-3.996	2.311	247.222	428.696	0.371
Dead+Wind 270 deg - Service	32.494	-4.614	-0.000	-0.882	495.022	0.457
Dead+Wind 300 deg - Service	32.494	-3.996	-2.311	-248.987	428.698	0.421
Dead+Wind 330 deg - Service	32.494	-2.307	-4.003	-430.612	247.490	0.272

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-32.494	0.000	0.000	32.494	0.000	0.000%
2	0.000	-38.993	-19.938	-0.000	38.993	19.938	0.000%
3	0.000	-29.245	-19.938	-0.000	29.245	19.938	0.000%
4	9.950	-38.993	-17.267	-9.950	38.993	17.267	0.000%
5	9.950	-29.245	-17.267	-9.950	29.245	17.267	0.000%
6	17.234	-38.993	-9.969	-17.234	38.993	9.969	0.000%
7	17.234	-29.245	-9.969	-17.234	29.245	9.969	0.000%
8	19.900	-38.993	0.000	-19.900	38.993	0.000	0.000%
9	19.900	-29.245	0.000	-19.900	29.245	0.000	0.000%
10	17.234	-38.993	9.969	-17.234	38.993	-9.969	0.000%
11	17.234	-29.245	9.969	-17.234	29.245	-9.969	0.000%
12	9.950	-38.993	17.267	-9.950	38.993	-17.267	0.000%
13	9.950	-29.245	17.267	-9.950	29.245	-17.267	0.000%
14	0.000	-38.993	19.938	-0.000	38.993	-19.938	0.000%
15	0.000	-29.245	19.938	-0.000	29.245	-19.938	0.000%
16	-9.950	-38.993	17.267	9.950	38.993	-17.267	0.000%
17	-9.950	-29.245	17.267	9.950	29.245	-17.267	0.000%
18	-17.234	-38.993	9.969	17.234	38.993	-9.969	0.000%
19	-17.234	-29.245	9.969	17.234	29.245	-9.969	0.000%
20	-19.900	-38.993	0.000	19.900	38.993	0.000	0.000%
21	-19.900	-29.245	0.000	19.900	29.245	0.000	0.000%
22	-17.234	-38.993	-9.969	17.234	38.993	9.969	0.000%
23	-17.234	-29.245	-9.969	17.234	29.245	9.969	0.000%
24	-9.950	-38.993	-17.267	9.950	38.993	17.267	0.000%
25	-9.950	-29.245	-17.267	9.950	29.245	17.267	0.000%
26	0.000	-53.819	0.000	-0.000	53.819	0.000	0.000%
27	0.000	-53.819	-5.368	-0.000	53.819	5.368	0.000%
28	2.683	-53.819	-4.648	-2.683	53.819	4.648	0.000%
29	4.647	-53.819	-2.684	-4.647	53.819	2.684	0.000%
30	5.366	-53.819	0.000	-5.366	53.819	0.000	0.000%
31	4.647	-53.819	2.684	-4.647	53.819	-2.684	0.000%

<p>tnxTower</p> <p>MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job</p> <p>152728.005.01 - EAST HAMPTON - YOUNG STREET, CT (BU# 845994)</p>	<p>Page</p> <p>13 of 16</p>
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	<p>Client</p> <p>Crown Castle</p>	<p>Designed by</p> <p>S Shetty</p>

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
32	2.683	-53.819	4.648	-2.683	53.819	-4.648	0.000%
33	0.000	-53.819	5.368	-0.000	53.819	-5.368	0.000%
34	-2.683	-53.819	4.648	2.683	53.819	-4.648	0.000%
35	-4.647	-53.819	2.684	4.647	53.819	-2.684	0.000%
36	-5.366	-53.819	0.000	5.366	53.819	0.000	0.000%
37	-4.647	-53.819	-2.684	4.647	53.819	2.684	0.000%
38	-2.683	-53.819	-4.648	2.683	53.819	4.648	0.000%
39	0.000	-32.494	-4.623	0.000	32.494	4.623	0.000%
40	2.307	-32.494	-4.003	-2.307	32.494	4.003	0.000%
41	3.996	-32.494	-2.311	-3.996	32.494	2.311	0.000%
42	4.614	-32.494	0.000	-4.614	32.494	0.000	0.000%
43	3.996	-32.494	2.311	-3.996	32.494	-2.311	0.000%
44	2.307	-32.494	4.003	-2.307	32.494	-4.003	0.000%
45	0.000	-32.494	4.623	0.000	32.494	-4.623	0.000%
46	-2.307	-32.494	4.003	2.307	32.494	-4.003	0.000%
47	-3.996	-32.494	2.311	3.996	32.494	-2.311	0.000%
48	-4.614	-32.494	0.000	4.614	32.494	0.000	0.000%
49	-3.996	-32.494	-2.311	3.996	32.494	2.311	0.000%
50	-2.307	-32.494	-4.003	2.307	32.494	4.003	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00062458
3	Yes	4	0.00000001	0.00027592
4	Yes	6	0.00000001	0.00016866
5	Yes	6	0.00000001	0.00005693
6	Yes	6	0.00000001	0.00018716
7	Yes	6	0.00000001	0.00006385
8	Yes	5	0.00000001	0.00046147
9	Yes	5	0.00000001	0.00022380
10	Yes	6	0.00000001	0.00016283
11	Yes	6	0.00000001	0.00005492
12	Yes	6	0.00000001	0.00018131
13	Yes	6	0.00000001	0.00006179
14	Yes	4	0.00000001	0.00062212
15	Yes	4	0.00000001	0.00027526
16	Yes	6	0.00000001	0.00018041
17	Yes	6	0.00000001	0.00006145
18	Yes	6	0.00000001	0.00016318
19	Yes	6	0.00000001	0.00005505
20	Yes	5	0.00000001	0.00046145
21	Yes	5	0.00000001	0.00022379
22	Yes	6	0.00000001	0.00018769
23	Yes	6	0.00000001	0.00006405
24	Yes	6	0.00000001	0.00016793
25	Yes	6	0.00000001	0.00005666
26	Yes	4	0.00000001	0.00004579
27	Yes	5	0.00000001	0.00044009
28	Yes	5	0.00000001	0.00063185
29	Yes	5	0.00000001	0.00065981
30	Yes	5	0.00000001	0.00044985
31	Yes	5	0.00000001	0.00060693
32	Yes	5	0.00000001	0.00063310

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33	Yes	5	0.00000001	0.00043000
34	Yes	5	0.00000001	0.00062574
35	Yes	5	0.00000001	0.00060676
36	Yes	5	0.00000001	0.00044942
37	Yes	5	0.00000001	0.00066380
38	Yes	5	0.00000001	0.00062839
39	Yes	4	0.00000001	0.00005214
40	Yes	4	0.00000001	0.00079250
41	Yes	5	0.00000001	0.00005496
42	Yes	4	0.00000001	0.00050321
43	Yes	4	0.00000001	0.00074786
44	Yes	5	0.00000001	0.00004865
45	Yes	4	0.00000001	0.00005161
46	Yes	4	0.00000001	0.00099114
47	Yes	4	0.00000001	0.00074754
48	Yes	4	0.00000001	0.00050312
49	Yes	5	0.00000001	0.00005551
50	Yes	4	0.00000001	0.00078558

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	140 - 120	16.416	39	1.099	0.006
L2	120 - 80	11.876	39	1.051	0.004
L3	84.5 - 39.5	5.526	39	0.643	0.001
L4	45 - 0	1.518	39	0.310	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
144.000	Lighting Rod 3/4" x 8'	39	16.416	1.099	0.006	25039
142.000	PTP 820C_CCIV2 w/ Mount Pipe	39	16.416	1.099	0.006	25039
139.000	(2) LPA-80063-6CF-EDIN w/ Mount Pipe	39	16.183	1.098	0.006	25039
128.000	APXVAA24_43-U-A20 w/ Mount Pipe	39	13.643	1.085	0.005	10432
118.000	P65-17-XLH-RR w/ Mount Pipe	39	11.452	1.038	0.004	6271

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	140 - 120	71.093	2	4.752	0.024
L2	120 - 80	51.467	2	4.552	0.018
L3	84.5 - 39.5	23.965	2	2.790	0.006
L4	45 - 0	6.582	2	1.346	0.002

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
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Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
144.000	Lighting Rod 3/4" x 8"	2	71.093	4.752	0.024	5913
142.000	PTP 820C_CCIV2 w/ Mount Pipe	2	71.093	4.752	0.024	5913
139.000	(2) LPA-80063-6CF-EDIN w/ Mount Pipe	2	70.085	4.750	0.023	5913
128.000	APXVAA24_43-U-A20 w/ Mount Pipe	2	59.108	4.696	0.020	2462
118.000	P65-17-XLH-RR w/ Mount Pipe	2	49.630	4.494	0.017	1477

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	140 - 120 (1)	TP24x24x0.375	20.000	0.000	0.0	27.833	-9.461	876.725	0.011
L2	120 - 80 (2)	TP36.379x24x0.219	40.000	0.000	0.0	24.140	-16.698	1412.170	0.012
L3	80 - 39.5 (3)	TP44.261x34.549x0.313	45.000	0.000	0.0	42.414	-25.382	2481.220	0.010
L4	39.5 - 0 (4)	TP51.75x42.449x0.375	45.000	0.000	0.0	61.149	-38.982	3577.220	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
L1	140 - 120 (1)	TP24x24x0.375	160.150	538.742	0.297	0.000	538.742	0.000
L2	120 - 80 (2)	TP36.379x24x0.219	661.476	1078.508	0.613	0.000	1078.508	0.000
L3	80 - 39.5 (3)	TP44.261x34.549x0.313	1308.925	2481.958	0.527	0.000	2481.958	0.000
L4	39.5 - 0 (4)	TP51.75x42.449x0.375	2154.500	4297.133	0.501	0.000	4297.133	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T _u kip-ft	φT _n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	140 - 120 (1)	TP24x24x0.375	10.637	263.018	0.040	0.025	546.307	0.000

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Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L2	120 - 80 (2)	TP36.379x24x0.219	15.159	423.650	0.036	0.076	1289.917	0.000
L3	80 - 39.5 (3)	TP44.261x34.549x0.313	17.570	744.366	0.024	0.142	2787.525	0.000
L4	39.5 - 0 (4)	TP51.75x42.449x0.375	19.960	1073.170	0.019	0.216	4828.350	0.000

Pole Interaction Design Data

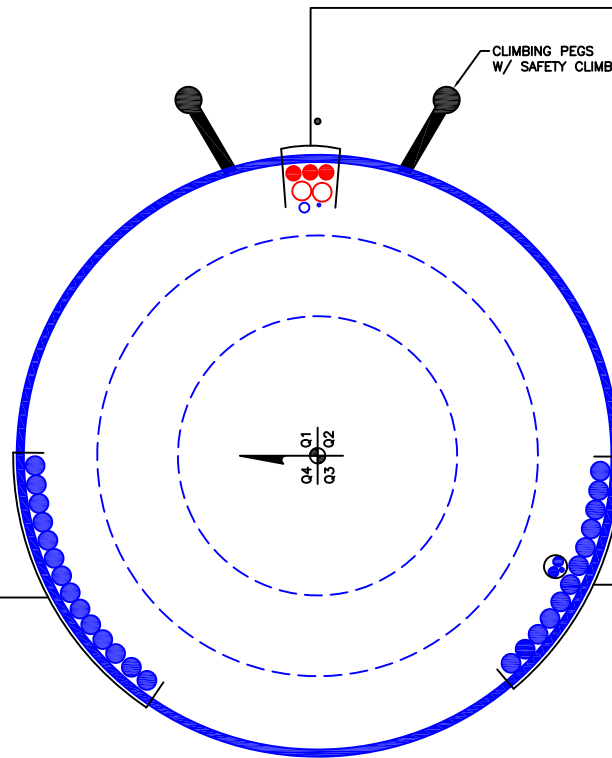
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	140 - 120 (1)	0.011	0.297	0.000	0.040	0.000	0.310	1.050	4.8.2 ✓
L2	120 - 80 (2)	0.012	0.613	0.000	0.036	0.000	0.626	1.050	4.8.2 ✓
L3	80 - 39.5 (3)	0.010	0.527	0.000	0.024	0.000	0.538	1.050	4.8.2 ✓
L4	39.5 - 0 (4)	0.011	0.501	0.000	0.019	0.000	0.513	1.050	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	140 - 120	Pole	TP24x24x0.375	1	-9.461	920.561	29.5	Pass
L2	120 - 80	Pole	TP36.379x24x0.219	2	-16.698	1482.778	59.7	Pass
L3	80 - 39.5	Pole	TP44.261x34.549x0.313	3	-25.382	2605.281	51.3	Pass
L4	39.5 - 0	Pole	TP51.75x42.449x0.375	4	-38.982	3756.081	48.8	Pass
Summary								
Pole (L2)							59.7	Pass
RATING =							59.7	Pass

APPENDIX B
BASE LEVEL DRAWING

(PROPOSED EQUIPMENT CONFIGURATION)
(3) 1-1/4" TO 128 FT LEVEL
(2) 1-5/8" TO 128 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/4" TO 142 FT LEVEL
(1) 7/8" TO 142 FT LEVEL



(OTHER CONSIDERED EQUIPMENT—IN CONDUIT)
(1) 3/8" TO 118 FT LEVEL
(2) 7/8" TO 118 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(12) 1-5/8" TO 118 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(14) 1-5/8" TO 139 FT LEVEL

BUSINESS UNIT: 845994

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Flange Plate Connection

Elevation = 120 ft.



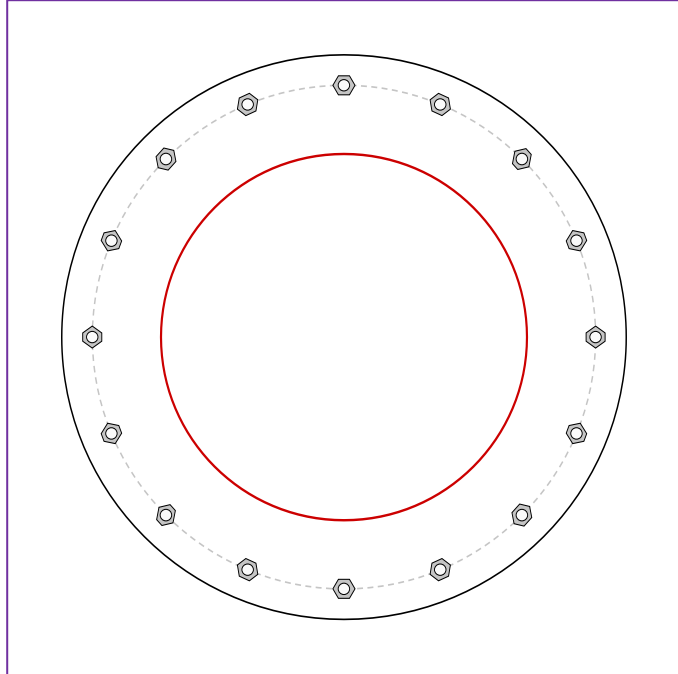
BU #	845994
Site Name	AMPTON - YOUNG STR
Order #	621578, Rev#0

Applied Loads	
Moment (kip-ft)	160.15
Axial Force (kips)	9.46
Shear Force (kips)	10.64

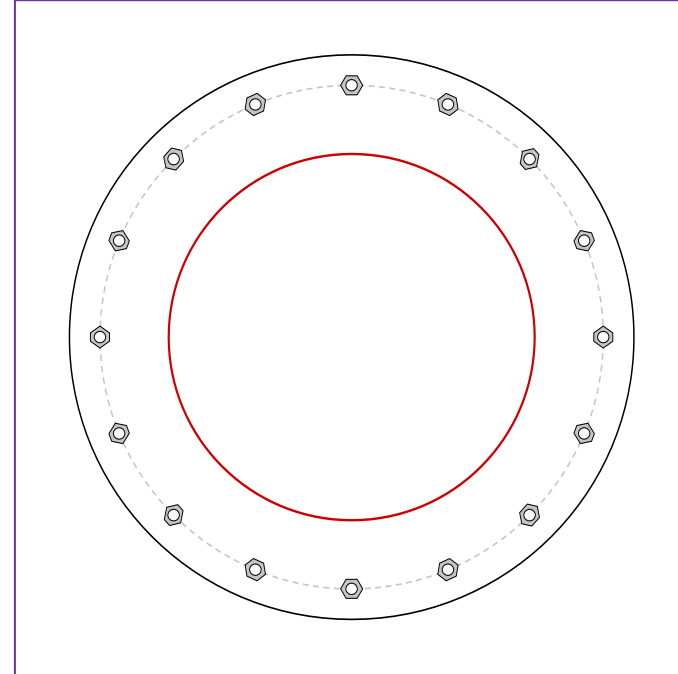
TIA-222 Revision	H
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*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(16) 3/4" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 33" BC

Top Plate Data

37" OD x 1.25" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Top Stiffener Data

N/A

Top Pole Data

24" x 0.375" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Bottom Plate Data

37" OD x 1.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

24" x 0.21875" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	13.96
Allowable (kips)	30.04
Stress Rating:	44.3% Pass

Top Plate Capacity

Max Stress (ksi):	18.99	(Flexural)
Allowable Stress (ksi):	45.00	
Stress Rating:	40.2%	Pass
Tension Side Stress Rating:	27.8%	Pass

Bottom Plate Capacity

Max Stress (ksi):	9.69	(Flexural)
Allowable Stress (ksi):	45.00	
Stress Rating:	20.5%	Pass
Tension Side Stress Rating:	14.2%	Pass

Monopole Base Plate Connection

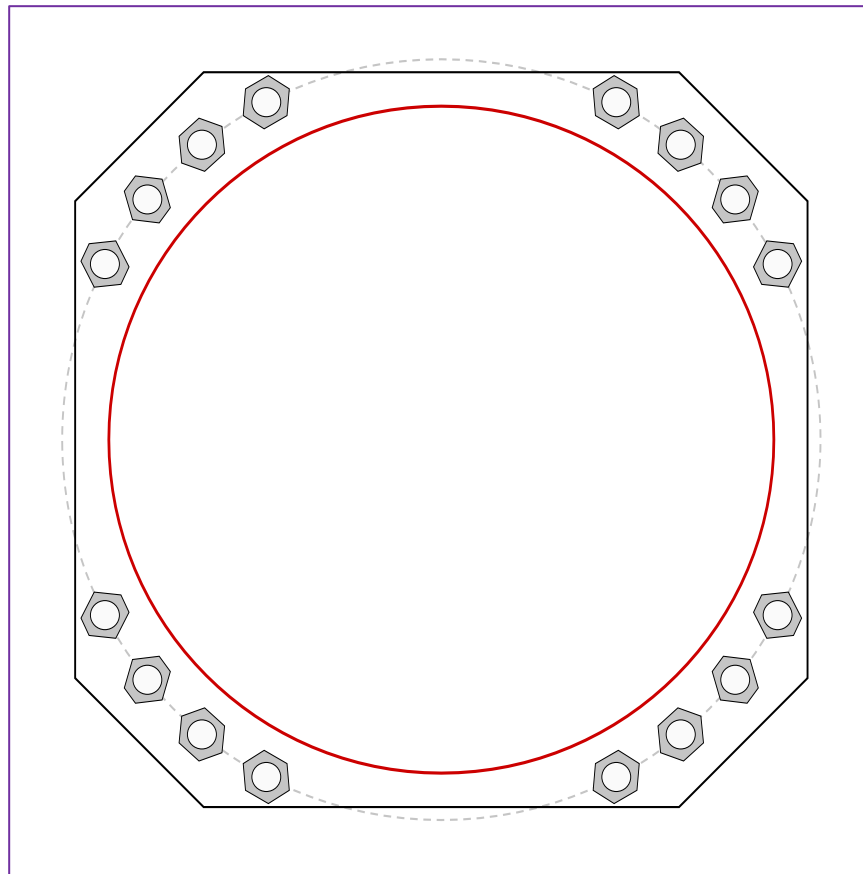


Site Info	
BU #	845994
Site Name	AMPTON - YOUNG STR
Order #	621578, Rev#0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0.875

Applied Loads	
Moment (kip-ft)	2154.50
Axial Force (kips)	38.98
Shear Force (kips)	19.96

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 59" BC <i>Anchor Spacing: 6 in</i>
Base Plate Data
57" W x 3" Plate (A572-55; $F_y=55$ ksi, $F_u=70$ ksi); Clip: 10 in
Stiffener Data
N/A
Pole Data
51.75" x 0.375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary <i>(units of kips, kip-in)</i>		
$P_{u,t} = 107.05$	$\phi P_{n,t} = 243.75$	Stress Rating
$V_u = 1.25$	$\phi V_n = 149.1$	41.8%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	19.34	(Flexural)
Allowable Stress (ksi):	49.5	
Stress Rating:	37.2%	Pass

Pier and Pad Foundation



BU #: 845994
Site Name: EAST HAMPTON -
App. Number: 621578, Rev#0

TIA-222 Revision: H
Tower Type: Monopole

Top & Bot. Pad Rein. Different?:
Block Foundation?:
Rectangular Pad?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	39	kips
Base Shear, Vu_{comp} :	20	kips
Moment, M_u :	2155	ft-kips
Tower Height, H :	140	ft
BP Dist. Above Fdn, bp_{dist} :	3.125	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	332.13	20.00	5.7%	Pass
<i>Bearing Pressure (ksf)</i>	22.50	1.82	7.7%	Pass
<i>Overturning (kip*ft)</i>	7470.87	2310.21	30.9%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	6301.36	2245.00	33.9%	Pass
<i>Pier Compression (kip)</i>	23390.64	78.69	0.3%	Pass
<i>Pad Flexure (kip*ft)</i>	4264.80	763.85	17.1%	Pass
<i>Pad Shear - 1-way (kips)</i>	766.41	118.55	14.7%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.164	0.024	13.9%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	5374.36	1347.00	23.9%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	7	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	10	
Pier Rebar Quantity, mc :	32	
Pier Tie/Spiral Size, St :	5	
Pier Tie/Spiral Quantity, mt :	12	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	33.9%
Soil Rating*:	30.9%

Pad Properties		
Depth, D :	7	ft
Pad Width, W_1 :	25	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	10	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	25	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	3	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	121	pcf
Ultimate Gross Bearing, Q_{ult} :	30.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	38	degrees
SPT Blow Count, N_{blows} :	65	
Base Friction, μ :	0.4	
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	8	ft

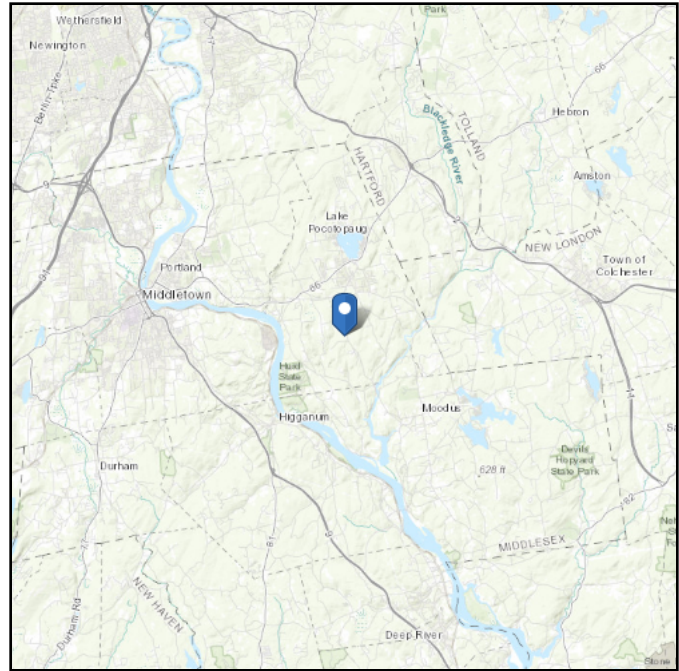
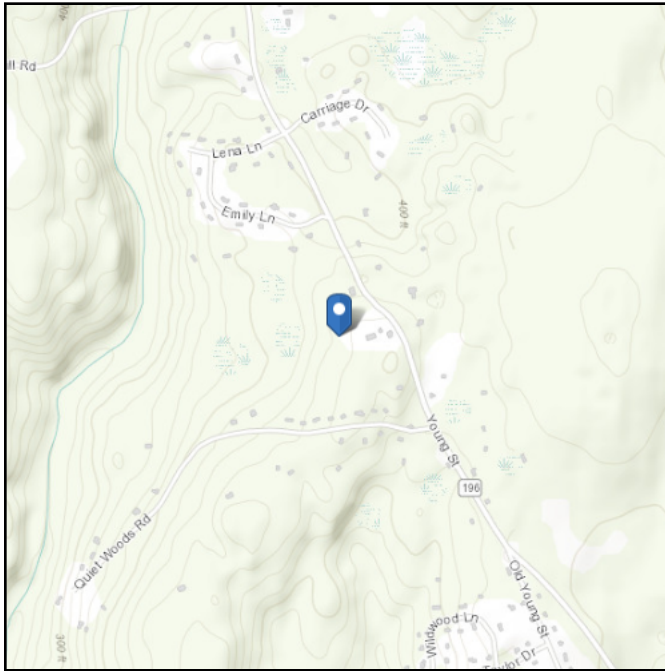
<--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 465.15 ft (NAVD 88)
Latitude: 41.543922
Longitude: -72.506233



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Jun 16 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

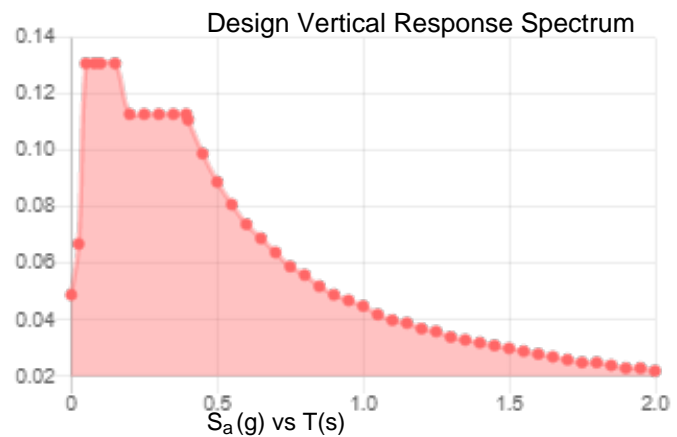
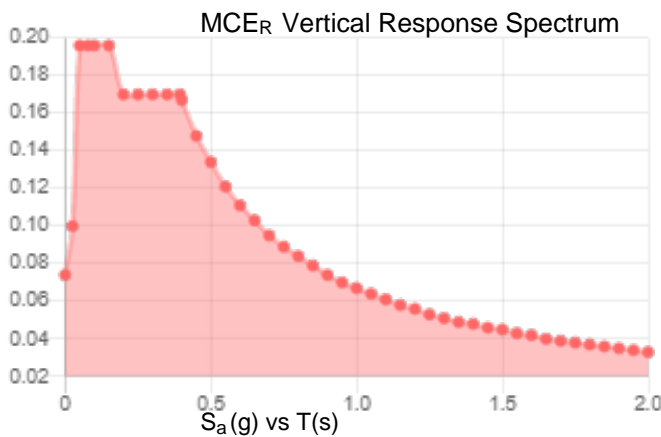
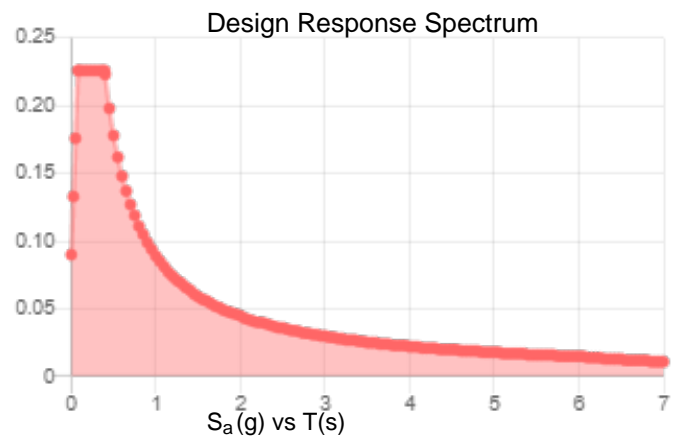
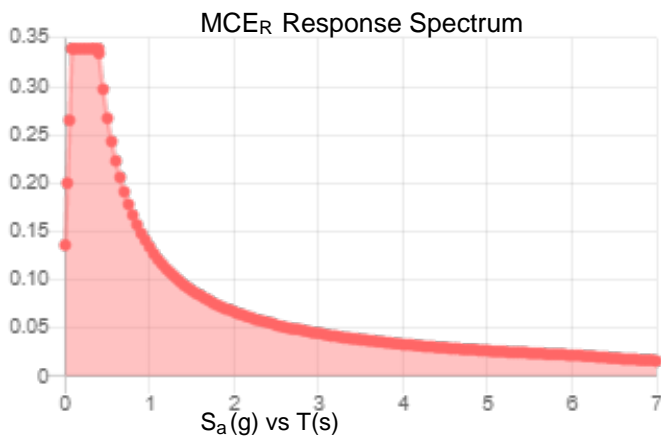
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	0.212	S_{D1} :	0.089
S_1 :	0.056	T_L :	6
F_a :	1.6	PGA :	0.118
F_v :	2.4	PGA _M :	0.185
S_{MS} :	0.339	F_{PGA} :	1.563
S_{M1} :	0.134	I_e :	1
S_{DS} :	0.226	C_v :	0.724

Seismic Design Category B



Data Accessed: Thu Jun 16 2022

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Jun 16 2022

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

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Date: **June 14, 2022**



Trylon
1825 W. Walnut Hill Lane,
Suite 302
Irving, TX 75038
214-930-1730

Subject: **Mount Analysis Report**

Carrier Designation: **T-Mobile Equipment Change-Out**
Carrier Site Number: CTHA602A
Carrier Site Name: UCTHA602A

Crown Castle Designation: **BU Number:** 845994
Site Name: East Hampton - Young Street
JDE Job Number: 721543
Order Number: 621578 Rev. 0

Engineering Firm Designation: **Trylon Report Designation:** 211634

Site Data: **151 Young Street, East Hampton, Middlesex County, CT, 06424**
Latitude 41°32'38.12" Longitude -72°30'22.44"

Structure Information: **Tower Height & Type:** **140.0 ft Monopole**
Mount Elevation: **128.0 ft**
Mount Width & Type: **12.5 ft Platform**

Trylon is pleased to submit this “**Mount Analysis Report**” to determine the structural integrity of T-Mobile’s antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform

Sufficient

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Ioana Gurgu

Respectfully Submitted by:
Cliff Abernathy, P.E.



06/14/2022

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Additional Calculations

1) INTRODUCTION

This is an existing 3 sector 12.5 ft Platform, designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	130 mph
Exposure Category:	B
Topographic Factor at Base:	1.00
Topographic Factor at Mount:	1.00
Ice Thickness:	1.50 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.177
Seismic S₁:	0.062
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
128.0	130.0	3	Commscope	VV-65B-R1_TMO	12.5 ft Platform
		3	RFS/Celwave	APXVAA24_43-U-A20	
		3	Ericsson	AIR 6419 B41_TMO	
		3	Ericsson	RADIO 4449 B71/B85A	
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	621578, Rev. 0	CCI Sites
Structural Analysis Report	B+T Group	10010167	CCI Sites
Mount Manufacturer Drawings	Site Pro 1	RMQP-4096-HK	Trylon

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed, using Microsoft Excel, by Trylon was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 Tower Mount Analysis (Revision E).

3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
- 3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
- 5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
- 6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Tylon should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2,3,4	Mount Pipe(s)	MP6	128.0	23.8	Pass
	Horizontal(s)	H2		12.2	Pass
	Standoff(s)	M86		19.7	Pass
	Bracing(s)	M85		15.4	Pass
	Handrail(s)	M73B		47.9	Pass
	Kicker(s)	M95		9.0	Pass
	Plate(s)	M102		47.6	Pass
	Mount Connection(s)	-		14.4	Pass

Structure Rating (max from all components) =	47.9%
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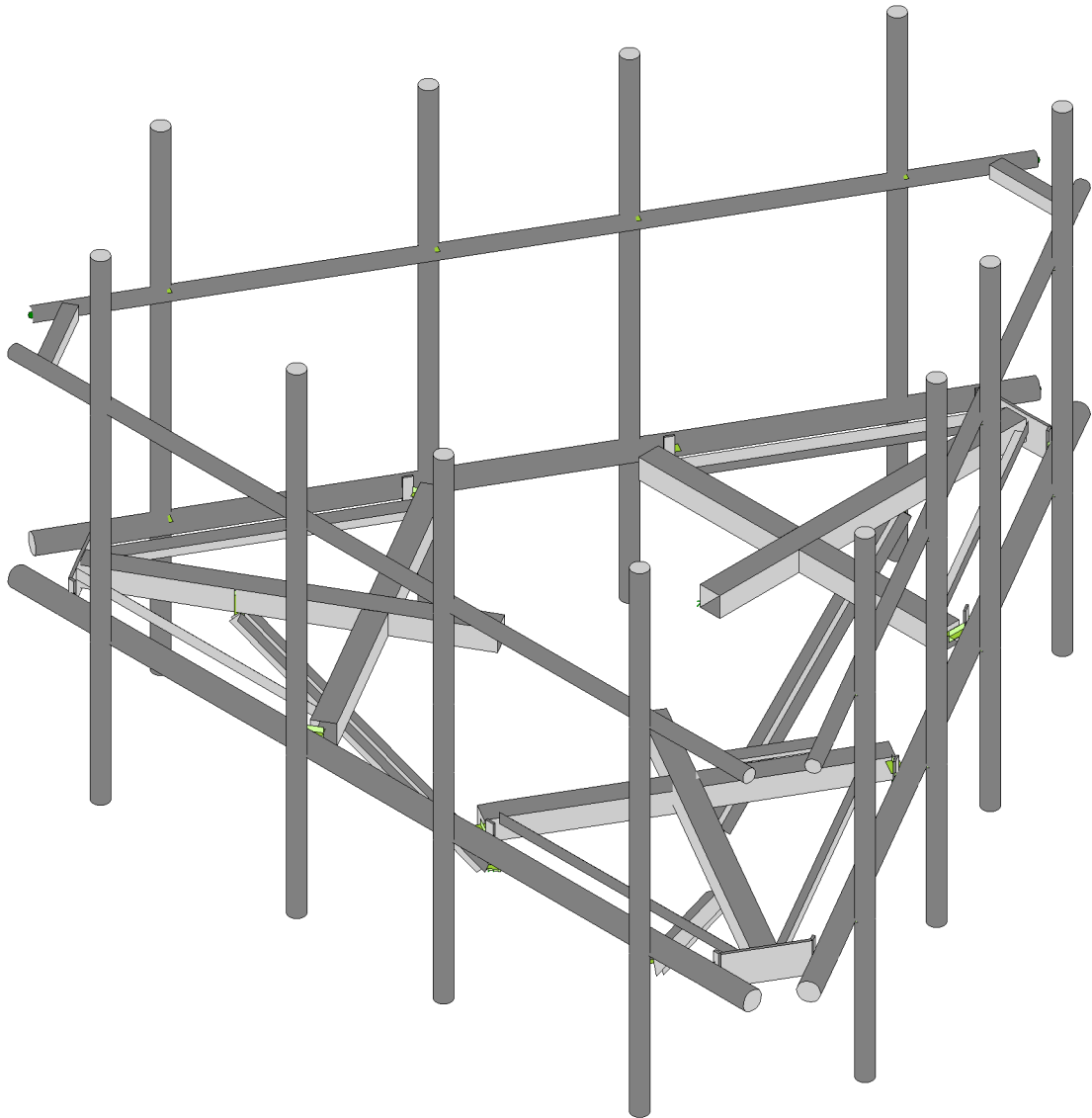
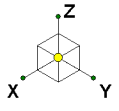
Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) See additional documentation in "Appendix D – Additional Calculations" for detailed mount connection calculations.
- 3) All sectors are typical
- 4) Rating per TIA-222-H, Section 15.5

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS

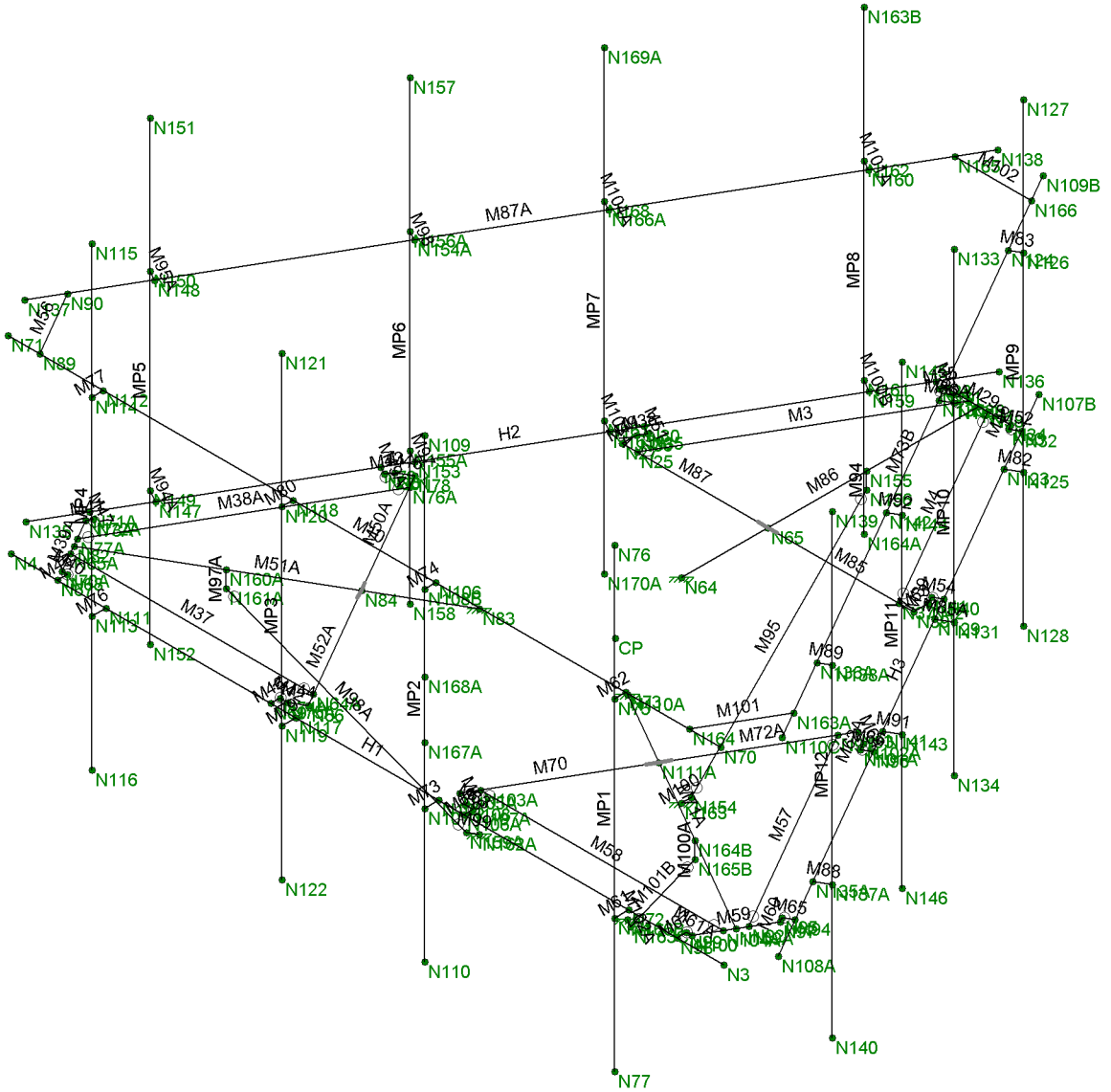
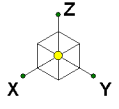


Envelope Only Solution

Trylon
IG
211634

845994

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APPENDIX B
SOFTWARE INPUT CALCULATIONS



Trylon

1825 W. Walnut Hill Lane Suite 120
Irving, TX 75038

TIA LOAD CALCULATOR 2.2

PROJECT DATA	
Job Code:	211634
Carrier Site ID:	CTHA602A
Carrier Site Name:	UCTHA602A

CODES AND STANDARDS	
Building Code:	2015 IBC
Local Building Code:	2018 CSBC
Design Standard:	TIA-222-H

STRUCTURE DETAILS		
Mount Type:	Platform	--
Mount Elevation:	128.0	ft.
Number of Sectors:	3	--
Structure Type:	Monopole	--
Structure Height:	140.0	ft.

ANALYSIS CRITERIA		
Structure Risk Category:	II	--
Exposure Category:	B	--
Site Class:	D - Stiff Soil	--
Ground Elevation:	465.15	ft.

TOPOGRAPHIC DATA		
Topographic Category:	1.00	--
Topographic Feature:	N/A	--
Crest Point Elevation:	0.00	ft.
Base Point Elevation:	0.00	ft.
Crest to Mid-Height (L/2):	0.00	ft.
Distance from Crest (x):	0.00	ft.
Base Topo Factor (K_{zt}):	1.00	--
Mount Topo Factor (K_{zt}):	1.00	--

WIND PARAMETERS		
Design Wind Speed:	130	mph
Wind Escalation Factor (K_s):	1.00	--
Velocity Coefficient (K_z):	1.06	--
Directionality Factor (K_d):	0.95	--
Gust Effect Factor (G _h):	1.00	--
Shielding Factor (K_a):	0.90	--
Velocity Pressure (q_z):	42.86	psf
Ground Elevation Factor (K_e):	0.98	--

ICE PARAMETERS		
Design Ice Wind Speed:	50	mph
Design Ice Thickness (t_i):	1.50	in
Importance Factor (I_i):	1.00	--
Ice Velocity Pressure (q_{zi}):	6.85	psf
Mount Ice Thickness (t_{iz}):	1.72	in

WIND STRUCTURE CALCULATIONS		
Flat Member Pressure:	77.14	psf
Round Member Pressure:	46.29	psf
Ice Wind Pressure:	7.39	psf

SEISMIC PARAMETERS		
Importance Factor (I_e):	1.00	--
Short Period Accel. (S_s):	0.177	g
1 Second Accel. (S_1):	0.062	g
Short Period Des. (S_{DS}):	0.19	g
1 Second Des. (S_{D1}):	0.10	g
Short Period Coeff. (F_a):	1.60	--
1 Second Coeff. (F_v):	2.40	--
Response Coefficient (C_s):	0.09	--
Amplification Factor (A_s):	1.20	--

LOAD COMBINATIONS [LRFD]

#	Description
1	1.4DL
2	1.2DL + 1WL 0 AZI
3	1.2DL + 1WL 30 AZI
4	1.2DL + 1WL 45 AZI
5	1.2DL + 1WL 60 AZI
6	1.2DL + 1WL 90 AZI
7	1.2DL + 1WL 120 AZI
8	1.2DL + 1WL 135 AZI
9	1.2DL + 1WL 150 AZI
10	1.2DL + 1WL 180 AZI
11	1.2DL + 1WL 210 AZI
12	1.2DL + 1WL 225 AZI
13	1.2DL + 1WL 240 AZI
14	1.2DL + 1WL 270 AZI
15	1.2DL + 1WL 300 AZI
16	1.2DL + 1WL 315 AZI
17	1.2DL + 1WL 330 AZI
18	0.9DL + 1WL 0 AZI
19	0.9DL + 1WL 30 AZI
20	0.9DL + 1WL 45 AZI
21	0.9DL + 1WL 60 AZI
22	0.9DL + 1WL 90 AZI
23	0.9DL + 1WL 120 AZI
24	0.9DL + 1WL 135 AZI
25	0.9DL + 1WL 150 AZI
26	0.9DL + 1WL 180 AZI
27	0.9DL + 1WL 210 AZI
28	0.9DL + 1WL 225 AZI
29	0.9DL + 1WL 240 AZI
30	0.9DL + 1WL 270 AZI
31	0.9DL + 1WL 300 AZI
32	0.9DL + 1WL 315 AZI
33	0.9DL + 1WL 330 AZI
34	1.2DL + 1DLi + 1WLi 0 AZI
35	1.2DL + 1DLi + 1WLi 30 AZI
36	1.2DL + 1DLi + 1WLi 45 AZI
37	1.2DL + 1DLi + 1WLi 60 AZI
38	1.2DL + 1DLi + 1WLi 90 AZI
39	1.2DL + 1DLi + 1WLi 120 AZI
40	1.2DL + 1DLi + 1WLi 135 AZI
41	1.2DL + 1DLi + 1WLi 150 AZI

#	Description
42	1.2DL + 1DLi + 1WLi 180 AZI
43	1.2DL + 1DLi + 1WLi 210 AZI
44	1.2DL + 1DLi + 1WLi 225 AZI
45	1.2DL + 1DLi + 1WLi 240 AZI
46	1.2DL + 1DLi + 1WLi 270 AZI
47	1.2DL + 1DLi + 1WLi 300 AZI
48	1.2DL + 1DLi + 1WLi 315 AZI
49	1.2DL + 1DLi + 1WLi 330 AZI
50	(1.2+0.2Sds) + 1.0E 0 AZI
51	(1.2+0.2Sds) + 1.0E 30 AZI
52	(1.2+0.2Sds) + 1.0E 45 AZI
53	(1.2+0.2Sds) + 1.0E 60 AZI
54	(1.2+0.2Sds) + 1.0E 90 AZI
55	(1.2+0.2Sds) + 1.0E 120 AZI
56	(1.2+0.2Sds) + 1.0E 135 AZI
57	(1.2+0.2Sds) + 1.0E 150 AZI
58	(1.2+0.2Sds) + 1.0E 180 AZI
59	(1.2+0.2Sds) + 1.0E 210 AZI
60	(1.2+0.2Sds) + 1.0E 225 AZI
61	(1.2+0.2Sds) + 1.0E 240 AZI
62	(1.2+0.2Sds) + 1.0E 270 AZI
63	(1.2+0.2Sds) + 1.0E 300 AZI
64	(1.2+0.2Sds) + 1.0E 315 AZI
65	(1.2+0.2Sds) + 1.0E 330 AZI
66	(0.9-0.2Sds) + 1.0E 0 AZI
67	(0.9-0.2Sds) + 1.0E 30 AZI
68	(0.9-0.2Sds) + 1.0E 45 AZI
69	(0.9-0.2Sds) + 1.0E 60 AZI
70	(0.9-0.2Sds) + 1.0E 90 AZI
71	(0.9-0.2Sds) + 1.0E 120 AZI
72	(0.9-0.2Sds) + 1.0E 135 AZI
73	(0.9-0.2Sds) + 1.0E 150 AZI
74	(0.9-0.2Sds) + 1.0E 180 AZI
75	(0.9-0.2Sds) + 1.0E 210 AZI
76	(0.9-0.2Sds) + 1.0E 225 AZI
77	(0.9-0.2Sds) + 1.0E 240 AZI
78	(0.9-0.2Sds) + 1.0E 270 AZI
79	(0.9-0.2Sds) + 1.0E 300 AZI
80	(0.9-0.2Sds) + 1.0E 315 AZI
81	(0.9-0.2Sds) + 1.0E 330 AZI
82-88	1.2D + 1.5 Lv1

#	Description
89	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP1
90	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP1
91	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP1
92	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP1
93	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP1
94	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP1
95	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP1
96	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP1
97	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP1
98	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP1
99	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP1
100	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP1
101	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP1
102	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP1
103	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP1
104	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP1
105	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP2
106	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP2
107	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP2
108	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP2
109	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP2
110	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP2
111	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP2
112	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP2
113	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP2
114	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP2
115	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP2
116	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP2
117	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP2
118	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP2
119	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP2
120	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP2

#	Description
121	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP3
122	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP3
123	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP3
124	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP3
125	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP3
126	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP3
127	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP3
128	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP3
129	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP3
130	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP3
131	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP3
132	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP3
133	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP3
134	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP3
135	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP3
136	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP3
137	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP4
138	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP4
139	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP4
140	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP4
141	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP4
142	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP4
143	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP4
144	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP4
145	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP4
146	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP4
147	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP4
148	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP4
149	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP4
150	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP4
151	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP4
152	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP4

*This page shows an example of maintenance loads for (4) pipes, the number of mount pipe LCs may vary per site

EQUIPMENT LOADING [CONT.]

<i>Appurtenance Name</i>	<i>Qty.</i>	<i>Elevation [ft]</i>	<i>--</i>	<i>EPA_N (ft²)</i>	<i>EPA_T (ft²)</i>	<i>Weight (lbs)</i>
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
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			No Ice			
--	--	--	w/ Ice			

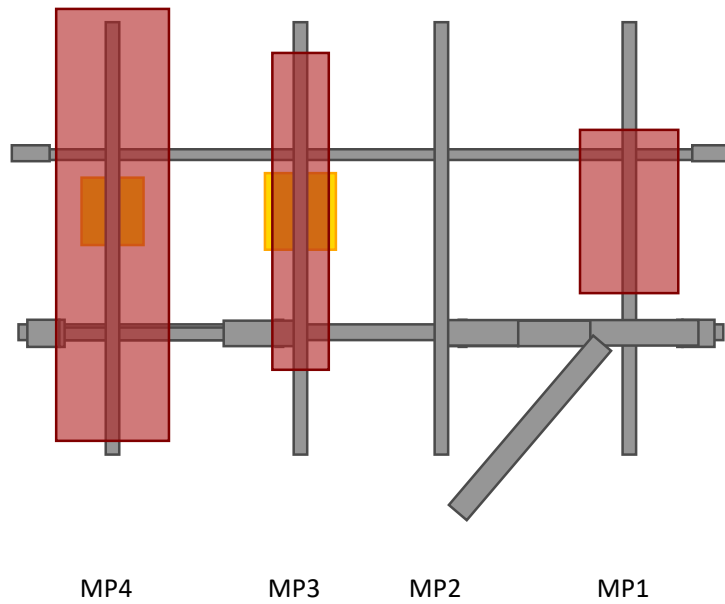
EQUIPMENT LATERAL WIND FORCE CALCULATIONS

<i>Appurtenance Name</i>	<i>Qty.</i>	<i>--</i>	<i>0° 180°</i>	<i>30° 210°</i>	<i>60° 240°</i>	<i>90° 270°</i>	<i>120° 300°</i>	<i>150° 330°</i>
VV-65B-R1_TMO	3	No Ice	306.71	186.98	266.80	147.07	266.80	186.98
--	--	w/ Ice	0.00	0.00	0.00	0.00	0.00	0.00
AIR 6419 B41_TMO	3	No Ice	271.20	150.03	230.81	109.64	230.81	150.03
--	--	w/ Ice	49.78	30.36	43.31	23.89	43.31	30.36
APXVAA24_43-U-A20	3	No Ice	568.36	296.67	477.80	206.11	477.80	296.67
--	--	w/ Ice	97.64	56.24	83.84	42.44	83.84	56.24
RADIO 4449 B71/B85A	3	No Ice	63.71	54.00	60.47	50.76	60.47	54.00
--	--	w/ Ice	11.66	10.09	11.14	9.56	11.14	10.09
RADIO 4460 B2/B25 B66_TMO	3	No Ice	82.88	69.71	78.49	65.31	78.49	69.71
--	--	w/ Ice	14.78	12.67	14.07	11.96	14.07	12.67
		No Ice						
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EQUIPMENT LATERAL WIND FORCE CALCULATIONS [CONT.]

<i>Appurtenance Name</i>	<i>Qty.</i>	<i>--</i>	<i>0° 180°</i>	<i>30° 210°</i>	<i>60° 240°</i>	<i>90° 270°</i>	<i>120° 300°</i>	<i>150° 330°</i>
		No Ice						
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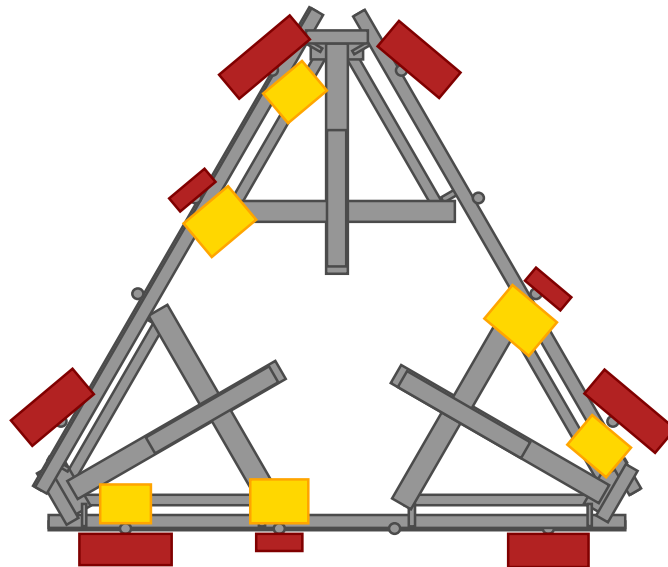
ELEVATION VIEW



*these drawings are intended to show approximate locations of equipment on the mount and should not be used to determine exact placement of equipment or additional hardware

**Elevation View Shows Only One Sector

PLAN VIEW



APPENDIX C
SOFTWARE ANALYSIS OUTPUT

APPENDIX D
ADDITIONAL CALCULATIONS

BOLT TOOL 1.5.2

Project Data	
Job Code:	211634
Carrier Site ID:	CTHA602A
Carrier Site Name:	UCTHA602A

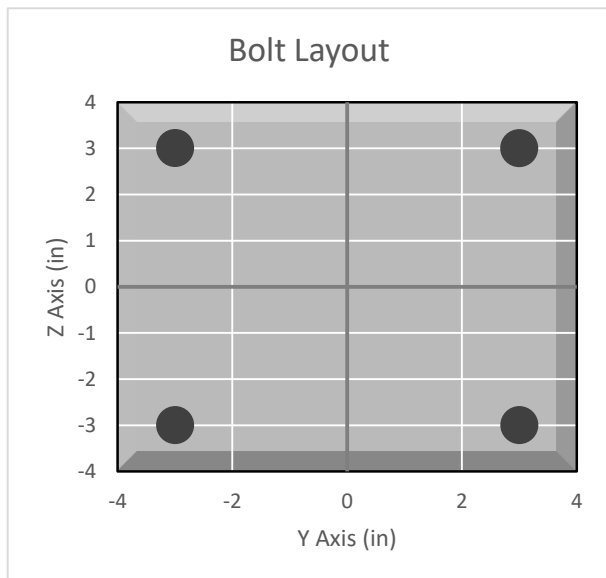
Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	TIA-222-H

Bolt Properties		
Connection Type:	Bolt	
Diameter:	0.625	in
Grade:	A325	--
Yield Strength (Fy):	92	ksi
Ultimate Strength (Fu):	120	ksi
Number of Bolts:	4	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	-	in

Connection Description
Mount Standoff to Collar

Bolt Check*		
Tensile Capacity (ϕT_n):	20340.1	lbs
Shear Capacity (ϕV_n):	13805.8	lbs
Tension Force (T_u):	2143.9	lbs
Shear Force (V_u):	419.4	lbs
Tension Usage:	10.0%	--
Shear Usage:	2.9%	--
Interaction:	10.0%	Pass
Controlling Member:	M71A	--
Controlling LC:	16	--

*Rating per TIA-222-H Section 15.5



BOLT TOOL 1.5.2

Project Data	
Job Code:	211634
Carrier Site ID:	CTHA602A
Carrier Site Name:	UCTHA602A

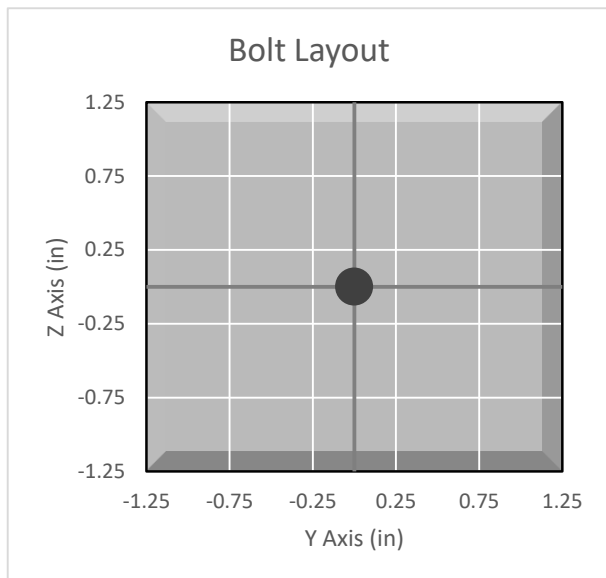
Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	TIA-222-H

Bolt Properties		
Connection Type:	Bolt	
Diameter:	0.625	in
Grade:	A325	--
Yield Strength (F _y):	92	ksi
Ultimate Strength (F _u):	120	ksi
Number of Bolts:	1	--
Threads Included:	Yes	--
Double Shear:	Yes	--
Connection Pipe Size:	-	in

Connection Description
Kicker to Collar

Bolt Check*		
Tensile Capacity (ϕT_n):	20340.1	lbs
Shear Capacity (ϕV_n):	13805.8	lbs
Tension Force (T _u):	0.0	lbs
Shear Force (V _u):	2093.3	lbs
Tension Usage:	0.0%	--
Shear Usage:	14.4%	--
Interaction:	14.4%	Pass
Controlling Member:	M100	--
Controlling LC:	34	--

*Rating per TIA-222-H Section 15.5



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

T-Mobile Existing Facility

Site ID: CTHA602A

**UCTHA602A
151 Young Street
East Hampton, Connecticut 06424**

August 12, 2022

EBI Project Number: 6222004966

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	18.14%

August 12, 2022

T-Mobile

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

Emissions Analysis for Site: CTHA602A - UCTHA602A

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **151 Young Street in East Hampton, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 151 Young Street in East Hampton, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts per Channel.
- 4) 1 LTE channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 160 Watts per Channel.
- 5) 1 LTE channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 160 Watts per Channel.
- 6) 1 LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 45 Watts.

- 7) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 15 Watts.
- 8) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 90 Watts.
- 9) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 30 Watts.
- 10) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 11) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antennas used in this modeling are the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65B-RI for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAA24_43-U-A20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65B-RI for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAA24_43-U-A20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65B-RI for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAA24_43-U-A20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 13) The antenna mounting height centerline of the proposed antennas is 130 feet above ground level (AGL).
- 14) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 15) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	180.00 Watts	Total TX Power (W):	180.00 Watts	Total TX Power (W):	180.00 Watts
ERP (W):	23,258.96	ERP (W):	23,258.96	ERP (W):	23,258.96
Antenna A1 MPE %:	5.44%	Antenna B1 MPE %:	5.44%	Antenna C1 MPE %:	5.44%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope VV-65B-RI	Make / Model:	Commscope VV-65B-RI	Make / Model:	Commscope VV-65B-RI
Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz
Gain:	16.16 dBd / 16.75 dBd	Gain:	16.16 dBd / 16.75 dBd	Gain:	16.16 dBd / 16.75 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	320.00 Watts	Total TX Power (W):	320.00 Watts	Total TX Power (W):	320.00 Watts
ERP (W):	14,179.18	ERP (W):	14,179.18	ERP (W):	14,179.18
Antenna A2 MPE %:	3.32%	Antenna B2 MPE %:	3.32%	Antenna C2 MPE %:	3.32%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	RFS APXVAA24_43-U-A20	Make / Model:	RFS APXVAA24_43-U-A20	Make / Model:	RFS APXVAA24_43-U-A20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	13.15 dBd / 13.15 dBd / 13.55 dBd	Gain:	13.15 dBd / 13.15 dBd / 13.55 dBd	Gain:	13.15 dBd / 13.15 dBd / 13.55 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	3	Channel Count:	3	Channel Count:	3
Total TX Power (W):	160.00 Watts	Total TX Power (W):	160.00 Watts	Total TX Power (W):	160.00 Watts
ERP (W):	3,384.31	ERP (W):	3,384.31	ERP (W):	3,384.31
Antenna A3 MPE %:	1.90%	Antenna B3 MPE %:	1.90%	Antenna C3 MPE %:	1.90%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	10.66%
AT&T	2.65%
Verizon	4.83%
Site Total MPE % :	18.14%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	10.66%
T-Mobile Sector B Total:	10.66%
T-Mobile Sector C Total:	10.66%
Site Total MPE % :	18.14%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	7214.60	130.0	16.87	2500 MHz LTE IC & 2C Traffic	1000	1.69%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	538.38	130.0	1.26	2500 MHz LTE IC & 2C Broadcast	1000	0.13%
T-Mobile 2500 MHz NR Traffic	1	14429.21	130.0	33.74	2500 MHz NR Traffic	1000	3.37%
T-Mobile 2500 MHz NR Broadcast	1	1076.77	130.0	2.52	2500 MHz NR Broadcast	1000	0.25%
T-Mobile 1900 MHz LTE	1	6608.76	130.0	15.45	1900 MHz LTE	1000	1.55%
T-Mobile 1900 MHz LTE	1	7570.42	130.0	17.70	1900 MHz LTE	1000	1.77%
T-Mobile 600 MHz LTE	1	826.15	130.0	1.93	600 MHz LTE	400	0.48%
T-Mobile 600 MHz NR	1	1652.30	130.0	3.86	600 MHz NR	400	0.97%
T-Mobile 700 MHz LTE	1	905.86	130.0	2.12	700 MHz LTE	467	0.45%
						Total:	10.66%

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	10.66%
Sector B:	10.66%
Sector C:	10.66%
T-Mobile Maximum MPE % (Sector A):	10.66%
Site Total:	18.14%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **18.14%** 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.



T-MOBILE SITE NUMBER: CTHA602A
T-MOBILE SITE NAME: UCTHA602A
SITE TYPE: MONOPOLE
TOWER HEIGHT: 140'-0"

BUSINESS UNIT #: 845994
SITE ADDRESS: 151 YOUNG STREET
 EAST HAMPTON, CT 06424
COUNTY: MIDDLE SEX
JURISDICTION: MIDDLE SEX COUNTY

CTHA602A _ANCHOR: 67D5998E_1XAIR+1OP+1QP

T-Mobile
 12920 SE 38TH STREET
 BELLEVUE, WA 98006

CROWN CASTLE
 3 CORPORATE PARK DRIVE, SUITE 101
 CLIFTON PARK, NY 12065

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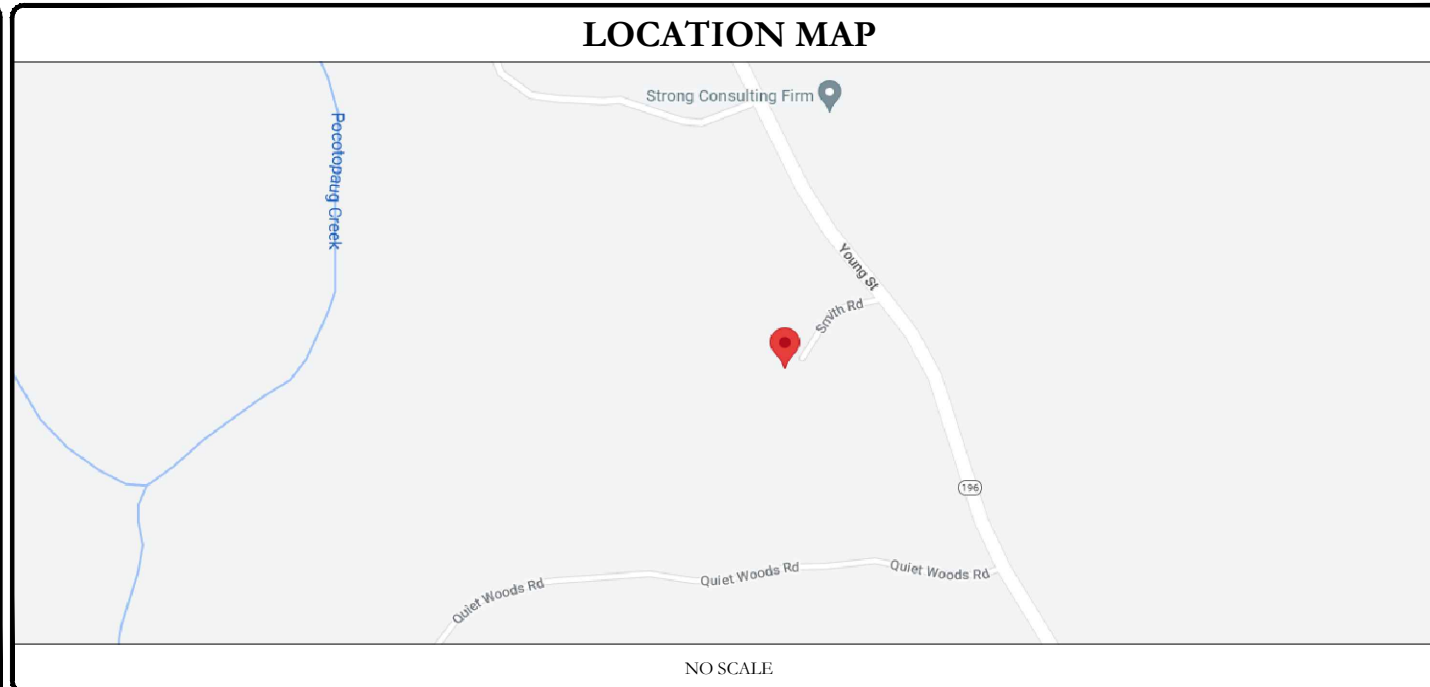
T-MOBILE SITE NUMBER:
CTHA602A

BU #: 845994
EAST HAMPTON - YOUNG STREET

 151 YOUNG STREET
 EAST HAMPTON, CT 06424
 EXISTING 140'-0" MONOPOLE

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	EAST HAMPTON - YOUNG STREET
SITE ADDRESS:	151 YOUNG STREET EAST HAMPTON, CT 06424
COUNTY:	MIDDLE SEX
MAP/PARCEL #:	VERIFY
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.54390000° (41° 32' 38.12")
LONGITUDE:	-72.50620000° (-72° 30' 22.44")
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	±339 FT
CURRENT ZONING:	TBD
JURISDICTION:	MIDDLE SEX COUNTY
OCCUPANCY CLASSIFICATION:	TBD
TYPE OF CONSTRUCTION:	TBD
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	TBD
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	TBD
TELCO PROVIDER:	TBD

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
C-6	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.	



PROJECT TEAM	
A&E FIRM:	INFINIGY 500 WEST OFFICE CENTER DR. SUITE 150, FORT WASHINGTON, PA 19034
CROWN CASTLE USA INC. DISTRICT CONTACTS:	1505 WESTLAKE AVENUE NORTH, SUITE 800 SEATTLE, WA 98109
	TBD - PROJECT MANAGER
	TBD - CONSTRUCTION MANAGER

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:

- REMOVE (6) ANTENNAS
- REMOVE (3) RRHS
- RELOCATE (3) ANTENNAS
- RELOCATE (3) RRHS
- INSTALL (6) ANTENNAS
- INSTALL (3) RRHS
- INSTALL (2) HYBRID CABLES

GROUND SCOPE OF WORK:

- REMOVE (1) DUW 30 FROM (E) RBS 6102 CABINET
- INSTALL (1) 6160 & (1) B160 BATTERY CABINET
- INSTALL (1) PSU4813 VOLTAGE BOOSTER IN (P) CABINET
- INSTALL (1) CSR IXRE ROUTER IN (P) CABINET
- INSTALL (1) RP 6651 IN (P) CABINET

NOTE:
 PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: B+T GROUP
 DATED: 06/16/2022

MOUNT ANALYSIS: TRYLON
 DATED: 06/14/2022

RFDS REVISION: 2
 DATED: 07/21/2022

ORDER ID: 621578
 REVISION: 0

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APPROVALS		
APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.	_____	_____
LAND USE PLANNER	_____	_____
T-MOBILE	_____	_____
OPERATIONS	_____	_____
RF	_____	_____
NETWORK	_____	_____
BACKHAUL	_____	_____
CONSTRUCTION MANAGER	_____	_____

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES/QA
A	07/12/2022	RCD	PRELIMINARY	SS
0	08/05/2022	FP	100% FINAL CDS	--

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-1	REVISION: 0
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CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- 1. NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED.
5. ALL SITE WORK TO COMPLY WITH QAS--STD--10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED--STD--10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA--1019--A--2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GREENFIELD GROUNDING NOTES:

- 1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL--OF--POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTI-OXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (I.E., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM. THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

- 1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION CARRIER: T-MOBILE TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
13. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 318.1, ACI 308, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90° AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE--THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER--TO--CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS: #4 BARS AND SMALLER.....40 ksi #5 BARS AND LARGER.....60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3" CONCRETE EXPOSED TO EARTH OR WEATHER: #6 BARS AND LARGER.....2" #5 BARS AND SMALLER.....1-1/2" CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLAB AND WALLS.....3/4" BEAMS AND COLUMNS.....1-1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR--CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN--2, XHHW, XHHW--2, THW, THW--2, RHW, OR RHW--2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN--2, XHHW, XHHW--2, THW, THW--2, RHW, OR RHW--2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI--CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI--CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN--2, XHHW, XHHW--2, THW, THW--2, RHW, OR RHW--2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP--STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL--CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID--TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID--TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION--TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL). CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON--PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (I.E. POWDER--ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY--COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY--COATED OR NON--CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T--MOBILE".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE table with columns for SYSTEM, CONDUCTOR, and COLOR. Rows include 120/240V, 10; 120/208V, 30; 277/480V, 30; and DC VOLTAGE.

APWA UNIFORM COLOR CODE:

- WHITE PROPOSED EXCAVATION
PINK TEMPORARY SURVEY MARKINGS
RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE POTABLE WATER
PURPLE RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN SEWERS AND DRAIN LINES

* SEE NEC 210.5(C)(1) AND (2) ** POLARITY MARKED AT TERMINATION

ABBREVIATIONS:

- ANT ANTENNA
(E) EXISTING
FIF FACILITY INTERFACE FRAME
GEN GENERATOR
GPS GLOBAL POSITIONING SYSTEM
GSM GLOBAL SYSTEM FOR MOBILE LONG TERM EVOLUTION
LTE MASTER GROUND BAR
MW MICROWAVE
(N) NEW
NEC NATIONAL ELECTRIC CODE
(P) PROPOSED
PP POWER PLANT
QTY QUANTITY
RECT RECTIFIER
RBS RADIO BASE STATION
RET REMOTE ELECTRIC TILT
RFDS RADIO FREQUENCY DATA SHEET
RRH REMOTE RADIO HEAD
RRU REMOTE RADIO UNIT
SIAD SMART INTEGRATED DEVICE
TMA TOWER MOUNTED AMPLIFIER
TYP TYPICAL
UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P. WORK POINT

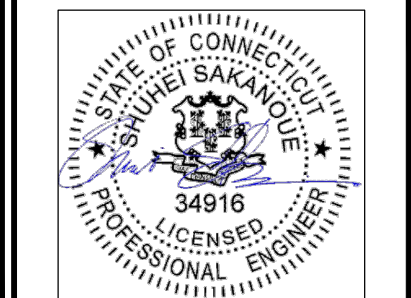


T-MOBILE SITE NUMBER: CTHA602A BU #: 845994 EAST HAMPTON - YOUNG STREET

151 YOUNG STREET EAST HAMPTON, CT 06424

EXISTING 140'-0" MONOPOLE

ISSUED FOR: table with columns for REV, DATE, DRWN, DESCRIPTION, DES./QA. Rows include preliminary and final CDs.

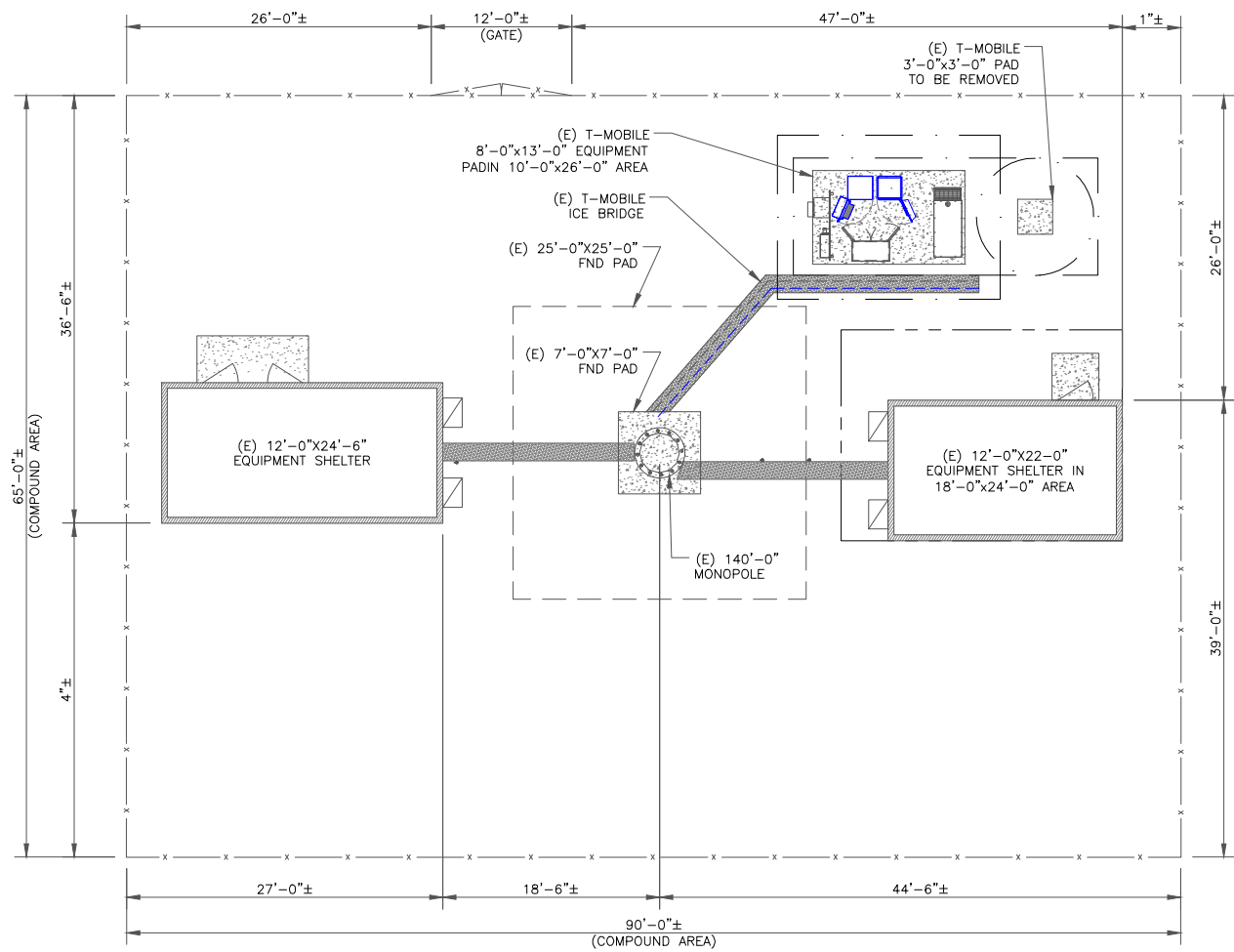


08/15/2022

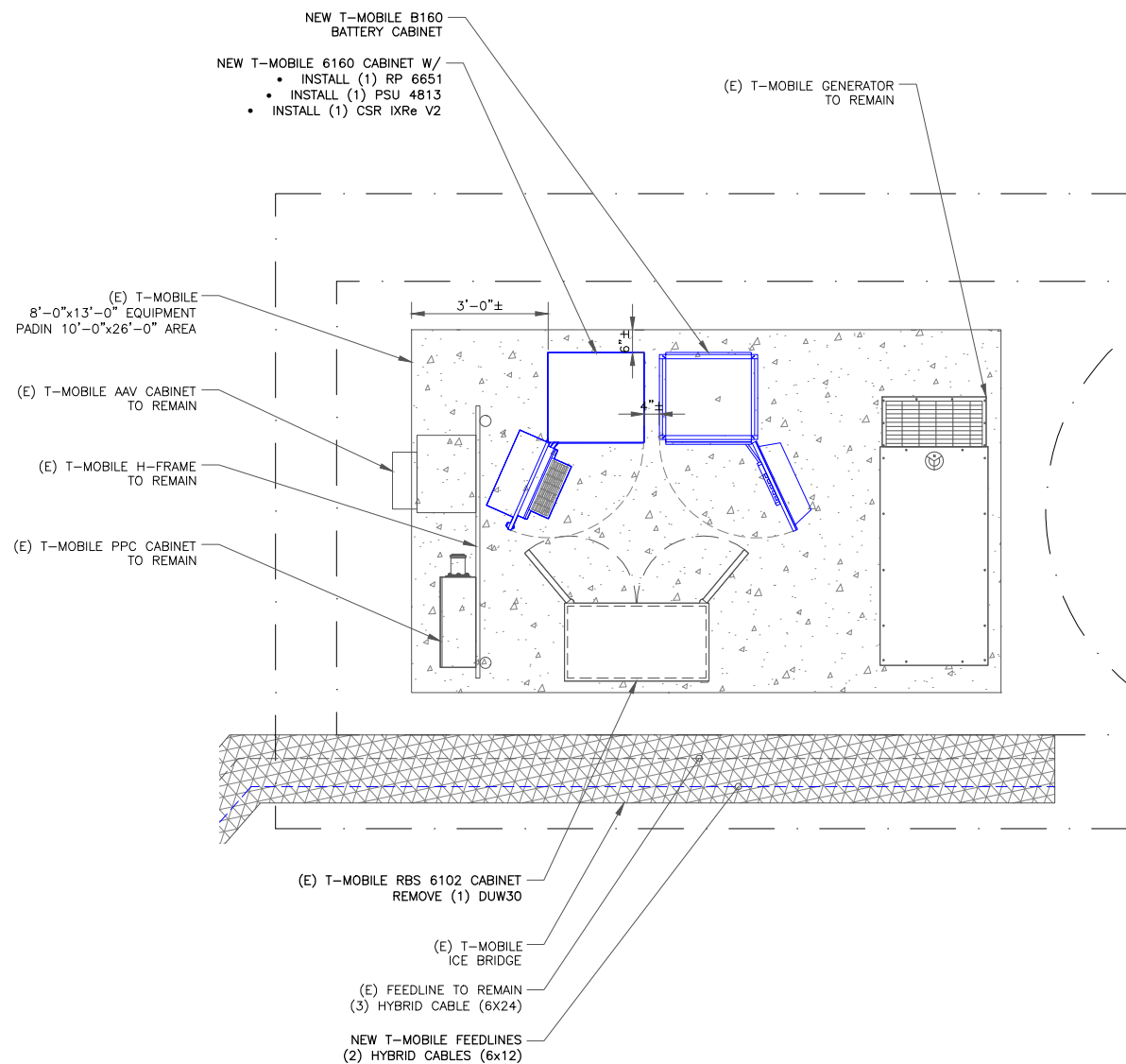
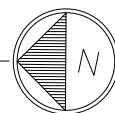
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SHEET NUMBER: T-2 REVISION: 0

NOTE:
 1. PLANS BASED ON SITE PLAN PROVIDED BY TOWER OWNER AND SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING T-MOBILE EQUIPMENT.



1 SITE PLAN
 SCALE: 3/16"=1'-0" (FULL SIZE)
 3/32"=1'-0" (11x17)



2 ENLARGED SITE PLAN
 SCALE: 3/4"=1'-0" (FULL SIZE)
 3/8"=1'-0" (11x17)



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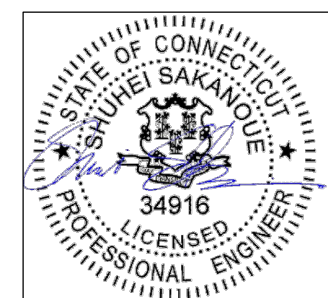
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 EXISTING 140'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	07/12/2022	RCD	PRELIMINARY	SS
0	08/05/2022	FP	100% FINAL CDs	--



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SHEET NUMBER: **C-1**
 REVISION: **0**

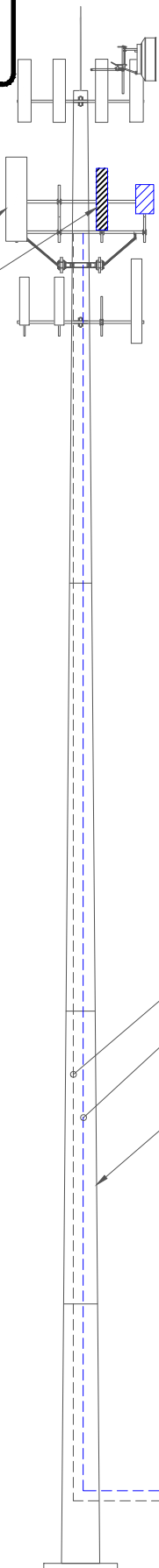
NOTES:

- ELEVATION BASED ON DRAWING PROVIDED BY TOWER OWNER. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.
- INFINIGY HAS NOT EVALUATED THE TOWER OR MOUNT STRUCTURE AND ASSUMES NO RESPONSIBILITY FOR THEIR STRUCTURAL INTEGRITY REGARDING PROPOSED LOADINGS. FINAL INSTALLATION SHALL COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSES PERFORMED BY OTHERS.

(E) T-MOBILE EQUIPMENT
(3) ANTENNAS
(3) RRHS

NEW T-MOBILE EQUIPMENT
(6) ANTENNAS
(3) RRHS

- TOP OF STRUCTURE/APPROXIMATE ELEV. = 148'-0"
- RAD CENTER OF ANTENNA MOUNT ELEV. = 142'-0"
- TOP OF MONOPOLE ELEV. = 140'-0"
- RAD CENTER OF ANTENNA MOUNT ELEV. = 139'-0"
- TOP OF ANTENNA ELEV. = 134'-0"
- RAD CENTER OF (E) & (P) ANTENNA ELEV. = 130'-0"
- RAD CENTER OF ANTENNA MOUNT ELEV. = 128'-0"
- RAD CENTER OF ANTENNA MOUNT ELEV. = 118'-0"



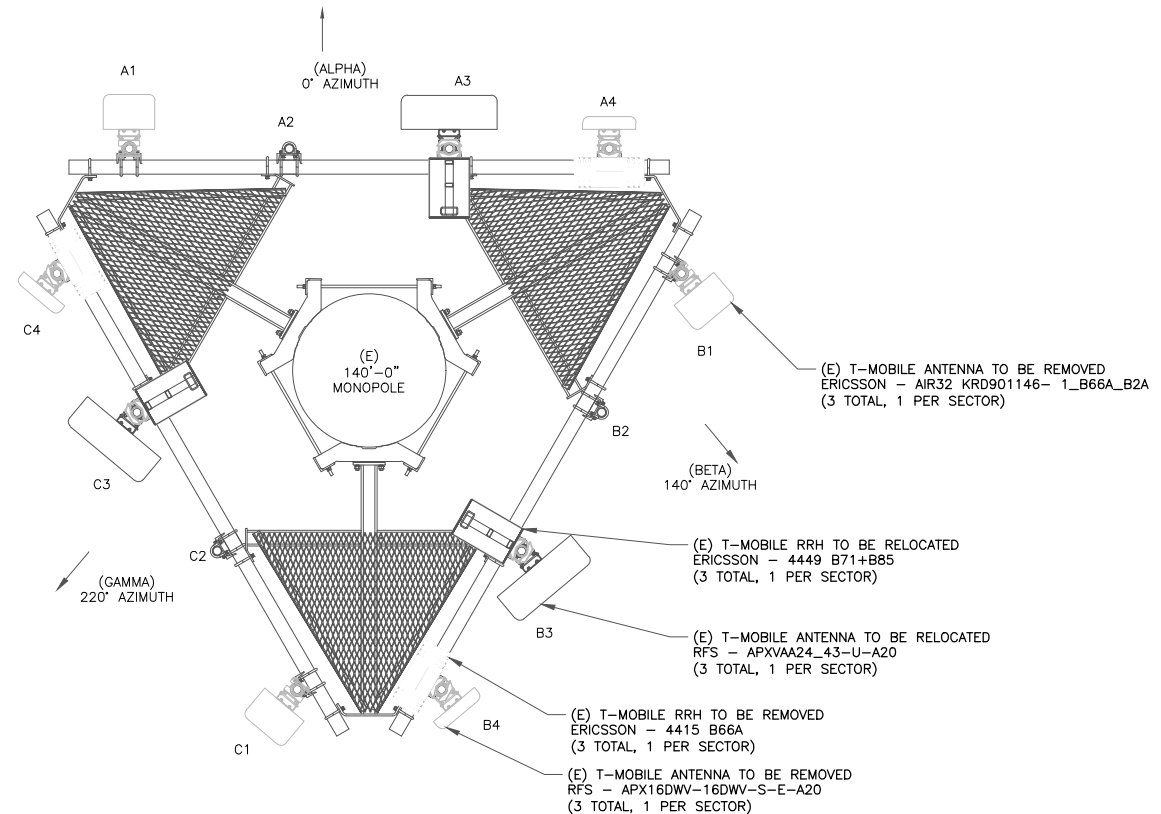
T-MOBILE EQUIPMENT

ANTENNA CL: 120'-0"
MOUNT CL: 120'-0"
ANTENNA CL: 130'-0"
MOUNT CL: 128'-0"

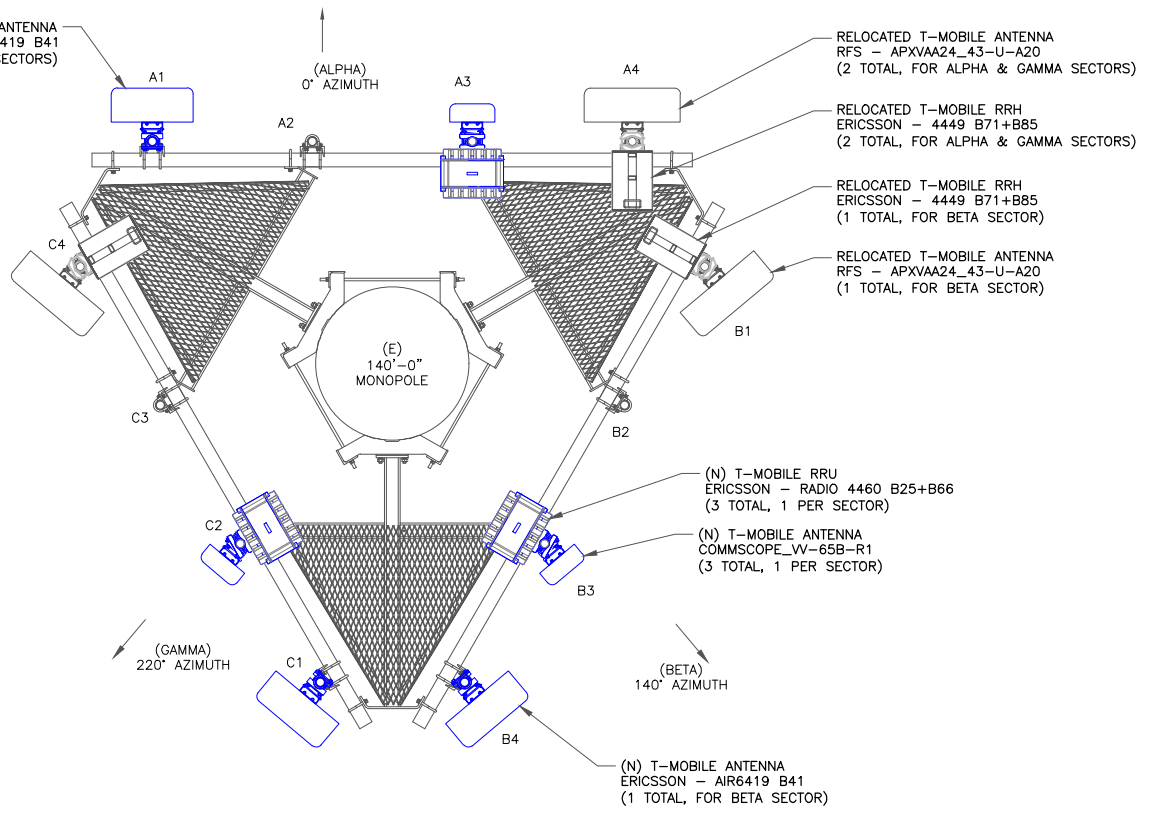
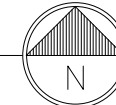
ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

- (E) FEEDLINE TO REMAIN
(3) HYBRID CABLE (6X12)
- NEW T-MOBILE FEEDLINES
(2) HYBRID CABLES (6X24)
- (E) 140'-0" MONOPOLE

1 FINAL ELEVATION
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)



2 EXISTING ANTENNA LAYOUT
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



3 FINAL ANTENNA LAYOUT
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



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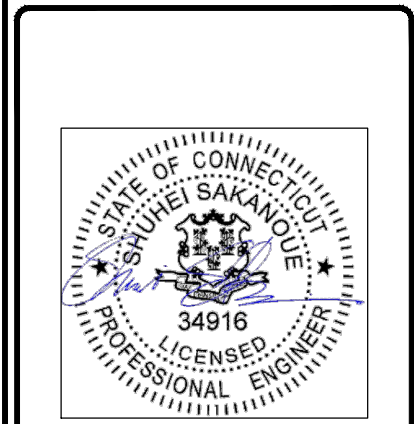
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EXISTING 140'-0" MONOPOLE

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A	07/12/2022	RCD	PRELIMINARY	SS
0	08/05/2022	FP	100% FINAL CDs	--



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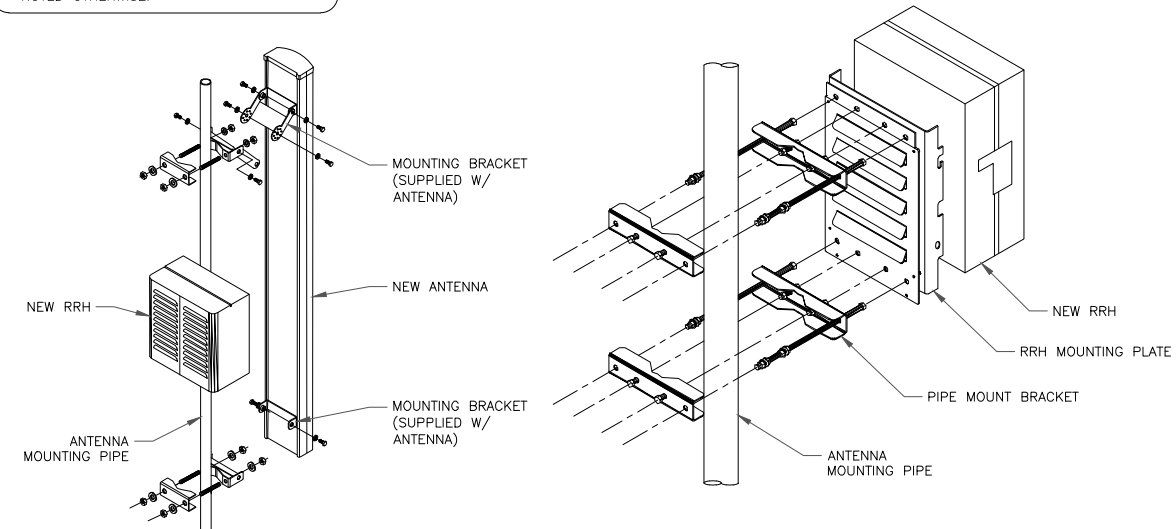
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SHEET NUMBER: **C-2** REVISION: **0**

ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L2500, N2500	130'-0"	0°	ERICSSON	ERICSSON - AIR6419 B41	0	-	--	(1) 6X24 HYBRID 60M IN LENGTH
ALPHA	A2	--	--	--	--	--	-	-	--	(1) 6X12 HYBRID
ALPHA	A3	L2100, L1900	130'-0"	0°	COMMSCOPE	WV-65B-R1	0	-	(1) ERICSSON - RRUS 4460 B25+B65	-
ALPHA	A4	L700, L600, N600	130'-0"	0°	RFS	APXVAA24_43-U-A20	0	-	(1) ERICSSON - RRUS 4449 B71+B85	-
BETA	B1	L2500, N2500	130'-0"	140°	RFS	APXVAA24_43-U-A20	0	-	(1) ERICSSON - RRUS 4449 B71+B85	-
BETA	B2	--	--	--	--	--	-	-	--	(1) 6X12 HYBRID
BETA	B3	L2100, L1900	130'-0"	140°	COMMSCOPE	WV-65B-R1	0	-	(1) ERICSSON - RRUS 4460 B25+B65	-
BETA	B4	L700, L600, N600	130'-0"	140°	ERICSSON	ERICSSON - AIR6419 B41	0	-	--	(1) 6X24 HYBRID 60M IN LENGTH
GAMMA	C1	L2500, N2500	130'-0"	220°	ERICSSON	ERICSSON - AIR6419 B41	0	-	--	--
GAMMA	C2	L2100, L1900	130'-0"	220°	COMMSCOPE	WV-65B-R1	0	-	(1) ERICSSON - RRUS 4460 B25+B65	-
GAMMA	C3	--	--	--	--	--	-	-	--	(1) 6X12 HYBRID
GAMMA	C4	L700, L600, N600	130'-0"	220°	RFS	APXVAA24_43-U-A20	0	-	(1) ERICSSON - RRUS 4449 B71+B85	-

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:
 1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
 2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
 3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



NOTE:
 1. CONTRACTOR SHALL INSTALL 3RD DUAL RRH MOUNT TO ACCOMMODATE ALL RRH BRACKETS HOLES IF NECESSARY.

2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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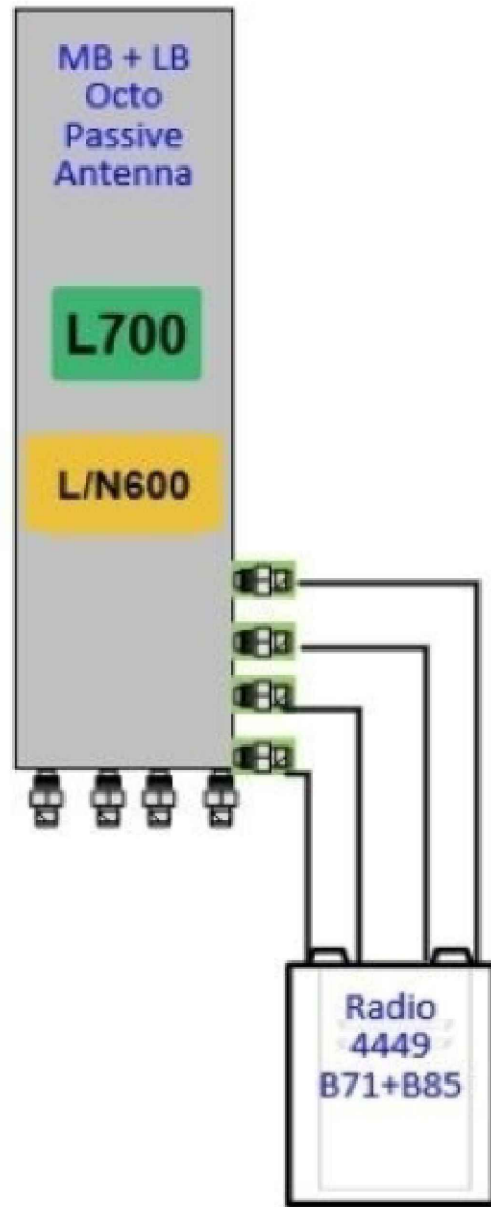
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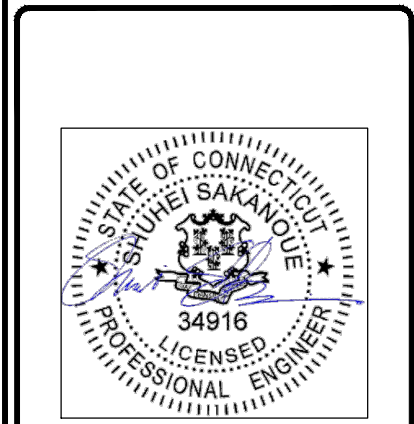
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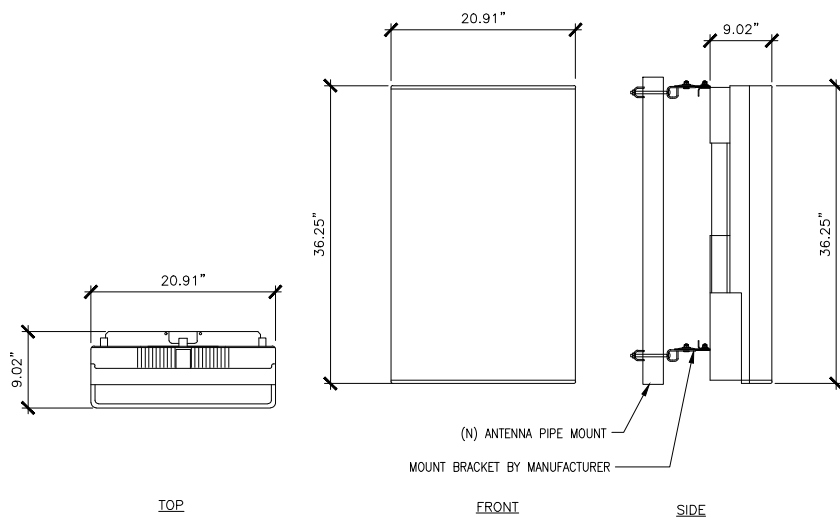
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1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

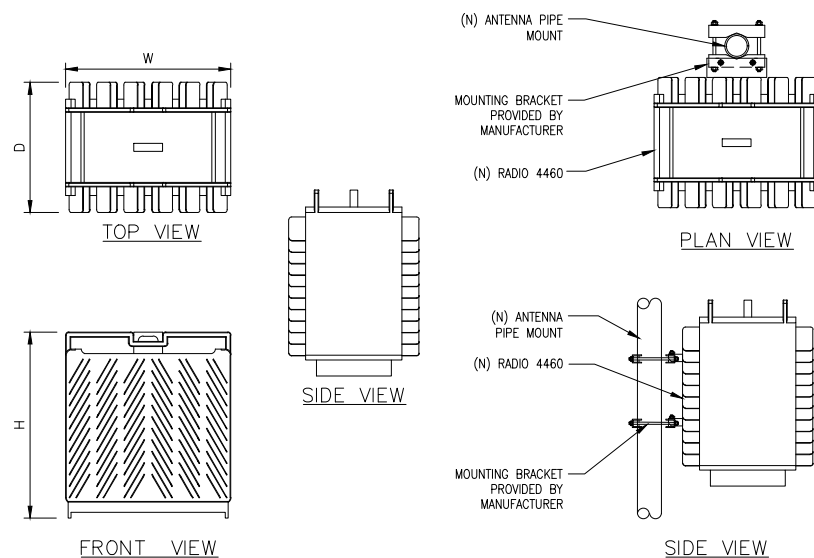
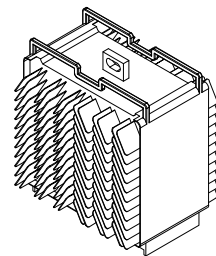
SHEET NUMBER: **C-4** REVISION: **0**

MANUFACTURER: ERICSSON
 MODEL: AIR6419 B41
 WEIGHT: 96.5 LBS (W/ MOUNT BRACKET 113)
 DIMENSIONS: 36.25"H. X 20.91"W. X 9.02"D.
 FREQUENCY: REFER TO RF DATA SHEET

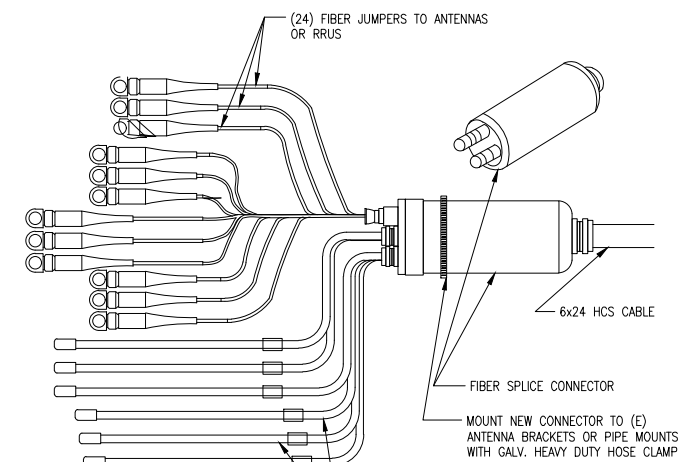


1 (N) AIR6419 B41 ANTENNA SPEC
 SCALE: NOT TO SCALE

ERICSSON RADIO-4460 B25 B66
 DIMENSIONS, WxDxH: 17.0"x15.1"x11.9"
 MAX OUTPUT POWER: 4x80W (2x(2x80W))
 TOTAL WEIGHT: 109 lbs
 TEMPERATURE: -40° TO 55° C



2 (N) RADIO 4460 SPEC
 SCALE: NOT TO SCALE



NOTE:
 NUMBER OF LINES SHOWN FOR REFERENCE ONLY.
 ACTUAL # OF DC AND FIBER LINES SPECIFIC TO
 MODEL OF HCS CABLES

3 (N) 6X24 HCS CABLE DETAIL
 SCALE: NOT TO SCALE

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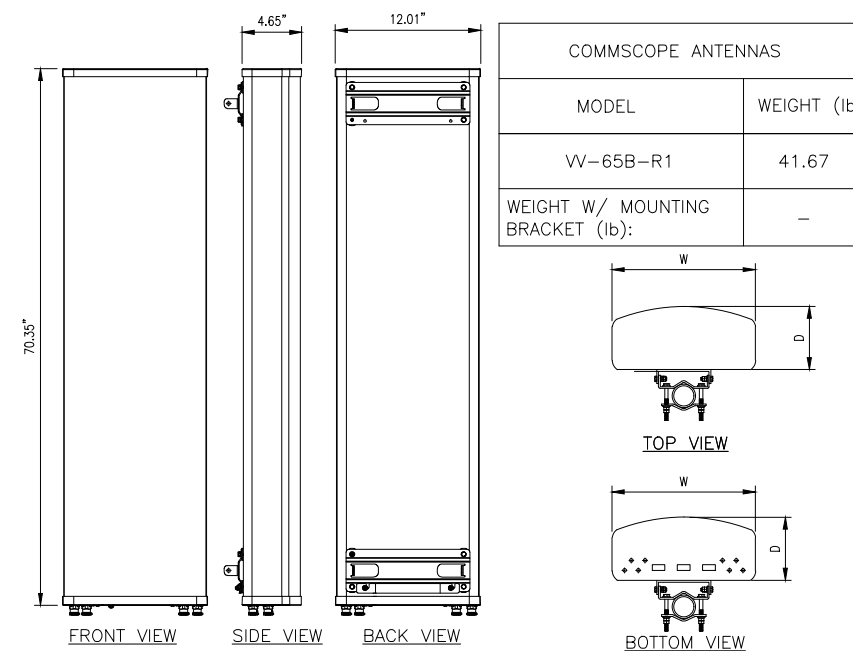
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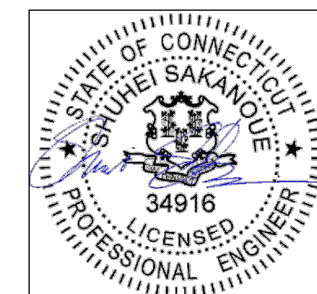
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6 (N) COMMSCOPE - VV-65B-R1 ANTENNA SPEC
 SCALE: NOT TO SCALE



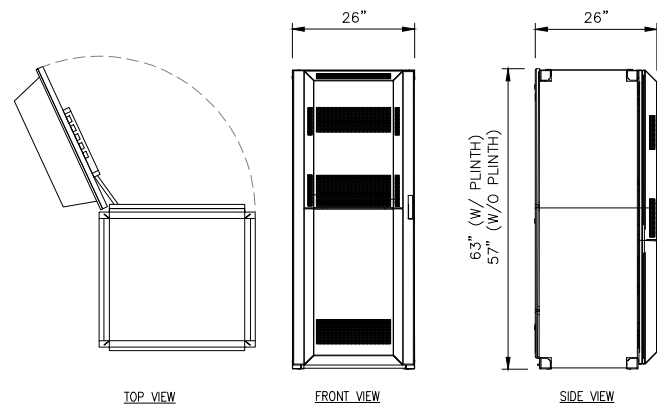
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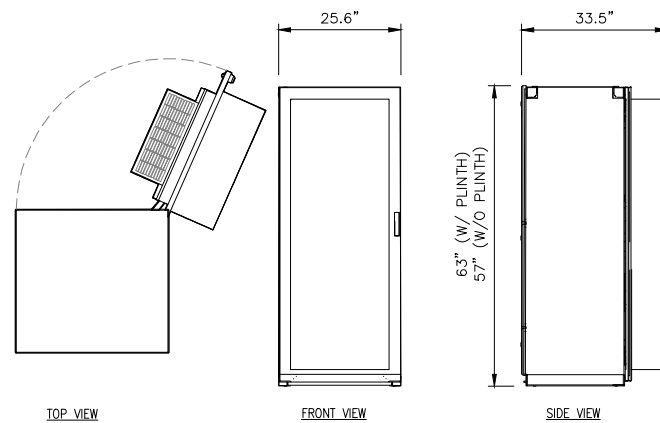
4 NOT USED
 SCALE: NOT TO SCALE

5 NOT USED
 SCALE: NOT TO SCALE



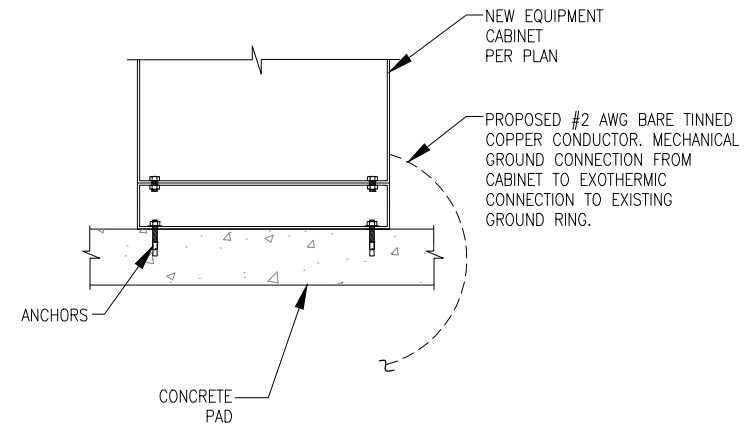
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

1 (N) B160 CABINET DETAIL
SCALE: NOT TO SCALE

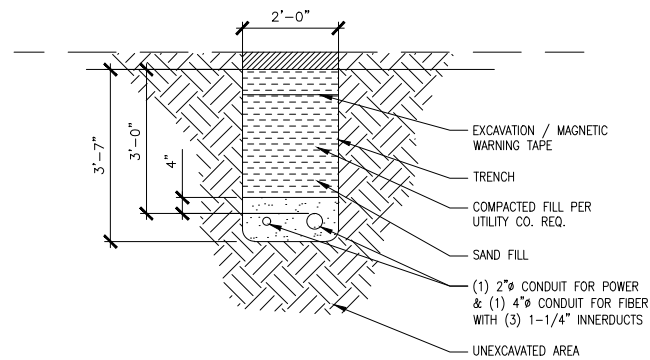


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

2 (N) 6160 CABINET DETAIL
SCALE: NOT TO SCALE



3 (N) EQUIPMENT CABINET MOUNTING DETAIL
SCALE: NOT TO SCALE



4 (N) CONDUIT TRENCH DETAIL
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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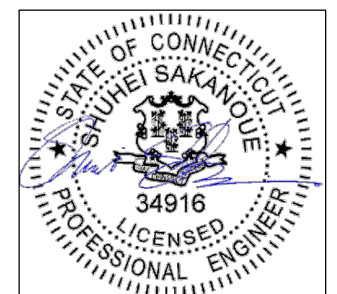
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NOTES:

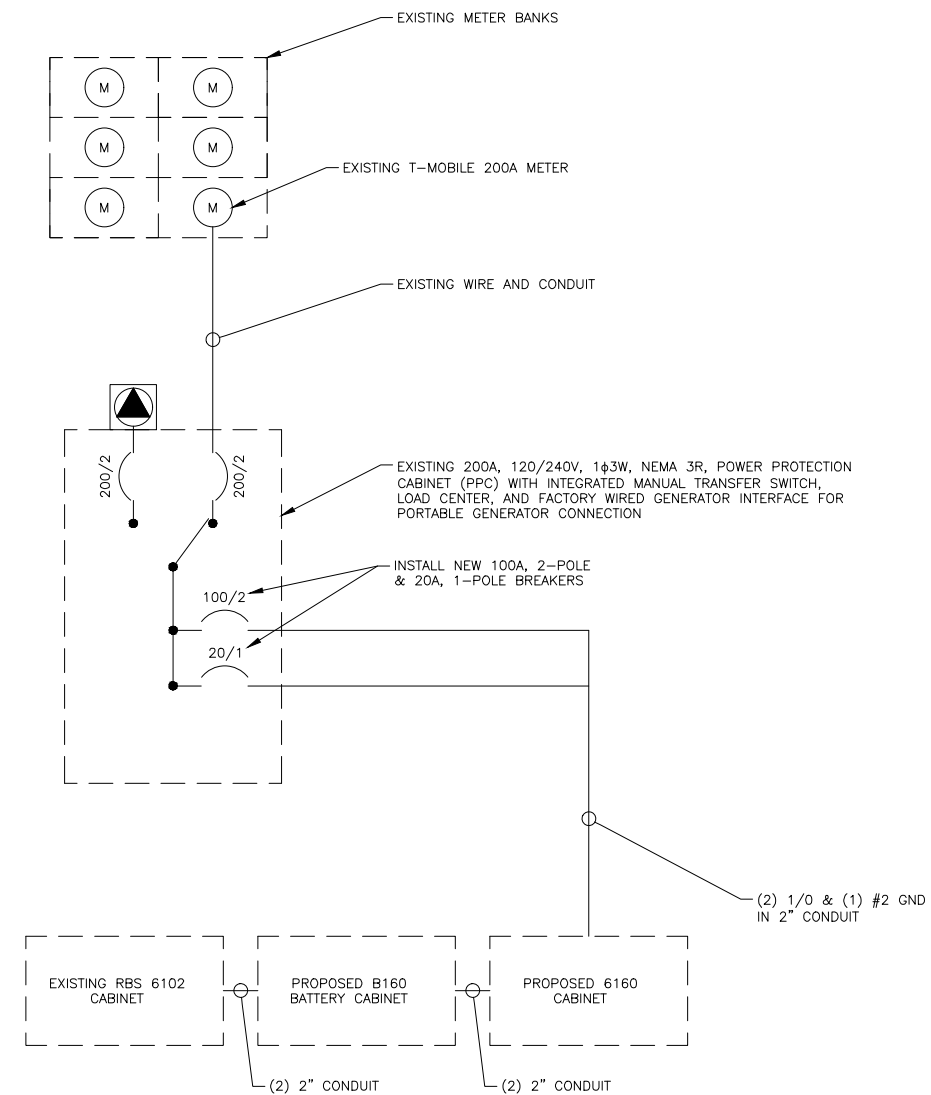
- EXISTING DISTRIBUTION PANEL WAS NOT ACCESSIBLE DURING SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL INFORM ENGINEER IF THERE ARE ANY DISCREPANCIES IN PANEL SCHEDULE.

T-MOBILE PANEL SCHEDULE											
MAIN: 200A MAIN BREAKER				VOTAGE/PHASE: 120/240V, 1-PHASE, 3-WIRE				SHORT CIRCUIT CURRENT RATING: --			
MOUNTING: INSIDE PPC ENCLOSURE				ENCLOSURE: NEMA 3R				SURGE PROTECTION DEVICE: YES			
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	PHASE LOADS (VA)		CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
					A	B					
6160	8750	C	100	1	8751		7	60	NC	1	SURGE ARRESTOR
	8750	C		2		8751	8		NC	1	
6160 GFI	180	NC	20	3	180		9	20	NC	0	OFF
TELCO FAN	200	NC	10	4		200	10	20	NC	0	OFF
MMBS (TO BE OFF)	0	C	100	5	180		11	20	NC	180	EXTERNAL RECEPTACLE
	0	C		6		180	12	20	NC	180	INTERNAL RECEPTACLE
BASE LOAD (VA) =					9111	9131	C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD				
25% OF CONTINUOUS LOAD (VA) =					2188	2188	NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.				
TOTAL LOAD (VA) =					11299	11319					
TOTAL LOAD (A) =					94	94					

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTES:

- ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
- CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ALL GROUNDING AND BONDING PER THE NEC.



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE



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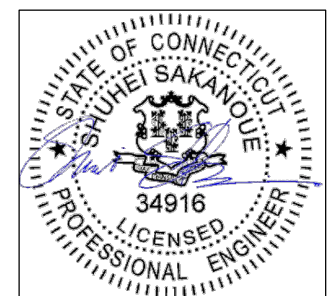
BU #: 845994
EAST HAMPTON - YOUNG
STREET

151 YOUNG STREET
EAST HAMPTON, CT 06424

EXISTING 140'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	07/12/2022	RCD	PRELIMINARY	SS
0	08/05/2022	FP	100% FINAL CDs	--



08/05/2022

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E-1

REVISION:

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T-MOBILE SITE NUMBER:
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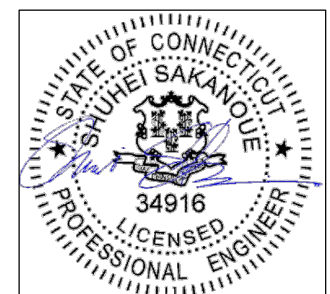
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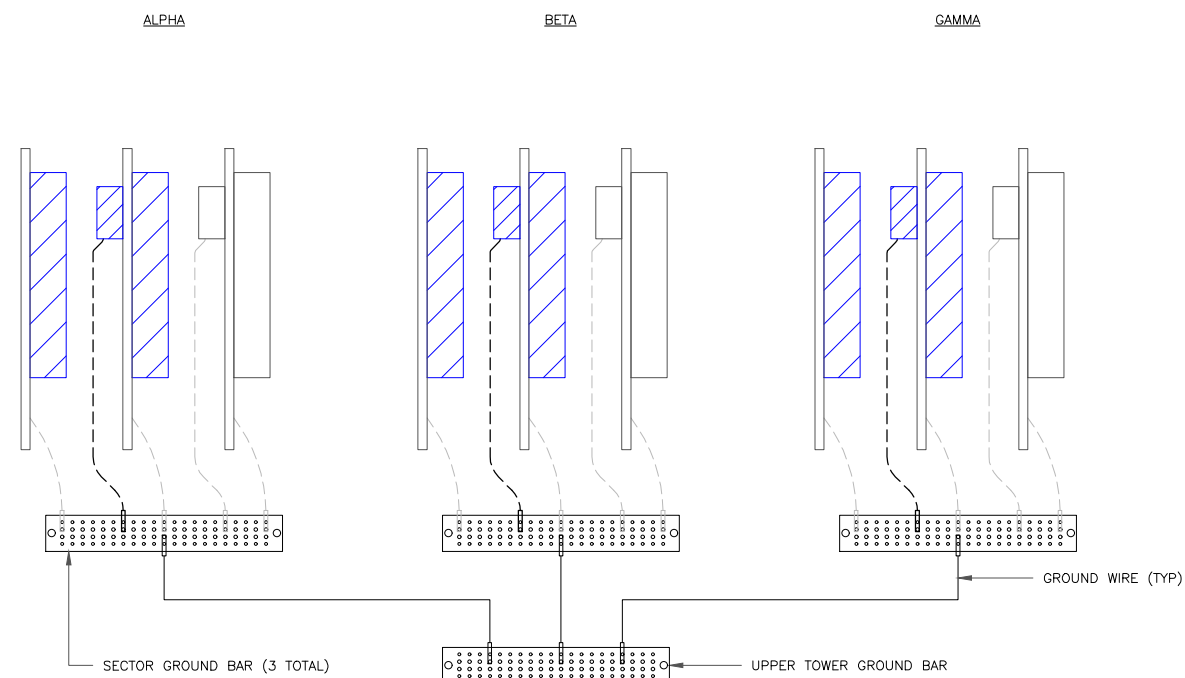
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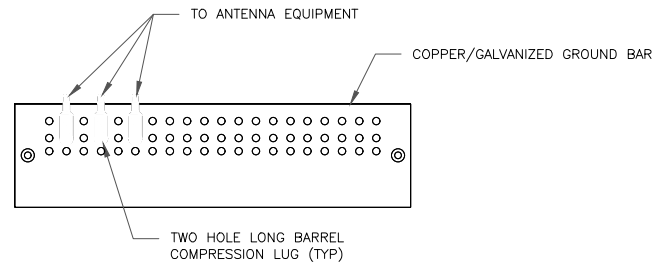
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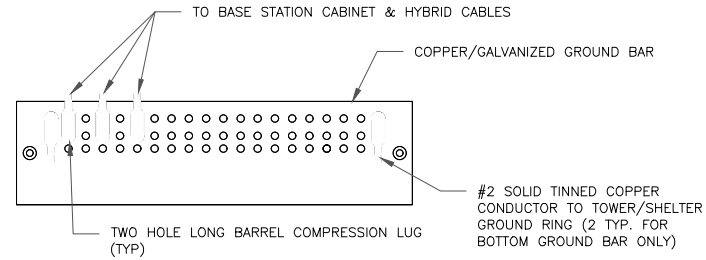
NOTE:
ALL NEW GROUNDS TO BE #6 STRANDED
COPPER WITH GREEN INSULATION UNLESS
NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



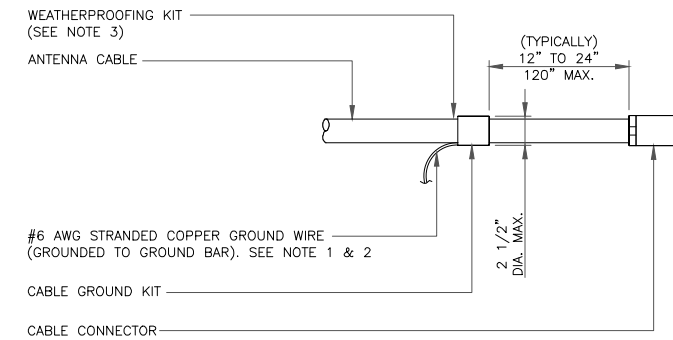
- NOTES:
- DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 - EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



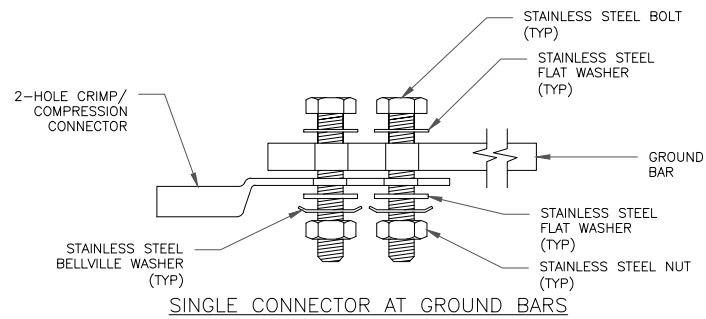
- NOTES:
- EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 - GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

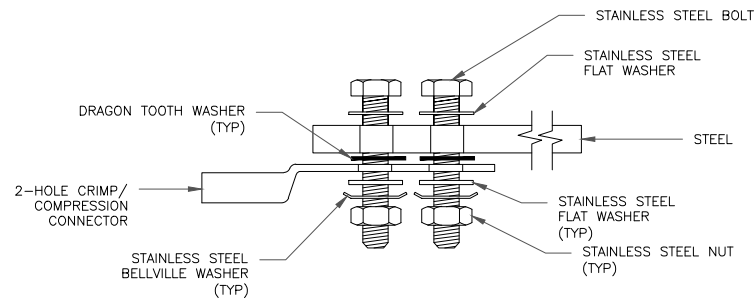


- NOTES:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 - WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

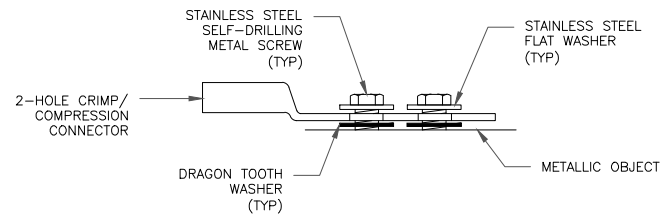
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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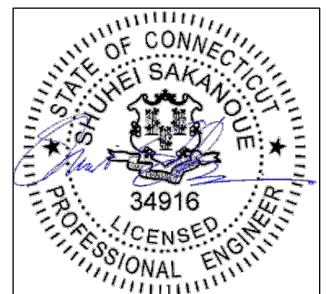
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