



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

June 27, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT11314C**
Crown Site ID#826747
1197 Norwich Road Plainfield, CT 06234
Latitude: 41° 38' 46.77" / Longitude: -71° 56' 28.70"

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 149-foot mount on the existing 150-foot monopole tower located at 1197 Norwich Road, Plainfield, CT. The property is owned by Plainfield Limited Inc and the tower is owned by Crown Castle. T-Mobile now intends to replace three (3) antennas and ancillary equipment at the 149ft 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 6419 B41 Antennas
- (3) Ericsson-Radio 4460 B25+ B66 RRH
- (2) Hybrid Cable (1-5/8")
- (1) Platform Mount Modification

Remove:

- (3) EMS RR90-17-XXPD Antennas
- (3) Ericsson - 4415 B66A RRH
- (3) Generic Twin Style 1A – PCS TMA
- (6) Coaxial Cables (1-5/8")
- (1) Hybrid Cable (1-5/8")

Ground:

Install New:

- (1) B160 Battery Cabinet
- (2) PSU 4813 Voltage Booster
- (1) 6160 AC VISSC
- (1) RP6651 IN Cabinet

The Foundation for a Wireless World.

CrownCastle.com

(1.) CSR IXRe V2

Remove:

(6) RUS02 B2 Radios

The facility was approved by the Town of Plainfield, CT on September 18, 2000, without conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Kevin Cunningham, First Selectman, Town of Plainfield, Mary Ann Chinatti - Town Planner, Town of Plainfield. Plainfield Limited Inc, property owner. 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
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Melanie A. Bachman

Page 3

Attachments

cc:

Kevin Cunningham, First Selectman
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374
860-230-3001

Mary Ann Chinatti - Town Planner
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374
860-230-3028

Plainfield Limited Inc – Property Owner
32 Packer Road
Canterbury, CT 06331
860-546-9819

Crown Castle - Tower Owner

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Tuesday, June 28, 2022 10:30 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777236492991: 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 Tue, 06/28/2022 at
10:22am.



Delivered to 8 COMMUNITY AVE, PLAINFIELD, CT 06374
Received by D.TALBOT

[OBTAIN PROOF OF DELIVERY](#)

TRACKING NUMBER [777236492991](#)

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Plainfield Kevin Cunningham First Selectman 8 Community Avenue PLAINFIELD, CT, US, 06374
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 6/27/2022 05:19 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	PLAINFIELD, CT, US, 06374
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: Tuesday, June 28, 2022 10:30 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777236509876: 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 Tue, 06/28/2022 at
10:22am.



Delivered to 8 COMMUNITY AVE, PLAINFIELD, CT 06374
Received by D.TALBOT

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777236509876](#)

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of Plainfield
Mary Ann Chinatti Town Planner
8 Community Avenue
PLAINFIELD, CT, US, 06374

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Mon 6/27/2022 05:19 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

DESTINATION PLAINFIELD, CT, US, 06374

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Tuesday, June 28, 2022 4:03 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 777236541478: 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 Tue, 06/28/2022 at
4:02pm.



Delivered to 32 PACKER RD, CANTERBURY, CT 06331

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777236541478](#)

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Plainfield Limited Inc Property Owner 32 Packer Road CANTERBURY, CT, US, 06331
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 6/27/2022 05:19 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	CANTERBURY, CT, US, 06331
SPECIAL HANDLING	Deliver Weekday Residential Delivery
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

CT11-314



Town Hall
8 Community Avenue
Plainfield, CT 06374

Telephone (860) 230-3030
Fax (860) 230-3033

THE PLAINFIELD TOWN HALL
PLAINFIELD • CENTRAL VILLAGE • MOOSUP • WAUREGAN

PLANNING AND ZONING COMMISSION

September 18, 2000

Omnipoint Communications, Inc.
100 Filley Street
Bloomfield, CT 06002

Dear Applicant:

At its meeting on Tuesday, September 12, 2000, the Planning & Zoning Commission approved your request SP-2000-05 for a Special Permit under Section 6.35 to install a telecommunications monopole with antenna and equipment compound on property located at 1197 Norwich Road, Plainfield. Map 5, Block 4, Lot 40.

The Conditions are:
None.

Please file the enclosed Special Permit on the Land Records in the Town Clerk's office.

A copy of the Legal Notice is enclosed for your records and will appear in the Norwich Bulletin on Wednesday, September 20, 2000.

Yours Truly,

PLANNING & ZONING COMMISSION

Dave Allard, Chairman

Gloria Rizer, Secretary

CC: Plainfield Limited Inc.
133 Packer Rd.
Canterbury, CT 06331

1197 NORWICH RD

Location 1197 NORWICH RD

Mblu 005/ 0004/ 0040/ /

Acct# 00026300

Owner PLAINFIELD LIMITED INC

Assessment \$411,070

Appraisal \$723,550

PID 282

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$433,150	\$290,400	\$723,550

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$303,210	\$107,860	\$411,070

Owner of Record

Owner PLAINFIELD LIMITED INC
Co-Owner
Address 32 PACKER ROAD
CANTERBURY, CT 06331

Sale Price \$300,000
Certificate
Book & Page 0223/0366
Sale Date 06/21/1994
Instrument UNKQ

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
PLAINFIELD LIMITED INC	\$300,000		0223/0366	UNKQ	06/21/1994

Building Information

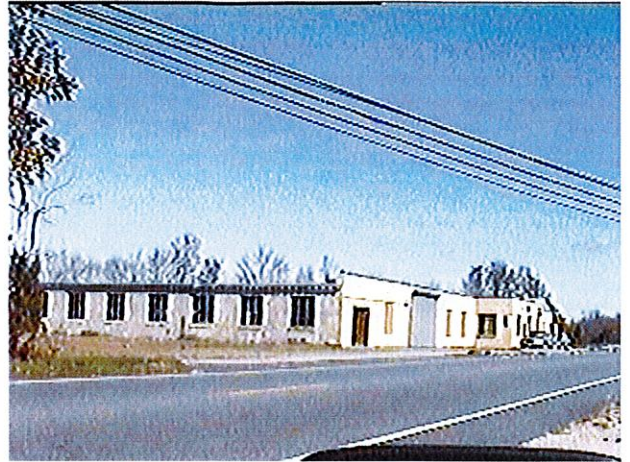
Building 1 : Section 1

Year Built: 1946
Living Area: 43,998
Replacement Cost: \$1,068,271
Building Percent Good: 31
Replacement Cost
Less Depreciation: \$331,160

Building Attributes

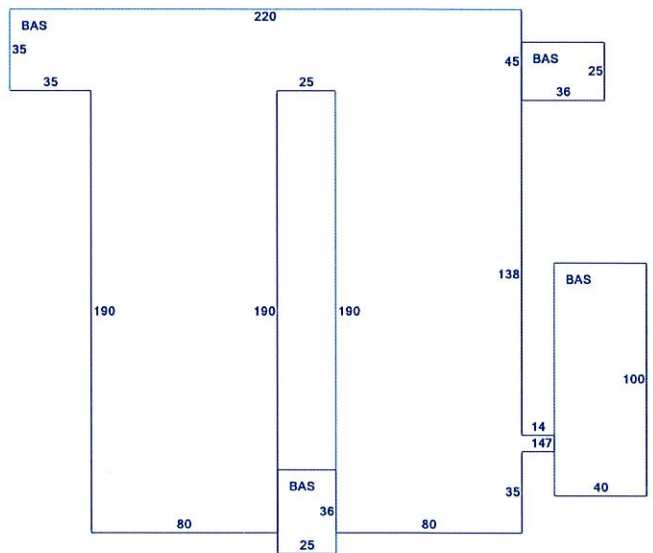
Field	Description
Style:	Warehouse
Model	Comm/Ind
Grade	C
Stories:	1
Occupancy	1.00
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	Stucco/Masonry
Roof Structure	Flat
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Cust Wd Panel
Interior Wall 2	
Interior Floor 1	Dirt/None
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Type	None
Struct Class	
Bldg Use	IND WHSES
Total Rooms	2
Total Bedrms	00
Total Baths	1
1st Floor Use:	630C
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	LIGHT
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	12.00
% Comn Wall	

Building Photo



(<https://images.vgsi.com/photos/PlainfieldCTPhotos/\00\00\02\22.JPG>)

Building Layout



(ParcelSketch.ashx?pid=282&bid=282)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	43,998	43,998
		43,998	43,998

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
OD1	Overhead Dr-Wood/Mtl	2.00 UNITS	\$0	1
OD1	Overhead Dr-Wood/Mtl	1.00 UNITS	\$310	1

Land

Land Use

Use Code 4010

Land Line Valuation

Size (Acres) 59.8

Description IND WHSES
Zone C
Neighborhood 1010
Alt Land Appr No
Category

Frontage
Depth
Assessed Value \$107,860
Appraised Value \$290,400

Outbuildings

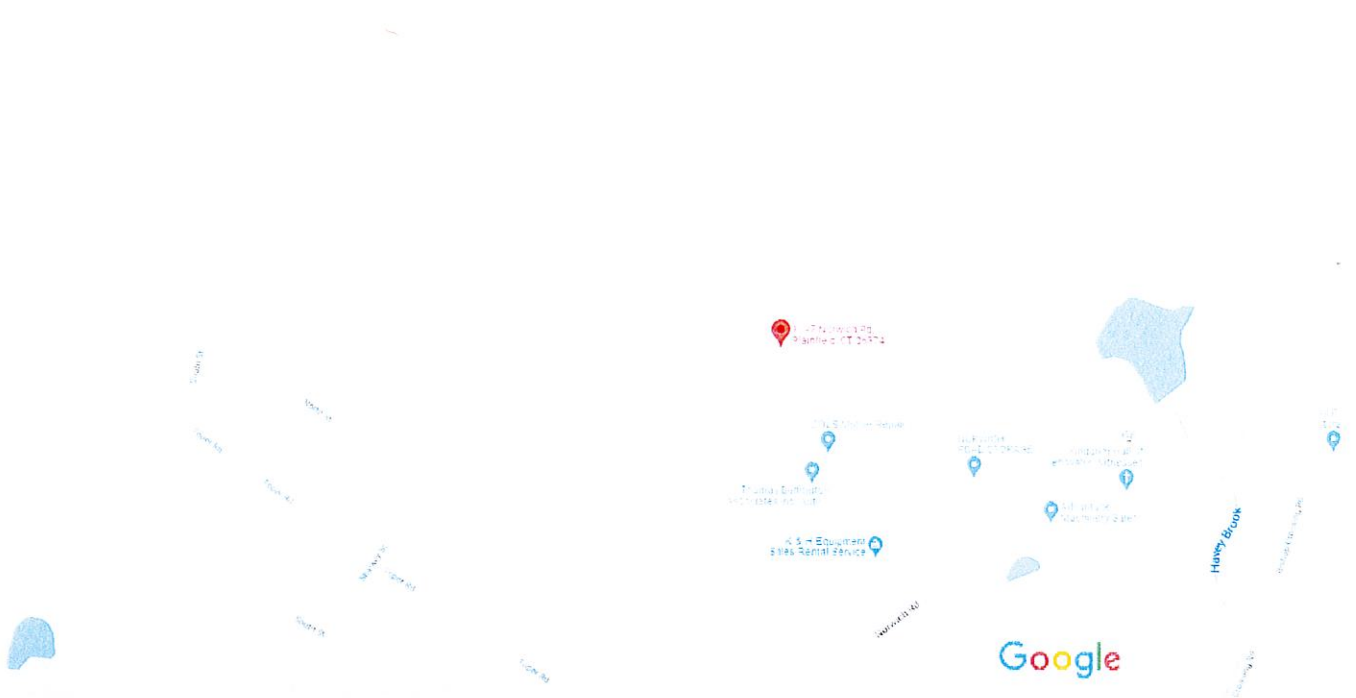
Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	Paving-Asphalt			4400.00 S.F.	\$4,400	1
TT4	Cell Tower			150.00 HEIGHT	\$67,500	1
FN4	Fence 8' Chain			192.00 L.F.	\$2,780	1
RS5	Cell Tower Building			360.00 UNITS	\$27,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$433,150	\$290,400	\$723,550
2020	\$433,150	\$290,400	\$723,550

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$303,210	\$107,860	\$411,070
2020	\$303,210	\$107,860	\$411,070

Google Maps 1197 Norwich Rd








Map data ©2022 200 ft



1197 Norwich Rd

Plainfield, CT 06374

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

J3W4+PH Plainfield, Connecticut

Date: **May 19, 2022**



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

Subject: **Mount Modification Report**

Carrier Designation: **T-Mobile Equipment Change-Out**
Carrier Site Number: CT11314C
Carrier Site Name: Plainfield/I-395

Crown Castle Designation: **BU Number:** 826747
Site Name: Plainfield/I-395
JDE Job Number: 713861
Order Number: 613480 Rev. 0

Engineering Firm Designation: **Trylon Report Designation:** 209175

Site Data: **1197 Norwich Road, Plainfield, Windham County, CT, 06234**
Latitude 41°38'46.77" Longitude -71°56'28.70"

Structure Information: **Tower Height & Type:** **149.1 ft Monopole**
Mount Elevation: **148.0 ft**
Mount Width & Type: **13.5 ft Platform**

Trylon is pleased to submit this **“Mount Modification Report”** to determine the structural integrity of T-Mobile’s antenna mounting system with the proposed appurtenance and equipment addition on the above mentioned 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***
***Sufficient upon completion of the changes listed in the ‘Recommendations’ section of this report.**

This analysis utilizes an ultimate 3-second gust wind speed of 135 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: Alexandra Chetreanu

Respectfully Submitted by:
Cliff Abernathy, P.E.

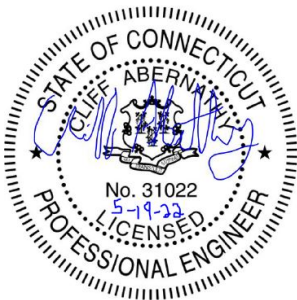


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

9) APPENDIX E

Mount Modification Design Drawings

1) INTRODUCTION

This is an existing 3 sector 13.5 ft Platform, previously analyzed by Paul J Ford and Company.

The mount has been modified per reinforcement drawings prepared by Paul J Ford and Company, in May of 2019. Reinforcement consists of install Site Pro 1, PRK-1245L and HRK14.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	135 mph
Exposure Category:	C
Topographic Factor at Base:	1.00
Topographic Factor at Mount:	1.00
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.17
Seismic S₁:	0.061
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
148.0	150.0	3	Ericsson	AIR 6419 B41_TMO	13.5 ft Platform
		3	RFS/Celwave	APXVAARR24_43-U-NA20	
		3	Ericsson	RADIO 4449 B71 B85A T-MOBILE	
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	613480, Rev. 0	CCI Sites
Structural Analysis Report	B+T Group	9983446	CCI Sites
Assembly Drawings	Site Pro 1	HRK14	Trylon
Mount Modification Report	Paul J Ford and Company	8440705	CCI Sites
Assembly Drawings	Site Pro 1	PRK-1245L	Trylon
Mount Modification Drawings	Trylon	Appendix E	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 Tylon 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). In addition, this analysis is in accordance with AT&T’s Mount Technical Directive.

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)	MP2	148.0	60.0	Pass
	Horizontal(s)	M98A		36.0	Pass
	Standoff(s)	M59A		24.1	Pass
	Bracing(s)	M71B		47.8	Pass
	Handrail(s)	M81		23.4	Pass
	Kicker(s)	M119		33.7	Pass
	Plate(s)	M115		30.5	Pass
	Mount Connection(s)	-		24.0	Pass

Structure Rating (max from all components) =	60.0%
---	--------------

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

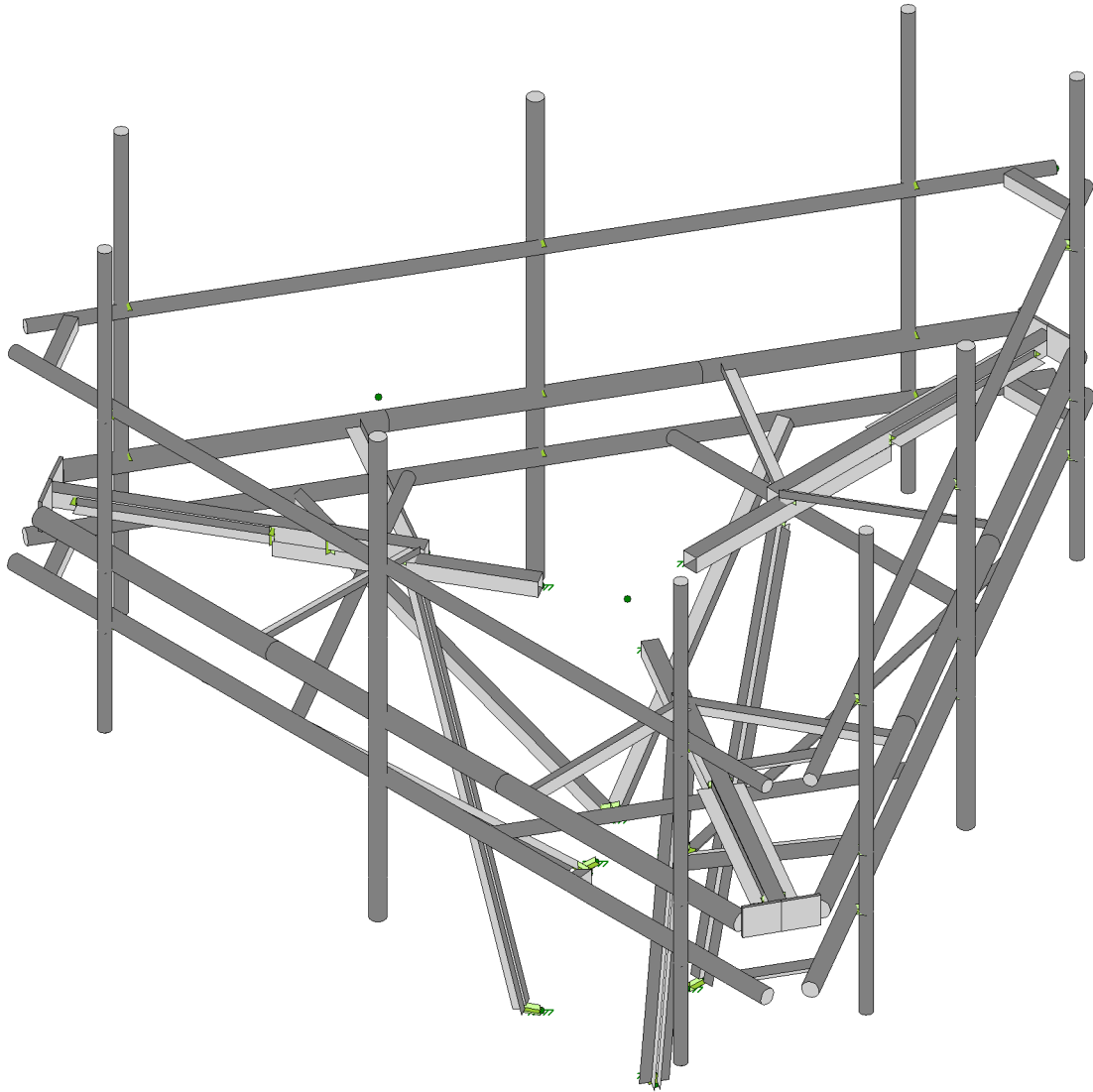
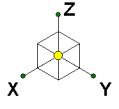
4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Site Pro 1, HRK14-3HD.
2. Site Pro 1, PRK-SFS-L.
3. Replace the corner pipes with 2.375", sch.40, 8-ft long pipes. Use SCX7-U crossover plates to connect the new pipes to the bottom face horizontal.

No structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

Trylon

AC

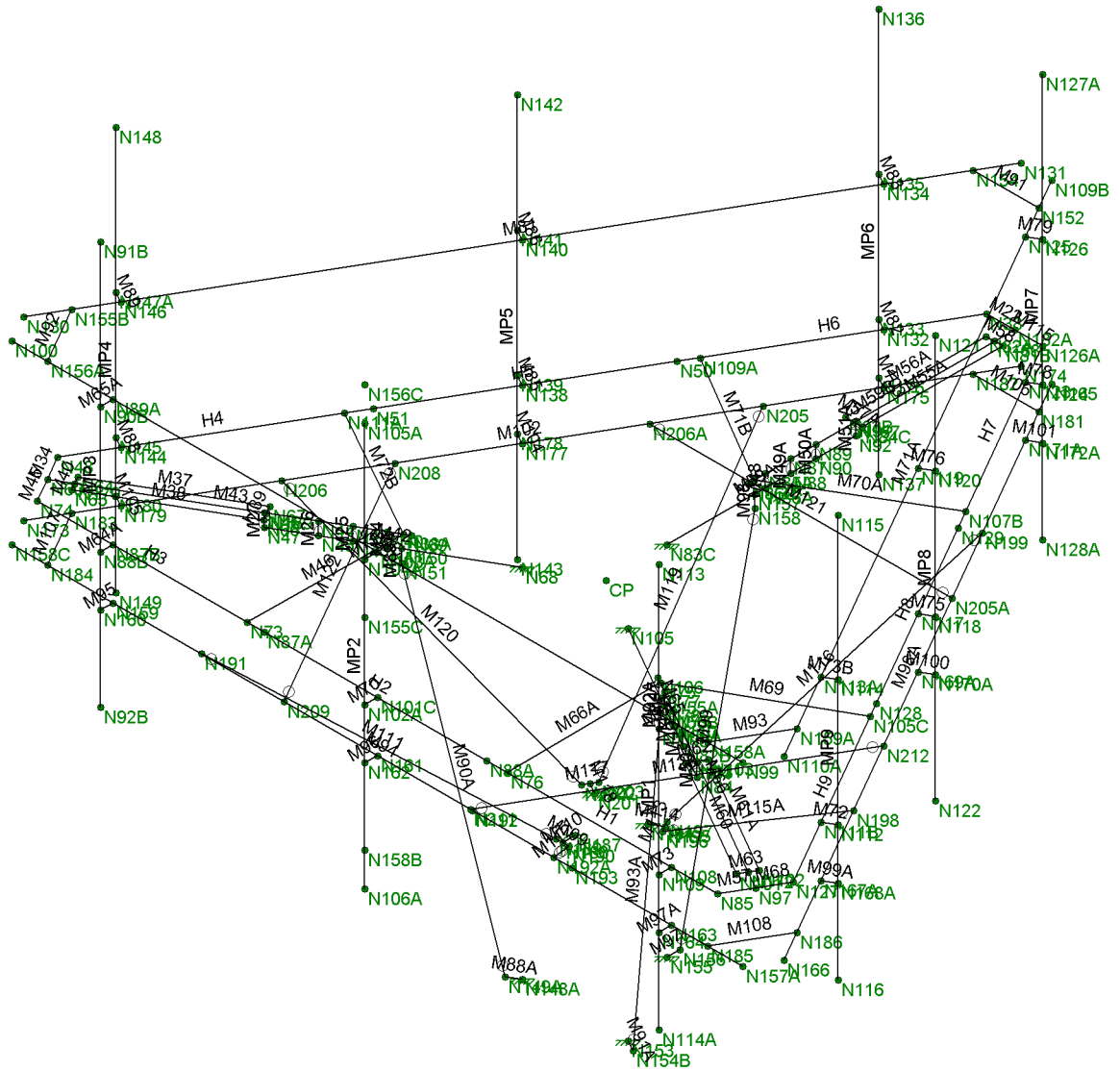
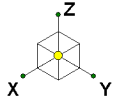
209175

826747

SK - 1

May 19, 2022 at 1:02 PM

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Envelope Only Solution

Trylon
AC
209175

826747

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May 19, 2022 at 1:02 PM
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APPENDIX B
SOFTWARE INPUT CALCULATIONS

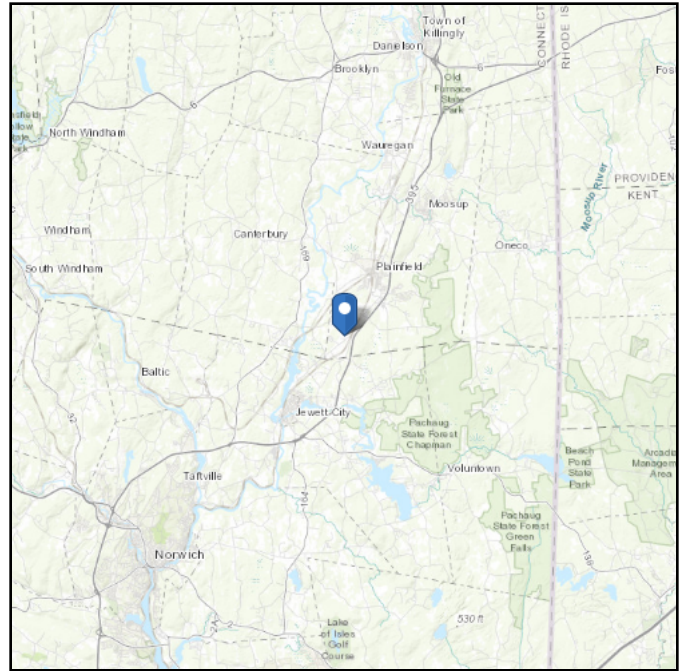
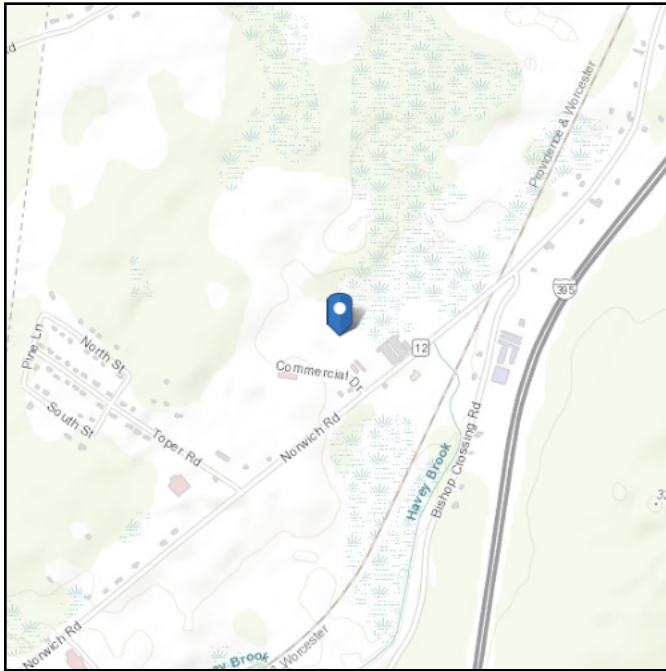


ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 151.39 ft (NAVD 88)
Latitude: 41.646325
Longitude: -71.941306

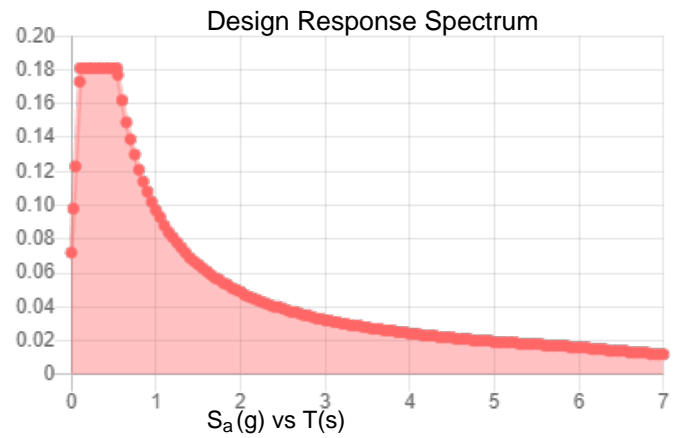
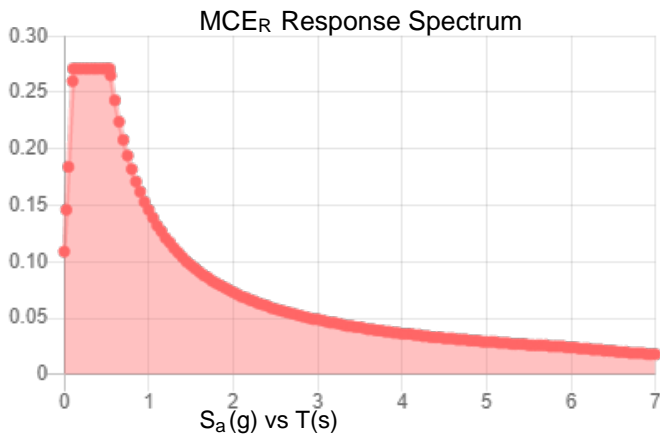


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.17	S_{DS} :	0.181
S_1 :	0.061	S_{D1} :	0.097
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.271	PGA_M :	0.136
S_{M1} :	0.146	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed: Wed May 04 2022

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 0.75 in.

Concurrent Temperature: 15 F

Gust Speed 50 mph

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

Date Accessed: Wed May 04 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 50-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.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

TIA LOAD CALCULATOR 2.2

PROJECT DATA	
Job Code:	209175
Carrier Site ID:	CT11314C
Carrier Site Name:	Plainfield/I-395

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

STRUCTURE DETAILS		
Mount Type:	Platform	--
Mount Elevation:	148.0	ft.
Number of Sectors:	3	--
Structure Type:	Monopole	--
Structure Height:	149.1	ft.

ANALYSIS CRITERIA		
Structure Risk Category:	II	--
Exposure Category:	C	--
Site Class:	D - Stiff Soil	--
Ground Elevation:	151.39	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:	135	mph
Wind Escalation Factor (K_s):	1.00	--
Velocity Coefficient (K_z):	1.37	--
Directionality Factor (K_d):	0.95	--
Gust Effect Factor (G _h):	1.00	--
Shielding Factor (K_a):	0.90	--
Velocity Pressure (q_z):	60.59	psf
Ground Elevation Factor (K_e):	0.99	--

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}):	7.03	psf
Mount Ice Thickness (t_{iz}):	1.74	in

WIND STRUCTURE CALCULATIONS		
Flat Member Pressure:	109.06	psf
Round Member Pressure:	65.44	psf
Ice Wind Pressure:	7.59	psf

SEISMIC PARAMETERS		
Importance Factor (I_e):	1.00	--
Short Period Accel. (S_s):	0.170	g
1 Second Accel. (S_1):	0.061	g
Short Period Des. (S_{DS}):	0.18	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

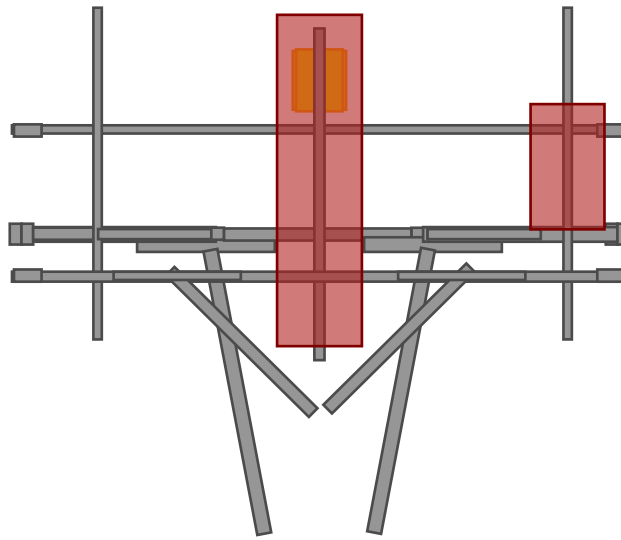
#	Description
42	1.2DL + 1DLi + 1WLi 180 AZI
43	1.2DL + 1DLi + 1WLi 210 AZI
44	1.2DL + 1DLi + 1WLi 225 AZI
45	1.2DL + 1DLi + 1WLi 240 AZI
46	1.2DL + 1DLi + 1WLi 270 AZI
47	1.2DL + 1DLi + 1WLi 300 AZI
48	1.2DL + 1DLi + 1WLi 315 AZI
49	1.2DL + 1DLi + 1WLi 330 AZI
50	(1.2+0.2Sds) + 1.0E 0 AZI
51	(1.2+0.2Sds) + 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

ELEVATION VIEW



MP3

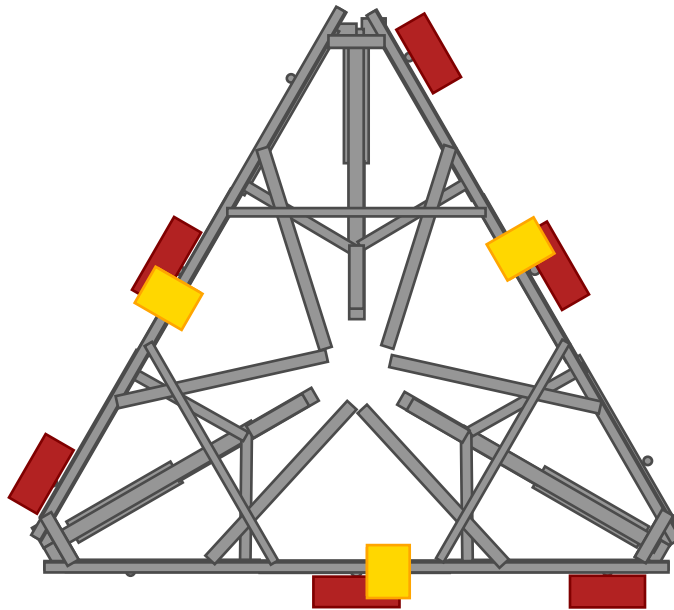
MP2

MP1

*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:	209175
Carrier Site ID:	CT11314C
Carrier Site Name:	Plainfield/I-395

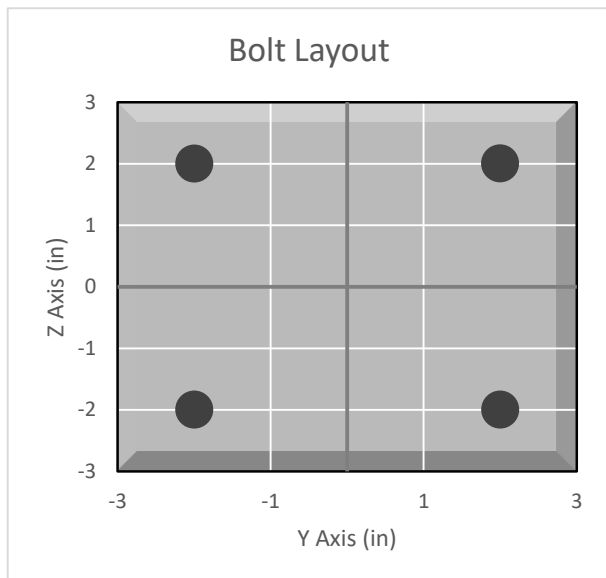
Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

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:	4	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	-	in

Connection Description
Standoff to Tower

Bolt Check*		
Tensile Capacity (ϕT_n):	20340.1	lbs
Shear Capacity (ϕV_n):	13805.8	lbs
Tension Force (T _u):	5127.8	lbs
Shear Force (V _u):	373.6	lbs
Tension Usage:	24.0%	--
Shear Usage:	2.6%	--
Interaction:	24.0%	Pass
Controlling Member:	M59A	--
Controlling LC:	14	--

*Rating per TIA-222-H Section 15.5



BOLT TOOL 1.5.2

Project Data	
Job Code:	209175
Carrier Site ID:	CT11314C
Carrier Site Name:	Plainfield/I-395

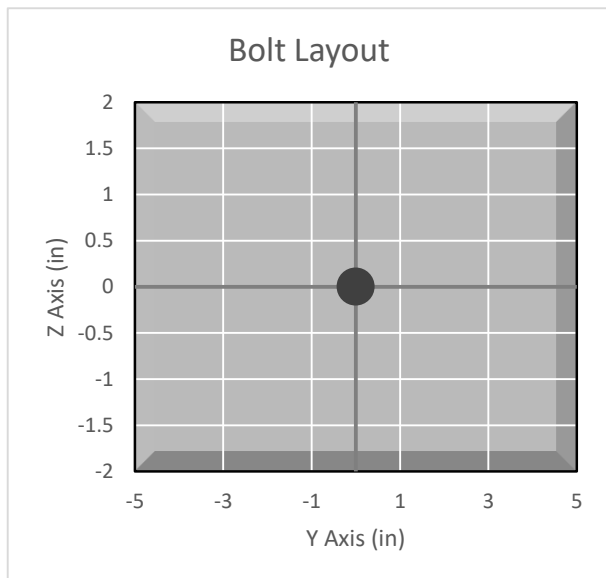
Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

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 Connection 1 Bolt

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):	923.0	lbs
Tension Usage:	0.0%	--
Shear Usage:	6.4%	--
Interaction:	6.4%	Pass
Controlling Member:	M97	--
Controlling LC:	34	--

*Rating per TIA-222-H Section 15.5



BOLT TOOL 1.5.2

Project Data	
Job Code:	209175
Carrier Site ID:	CT11314C
Carrier Site Name:	Plainfield/I-395

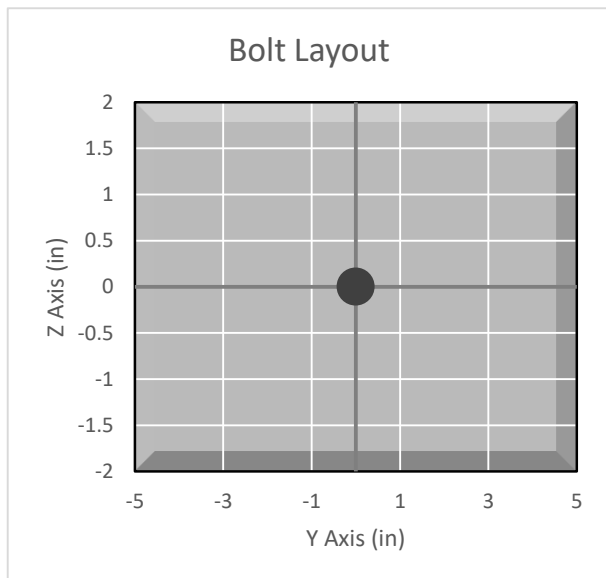
Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

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
Stabilizer 1 Bolt

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):	1986.1	lbs
Tension Usage:	0.0%	--
Shear Usage:	13.7%	--
Interaction:	13.7%	Pass
Controlling Member:	M118	--
Controlling LC:	37	--

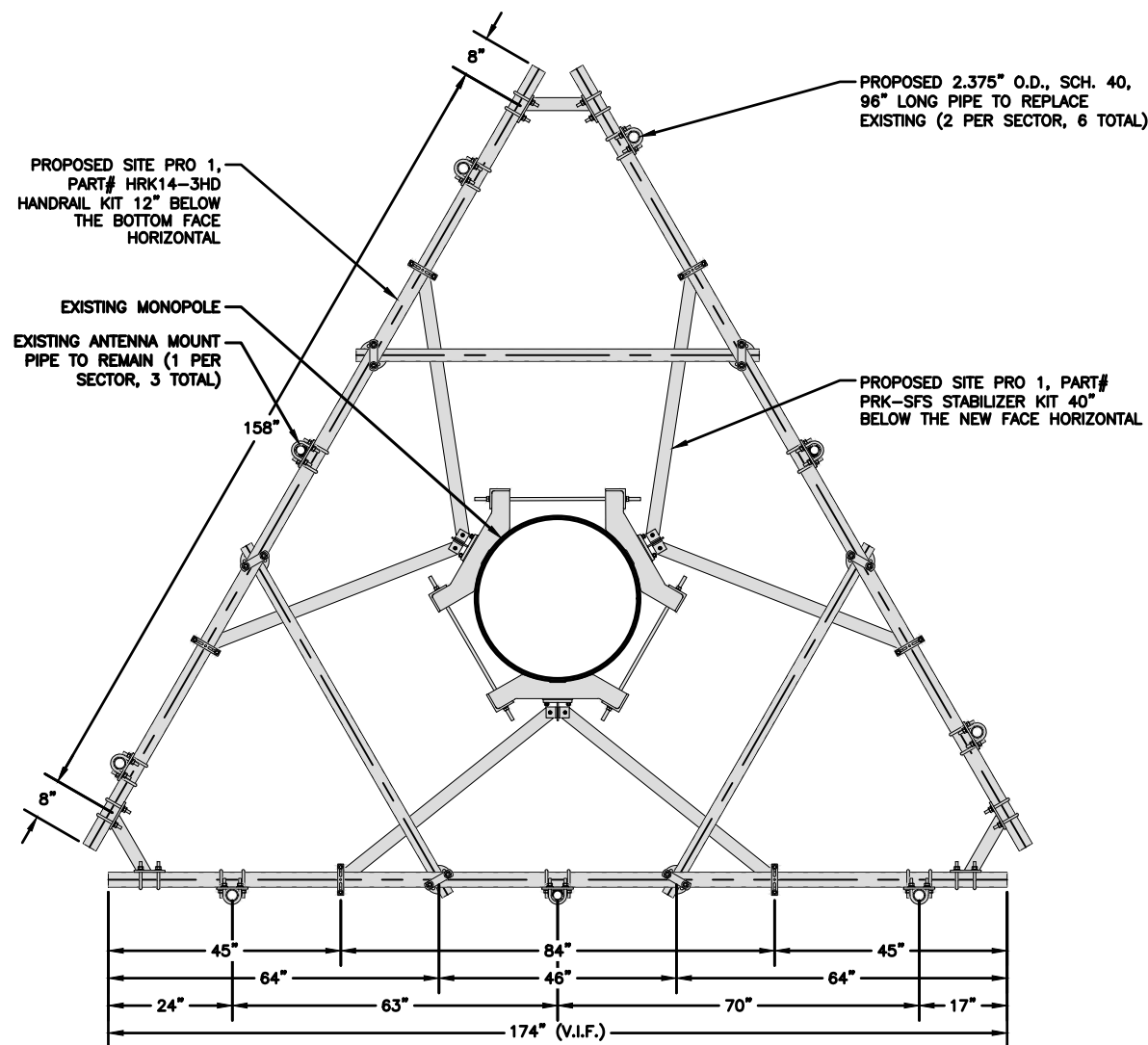
*Rating per TIA-222-H Section 15.5



APPENDIX E
MOUNT MODIFICATION DESIGN DRAWINGS (MDD)

INSTALLATION NOTES:

- REPLACE THE CORNER PIPES WITH 2.375" O.D., SCH. 40, 96" LONG PIPES (2 PER SECTOR).
- USE SITE PRO 1, SCX7-U CROSSOVER PLATES TO CONNECT THE NEW PIPES TO THE BOTTOM FACE HORIZONTAL (2 PER SECTOR).
- INSTALL NEW SITE PRO 1, HRK14-3HD HANDRAIL KIT AT APPROXIMATELY 12" BELOW THE BOTTOM FACE HORIZONTAL.
- INSTALL NEW SITE PRO 1, PRK-SFS STABILIZER KIT CONNECTED AT APPROXIMATELY 40" BELOW THE NEW FACE HORIZONTAL.



EQUIPMENT NOT SHOWN FOR CLARITY.

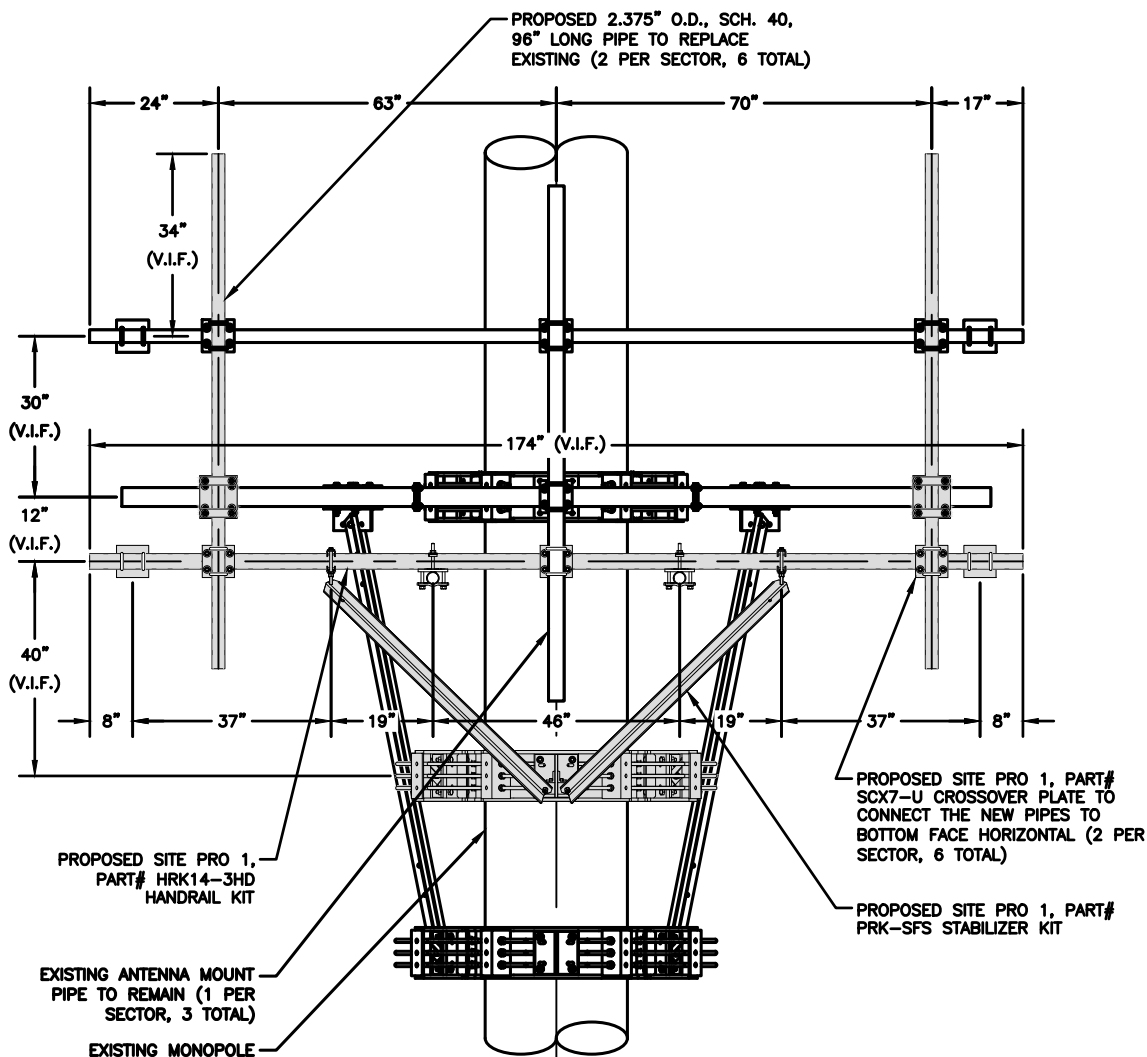
1 PROPOSED BOTTOM PLAN VIEW (ALL SECTORS)
S-1 SCALE: 3/4" = 1'-0"



BILL OF MATERIALS		
QTY.	KIT NO./PART NO.	DESCRIPTION
1 PER SECTOR, 3 TOTAL	-	2.375" O.D., SCH. 40, 96" LONG PIPE
2 PER SECTOR, 6 TOTAL	SCX7-U	CROSSOVER PLATE KIT
1 TOTAL	HRK14-3HD	HANDRAIL KIT
1 TOTAL	PRK-SFS	STABILIZER KIT

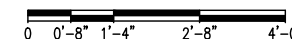
GENERAL NOTES:

1. ALL STEEL ANGLE TO BE ASTM A36 (GR 36) OR BETTER.
2. ALL STEEL PLATE TO BE ASTM A36 (GR 36) OR BETTER.
3. ALL PIPES TO BE ASTM A53 (GR 35) OR BETTER.
4. HOT DIP GALVANIZE LEVEL 3 PARTS.
5. APPLY TWO COATS OF GALVICON TO ALL FIELD CUT OR DRILL EDGES.
6. ALL BOLTS TO MAINTAIN 1" EDGE DISTANCE.



EQUIPMENT NOT SHOWN FOR CLARITY.

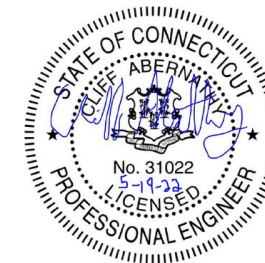
2 PROPOSED ELEVATION VIEW (ALL SECTORS)
S-1 SCALE: 3/4" = 1'-0"



1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057



1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1-855-669-5421



DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/17/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
PLAINFIELD/I-395

SITE NUMBER:
CT11314C

SITE ADDRESS:
1197 NORWICH ROAD,
PLAINFIELD, CT 06234

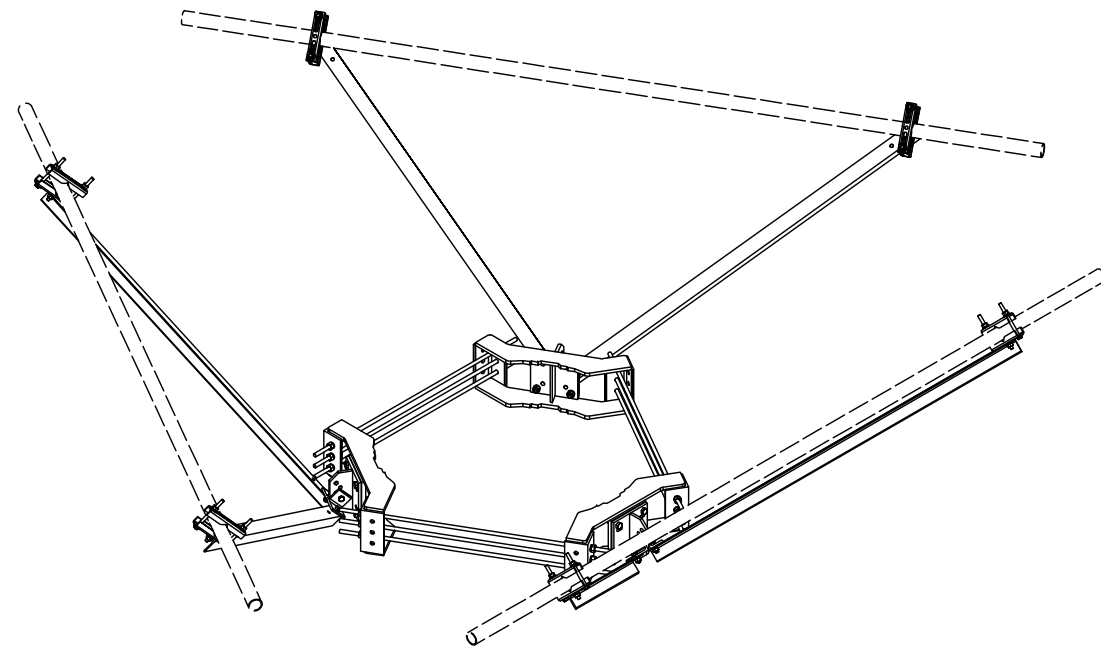
SHEET DESCRIPTION

MOUNT REINFORCEMENT

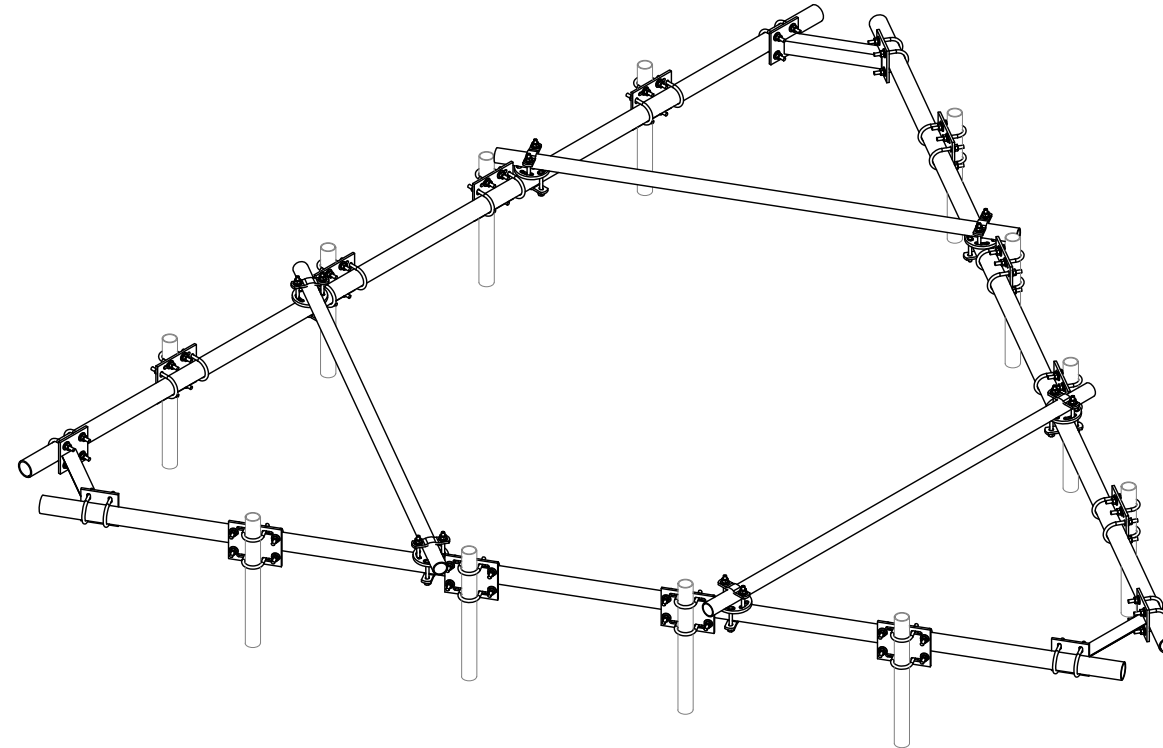
SHEET No.

S-1

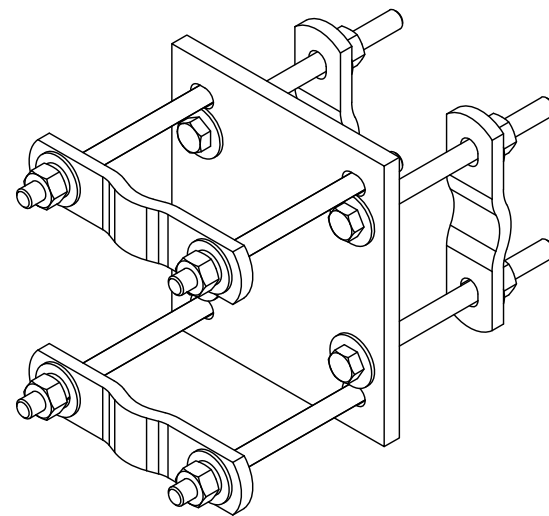
MOUNT KIT	
PART NUMBER	DESCRIPTION
PRK-SFS	REINFORCEMENT ASSEMBLY KIT



MOUNT KIT	
PART NUMBER	DESCRIPTION
HRK14-3HD	HANDRAIL KIT



MOUNT KIT	
PART NUMBER	DESCRIPTION
SCX7-U	CROSSOVER PLATE KIT



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DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE
PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES
ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/17/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
PLAINFIELD/I-395

SITE NUMBER:
CT11314C

SITE ADDRESS:
1197 NORWICH ROAD,
PLAINFIELD, CT 06234

SHEET DESCRIPTION

MOUNT REINFORCEMENT
DETAILS

SHEET No.

S-2



Date: **May 26, 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: CT11314C

Crown Castle Designation: **BU Number:** 826747
Site Name: Plainfield/I-395
JDE Job Number: 713861
Work Order Number: 2111543
Order Number: 613480 Rev. 0

Engineering Firm Designation: **Project Number:** 136593.005.01

Site Data: **1197 Norwich Road, Plainfield, Windham County, CT**
Latitude 41° 38' 46.766", Longitude -71° 56' 28.698"
149.083 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:

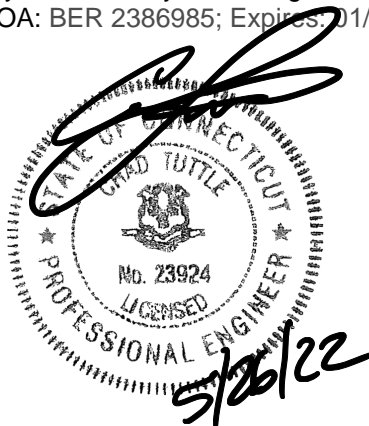
LC7: Proposed Equipment Configuration

Sufficient Capacity - 92.9%

This analysis utilizes an ultimate 3-second gust wind speed of 124 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: Massood Sattari

Respectfully submitted by: MTS Engineering,
P.L.L.C. COA: BER 2386985; Expires: 01/31/2023



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 149.083 ft Monopole tower designed By Pirod Manufactures in October of 2000.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	124 mph
Exposure Category:	C
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)
148.0	150.0	3	Ericsson	AIR 6419 B41_TMO	3	1-5/8
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	RFS Celwave	APXVAARR24_43-U-NA20		
	148.0	6	--	8' x 2.375" SCH40 Mount Pipes		
		1	--	Platform Mount [LP 404-1_KCKR]		
		146.0	1	Site Pro1		
144.0	1	Site Pro1	PRK-SFS-L Reinforcement Kit			

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)
140.0	140.0	3	Antel	BXA-80090/4CF	13	1-5/8
		6	JMA Wireless	MX06FRO660-03		
		1	RFS Celwave	DB-T1-6Z-8AB-0Z		
		3	Samsung Telecom.	MT6407-77A		
		3	Samsung Telecom.	RF4439D-25A		
		3	Samsung Telecom.	RF4440D-13A		
		1	--	Platform Mount [LP 303-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawings	3523624	CCI Sites
Tower Foundation Drawings	3879941	CCI Sites
Geotechnical Reports	3523623	CCI Sites
Crown CAD Package	Date:05/04/2022	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	149.083 - 133.083	Pole	TP26x22.066x0.25	1	-9.144	1220.121	15.1	Pass
L2	133.083 - 98.5	Pole	TP34.063x24.783x0.313	2	-14.408	1998.465	37.2	Pass
L3	98.5 - 64.833	Pole	TP41.75x32.489x0.375	3	-21.935	2940.703	40.9	Pass
L4	64.833 - 32	Pole	TP49.063x39.847x0.375	4	-30.935	3460.789	48.9	Pass
L5	32 - 0	Pole	TP56.125x46.961x0.375	5	-43.225	4075.942	56.3	Pass
							Summary	
						Pole (L5)	56.3	Pass
						Rating =	56.3	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Splice Connection	64.8	48.2	Pass
1,2	Anchor Rods	Base	58.9	Pass
1,2	Base Plate	Base	74.6	Pass
1,2	Base Foundation (Structure)	Base	92.9	Pass
1,2	Base Foundation (Soil Interaction)	Base	87.4	Pass

Structure Rating (max from all components) =	92.9%
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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.

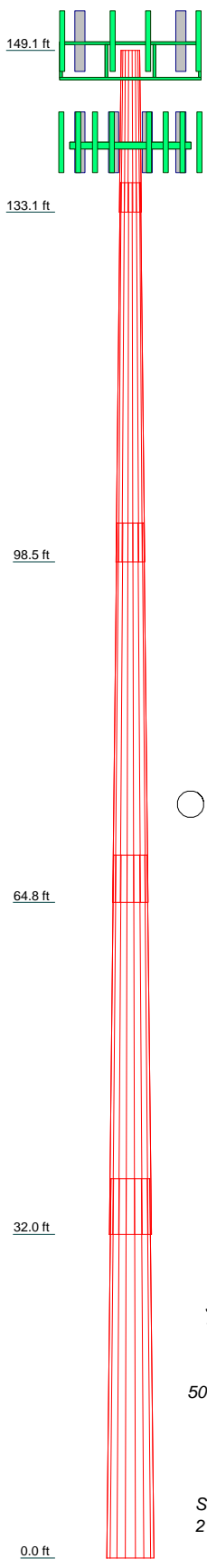
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	24.8
Length (ft)	16.000	37.500	37.500	37.500	37.500	
Number of Sides	18	18	18	18	18	
Thickness (in)	0.250	0.313	0.375	0.375	0.375	
Socket Length (ft)	2.917	3.833	4.667	5.500	46.961	
Top Dia (in)	22.066	24.763	32.489	39.847	46.961	
Bot Dia (in)	26.000	34.063	41.750	49.063	56.125	
Grade			A572-65			
Weight (K)	1.0	3.7	5.6	6.7	7.8	



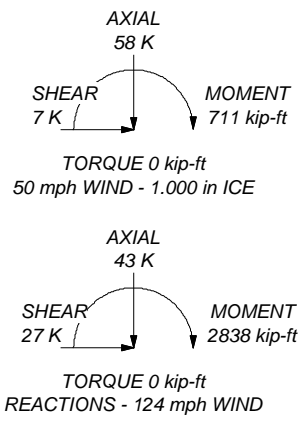
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 124 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.000 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: 56.3%

ALL REACTIONS ARE FACTORED



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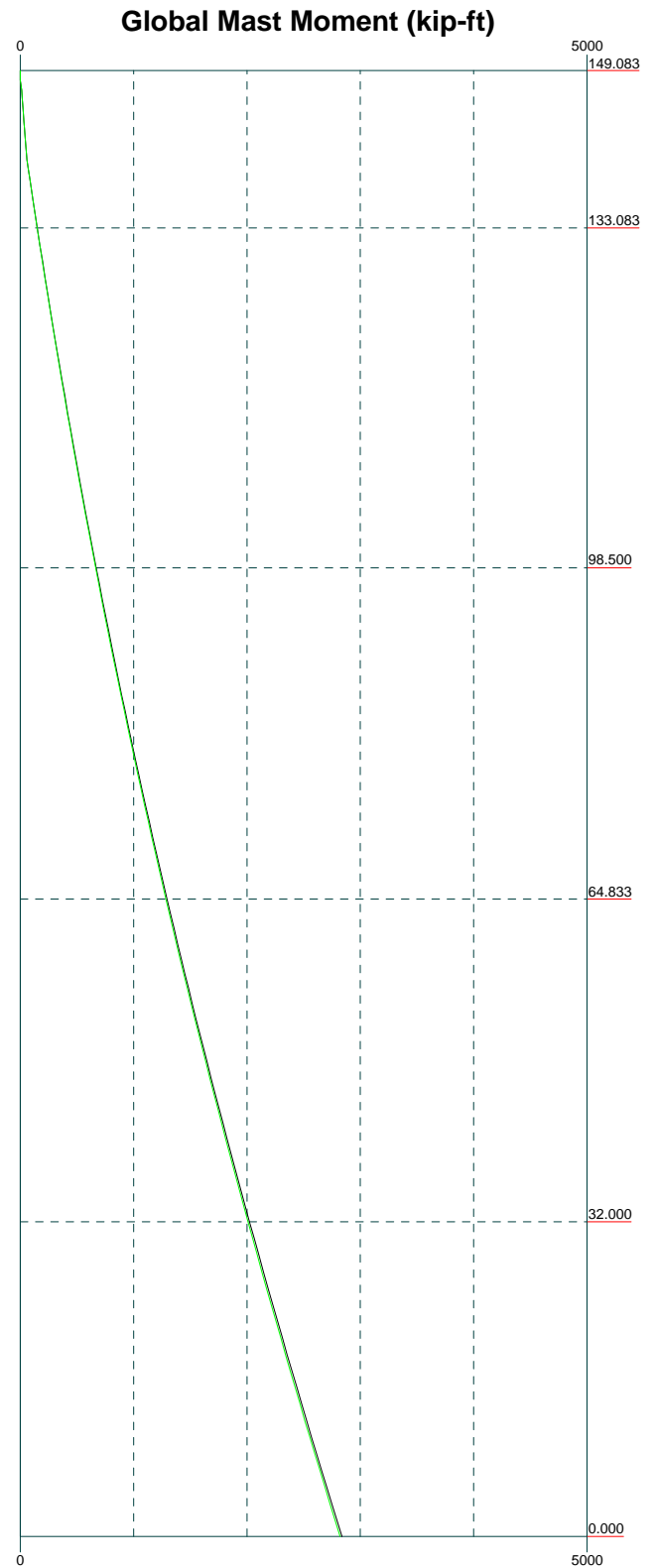
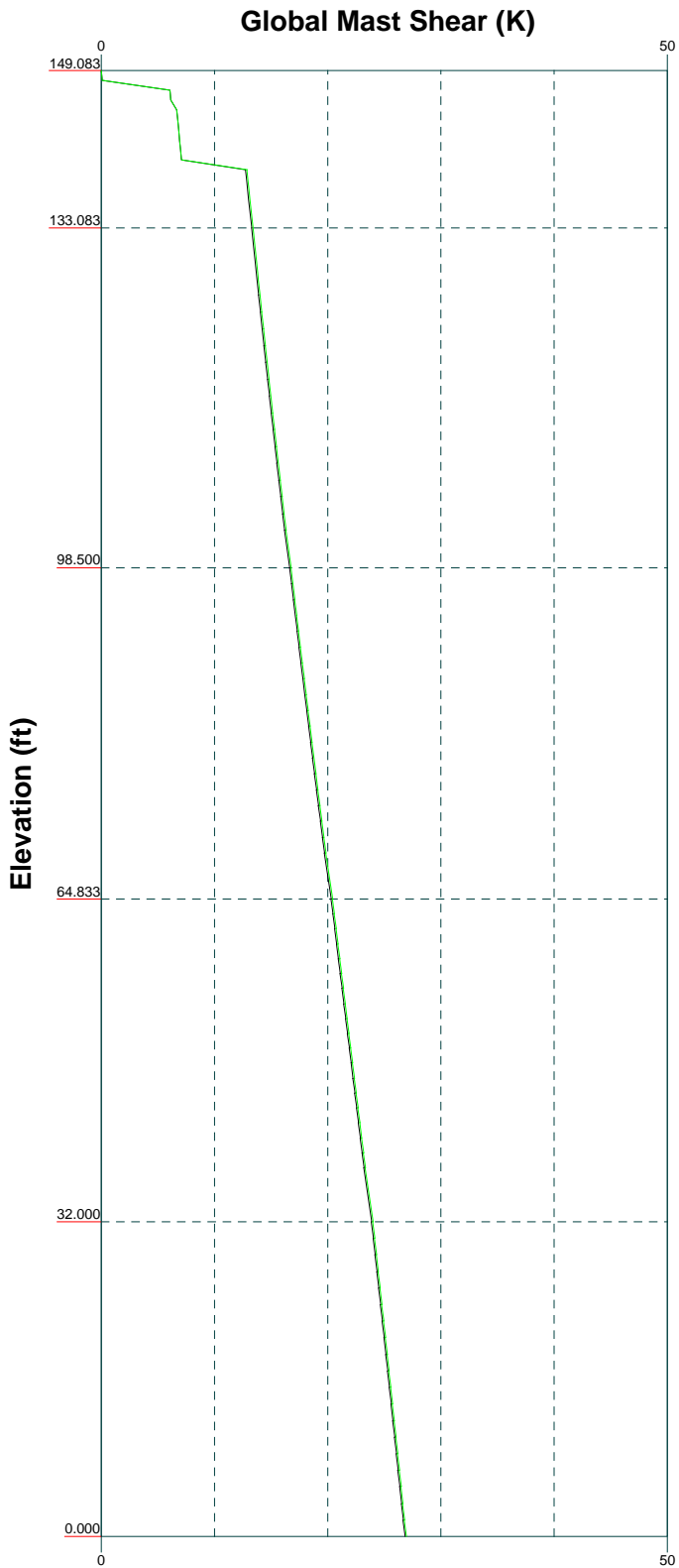
Job: 136593.005.01 - Plainfield/I-395, CT (BU# 82674)		
Project:	Client: Crown Castle	Drawn by: Rakshak
Code: TIA-222-H	Date: 05/25/22	App'd: Scale: NTS
Path:		Dwg No. E-1

Vx

Vz

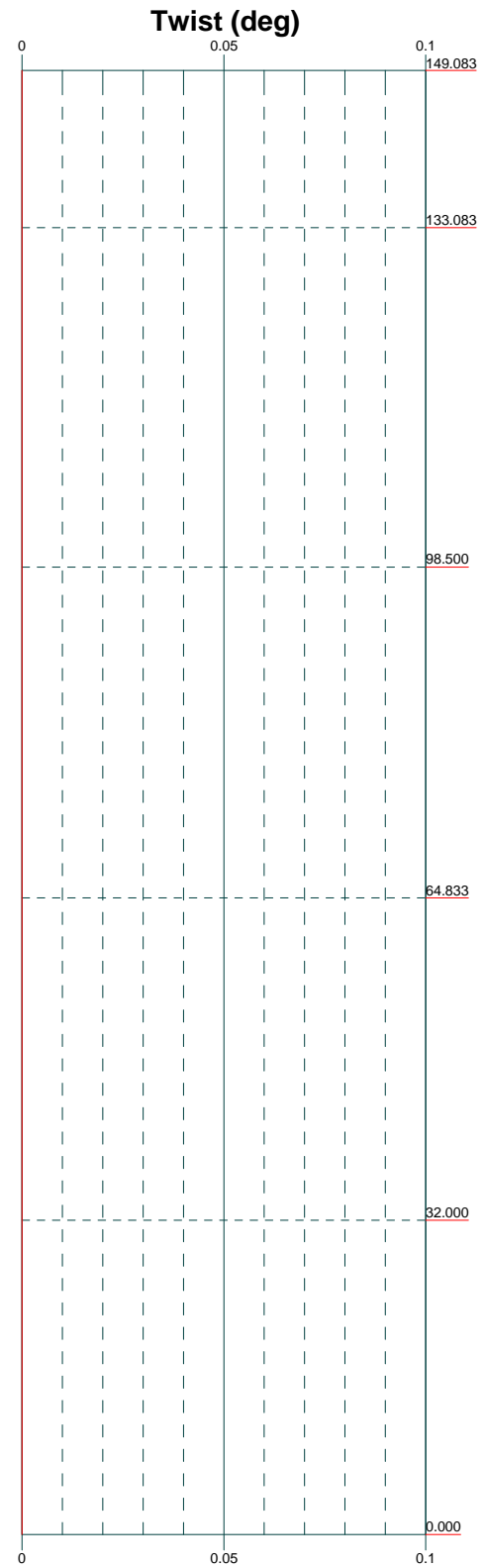
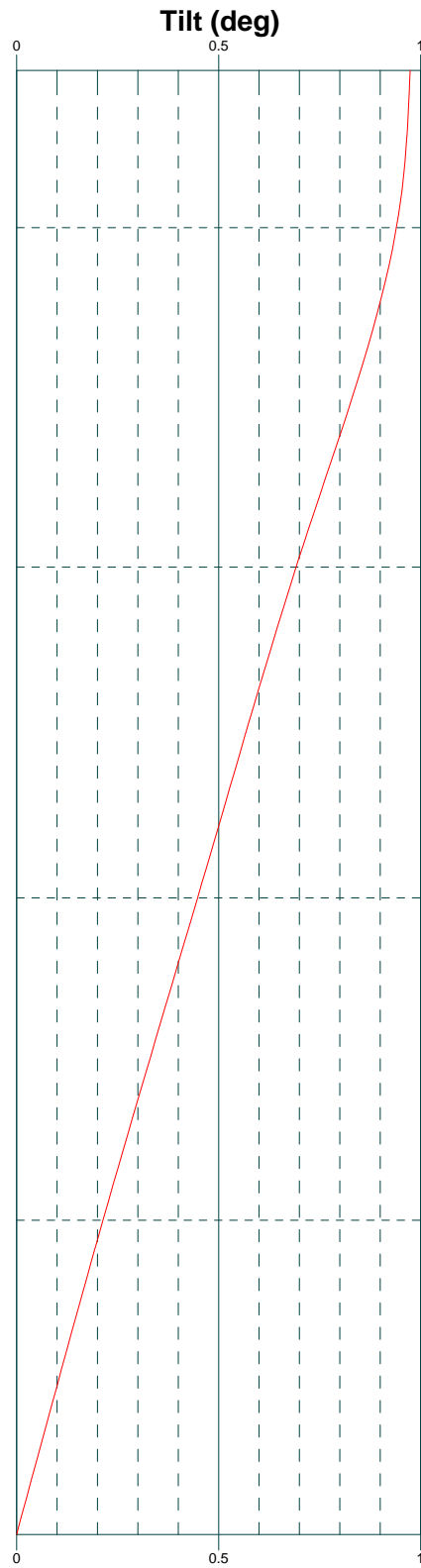
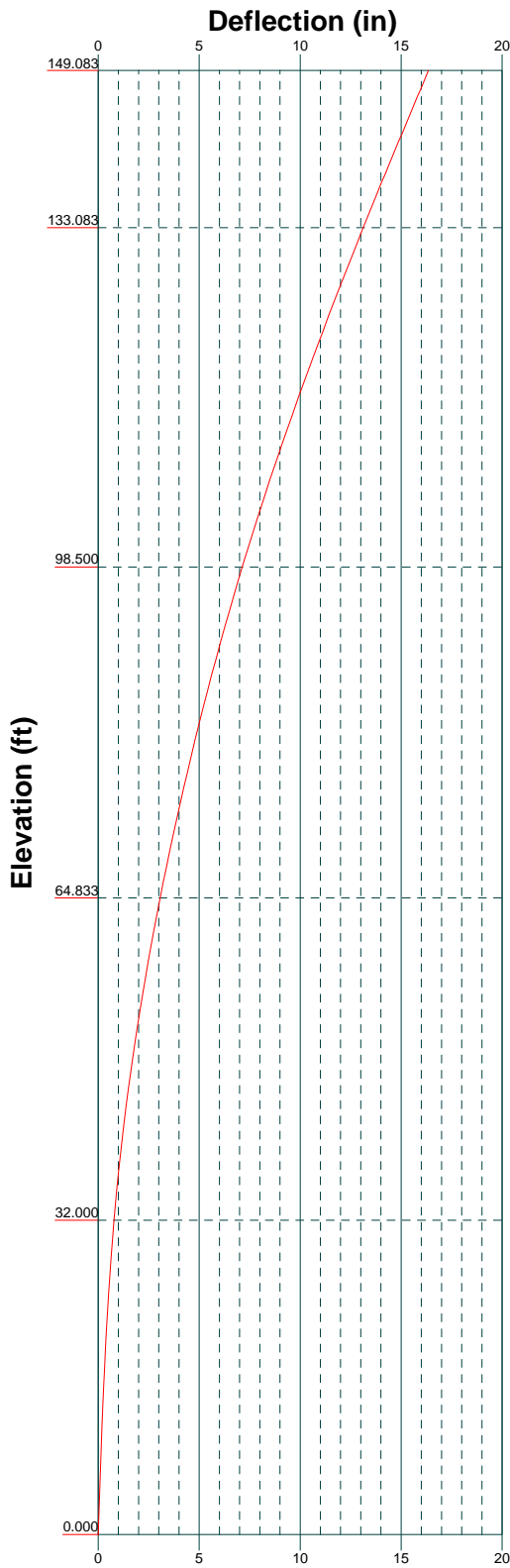
Mx

Mz



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Project:		
Client: Crown Castle	Drawn by: Rakshak	App'd:
Code: TIA-222-H	Date: 05/25/22	Scale: NTS
Path:	Dwg No. E-4	



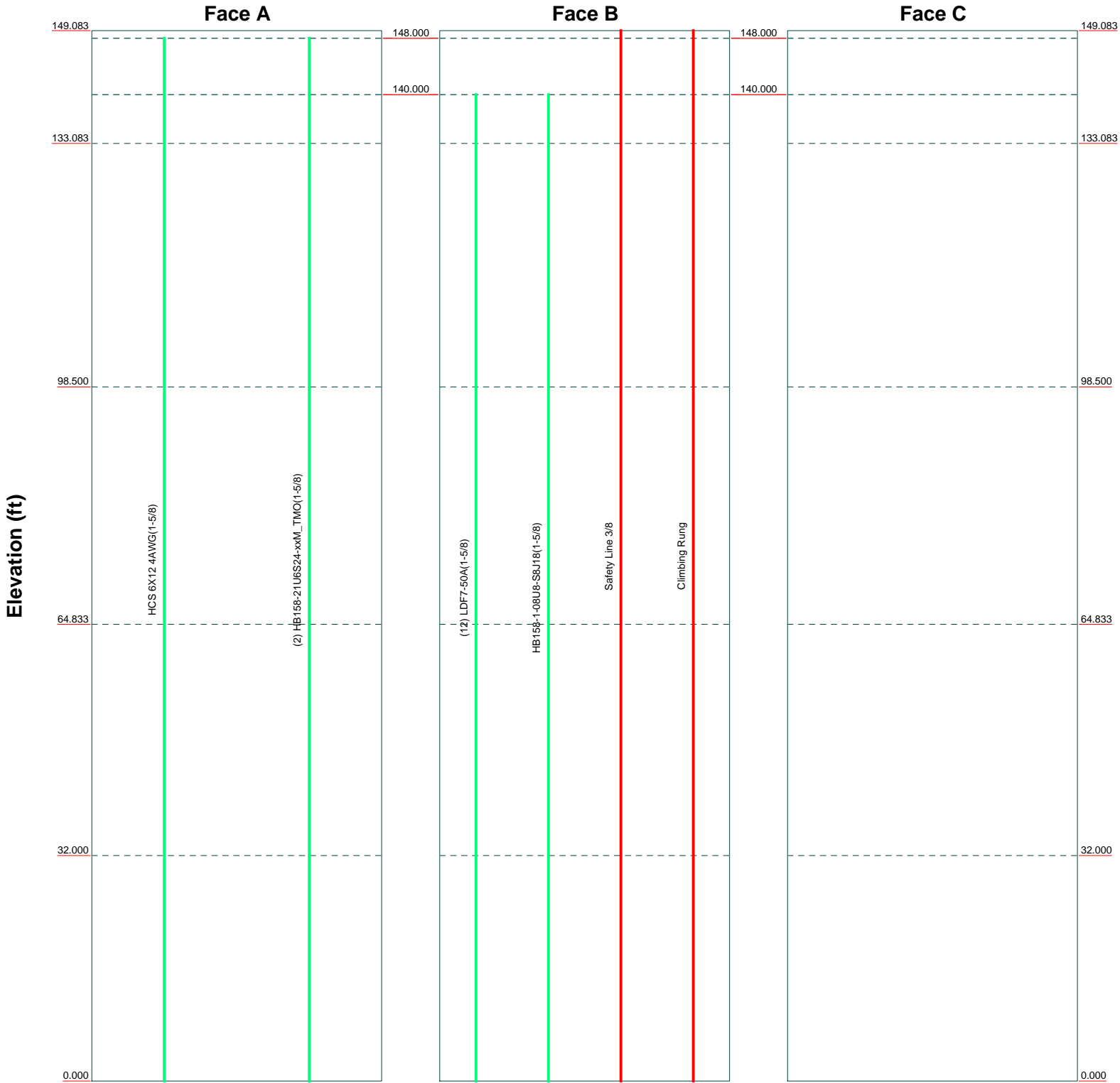
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Job: 136593.005.01 - Plainfield/I-395, CT (BU# 82674)		
Project:		
Client: Crown Castle	Drawn by: Rakshak	App'd:
Code: TIA-222-H	Date: 05/25/22	Scale: NTS
Path:	Dwg No. E-5	

Feed Line Distribution Chart

0' - 149'1"

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



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Job: 136593.005.01 - Plainfield/I-395, CT (BU# 82674)		
Project:		
Client: Crown Castle	Drawn by: Rakshak	App'd:
Code: TIA-222-H	Date: 05/25/22	Scale: NTS
Path:	Dwg No. E-7	

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

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 Windham County, Connecticut.

Tower base elevation above sea level: 151.000 ft.

Basic wind speed of 124 mph.

Risk Category II.

Exposure Category C.

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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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

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	149.083-133.083	16.000	2.917	18	22.066	26.000	0.250	1.000	A572-65 (65 ksi)
L2	133.083-98.500	37.500	3.833	18	24.783	34.063	0.313	1.250	A572-65 (65 ksi)
L3	98.500-64.833	37.500	4.667	18	32.489	41.750	0.375	1.500	A572-65 (65 ksi)
L4	64.833-32.000	37.500	5.500	18	39.847	49.063	0.375	1.500	A572-65 (65 ksi)
L5	32.000-0.000	37.500		18	46.961	56.125	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	22.368	17.311	1040.945	7.745	11.210	92.861	2083.259	8.657	3.444	13.775
L2	26.363	20.433	1711.654	9.141	13.208	129.592	3425.561	10.218	4.136	16.544
	34.540	33.476	4817.433	11.981	17.304	278.404	9641.206	16.741	5.445	17.424
L3	33.894	38.224	4980.336	11.400	16.504	301.758	9967.225	19.115	5.058	13.488
	42.336	49.247	10650.982	14.688	21.209	502.192	21315.979	24.628	6.688	17.835
L4	41.569	46.982	9248.205	14.013	20.242	456.871	18508.580	23.495	6.353	16.942
	49.762	57.950	17355.138	17.284	24.924	696.329	34733.112	28.981	7.975	21.267
L5	48.992	55.449	15203.399	16.538	23.856	637.294	30426.804	27.730	7.605	20.28
	56.933	66.356	26056.151	19.791	28.511	913.882	52146.587	33.185	9.218	24.581

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 149.083-133.083				1	1	1			
L2 133.083-98.500				1	1	1			
L3 98.500-64.833				1	1	1			
L4 64.833-32.000				1	1	1			
L5 32.000-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
*										
Safety Line 3/8	B	No	Surface Ar (CaAa)	149.083 - 0.000	1	1	0.050 0.050	0.375		0.000
Climbing Rung	B	No	Surface Ar (CaAa)	149.083 - 0.000	1	1	0.000 0.100	1.000		0.008
*										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight klf
HCS 6X12 4AWG(1-5/8)	A	No	No	Inside Pole	148.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.002 0.002 0.002
HB158-21U6S24-xx M_TMO(1-5/8)	A	No	No	Inside Pole	148.000 - 0.000	2	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.003 0.003 0.003
*									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	140.000 - 0.000	12	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
HB158-1-08U8-S8J 18(1-5/8)	B	No	No	Inside Pole	140.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	149.083-133.083	A	0.000	0.000	0.000	0.000	0.110
		B	0.000	0.000	2.200	0.000	0.215
		C	0.000	0.000	0.000	0.000	0.000
L2	133.083-98.500	A	0.000	0.000	0.000	0.000	0.256
		B	0.000	0.000	4.755	0.000	0.683
		C	0.000	0.000	0.000	0.000	0.000
L3	98.500-64.833	A	0.000	0.000	0.000	0.000	0.249
		B	0.000	0.000	4.629	0.000	0.665
		C	0.000	0.000	0.000	0.000	0.000
L4	64.833-32.000	A	0.000	0.000	0.000	0.000	0.243
		B	0.000	0.000	4.515	0.000	0.649
		C	0.000	0.000	0.000	0.000	0.000
L5	32.000-0.000	A	0.000	0.000	0.000	0.000	0.237
		B	0.000	0.000	4.400	0.000	0.632
		C	0.000	0.000	0.000	0.000	0.000

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

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 _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	149.083-133.083	A	0.983	0.000	0.000	0.000	0.000	0.110
		B		0.000	0.000	8.490	0.000	0.279
		C		0.000	0.000	0.000	0.000	0.000
L2	133.083-98.500	A	0.963	0.000	0.000	0.000	0.000	0.256
		B		0.000	0.000	18.350	0.000	0.822
		C		0.000	0.000	0.000	0.000	0.000
L3	98.500-64.833	A	0.930	0.000	0.000	0.000	0.000	0.249
		B		0.000	0.000	17.599	0.000	0.796
		C		0.000	0.000	0.000	0.000	0.000
L4	64.833-32.000	A	0.883	0.000	0.000	0.000	0.000	0.243
		B		0.000	0.000	16.730	0.000	0.769
		C		0.000	0.000	0.000	0.000	0.000
L5	32.000-0.000	A	0.791	0.000	0.000	0.000	0.000	0.237
		B		0.000	0.000	15.701	0.000	0.741
		C		0.000	0.000	0.000	0.000	0.000

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	149.083-133.083	0.964	-0.429	1.897	-0.844
L2	133.083-98.500	0.974	-0.434	1.976	-0.880
L3	98.500-64.833	0.982	-0.437	2.024	-0.901
L4	64.833-32.000	0.988	-0.440	2.027	-0.903
L5	32.000-0.000	0.992	-0.442	1.996	-0.889

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	9	Safety Line 3/8	133.08 - 149.08	1.0000	1.0000
L1	10	Climbing Rung	133.08 - 149.08	1.0000	1.0000
L2	9	Safety Line 3/8	98.50 - 133.08	1.0000	1.0000
L2	10	Climbing Rung	98.50 - 133.08	1.0000	1.0000
L3	9	Safety Line 3/8	64.83 - 98.50	1.0000	1.0000
L3	10	Climbing Rung	64.83 - 98.50	1.0000	1.0000
L4	9	Safety Line 3/8	32.00 - 64.83	1.0000	1.0000
L4	10	Climbing Rung	32.00 - 64.83	1.0000	1.0000
L5	9	Safety Line 3/8	0.00 - 32.00	1.0000	1.0000
L5	10	Climbing Rung	0.00 - 32.00	1.0000	1.0000

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	148.000	No Ice	14.690	6.870	0.186
			0.000				1/2" Ice	15.460	7.550	0.315
			2.000				1" Ice	16.230	8.250	0.458
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	148.000	No Ice	14.690	6.870	0.186
			0.000				1/2" Ice	15.460	7.550	0.315
			2.000				1" Ice	16.230	8.250	0.458
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	148.000	No Ice	14.690	6.870	0.186
			0.000				1/2" Ice	15.460	7.550	0.315
			2.000				1" Ice	16.230	8.250	0.458
AIR 6419 B41_TMO w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	148.000	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	0.000	148.000	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	0.000	148.000	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
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000	0.000	0.000	148.000	No Ice	1.970	1.587	0.073
			0.000				1/2" Ice	2.147	1.749	0.093
			2.000				1" Ice	2.331	1.918	0.116
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000	0.000	0.000	148.000	No Ice	1.970	1.587	0.073
			0.000				1/2" Ice	2.147	1.749	0.093
			2.000				1" Ice	2.331	1.918	0.116
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000	0.000	0.000	148.000	No Ice	1.970	1.587	0.073
			0.000				1/2" Ice	2.147	1.749	0.093
			2.000				1" Ice	2.331	1.918	0.116
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000	0.000	0.000	148.000	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	148.000	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	148.000	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	148.000	No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
			2.000				1" Ice	3.401	3.401	0.063
8' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	148.000	No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
			2.000				1" Ice	3.401	3.401	0.063
8' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	148.000	No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
			2.000				1" Ice	3.401	3.401	0.063
Platform Mount [LP 404-1_KCKR]	C	None		0.000	0.000	148.000	No Ice	35.820	35.820	2.318
							1/2" Ice	45.850	45.850	3.016
							1" Ice	55.760	55.760	3.886
Miscellaneous [NA 510-1]	C	None		0.000	0.000	146.000	No Ice	6.360	6.360	0.256

tnxTower MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		136593.005.01 - Plainfield/I-395, CT (BU# 826747)		Page		6 of 15	
	Project				Date		20:54:15 05/25/22	
	Client		Crown Castle		Designed by		Rakshak	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			ft	ft	°	ft	ft ²	ft ²	K
						1/2" Ice	8.520	8.520	0.344
						1" Ice	10.620	10.620	0.459
6' x 2" Horizontal Mount Pipe	A	From Leg	3.000	0.000	146.000	No Ice	1.140	0.010	0.016
			0.000			1/2" Ice	1.760	0.040	0.025
			0.000			1" Ice	2.140	0.090	0.038
6' x 2" Horizontal Mount Pipe	B	From Leg	3.000	0.000	146.000	No Ice	1.140	0.010	0.016
			0.000			1/2" Ice	1.760	0.040	0.025
			0.000			1" Ice	2.140	0.090	0.038
6' x 2" Horizontal Mount Pipe	C	From Leg	3.000	0.000	146.000	No Ice	1.140	0.010	0.016
			0.000			1/2" Ice	1.760	0.040	0.025
			0.000			1" Ice	2.140	0.090	0.038
(2) L 2.5x2.5x3/16x5.25'	A	From Leg	4.000	0.000	148.000	No Ice	1.500	0.005	0.025
			0.000			1/2" Ice	1.918	0.024	0.034
			-4.000			1" Ice	2.343	0.049	0.048
(2) L 2.5x2.5x3/16x5.25'	B	From Leg	4.000	0.000	148.000	No Ice	1.500	0.005	0.025
			0.000			1/2" Ice	1.918	0.024	0.034
			-4.000			1" Ice	2.343	0.049	0.048
(2) L 2.5x2.5x3/16x5.25'	C	From Leg	4.000	0.000	148.000	No Ice	1.500	0.005	0.025
			0.000			1/2" Ice	1.918	0.024	0.034
			-4.000			1" Ice	2.343	0.049	0.048
* BXA-80090/4CF w/ Mount Pipe	A	From Leg	4.000	0.000	140.000	No Ice	3.834	3.885	0.030
			0.000			1/2" Ice	4.198	4.489	0.068
			0.000			1" Ice	4.570	5.109	0.111
BXA-80090/4CF w/ Mount Pipe	B	From Leg	4.000	0.000	140.000	No Ice	3.834	3.885	0.030
			0.000			1/2" Ice	4.198	4.489	0.068
			0.000			1" Ice	4.570	5.109	0.111
BXA-80090/4CF w/ Mount Pipe	C	From Leg	4.000	0.000	140.000	No Ice	3.834	3.885	0.030
			0.000			1/2" Ice	4.198	4.489	0.068
			0.000			1" Ice	4.570	5.109	0.111
DB-T1-6Z-8AB-0Z	A	From Leg	2.000	0.000	140.000	No Ice	4.800	2.000	0.044
			0.000			1/2" Ice	5.070	2.193	0.080
			0.000			1" Ice	5.348	2.393	0.120
(2) MX06FRO660-03 w/ Mount Pipe	A	From Leg	4.000	0.000	140.000	No Ice	6.540	5.550	0.103
			0.000			1/2" Ice	7.060	6.050	0.185
			0.000			1" Ice	7.600	6.570	0.277
(2) MX06FRO660-03 w/ Mount Pipe	B	From Leg	4.000	0.000	140.000	No Ice	6.540	5.550	0.103
			0.000			1/2" Ice	7.060	6.050	0.185
			0.000			1" Ice	7.600	6.570	0.277
(2) MX06FRO660-03 w/ Mount Pipe	C	From Leg	4.000	0.000	140.000	No Ice	6.540	5.550	0.103
			0.000			1/2" Ice	7.060	6.050	0.185
			0.000			1" Ice	7.600	6.570	0.277
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	140.000	No Ice	4.907	2.682	0.096
			0.000			1/2" Ice	5.256	3.145	0.136
			0.000			1" Ice	5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	140.000	No Ice	4.907	2.682	0.096
			0.000			1/2" Ice	5.256	3.145	0.136
			0.000			1" Ice	5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	140.000	No Ice	4.907	2.682	0.096
			0.000			1/2" Ice	5.256	3.145	0.136
			0.000			1" Ice	5.615	3.624	0.180
RF4439D-25A	A	From Leg	4.000	0.000	140.000	No Ice	1.865	1.252	0.075
			0.000			1/2" Ice	2.035	1.394	0.093
			0.000			1" Ice	2.212	1.544	0.114
RF4439D-25A	B	From Leg	4.000	0.000	140.000	No Ice	1.865	1.252	0.075
			0.000			1/2" Ice	2.035	1.394	0.093
			0.000			1" Ice	2.212	1.544	0.114

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
RF4439D-25A	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.865	1.252	0.075
			0.000	0.000			1/2" Ice	2.035	1.394	0.093
			0.000	0.000			1" Ice	2.212	1.544	0.114
RF4440D-13A	A	From Leg	4.000	0.000	0.000	140.000	No Ice	1.865	1.129	0.073
			0.000	0.000			1/2" Ice	2.035	1.267	0.090
			0.000	0.000			1" Ice	2.212	1.411	0.110
RF4440D-13A	B	From Leg	4.000	0.000	0.000	140.000	No Ice	1.865	1.129	0.073
			0.000	0.000			1/2" Ice	2.035	1.267	0.090
			0.000	0.000			1" Ice	2.212	1.411	0.110
RF4440D-13A	C	From Leg	4.000	0.000	0.000	140.000	No Ice	1.865	1.129	0.073
			0.000	0.000			1/2" Ice	2.035	1.267	0.090
			0.000	0.000			1" Ice	2.212	1.411	0.110
5' x 2" Pipe Mount	A	From Leg	2.000	0.000	0.000	140.000	No Ice	1.188	1.188	0.018
			0.000	0.000			1/2" Ice	1.496	1.496	0.027
			1.000	0.000			1" Ice	1.807	1.807	0.040
Platform Mount [LP 303-1]	C	None			0.000	140.000	No Ice	14.690	14.690	1.250
							1/2" Ice	18.010	18.010	1.569
							1" Ice	21.340	21.340	1.942
Mount Reinforcement Specifications	C	None			0.000	140.000	No Ice	28.630	28.630	0.280
							1/2" Ice	37.310	37.310	0.670
							1" Ice	45.800	45.800	0.940
*										

Load Combinations

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

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

Comb. No.	Description
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	149.083 - 133.083	Pole	Max Tension	14	0.000	0.000	0.000
			Max. Compression	26	-17.157	-0.182	0.627
			Max. Mx	8	-9.160	-110.778	0.275
			Max. My	2	-9.144	-0.128	111.463
			Max. Vy	8	13.005	-110.778	0.275
			Max. Vx	2	-13.127	-0.128	111.463
			Max. Torque	8			0.419
L2	133.083 - 98.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-23.829	-0.749	0.974
			Max. Mx	8	-14.421	-601.684	0.528
			Max. My	2	-14.408	-0.531	606.364
			Max. Vy	8	16.201	-601.684	0.528
			Max. Vx	2	-16.325	-0.531	606.364
			Max. Torque	8			0.419
L3	98.5 - 64.833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-32.908	-1.384	1.341
			Max. Mx	8	-21.945	-1191.561	0.820
			Max. My	2	-21.935	-1.018	1200.114
			Max. Vy	8	19.726	-1191.561	0.820
			Max. Vx	2	-19.849	-1.018	1200.114
			Max. Torque	8			0.418
L4	64.833 - 32	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-43.553	-2.111	1.761
			Max. Mx	8	-30.941	-1879.898	1.147
			Max. My	2	-30.935	-1.575	1892.163
			Max. Vy	8	23.216	-1879.898	1.147

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L5	32 - 0	Pole	Max. Vx	2	-23.338	-1.575	1892.163
			Max. Torque	8			0.418
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-57.728	-3.082	2.321
			Max. Mx	8	-43.225	-2821.500	1.576
			Max. My	2	-43.225	-2.317	2837.977
			Max. Vy	8	26.835	-2821.500	1.576
			Max. Vx	2	-26.953	-2.317	2837.977
			Max. Torque	8			0.417

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	57.728	-0.000	6.859
	Max. H _x	20	43.237	26.815	0.000
	Max. H _z	2	43.237	-0.000	26.934
	Max. M _x	2	2837.977	-0.000	26.934
	Max. M _z	8	2821.500	-26.815	0.000
	Max. Torsion	8	0.417	-26.815	0.000
	Min. Vert	19	32.428	23.223	-13.467
	Min. H _x	8	43.237	-26.815	0.000
	Min. H _z	14	43.237	-0.000	-26.934
	Min. M _x	14	-2834.826	-0.000	-26.934
	Min. M _z	20	-2816.876	26.815	0.000
	Min. Torsion	20	-0.417	26.815	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	36.031	0.000	0.000	-1.260	-1.859	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	43.237	0.000	-26.934	-2837.977	-2.317	-0.000
0.9 Dead+1.0 Wind 0 deg - No Ice	32.428	0.000	-26.934	-2810.516	-1.720	-0.000
1.2 Dead+1.0 Wind 30 deg - No Ice	43.237	13.408	-23.325	-2457.985	-1411.901	-0.208
0.9 Dead+1.0 Wind 30 deg - No Ice	32.428	13.408	-23.325	-2434.143	-1397.866	-0.206
1.2 Dead+1.0 Wind 60 deg - No Ice	43.237	23.223	-13.467	-1419.793	-2443.802	-0.361
0.9 Dead+1.0 Wind 60 deg - No Ice	32.428	23.223	-13.467	-1405.855	-2419.930	-0.357
1.2 Dead+1.0 Wind 90 deg - No Ice	43.237	26.815	-0.000	-1.576	-2821.500	-0.417
0.9 Dead+1.0 Wind 90 deg - No Ice	32.428	26.815	-0.000	-1.169	-2794.034	-0.413
1.2 Dead+1.0 Wind 120 deg - No Ice	43.237	23.223	13.467	1416.641	-2443.803	-0.362
0.9 Dead+1.0 Wind 120 deg - No Ice	32.428	23.223	13.467	1403.518	-2419.930	-0.359

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	<p>Project</p>	<p>Date</p> <p style="text-align: center;">20:54:15 05/25/22</p>
	<p>Client</p> <p style="text-align: center;">Crown Castle</p>	<p>Designed by</p> <p style="text-align: center;">Rakshak</p>

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
No Ice						
1.2 Dead+1.0 Wind 150 deg - No Ice	43.237	13.408	23.325	2454.834	-1411.901	-0.209
0.9 Dead+1.0 Wind 150 deg - No Ice	32.428	13.408	23.325	2431.806	-1397.867	-0.207
1.2 Dead+1.0 Wind 180 deg - No Ice	43.237	0.000	26.934	2834.826	-2.317	0.000
0.9 Dead+1.0 Wind 180 deg - No Ice	32.428	0.000	26.934	2808.179	-1.720	0.000
1.2 Dead+1.0 Wind 210 deg - No Ice	43.237	-13.408	23.325	2454.838	1407.270	0.209
0.9 Dead+1.0 Wind 210 deg - No Ice	32.428	-13.408	23.325	2431.809	1394.428	0.208
1.2 Dead+1.0 Wind 240 deg - No Ice	43.237	-23.223	13.467	1416.645	2439.176	0.362
0.9 Dead+1.0 Wind 240 deg - No Ice	32.428	-23.223	13.467	1403.521	2416.494	0.359
1.2 Dead+1.0 Wind 270 deg - No Ice	43.237	-26.815	-0.000	-1.576	2816.876	0.417
0.9 Dead+1.0 Wind 270 deg - No Ice	32.428	-26.815	-0.000	-1.169	2790.599	0.413
1.2 Dead+1.0 Wind 300 deg - No Ice	43.237	-23.223	-13.467	-1419.796	2439.176	0.360
0.9 Dead+1.0 Wind 300 deg - No Ice	32.428	-23.223	-13.467	-1405.858	2416.494	0.357
1.2 Dead+1.0 Wind 330 deg - No Ice	43.237	-13.408	-23.325	-2457.989	1407.270	0.208
0.9 Dead+1.0 Wind 330 deg - No Ice	32.428	-13.408	-23.325	-2434.146	1394.427	0.206
1.2 Dead+1.0 Ice+1.0 Temp	57.728	0.000	-0.000	-2.321	-3.082	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	57.728	0.000	-6.859	-710.447	-3.215	-0.000
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	57.728	3.419	-5.940	-615.591	-355.708	-0.047
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	57.728	5.923	-3.430	-356.440	-613.750	-0.082
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	57.728	6.839	-0.000	-2.434	-708.201	-0.095
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	57.728	5.923	3.430	351.573	-613.751	-0.082
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	57.728	3.419	5.940	610.723	-355.708	-0.047
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	57.728	0.000	6.859	705.579	-3.215	0.000
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	57.728	-3.419	5.940	610.724	349.278	0.047
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	57.728	-5.923	3.430	351.573	607.321	0.082
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	57.728	-6.839	-0.000	-2.434	701.772	0.095
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	57.728	-5.923	-3.430	-356.441	607.321	0.082
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	57.728	-3.419	-5.940	-615.591	349.278	0.047
Dead+Wind 0 deg - Service	36.031	0.000	-5.939	-623.296	-1.919	-0.000
Dead+Wind 30 deg - Service	36.031	2.957	-5.143	-539.965	-311.024	-0.046
Dead+Wind 60 deg - Service	36.031	5.121	-2.970	-312.301	-537.304	-0.080
Dead+Wind 90 deg - Service	36.031	5.913	0.000	-1.307	-620.128	-0.092
Dead+Wind 120 deg - Service	36.031	5.121	2.970	309.688	-537.304	-0.080
Dead+Wind 150 deg - Service	36.031	2.957	5.143	537.351	-311.024	-0.046
Dead+Wind 180 deg - Service	36.031	0.000	5.939	620.682	-1.919	0.000

tnxTower MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136593.005.01 - Plainfield/I-395, CT (BU# 826747)	Page 11 of 15
	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

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+Wind 210 deg - Service	36.031	-2.957	5.143	537.346	307.182	0.046
Dead+Wind 240 deg - Service	36.031	-5.121	2.970	309.685	533.460	0.080
Dead+Wind 270 deg - Service	36.031	-5.913	0.000	-1.307	616.284	0.092
Dead+Wind 300 deg - Service	36.031	-5.121	-2.970	-312.299	533.460	0.080
Dead+Wind 330 deg - Service	36.031	-2.957	-5.143	-539.965	307.185	0.046

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	-36.031	0.000	0.000	36.031	0.000	0.000%
2	0.000	-43.237	-26.934	-0.000	43.237	26.934	0.000%
3	0.000	-32.428	-26.934	0.000	32.428	26.934	0.000%
4	13.408	-43.237	-23.325	-13.408	43.237	23.325	0.000%
5	13.408	-32.428	-23.325	-13.408	32.428	23.325	0.000%
6	23.223	-43.237	-13.467	-23.223	43.237	13.467	0.000%
7	23.223	-32.428	-13.467	-23.223	32.428	13.467	0.000%
8	26.815	-43.237	0.000	-26.815	43.237	0.000	0.000%
9	26.815	-32.428	0.000	-26.815	32.428	0.000	0.000%
10	23.223	-43.237	13.467	-23.223	43.237	-13.467	0.000%
11	23.223	-32.428	13.467	-23.223	32.428	-13.467	0.000%
12	13.408	-43.237	23.325	-13.408	43.237	-23.325	0.000%
13	13.408	-32.428	23.325	-13.408	32.428	-23.325	0.000%
14	0.000	-43.237	26.934	-0.000	43.237	-26.934	0.000%
15	0.000	-32.428	26.934	0.000	32.428	-26.934	0.000%
16	-13.408	-43.237	23.325	13.408	43.237	-23.325	0.000%
17	-13.408	-32.428	23.325	13.408	32.428	-23.325	0.000%
18	-23.223	-43.237	13.467	23.223	43.237	-13.467	0.000%
19	-23.223	-32.428	13.467	23.223	32.428	-13.467	0.000%
20	-26.815	-43.237	0.000	26.815	43.237	0.000	0.000%
21	-26.815	-32.428	0.000	26.815	32.428	0.000	0.000%
22	-23.223	-43.237	-13.467	23.223	43.237	13.467	0.000%
23	-23.223	-32.428	-13.467	23.223	32.428	13.467	0.000%
24	-13.408	-43.237	-23.325	13.408	43.237	23.325	0.000%
25	-13.408	-32.428	-23.325	13.408	32.428	23.325	0.000%
26	0.000	-57.728	0.000	-0.000	57.728	0.000	0.000%
27	0.000	-57.728	-6.859	-0.000	57.728	6.859	0.000%
28	3.419	-57.728	-5.940	-3.419	57.728	5.940	0.000%
29	5.923	-57.728	-3.430	-5.923	57.728	3.430	0.000%
30	6.839	-57.728	0.000	-6.839	57.728	0.000	0.000%
31	5.923	-57.728	3.430	-5.923	57.728	-3.430	0.000%
32	3.419	-57.728	5.940	-3.419	57.728	-5.940	0.000%
33	0.000	-57.728	6.859	-0.000	57.728	-6.859	0.000%
34	-3.419	-57.728	5.940	3.419	57.728	-5.940	0.000%
35	-5.923	-57.728	3.430	5.923	57.728	-3.430	0.000%
36	-6.839	-57.728	0.000	6.839	57.728	0.000	0.000%
37	-5.923	-57.728	-3.430	5.923	57.728	3.430	0.000%
38	-3.419	-57.728	-5.940	3.419	57.728	5.940	0.000%
39	0.000	-36.031	-5.939	0.000	36.031	5.939	0.000%
40	2.957	-36.031	-5.143	-2.957	36.031	5.143	0.000%
41	5.121	-36.031	-2.970	-5.121	36.031	2.970	0.000%
42	5.913	-36.031	0.000	-5.913	36.031	0.000	0.000%
43	5.121	-36.031	2.970	-5.121	36.031	-2.970	0.000%
44	2.957	-36.031	5.143	-2.957	36.031	-5.143	0.000%
45	0.000	-36.031	5.939	0.000	36.031	-5.939	0.000%
46	-2.957	-36.031	5.143	2.957	36.031	-5.143	0.000%
47	-5.121	-36.031	2.970	5.121	36.031	-2.970	0.000%

tnxTower MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136593.005.01 - Plainfield/I-395, CT (BU# 826747)	Page 12 of 15
	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
48	-5.913	-36.031	0.000	5.913	36.031	0.000	0.000%
49	-5.121	-36.031	-2.970	5.121	36.031	2.970	0.000%
50	-2.957	-36.031	-5.143	2.957	36.031	5.143	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	4	0.0000001	0.00028062
3	Yes	4	0.0000001	0.00012045
4	Yes	5	0.0000001	0.00093968
5	Yes	5	0.0000001	0.00042918
6	Yes	5	0.0000001	0.00095275
7	Yes	5	0.0000001	0.00043591
8	Yes	4	0.0000001	0.00055847
9	Yes	4	0.0000001	0.00033206
10	Yes	5	0.0000001	0.00093087
11	Yes	5	0.0000001	0.00042564
12	Yes	5	0.0000001	0.00094836
13	Yes	5	0.0000001	0.00043386
14	Yes	4	0.0000001	0.00028018
15	Yes	4	0.0000001	0.00012034
16	Yes	5	0.0000001	0.00094499
17	Yes	5	0.0000001	0.00043278
18	Yes	5	0.0000001	0.00092810
19	Yes	5	0.0000001	0.00042474
20	Yes	4	0.0000001	0.00055754
21	Yes	4	0.0000001	0.00033169
22	Yes	5	0.0000001	0.00094990
23	Yes	5	0.0000001	0.00043499
24	Yes	5	0.0000001	0.00093626
25	Yes	5	0.0000001	0.00042808
26	Yes	4	0.0000001	0.00001071
27	Yes	5	0.0000001	0.00022727
28	Yes	5	0.0000001	0.00026674
29	Yes	5	0.0000001	0.00026683
30	Yes	5	0.0000001	0.00022624
31	Yes	5	0.0000001	0.00026373
32	Yes	5	0.0000001	0.00026464
33	Yes	5	0.0000001	0.00022512
34	Yes	5	0.0000001	0.00026226
35	Yes	5	0.0000001	0.00026123
36	Yes	5	0.0000001	0.00022405
37	Yes	5	0.0000001	0.00026429
38	Yes	5	0.0000001	0.00026435
39	Yes	4	0.0000001	0.00004724
40	Yes	4	0.0000001	0.00027871
41	Yes	4	0.0000001	0.00029283
42	Yes	4	0.0000001	0.00005648
43	Yes	4	0.0000001	0.00027131
44	Yes	4	0.0000001	0.00028657
45	Yes	4	0.0000001	0.00004700
46	Yes	4	0.0000001	0.00028242
47	Yes	4	0.0000001	0.00026755
48	Yes	4	0.0000001	0.00005314

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	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

49	Yes	4	0.00000001	0.00028927
50	Yes	4	0.00000001	0.00027437

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149.083 - 133.083	16.351	39	0.976	0.001
L2	136 - 98.5	13.700	39	0.949	0.001
L3	102.333 - 64.833	7.705	39	0.721	0.000
L4	69.5 - 32	3.532	39	0.481	0.000
L5	37.5 - 0	1.036	39	0.251	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.000	APXVAARR24_43-U-NA20 w/ Mount Pipe	39	16.130	0.975	0.001	32748
146.000	Miscellaneous [NA 510-1]	39	15.721	0.972	0.001	32748
140.000	BXA-80090/4CF w/ Mount Pipe	39	14.501	0.961	0.001	18036

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149.083 - 133.083	74.496	2	4.450	0.003
L2	136 - 98.5	62.423	2	4.328	0.003
L3	102.333 - 64.833	35.111	2	3.286	0.001
L4	69.5 - 32	16.094	2	2.190	0.001
L5	37.5 - 0	4.721	2	1.145	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
148.000	APXVAARR24_43-U-NA20 w/ Mount Pipe	2	73.486	4.444	0.003	7293
146.000	Miscellaneous [NA 510-1]	2	71.623	4.431	0.003	7293
140.000	BXA-80090/4CF w/ Mount Pipe	2	66.069	4.380	0.003	4016

tnxTower MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136593.005.01 - Plainfield/I-395, CT (BU# 826747)	Page 14 of 15
	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

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	149.083 - 133.083 (1)	TP26x22.066x0.25	16.000	0.000	0.0	19.864	-9.144	1162.020	0.008
L2	133.083 - 98.5 (2)	TP34.063x24.783x0.313	37.500	0.000	0.0	32.535	-14.408	1903.300	0.008
L3	98.5 - 64.833 (3)	TP41.75x32.489x0.375	37.500	0.000	0.0	47.875	-21.935	2800.670	0.008
L4	64.833 - 32 (4)	TP49.063x39.847x0.375	37.500	0.000	0.0	56.342	-30.935	3295.990	0.009
L5	32 - 0 (5)	TP56.125x46.961x0.375	37.500	0.000	0.0	66.356	-43.225	3881.850	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	149.083 - 133.083 (1)	TP26x22.066x0.25	111.463	748.423	0.149	0.000	748.423	0.000
L2	133.083 - 98.5 (2)	TP34.063x24.783x0.313	606.364	1587.292	0.382	0.000	1587.292	0.000
L3	98.5 - 64.833 (3)	TP41.75x32.489x0.375	1200.117	2847.775	0.421	0.000	2847.775	0.000
L4	64.833 - 32 (4)	TP49.063x39.847x0.375	1892.167	3755.808	0.504	0.000	3755.808	0.000
L5	32 - 0 (5)	TP56.125x46.961x0.375	2837.975	4897.525	0.579	0.000	4897.525	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	149.083 - 133.083 (1)	TP26x22.066x0.25	13.127	348.605	0.038	0.000	764.230	0.000
L2	133.083 - 98.5 (2)	TP34.063x24.783x0.313	16.325	570.989	0.029	0.000	1640.217	0.000
L3	98.5 - 64.833 (3)	TP41.75x32.489x0.375	19.849	840.202	0.024	0.000	2959.592	0.000
L4	64.833 - 32 (4)	TP49.063x39.847x0.375	23.338	988.796	0.024	0.000	4099.000	0.000
L5	32 - 0 (5)	TP56.125x46.961x0.375	26.953	1164.560	0.023	0.000	5685.717	0.000

tnxTower MTS Engineering, P.L.L.C. 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 136593.005.01 - Plainfield/I-395, CT (BU# 826747)	Page 15 of 15
	Project	Date 20:54:15 05/25/22
	Client Crown Castle	Designed by Rakshak

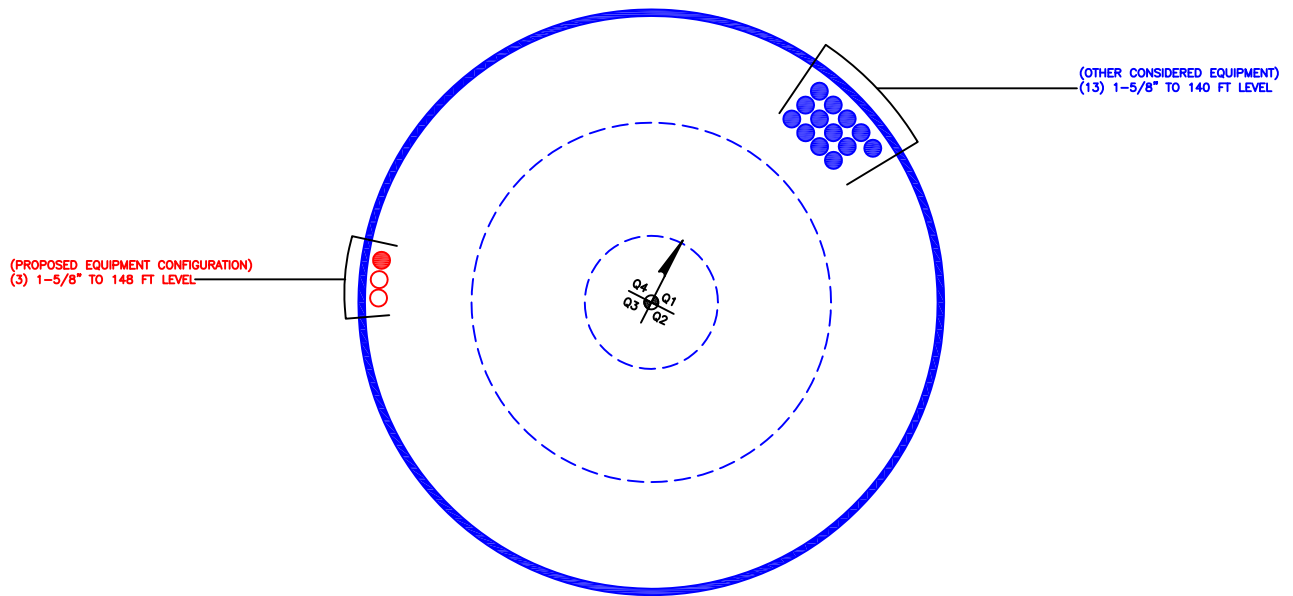
Pole Interaction Design Data

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		$\frac{P_u}{P_n}$	$\frac{M_{ux}}{M_{nx}}$	$\frac{M_{uy}}{M_{ny}}$	$\frac{V_u}{V_n}$	$\frac{T_u}{T_n}$			
L1	149.083 - 133.083 (1)	0.008	0.149	0.000	0.038	0.000	0.158	1.050	4.8.2 ✓
L2	133.083 - 98.5 (2)	0.008	0.382	0.000	0.029	0.000	0.390	1.050	4.8.2 ✓
L3	98.5 - 64.833 (3)	0.008	0.421	0.000	0.024	0.000	0.430	1.050	4.8.2 ✓
L4	64.833 - 32 (4)	0.009	0.504	0.000	0.024	0.000	0.514	1.050	4.8.2 ✓
L5	32 - 0 (5)	0.011	0.579	0.000	0.023	0.000	0.591	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	149.083 - 133.083	Pole	TP26x22.066x0.25	1	-9.144	1220.121	15.1	Pass	
L2	133.083 - 98.5	Pole	TP34.063x24.783x0.313	2	-14.408	1998.465	37.2	Pass	
L3	98.5 - 64.833	Pole	TP41.75x32.489x0.375	3	-21.935	2940.703	40.9	Pass	
L4	64.833 - 32	Pole	TP49.063x39.847x0.375	4	-30.935	3460.789	48.9	Pass	
L5	32 - 0	Pole	TP56.125x46.961x0.375	5	-43.225	4075.942	56.3	Pass	
							Summary		
							Pole (L5)	56.3	Pass
							RATING =	56.3	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 826747

APPENDIX C
ADDITIONAL CALCULATIONS

PROJECT	136593.005.01 - Plainfield - I-395, CT
SUBJECT	Pole Splice Check
DATE	05/25/22



Pole Lap Splice Analysis

Input - trnTower

REV H

Section	Tip Dia. (in)	Area (in ²)	I (in ⁴)	r (in)	C (in)	I/C (in ³)	J (in ⁴)	It/Q (in ²)	w (in)	w/t
L1	26.363	20.433	1711.654	9.141	13.208	129.592	3425.561	10.218	4.136	16.544
L2	34.54	33.476	4817.433	11.981	17.304	278.404	9641.206	16.741	5.445	17.424
L3	42.336	49.247	10650.982	14.688	21.209	502.192	21315.979	24.628	6.688	17.835
L4	49.762	57.95	17355.138	17.284	24.924	696.329	34733.112	28.981	7.975	21.267
L5	56.933	66.356	26056.151	19.791	28.511	913.882	52146.587	33.185	9.218	24.581

Section	Lap Splice Length (in)	Number of Sides	Pole Grade (ksi)	Base Diameter (in)	Thickness (in)
L1	35.004	18	65	26	0.25
L2	45.996	18	65	34.063	0.313
L3	56.004	18	65	41.75	0.375
L4	66	18	65	49.063	0.375
L5					

Results

Section	Elevation (ft)	Inner Base Diameter (in)	1.5*Inner Base Diameter (in)	Results
L1	133.083	25.500	38.250	Not Adequate, See Below
L2	98.500	33.437	50.156	Not Adequate, See Below
L3	64.833	41.000	61.500	Not Adequate, See Below
L4	32.000	48.313	72.470	Not Adequate, See Below
L5				

TIA method - Pole shaft stress ratio for the installed slip splicelength

Section	Pu (k)	ΦPn (k)	Mu (k-ft)	ΦMn (k-ft)	Vu (k)	ΦVn (k)	F'y (ksi)	ISL in Terms of Inner Diam.	Stress Ratio of Splice
L1	9.600	1043.172	154.342	695.045	13.127	312.952	81.942	1.373	22.19%
L2	15.286	1714.731	675.680	1479.205	16.325	514.419	80.907	1.376	44.45%
L3	23.248	2494.762	1301.045	2623.052	19.849	748.429	80.423	1.366	48.19%
L4		2936.117	2030.883	3455.083	23.338	880.835	76.387	1.366	
L5					26.95343103				

Monopole Base Plate Connection

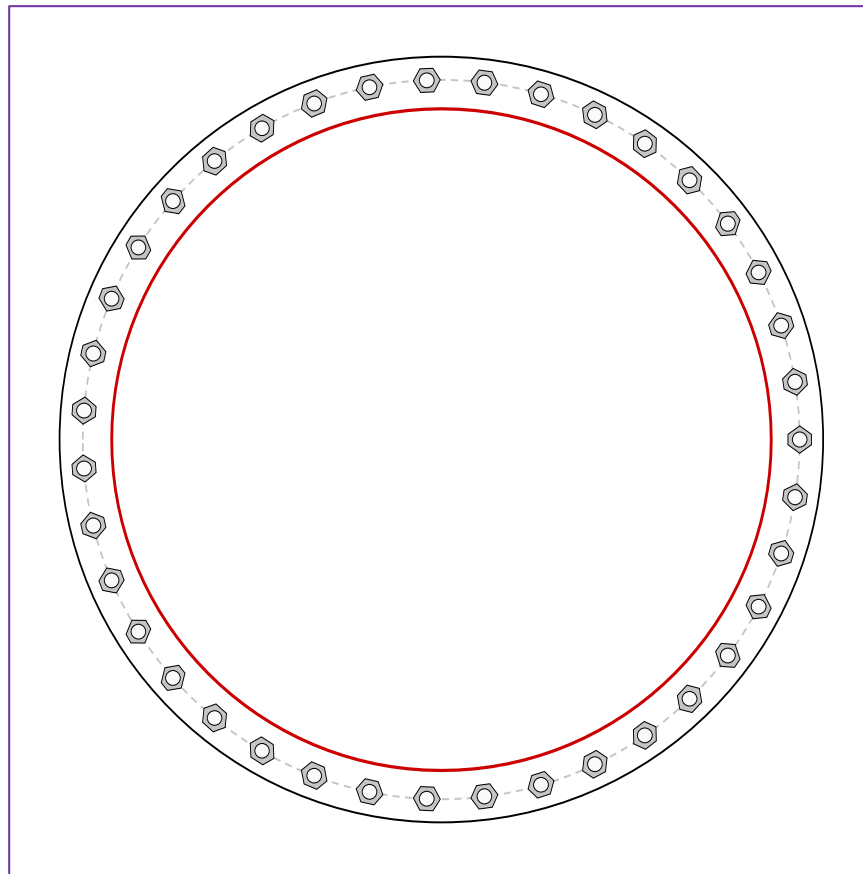


Site Info	
BU #	826747
Site Name	Plainfield - I-395, CT
Order #	613480; Rev# 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.25

Applied Loads	
Moment (kip-ft)	2837.98
Axial Force (kips)	43.22
Shear Force (kips)	26.95

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(39) 1-1/4" ϕ bolts (A687 N; $F_y=105$ ksi, $F_u=125$ ksi) on 61" BC
Base Plate Data
65" OD x 1.5" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi)
Stiffener Data
N/A
Pole Data
56.125" 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>
$P_{u_t} = 56.14$	$\phi P_{n_t} = 90.84$	Stress Rating	
$V_u = 0.69$	$\phi V_n = 57.52$	58.9%	
$M_u = n/a$	$\phi M_n = n/a$	Pass	
Base Plate Summary			
Max Stress (ksi):	35.25	(Flexural)	
Allowable Stress (ksi):	45		
Stress Rating:	74.6%	Pass	

Pier and Pad Foundation



BU #: 826747
 Site Name: Plainfield I-395, CT
 App. Number: 613480; Rev.0

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	43	kips
Base Shear, Vu_{comp} :	27	kips
Moment, M_u :	2838	ft-kips
Tower Height, H :	149.083	ft
BP Dist. Above Fdn, bp_{dist} :	2.5	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	197.90	27.00	13.0%	Pass
<i>Bearing Pressure (ksf)</i>	4.29	3.16	73.7%	Pass
<i>Overturning (kip*ft)</i>	3454.21	3019.13	87.4%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	3770.41	2959.50	74.8%	Pass
<i>Pier Compression (kip)</i>	26891.28	77.22	0.3%	Pass
<i>Pad Flexure (kip*ft)</i>	1563.37	1411.10	86.0%	Pass
<i>Pad Shear - 1-way (kips)</i>	486.46	260.21	50.9%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.000	0.0%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	1821.07	1775.70	92.9%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	6.5	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	31	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	9	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	92.9%
Soil Rating*:	87.4%

Pad Properties		
Depth, D :	6	ft
Pad Width, W_1 :	21.5	ft
Pad Thickness, T :	2	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	6	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	41	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	4	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	120	pcf
Ultimate Net Bearing, Q_{net} :	5.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	30	degrees
SPT Blow Count, N_{blows} :	30	
Base Friction, μ :	0.5	
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	8.5	ft

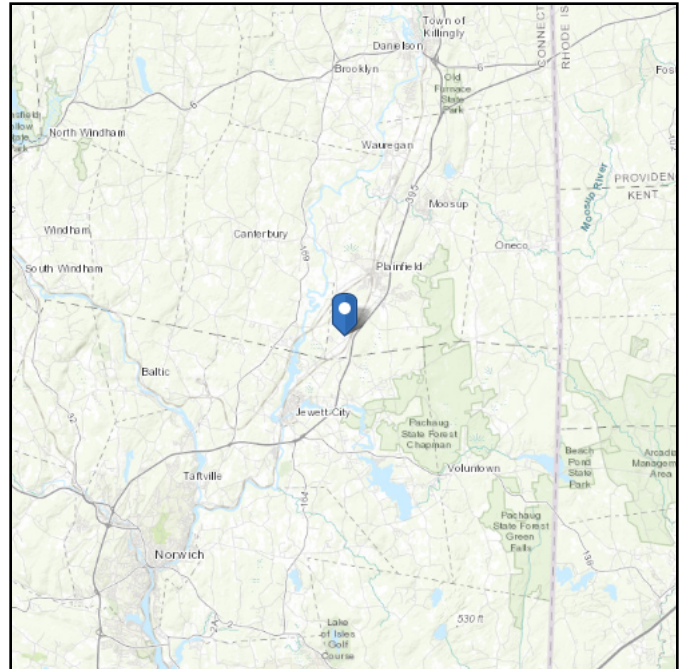
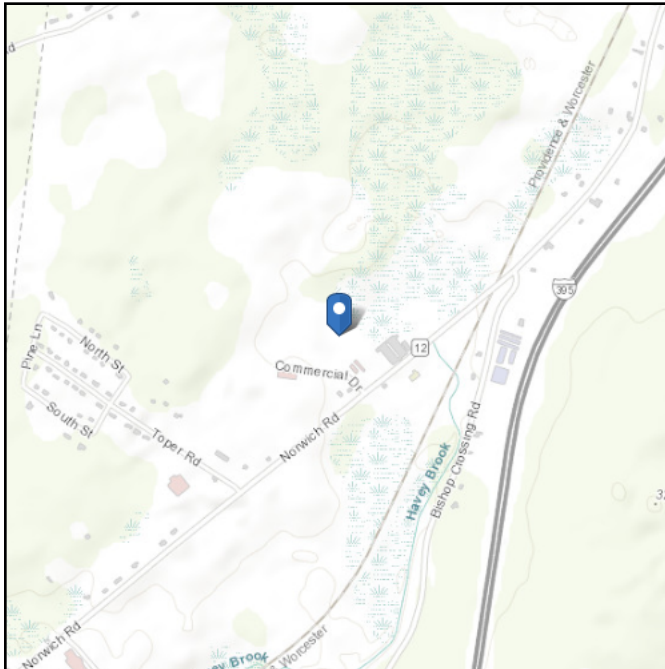
<--Toggle between Gross and Net

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: 151.39 ft (NAVD 88)
Latitude: 41.646324
Longitude: -71.941305



Wind

Results:

Wind Speed	124 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	96 Vmph
100-year MRI	101 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: Wed May 25 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).

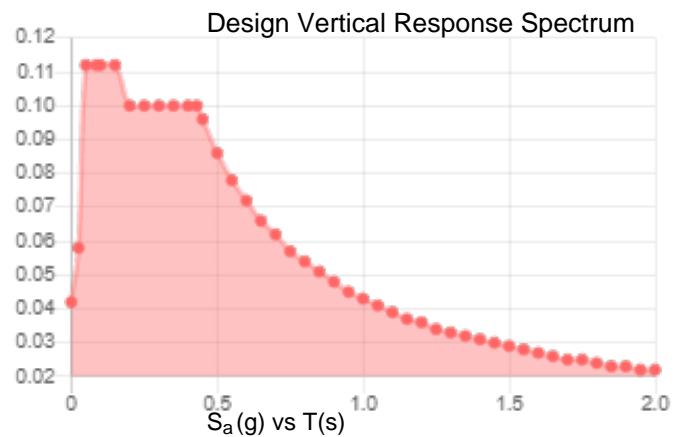
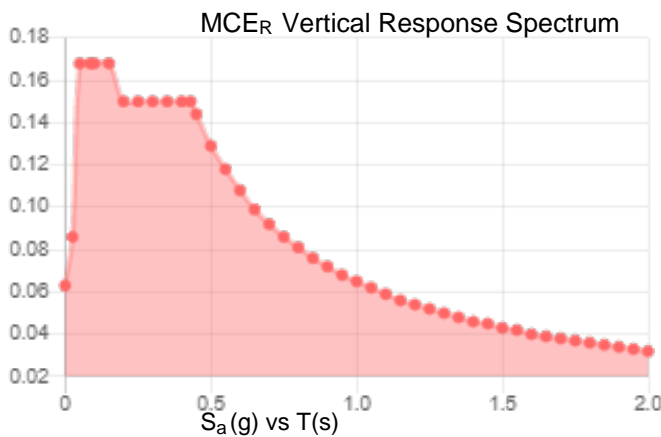
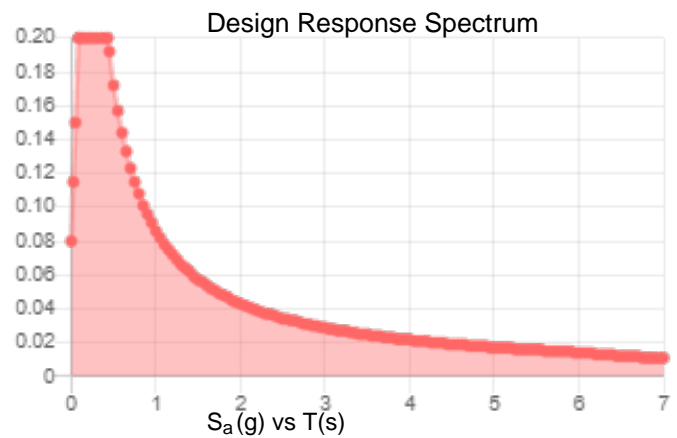
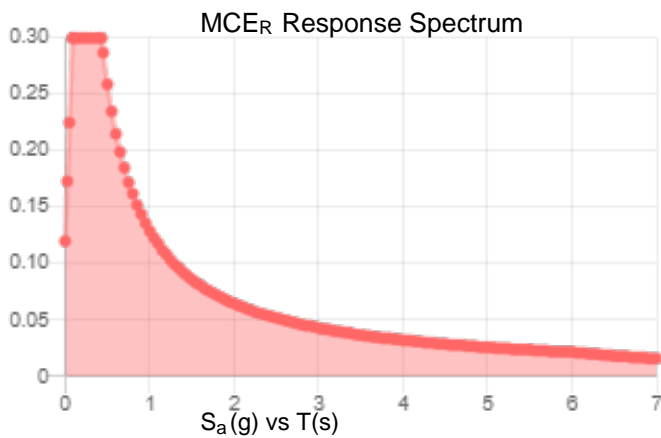
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.188	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.102
F_v :	2.4	PGA _M :	0.163
S_{MS} :	0.3	F_{PGA} :	1.596
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.2	C_v :	0.7

Seismic Design Category B



Data Accessed: Wed May 25 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: Wed May 25 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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Radio Frequency Exposure Analysis Report

June 9, 2022

Centerline on behalf of T-Mobile
Centerline Communications Project Number: N/A

T-Mobile Site Name: Plainfield/I-395
Site Number: CT11314C

Site Address: 1197 Norwich Road, Plainfield, CT 06374

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	3.57379 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	0.39402%



June 9, 2022

Centerline
Attn: Ryan Clark, Site Acquisition
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **Plainfield/I-395**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed T-Mobile facility at **1197 Norwich Road, Plainfield, CT 06374** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{\text{MHz}}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of $1 \text{ mW}/\text{cm}^2$ ($1000 \mu\text{W}/\text{cm}^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

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, 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.



Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



Data & Results

The following table details the antennas and operating parameters for the T-Mobile antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the Ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



Maximum Calculated Cumulative Power Density (Location: approximately 10' NNE of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
T-Mobile A 1	ERICSSON AIR6419 NR	3400	22.85	150.00	2.00	80.00	30840.40	0.00345	1000.00	0.00035
T-Mobile A 1	ERICSSON AIR6419 LTE	3400	22.85	150.00	2.00	80.00	30840.40	0.00345	1000.00	0.00035
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	700	13.65	150.00	2.00	40.00	1853.92	0.00017	466.67	0.00004
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	600	12.95	150.00	4.00	60.00	4733.81	0.00018	400.00	0.00005
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	600	12.95	150.00	2.00	40.00	1577.94	0.00006	400.00	0.00002
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	2100	16.45	150.00	2.00	140.00	12363.97	0.00008	1000.00	0.00001
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	1900	15.45	150.00	2.00	140.00	9821.05	0.00003	1000.00	0.00000
T-Mobile A 2	RFS APXVAALL24 43-U-NA20	1900	15.45	150.00	1.00	15.00	526.13	0.00000	1000.00	0.00000
T-Mobile B 3	ERICSSON AIR6419 NR	3400	22.85	150.00	2.00	80.00	30840.40	0.93120	1000.00	0.09312
T-Mobile B 3	ERICSSON AIR6419 LTE	3400	22.85	150.00	2.00	80.00	30840.40	0.93120	1000.00	0.09312
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	700	13.65	150.00	2.00	40.00	1853.92	0.01138	466.67	0.00244
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	600	12.95	150.00	4.00	60.00	4733.81	0.04441	400.00	0.01110
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	600	12.95	150.00	2.00	40.00	1577.94	0.01480	400.00	0.00370
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	2100	16.45	150.00	2.00	140.00	12363.97	0.03416	1000.00	0.00342
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	1900	15.45	150.00	2.00	140.00	9821.05	0.03682	1000.00	0.00368
T-Mobile B 4	RFS APXVAALL24 43-U-NA20	1900	15.45	150.00	1.00	15.00	526.13	0.00197	1000.00	0.00020
T-Mobile C 5	ERICSSON AIR6419 NR	3400	22.85	150.00	2.00	80.00	30840.40	0.00087	1000.00	0.00009
T-Mobile C 5	ERICSSON AIR6419 LTE	3400	22.85	150.00	2.00	80.00	30840.40	0.00087	1000.00	0.00009
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	700	13.65	150.00	2.00	40.00	1853.92	0.00002	466.67	0.00000
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	600	12.95	150.00	4.00	60.00	4733.81	0.00063	400.00	0.00016
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	600	12.95	150.00	2.00	40.00	1577.94	0.00021	400.00	0.00005
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	2100	16.45	150.00	2.00	140.00	12363.97	0.00092	1000.00	0.00009
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	1900	15.45	150.00	2.00	140.00	9821.05	0.00038	1000.00	0.00004
T-Mobile C 6	RFS APXVAALL24 43-U-NA20	1900	15.45	150.00	1.00	15.00	526.13	0.00002	1000.00	0.00000
Verizon A 7	AMPHENOL BXA-80090-4CF	850	11.00	140.00	7.00	20.00	1762.50	0.00007	566.67	0.00001
Verizon A 8	JMA MX06FRO660-02	700	12.45	140.00	2.00	40.00	1406.34	0.00049	466.67	0.00011
Verizon A 8	JMA MX06FRO660-02	850	12.15	140.00	2.00	40.00	1312.47	0.00010	566.67	0.00002
Verizon A 8	JMA MX06FRO660-02	1900	15.85	140.00	4.00	40.00	6153.47	0.00009	1000.00	0.00001
Verizon A 9	JMA MX06FRO660-02	700	12.45	140.00	2.00	40.00	1406.34	0.00049	466.67	0.00011
Verizon A 9	JMA MX06FRO660-02	850	12.15	140.00	2.00	40.00	1312.47	0.00010	566.67	0.00002
Verizon A 9	JMA MX06FRO660-02	2100	15.45	140.00	4.00	40.00	5612.03	0.00031	1000.00	0.00003
Verizon A 10	SAMSUNG MT6407	3700	23.34	140.00	4.00	50.00	43154.89	0.01823	1000.00	0.00182
Verizon B 11	AMPHENOL BXA-80090-4CF	850	11.00	140.00	7.00	20.00	1762.50	0.08440	566.67	0.01489
Verizon B 12	JMA MX06FRO660-02	700	12.45	140.00	2.00	40.00	1406.34	0.04910	466.67	0.01052
Verizon B 12	JMA MX06FRO660-02	850	12.15	140.00	2.00	40.00	1312.47	0.05341	566.67	0.00942



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
Verizon B 12	JMA MX06FRO660-02	1900	15.85	140.00	4.00	40.00	6153.47	0.10274	1000.00	0.01027
Verizon B 13	JMA MX06FRO660-02	700	12.45	140.00	2.00	40.00	1406.34	0.04910	466.67	0.01052
Verizon B 13	JMA MX06FRO660-02	850	12.15	140.00	2.00	40.00	1312.47	0.05341	566.67	0.00942
Verizon B 13	JMA MX06FRO660-02	2100	15.45	140.00	4.00	40.00	5612.03	0.11050	1000.00	0.01105
Verizon B 14	SAMSUNG MT6407	3700	23.34	140.00	4.00	50.00	43154.89	1.00182	1000.00	0.10018
Verizon C 15	AMPHENOL BXA-80090-4CF	850	11.00	140.00	7.00	20.00	1762.50	0.00212	566.67	0.00037
Verizon C 16	JMA MX06FRO660-02	700	12.45	140.00	2.00	40.00	1406.34	0.00047	466.67	0.00010
Verizon C 16	JMA MX06FRO660-02	850	12.15	140.00	2.00	40.00	1312.47	0.00018	566.67	0.00003
Verizon C 16	JMA MX06FRO660-02	1900	15.85	140.00	4.00	40.00	6153.47	0.00016	1000.00	0.00002
Verizon C 17	JMA MX06FRO660-02	700	12.45	140.00	2.00	40.00	1406.34	0.00047	466.67	0.00010
Verizon C 17	JMA MX06FRO660-02	850	12.15	140.00	2.00	40.00	1312.47	0.00018	566.67	0.00003
Verizon C 17	JMA MX06FRO660-02	2100	15.45	140.00	4.00	40.00	5612.03	0.00038	1000.00	0.00004
Verizon C 18	SAMSUNG MT6407	3700	23.34	140.00	4.00	50.00	43154.89	0.02824	1000.00	0.00282
							Cumulative Power Density:	3.57379 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	0.39402%



Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at Ground that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

Michelle Stone

Michelle Stone
RF EME Technical Writer II
Centerline Communications, LLC

T-Mobile

T-MOBILE SITE NUMBER: CT11314C
T-MOBILE SITE NAME: PLAINFIELD/I-395
SITE TYPE: MONOPOLE
TOWER HEIGHT: 149'-0"

BUSINESS UNIT #: 826747
SITE ADDRESS: 1197 NORWICH ROAD
PLAINFIELD, CT 06234
COUNTY: WINDHAM
JURISDICTION: CONNECTICUT
SITING COUNCIL

T-MOBILE ANCHOR SITE CONFIGURATION: 67D5D998E ODE+6160

T-Mobile
 35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

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

B+T GRP
 1717 S. BOULDER
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 www.btgrp.com

T-MOBILE SITE NUMBER:
CT11314C
 BU #: **826747**
PLAINFIELD/I-395
 1197 NORWICH ROAD
 PLAINFIELD, CT 06234
 EXISTING
 149'-0" MONOPOLE

ISSUED FOR:

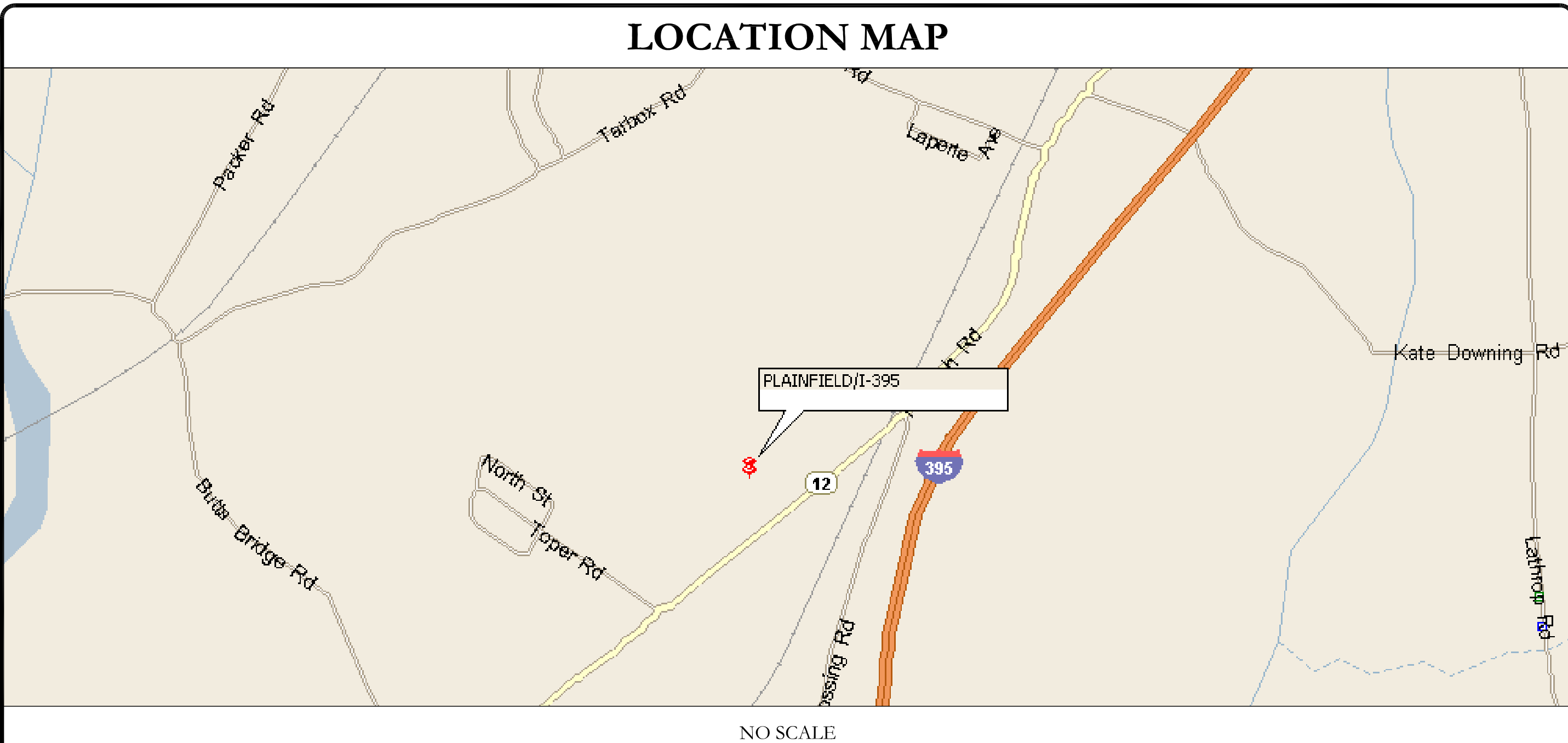
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/2/22	TDG	PRELIMINARY REVIEW	KT
0	6/21/22	TDG	CONSTRUCTION	KT

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	PLAINFIELD/I-395
SITE ADDRESS:	1197 NORWICH ROAD PLAINFIELD, CT 06234
COUNTY:	WINDHAM
MAP/PARCEL #:	005-0004-0040
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.646325
LONGITUDE:	-71.941305
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	149'
CURRENT ZONING:	IND-1
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	PLAINFIELD LIMITED INC 32 PACKER ROAD CANTERBURY, CT 06331
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	NORTHEAST UTILITIES 800-286-2000
TELCO PROVIDER:	FRONTIER 800-921-8106

PROJECT TEAM	
A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 MARVIN PHILLIPS marvin.phillips@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065 TRICIA PELON - PROJECT MANAGER TRICIA.PELON@CROWNCastle.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCastle.COM
NOTE:	PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
ATTACHED	MOUNT MODIFICATION DRAWINGS
ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. 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 DESCRIPTION	
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.	
TOWER SCOPE OF WORK:	
<ul style="list-style-type: none"> REMOVE (3) ANTENNAS REMOVE (3) RRHs REMOVE (3) TMAs REMOVE (6) COAX CABLES (1-1/4") REMOVE (1) HYBRID CABLE (1-5/8") INSTALL (3) ANTENNAS INSTALL (3) RRHs INSTALL (2) 1-5/8" HYBRID CABLES INSTALL MOUNT MODIFICATIONS PER MOUNT MODIFICATION DESIGN BY TRYLON DATED MAY 17, 2022 	
GROUND SCOPE OF WORK:	
<ul style="list-style-type: none"> REMOVE (6) RUS02 B2 RADIOS INSTALL (1) 6160 AC V1 CABINET INSTALL (1) B160 BATTERY CABINET INSTALL (1) RP 6651 IN 6160 CABINET INSTALL (2) PSU 4813 VR4A VOLTAGE BOOSTERS IN 6160 CABINET INSTALL (1) CSR IXRE V2 (GEN2) ROUTER IN 6160 CABINET INSTALL 125A BREAKER UPGRADE FOR 6160 	
NOTE: THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.	



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 CONNECTICUT SBC/2015 IBC
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC
REFERENCE DOCUMENTS:	
STRUCTURAL ANALYSIS:	B+T GROUP
DATED:	5/26/22
MOUNT ANALYSIS:	TRYLON
DATED:	5/19/22
RFDS REVISION:	3
DATED:	4/20/22
ORDER ID:	613480
REVISION:	0

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.		

MTS ENGINEERING P.L.L.C.
 BER:2386985
 Expires 3/31/23

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. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
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. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
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. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
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 GROUNDING 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.
13. 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.
14. 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 336, 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 (fc) 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°F 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 THE 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 WITH ANY ARCS NOT OCCURABLE.
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).
23. 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 LOCKOUT 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.

Table with 3 columns: SYSTEM, CONDUCTOR, COLOR. Rows include 120/240V, 10; 120/208V, 30; 277/480V, 30; 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
LTE LONG TERM EVOLUTION
MGB 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

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CROWN CASTLE logo and address: 3 CORPORATE PARK DRIVE, SUITE 101, CLIFTON PARK, NY 12065

B+T GRP logo and address: 1717 S. BOULDER SUITE 300, TULSA, OK 74119, PH: (918) 587-4630, www.btgrp.com

T-MOBILE SITE NUMBER: CT11314C
BU #: 826747
PLAINFIELD/I-395
1197 NORWICH ROAD, PLAINFIELD, CT 06234
EXISTING 149'-0" MONOPOLE

Table with 5 columns: REV, DATE, DRWN, DESCRIPTION, DES./QA. Row 1: A, 6/2/22, TDG, PRELIMINARY REVIEW, KT. Row 2: 0, 6/21/22, TDG, CONSTRUCTION, KT.

ISSUED FOR:
Professional Engineer seal for Kevin Turkoff, No. 23924, expires 8/21/22.

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SHEET NUMBER: T-2 REVISION: 0

SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET.

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T-MOBILE SITE NUMBER:
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BU #: 826747
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EXISTING
 149'-0" MONOPOLE

ISSUED FOR:

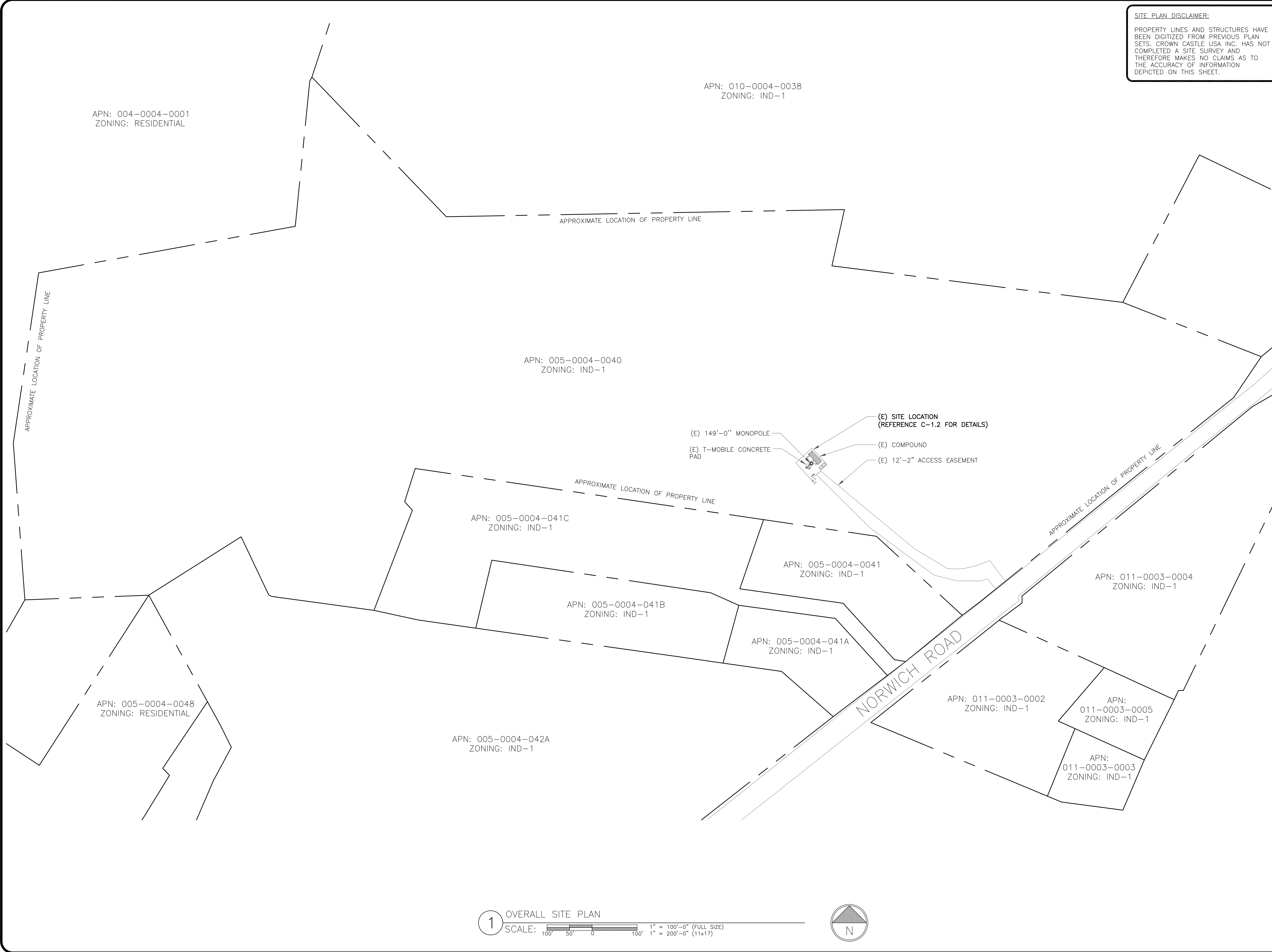
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/2/22	TDG	PRELIMINARY REVIEW	KT
0	6/21/22	TDG	CONSTRUCTION	KT



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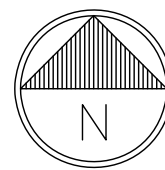
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SHEET NUMBER: C-1.1 **REVISION:** 0



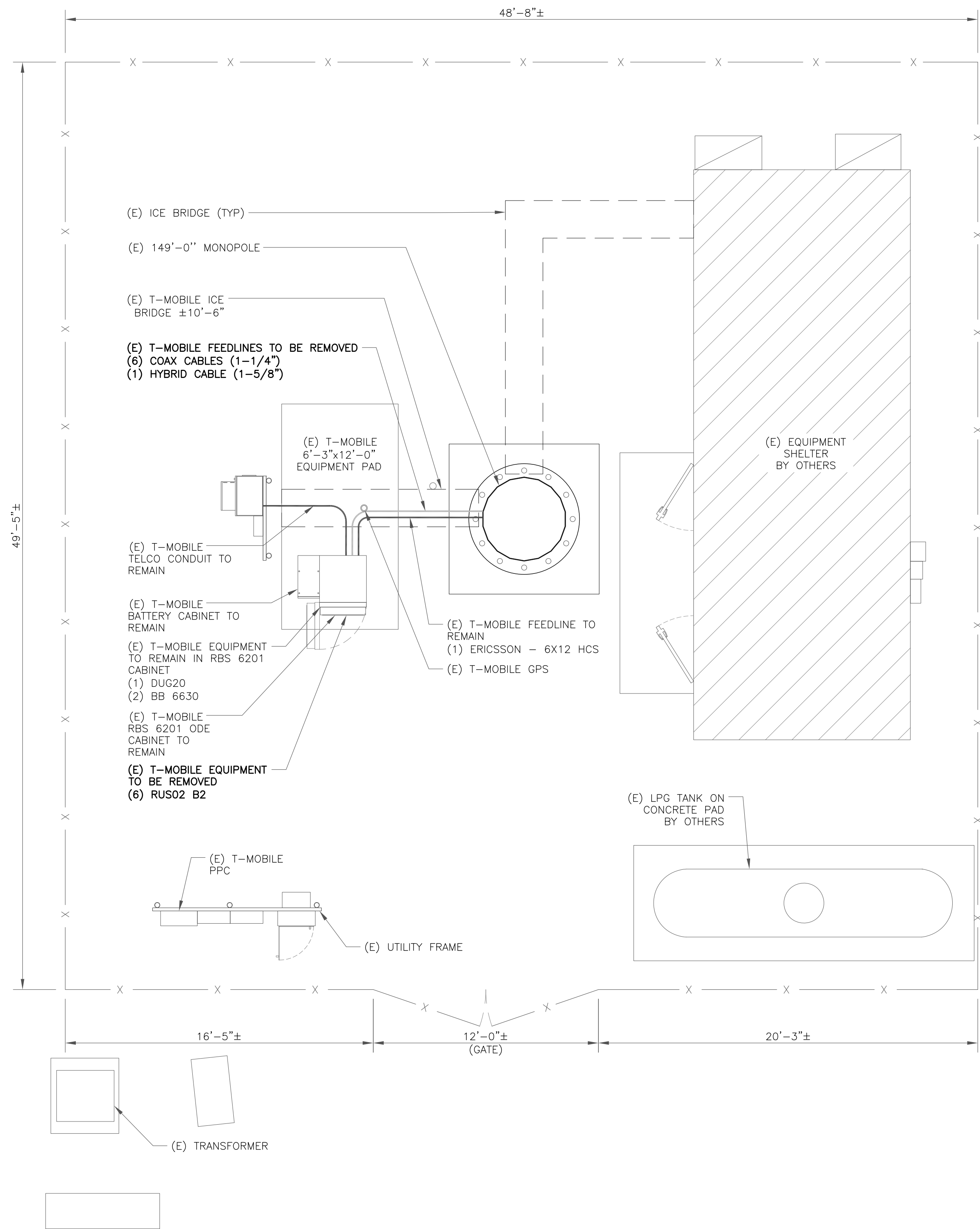
1 OVERALL SITE PLAN

SCALE: 1" = 100'-0" (FULL SIZE)
 1" = 200'-0" (11x17)

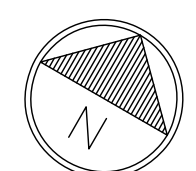


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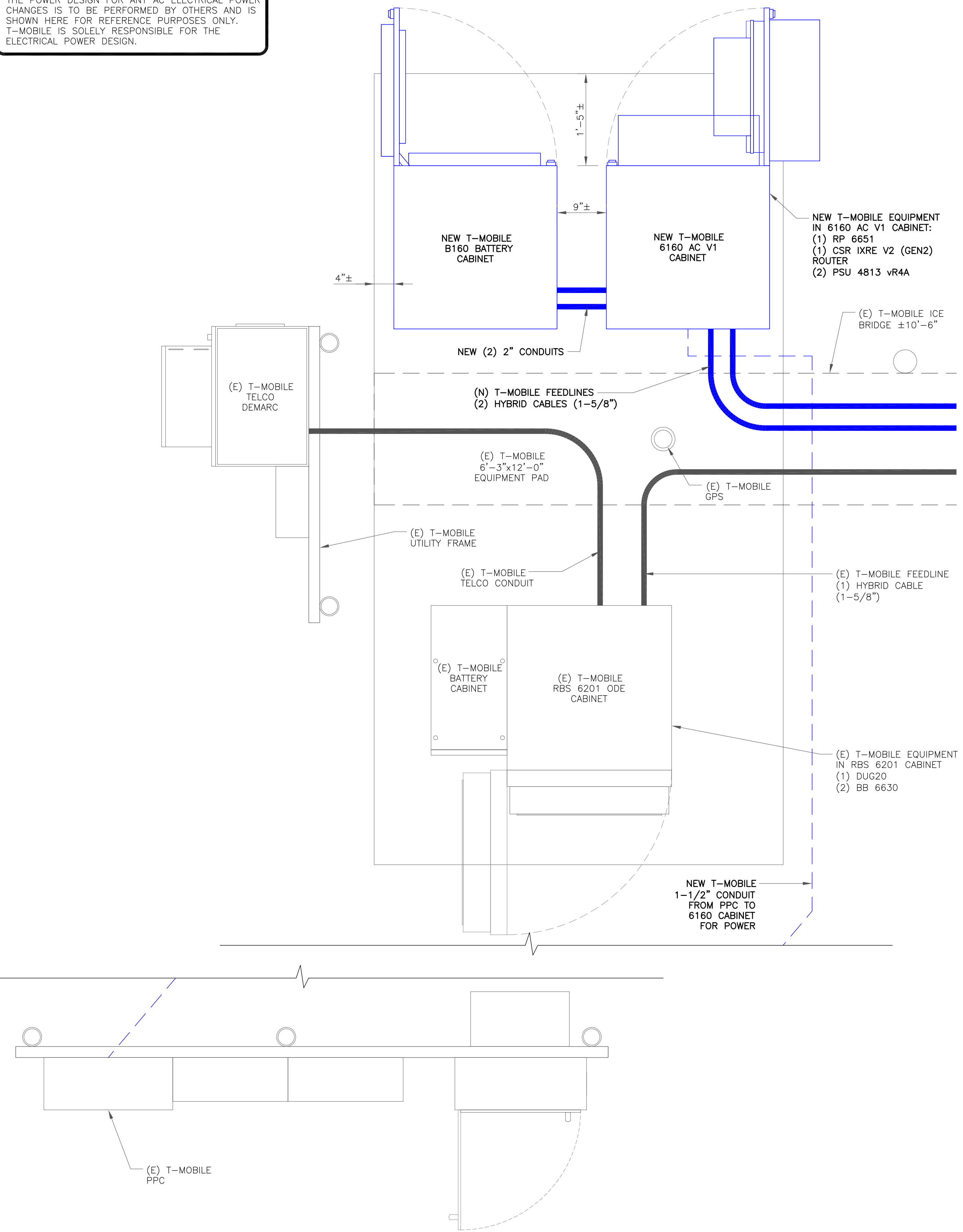
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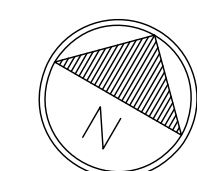
1 SITE PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)



NOTES:
THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.



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



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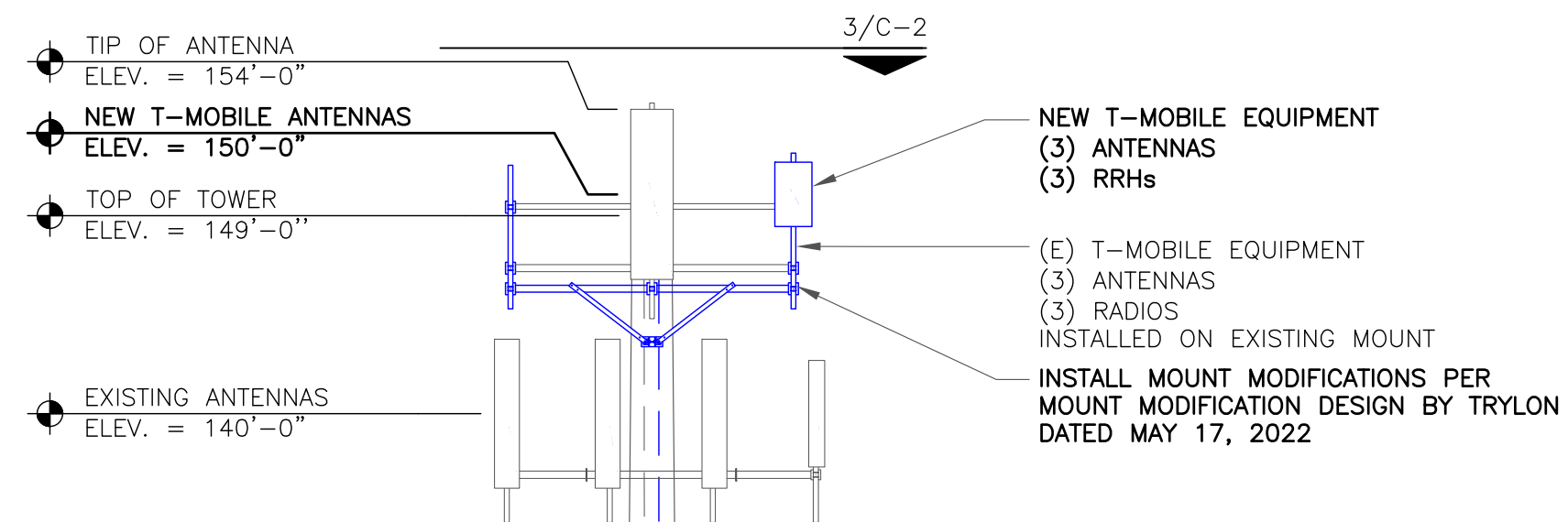
T-MOBILE SITE NUMBER:
CT11314C
BU #: **826747**
PLAINFIELD/I-395
1197 NORWICH ROAD
PLAINFIELD, CT 06234
EXISTING
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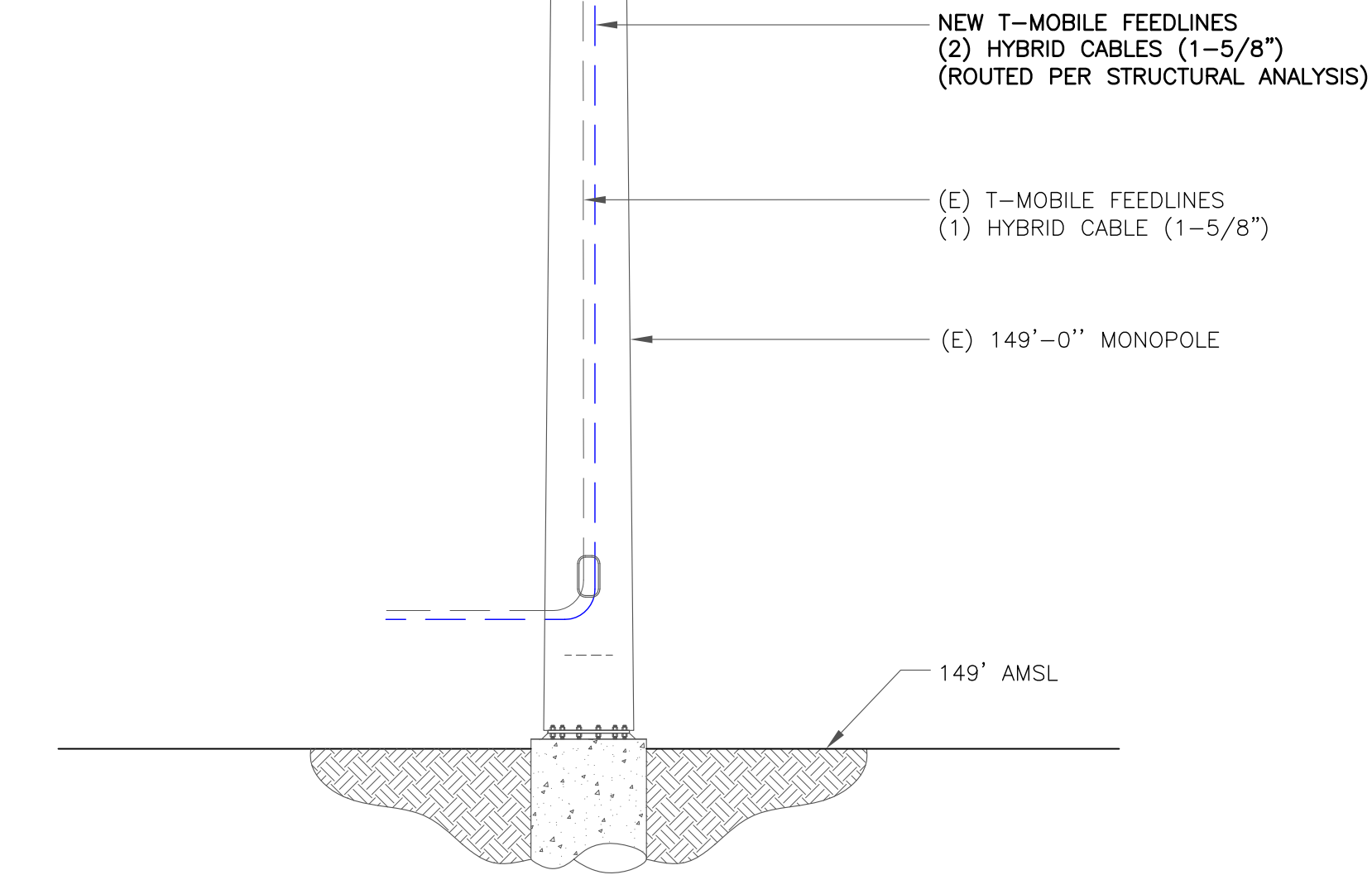
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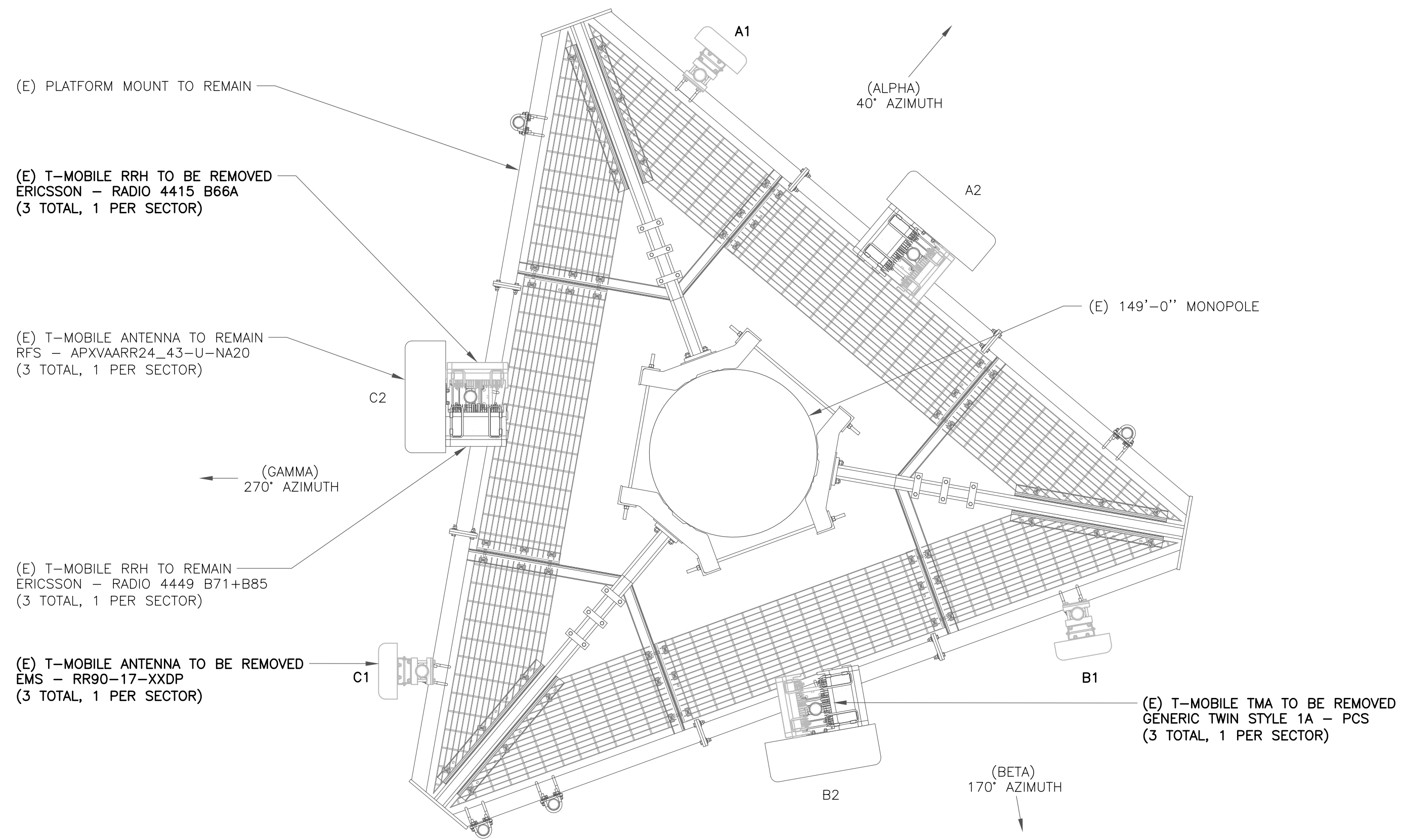
T-MOBILE EQUIPMENT

ANTENNA CL: 150'-0"
MOUNT CL: 148'-0"

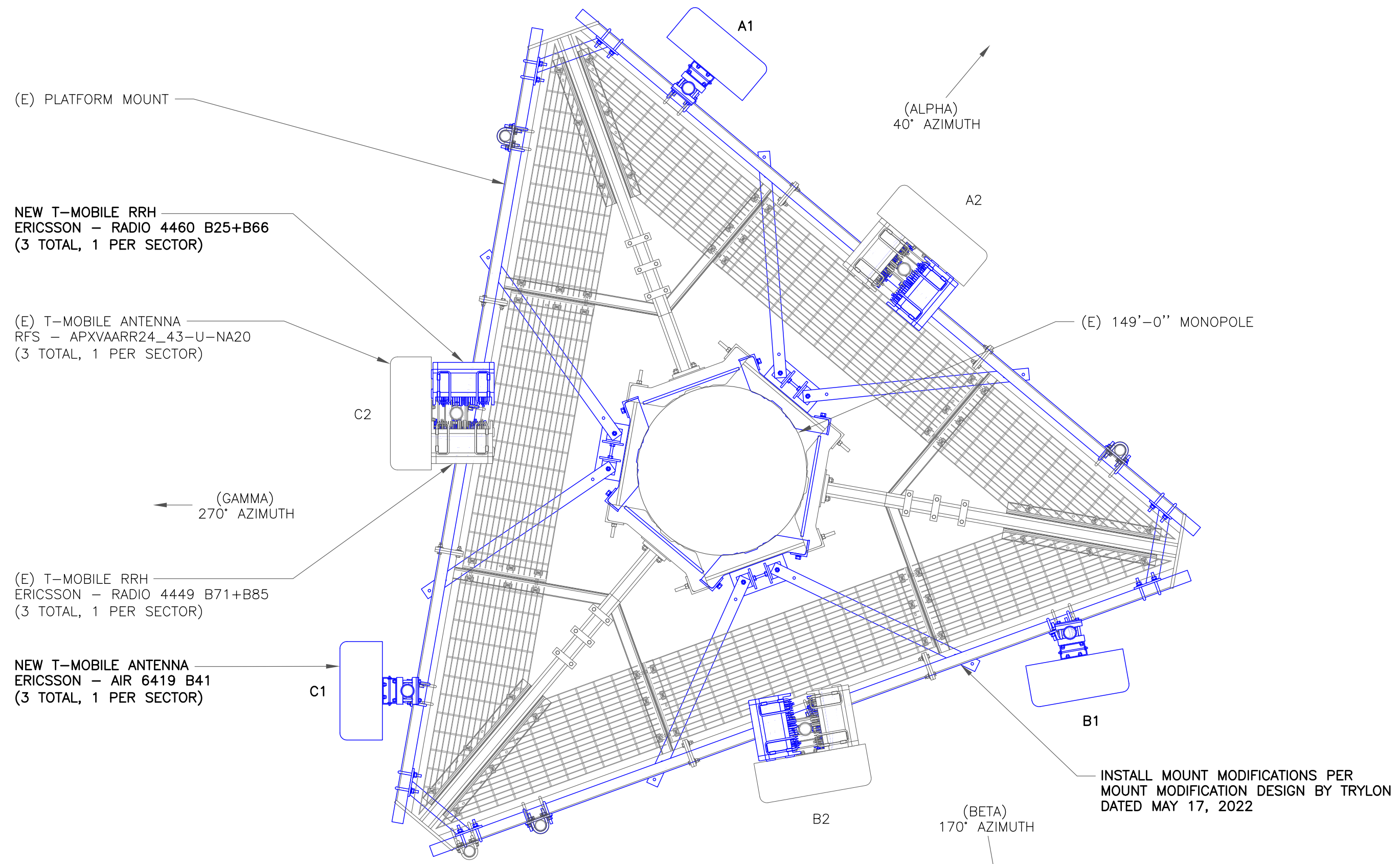
ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB



1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE



3 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE



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EXISTING
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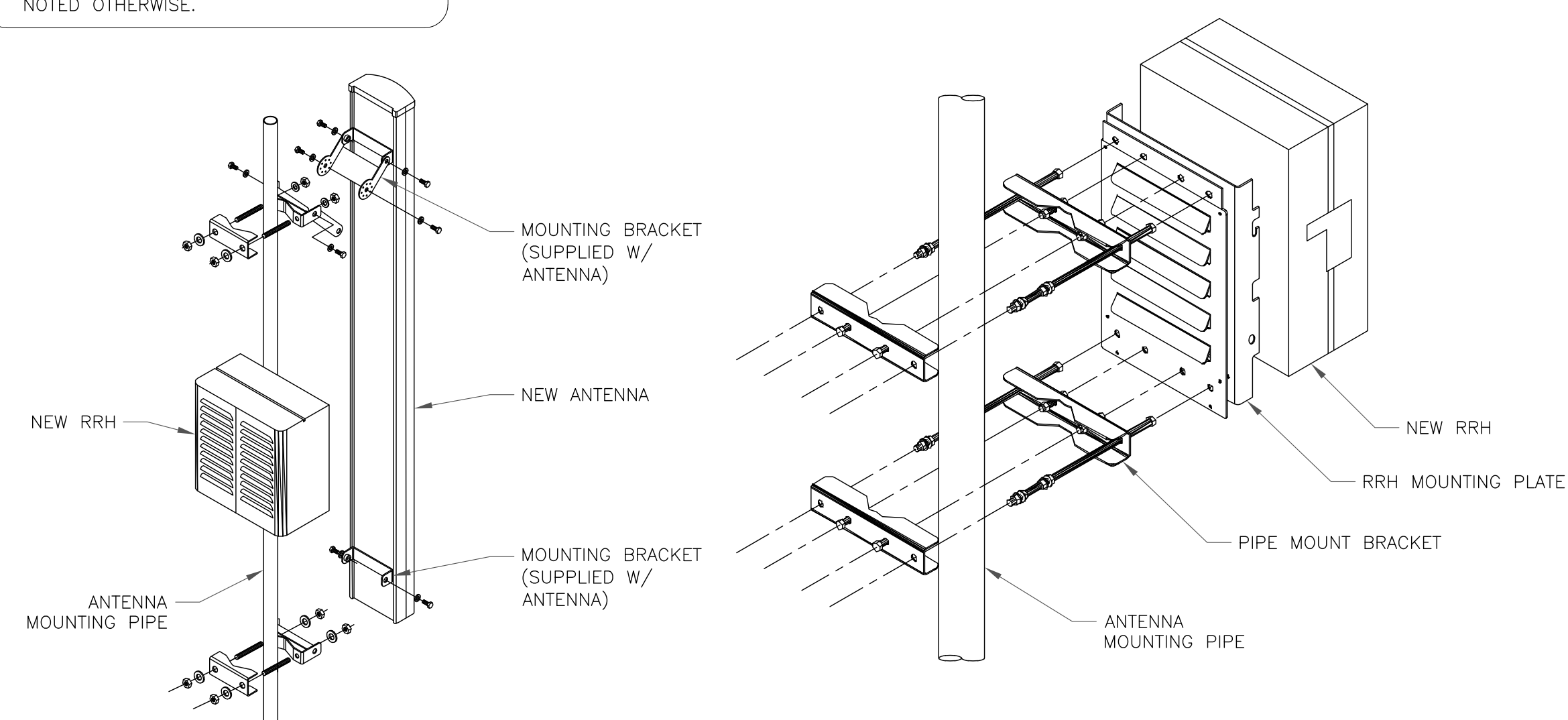
EXISTING
149'-0" MONOPOLE

RF SYSTEM SCHEDULE										
SECTOR	ANTENNA	TECH	MANUFACTURER	ANTENNA MODEL	AZIMUTH	M-TILT	E-TILT	RAD CENTER	TMA/RRU	FEEDLINE TYPE
ALPHA	A1	L2500/N2500	ERICSSON	AIR 6419 B41	40°	0°	2°/2°	150'-0"	-	-
	A2	L700/L600/N600	RFS	APXVAARR24_43-U-NA20	40°	0°	2°/2°/2°/2°	150'-0"	(1) ERICSSON - RADIO 4449 B71+B85 (1) ERICSSON - RADIO 4460 B25+B66	(1) ERICSSON - 6X12 HCS
	-	-	-	-	40°	-	-	-	-	-
BETA	B1	L2500/N2500	ERICSSON	AIR 6419 B41	170°	0°	2°/2°	150'-0"	-	-
	B2	L700/L600/N600	RFS	APXVAARR24_43-U-NA20	170°	0°	2°/2°/2°/2°	150'-0"	(1) ERICSSON - RADIO 4449 B71+B85 (1) ERICSSON - RADIO 4460 B25+B66	(1) ERICSSON - HYBRID TRUNK 6/24 4AWG
	-	-	-	-	170°	-	-	-	-	-
GAMMA	C1	L2500/N2500	ERICSSON	AIR 6419 B41	270°	0°	2°/2°	150'-0"	-	-
	C2	L700/L600/N600	RFS	APXVAARR24_43-U-NA20	270°	0°	2°/2°/2°/2°	150'-0"	(1) ERICSSON - RADIO 4449 B71+B85 (1) ERICSSON - RADIO 4460 B25+B66	(1) ERICSSON - HYBRID TRUNK 6/24 4AWG
	-	-	-	-	270°	-	-	-	-	-

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.



2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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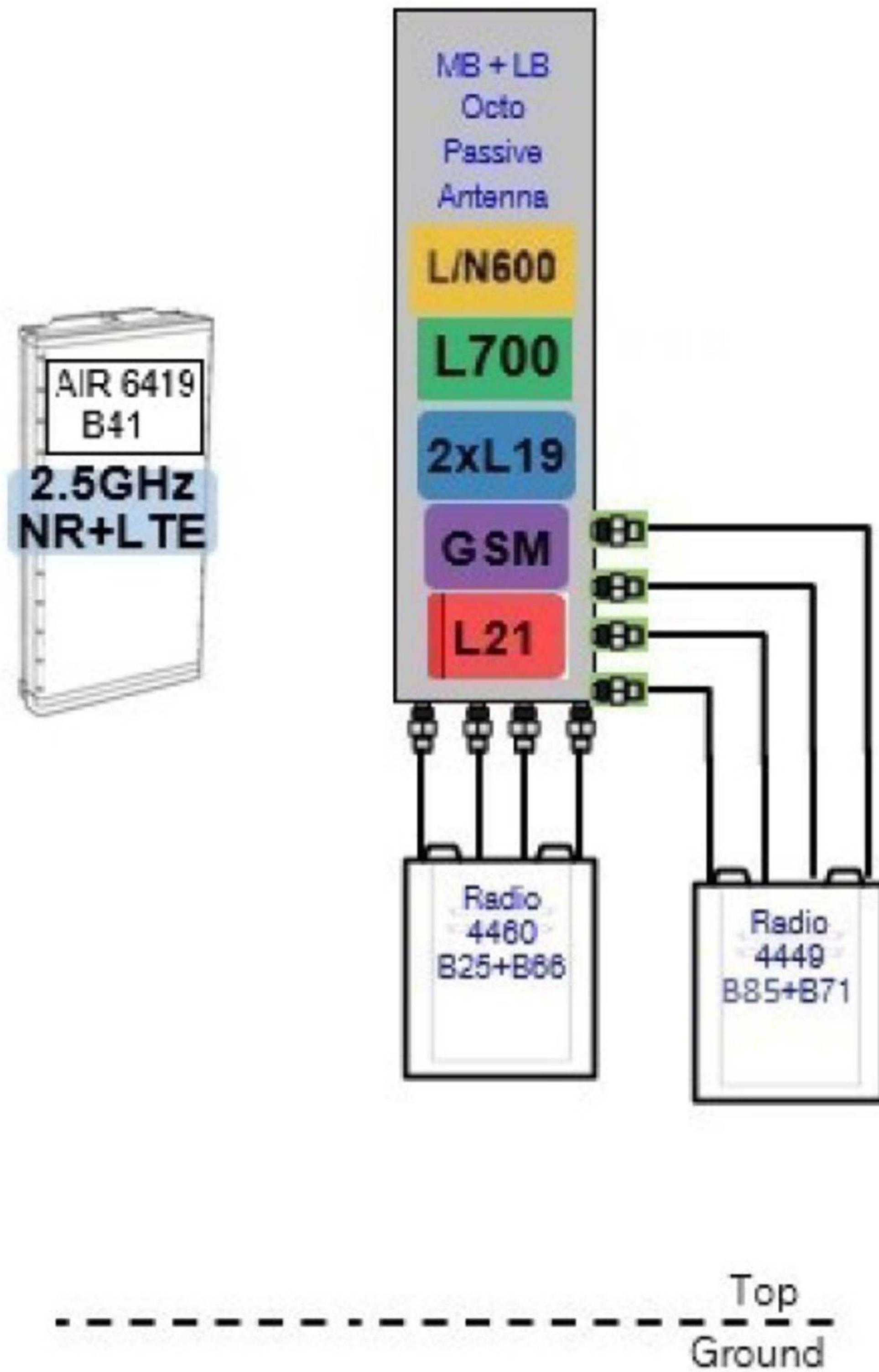
SHEET NUMBER:

C-3

REVISION:

0

Final Config: 67D5D998E



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
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BU #: **826747**
PLAINFIELD/I-395

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PLAINFIELD, CT 06234

EXISTING
149'-0" MONOPOLE

ISSUED FOR:

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

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**T-MOBILE SITE NUMBER:
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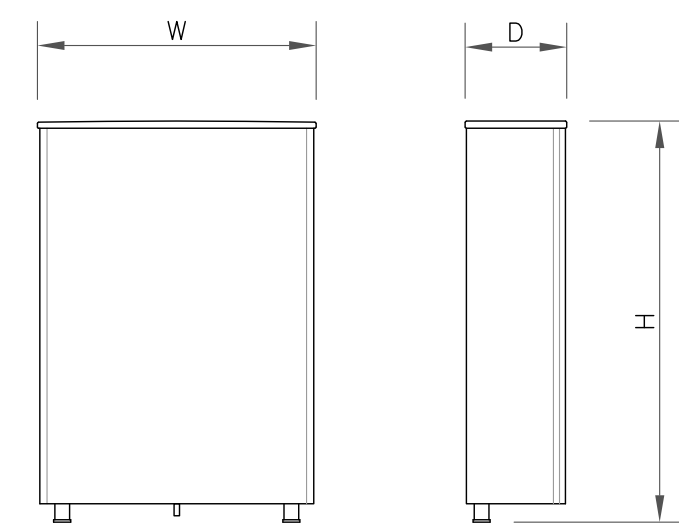
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SHEET NUMBER:

C-5

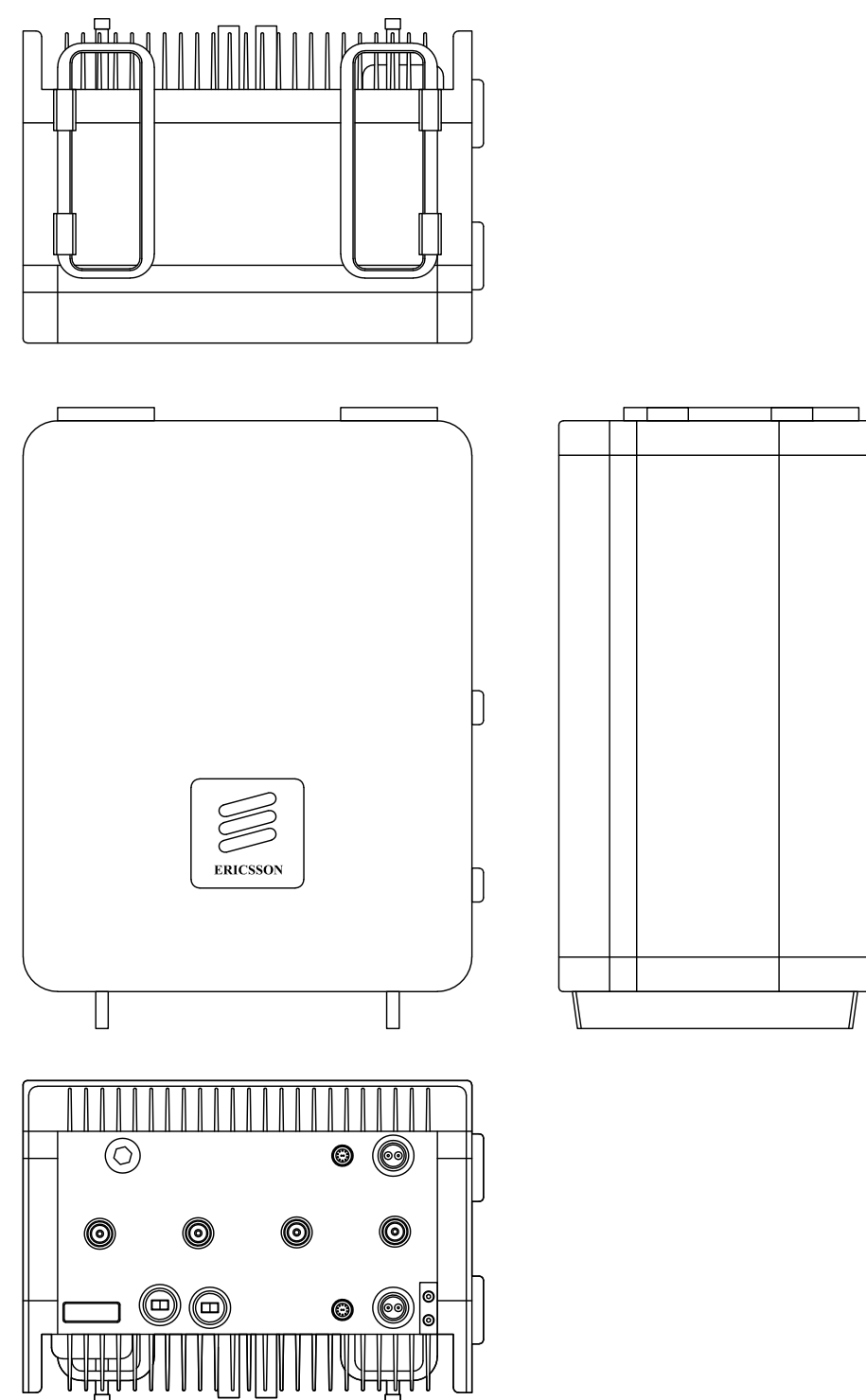
REVISION:

0



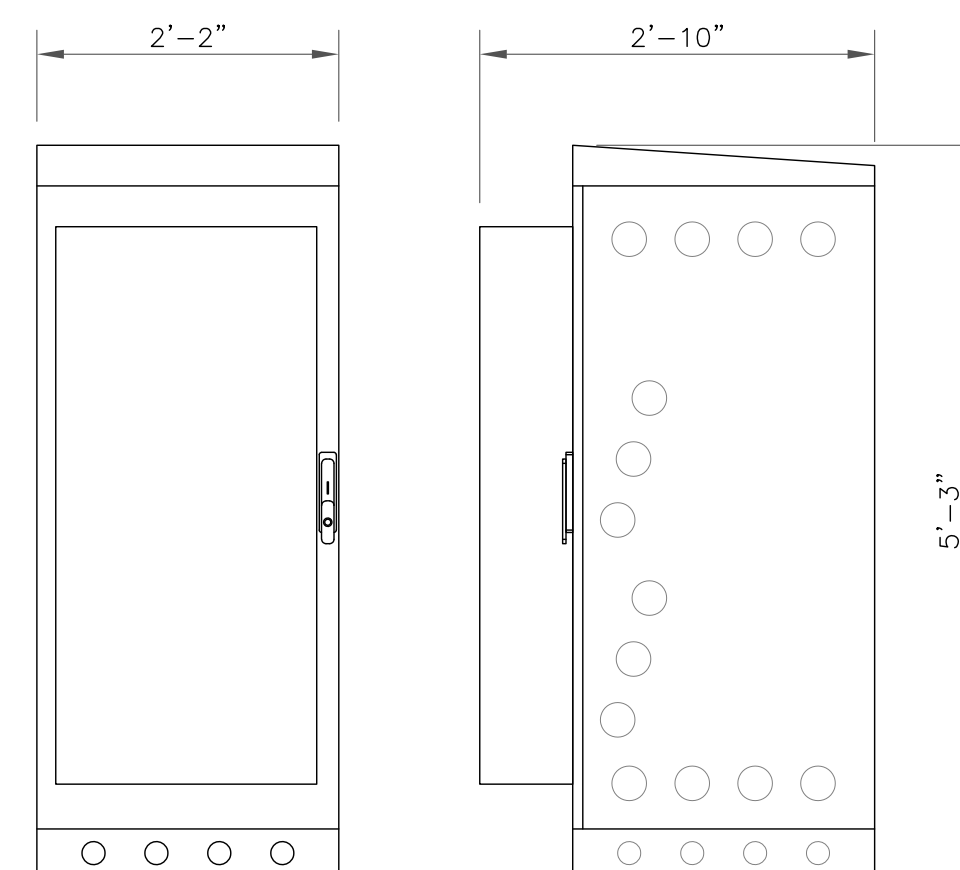
ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR6419 B41
WIDTH	20.91"
DEPTH	9.02"
HEIGHT	36.25"
WEIGHT	95.50 LBS

1 ANTENNA SPECS
SCALE: NOT TO SCALE



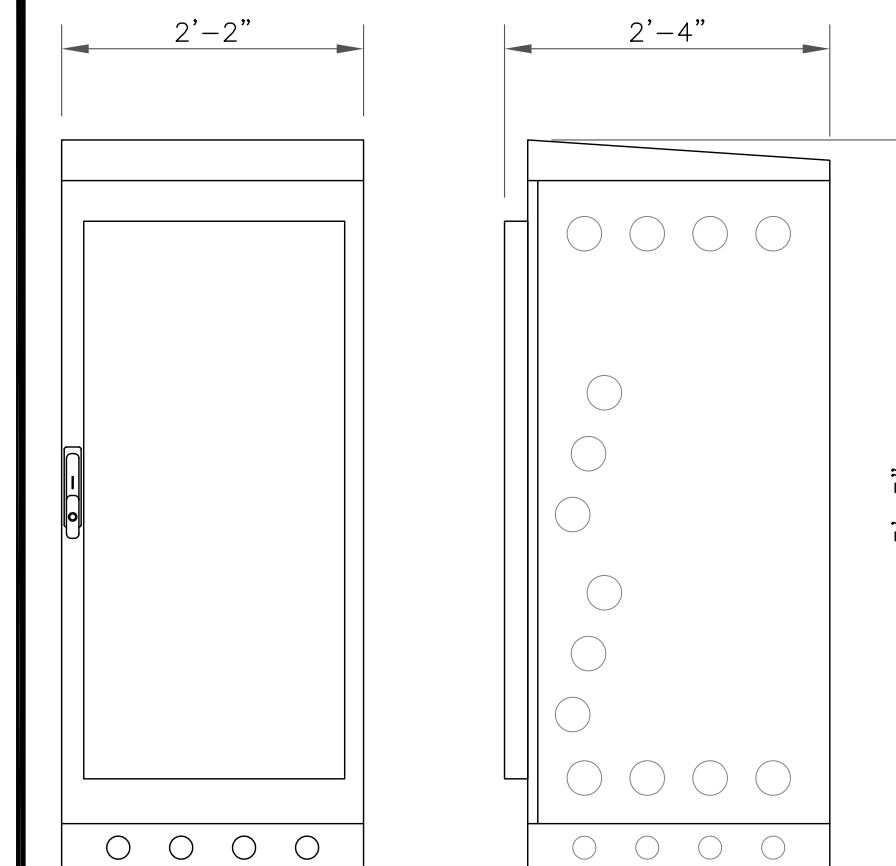
ERICSSON - RADIO 4460 B25+B66
WEIGHT: 109 LBS
SIZE (HxWxD): 17.0x15.1x11.9 IN.

2 ERICSSON - RADIO 4460 B25+B66
SCALE: NOT TO SCALE



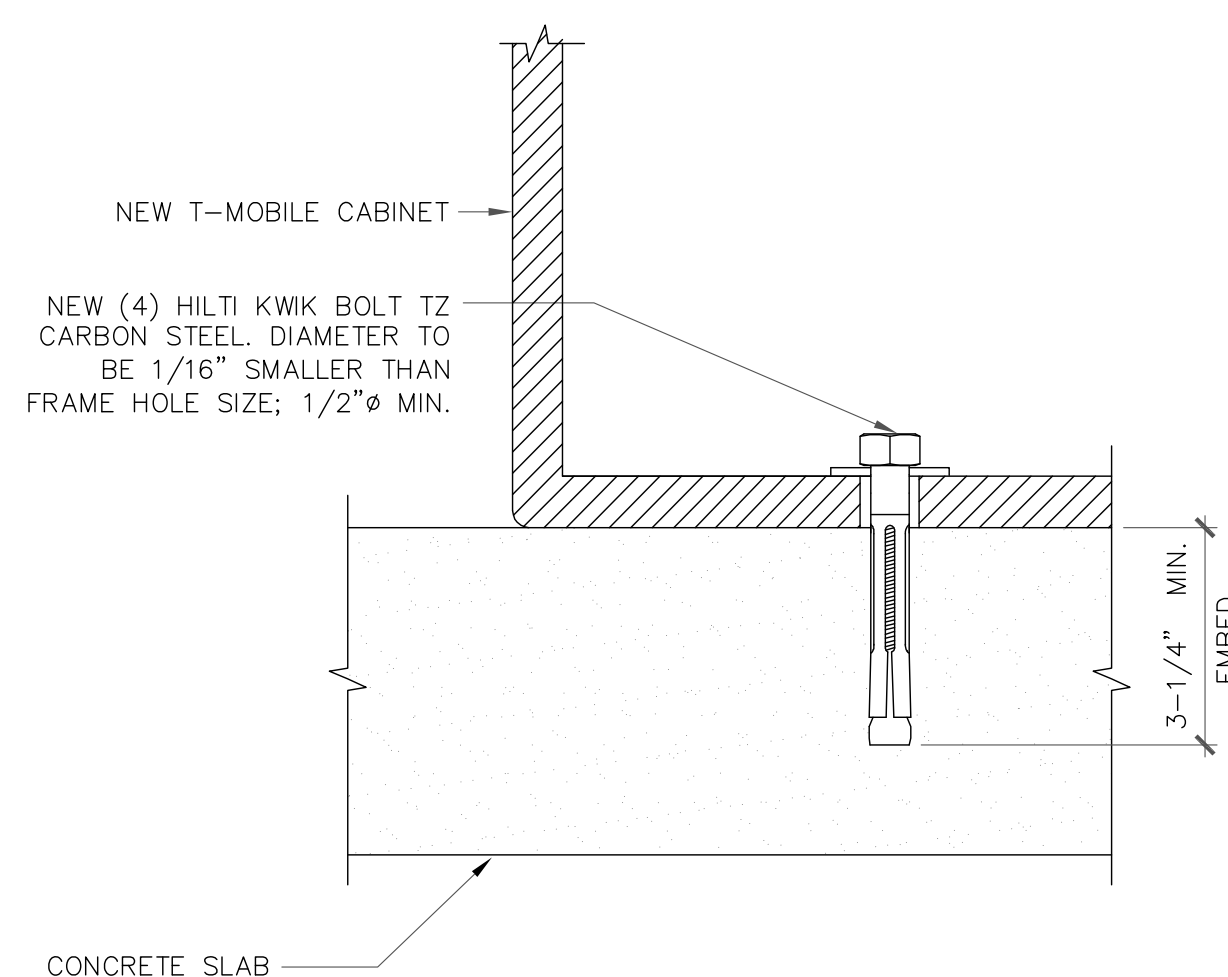
EQUIPMENT NOTES:
HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 34.0"
(1600.0mm x 660.0mm x 864.0mm)
WEIGHT (EMPTY): 320 LBS (145 kg)
WEIGHT (FULLY LOADED): 1000 LBS (454 kg)

3 ERICSSON 6160 SSC
SCALE: NOT TO SCALE



EQUIPMENT NOTES:
HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 28.0"
(1600.0mm x 660.0mm x 711.0mm)
WEIGHT (EMPTY): 295 LBS (134 kg)
WEIGHT (FULLY LOADED): 2000 LBS (908 kg)

4 ERICSSON B160 BATTERY CABINET
SCALE: NOT TO SCALE



5 CABINET ANCHOR DETAIL
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

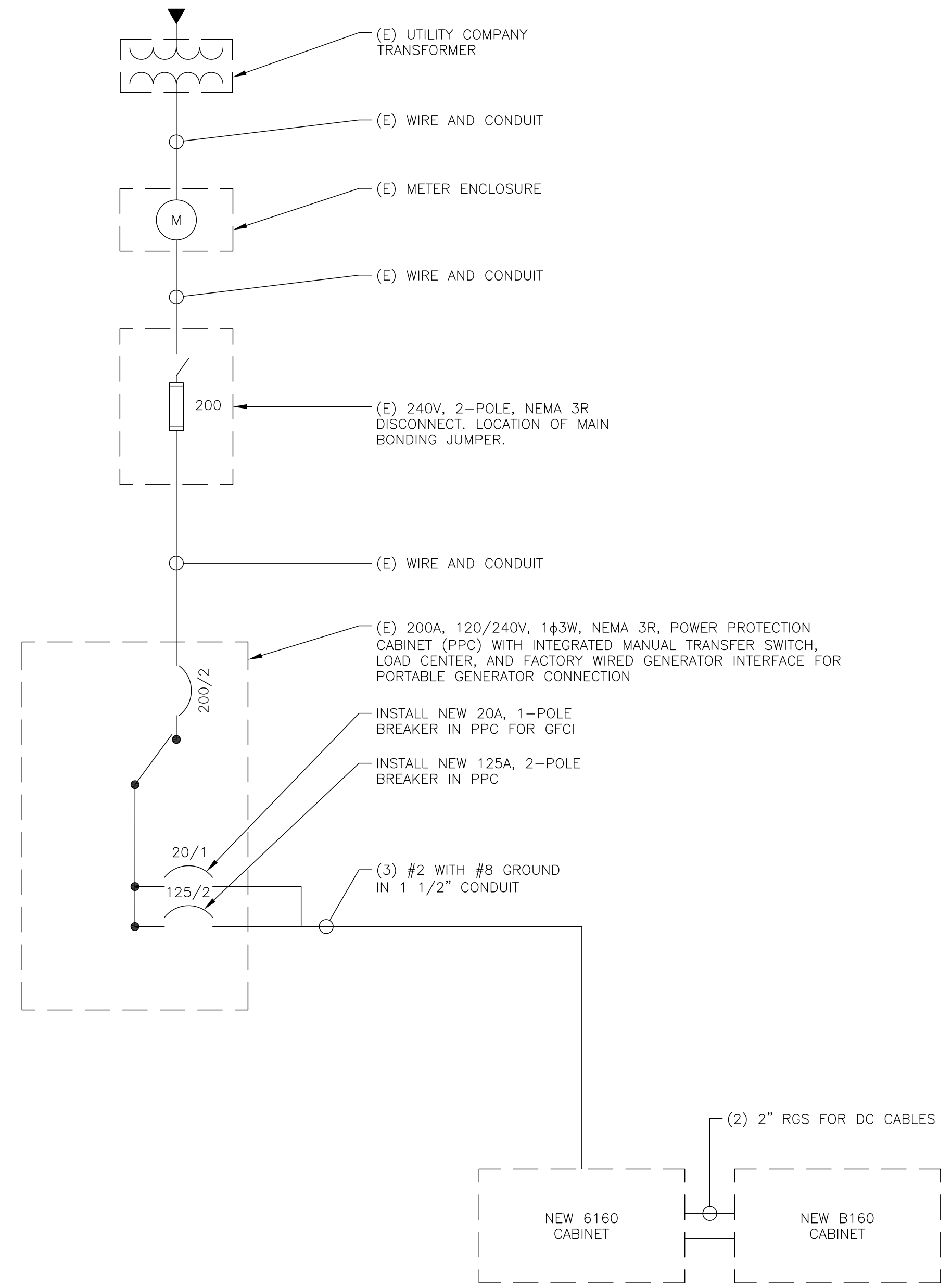
7 NOT USED
SCALE: NOT TO SCALE

8 NOT USED
SCALE: NOT TO SCALE

NOTE:
PANEL SCHEDULE PENDING FIELD VERIFICATION.

FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS		AMPS	POLES	LOAD
			L1	L2			
6160 CABINET	2	125A	1	2			
B160 CABINET	1	20A	3	4			
			5	6			
			7	8			
			9	10			
			11	12			
			13	14			
			15	16			
			17	18			
			19	20			
			21	22			
			23	24			
			25	26			
			27	28			
			29	30			

RATED VOLTAGE: 120/240 1 PHASE, 3 WIRE
 BRANCH POLES: 12 24 30 42
 APPROVED MF'RS
 RATED AMPS: 100 200 400
 CABINET: SURFACE FLUSH NEMA 1 3R 4X
 MAIN LUGS ONLY MAIN 200 AMPS BREAKER FUSED SWITCH HINGED DOOR KEYPED DOOR LATCH
 FUSED CIRCUIT BREAKER BRANCH DEVICES TO BE GFCI BREAKERS FULL NEUTRAL BUS GROUND BAR
 ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL



- NOTES:
- ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-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.

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T-MOBILE SITE NUMBER:
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 BU #: **826747**
PLAINFIELD/I-395
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0	6/21/22	TDG	CONSTRUCTION	KT

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

1 AC PANEL SCHEDULE
 SCALE: NOT TO SCALE

2 ONE LINE DIAGRAM
 SCALE: NOT TO SCALE

1:36593.004.01_PLAINFIELD-395.dwg - User: kevin.turkoll - Jun 21, 2022 - 10:30am

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ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/2/22	TDG	PRELIMINARY REVIEW	KT
0	6/21/22	TDG	CONSTRUCTION	KT



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

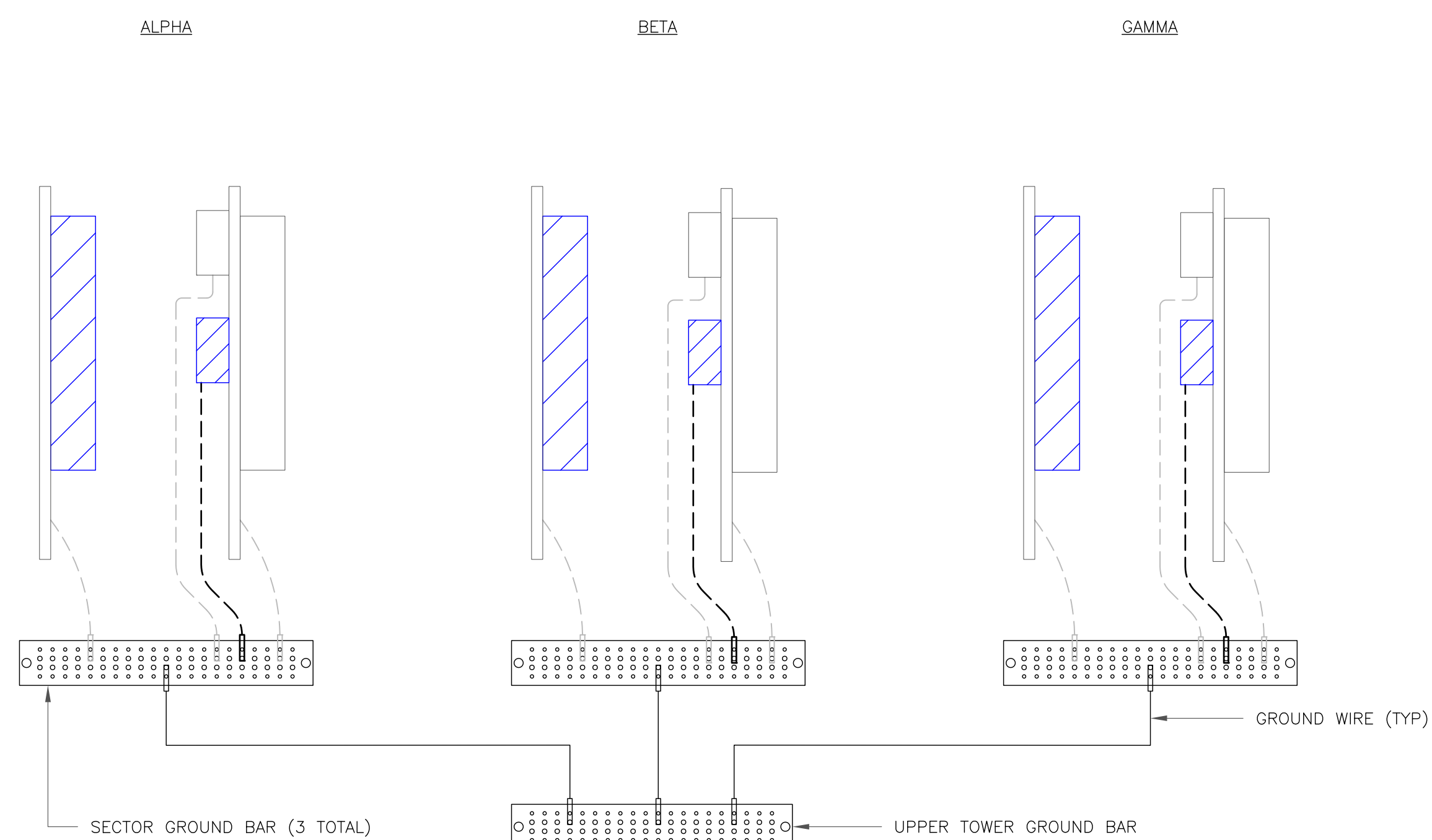
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TO ALTER THIS DOCUMENT.

SHEET NUMBER:

G-1

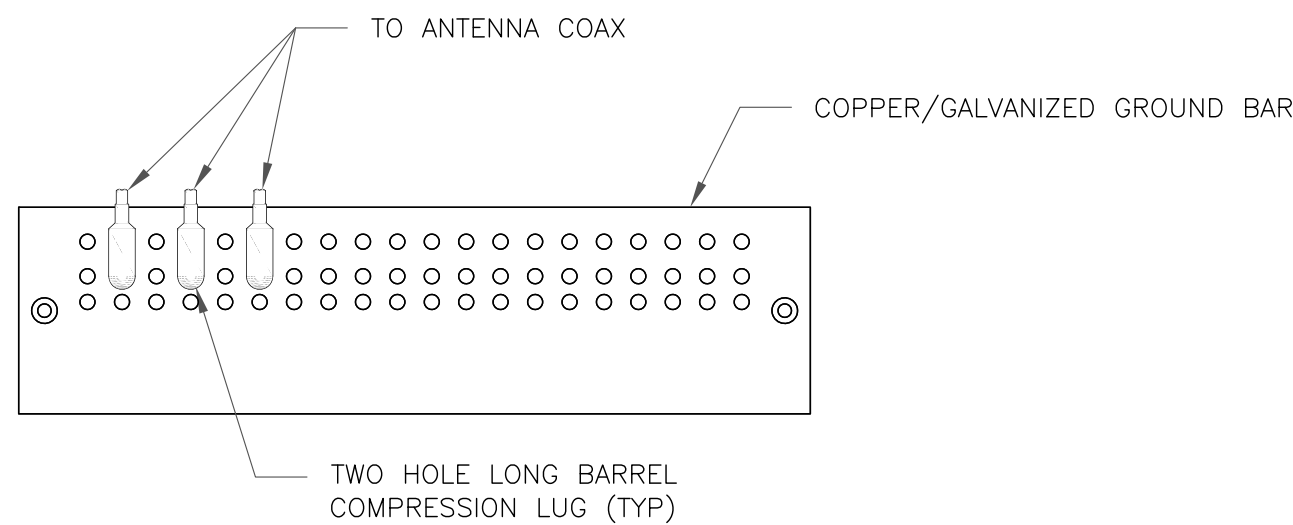
REVISION:

0



NOTE:
ALL NEW GROUNDS TO BE #6 STRANDED
COPPER WITH GREEN INSULATION UNLESS
NOTED OTHERWISE.

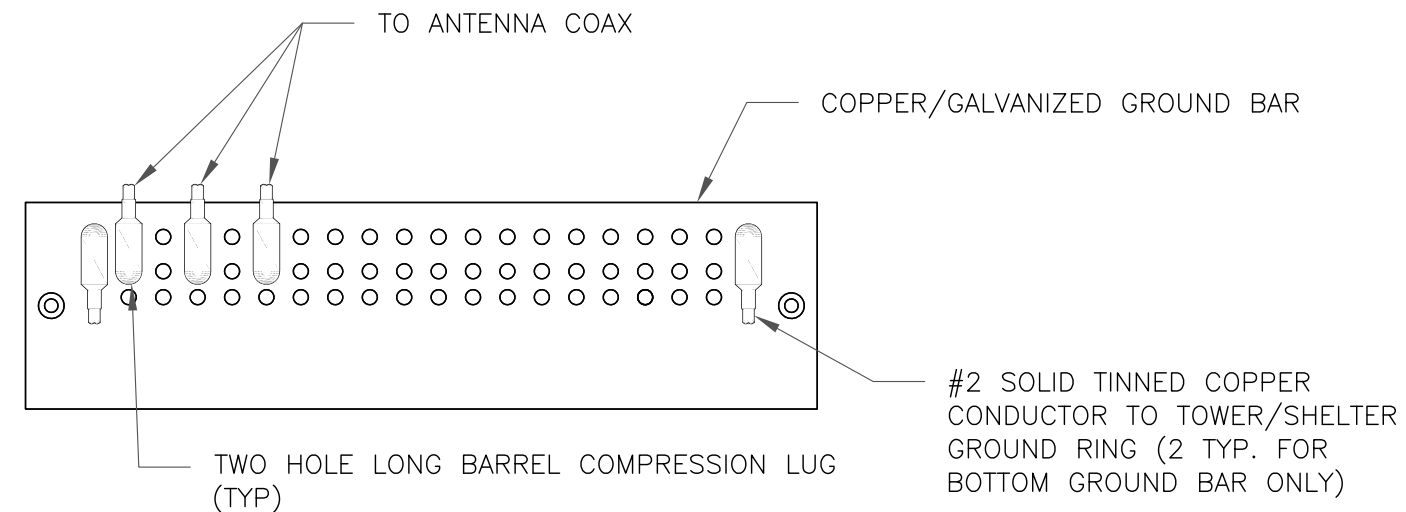
1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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.

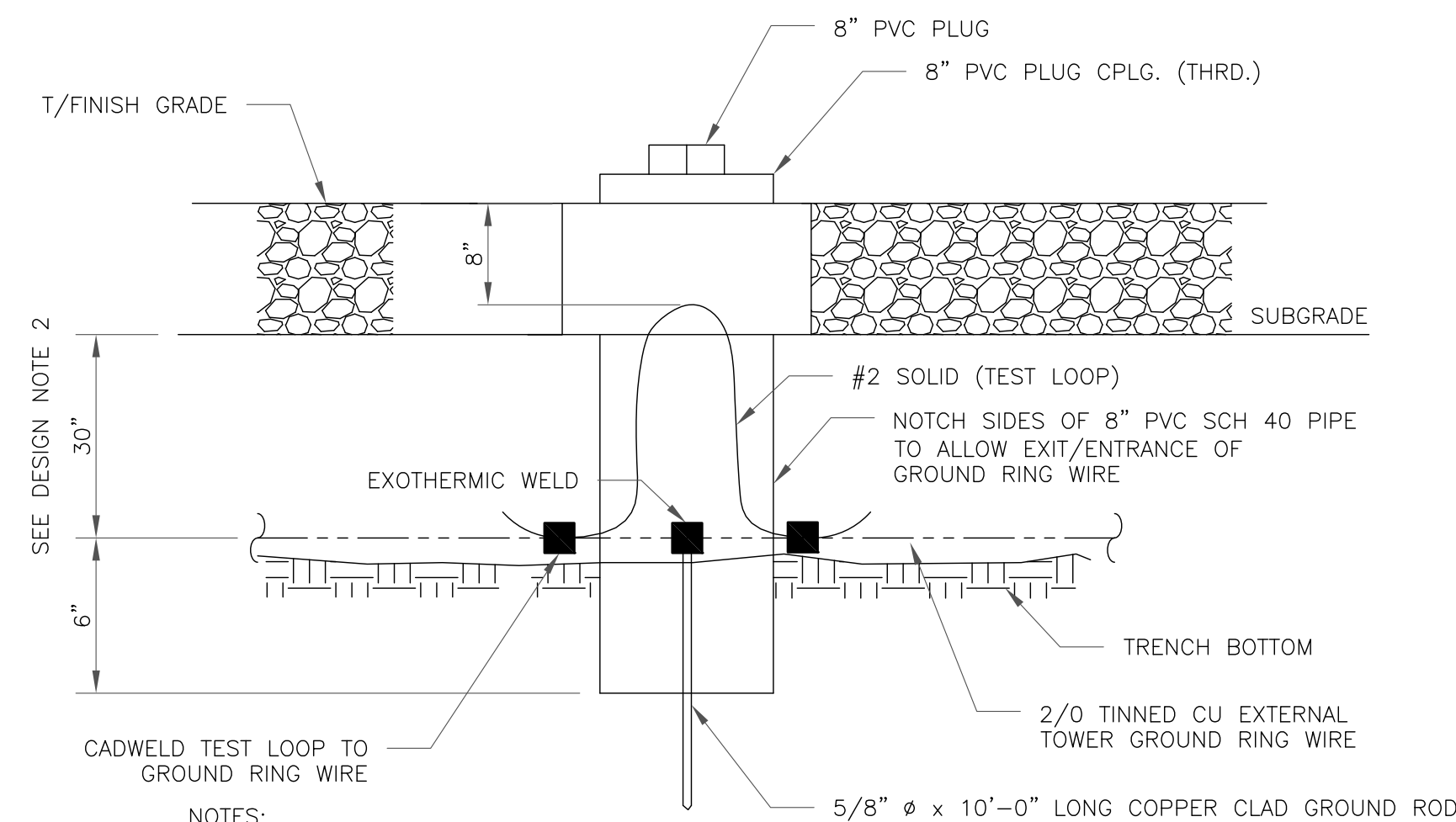
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

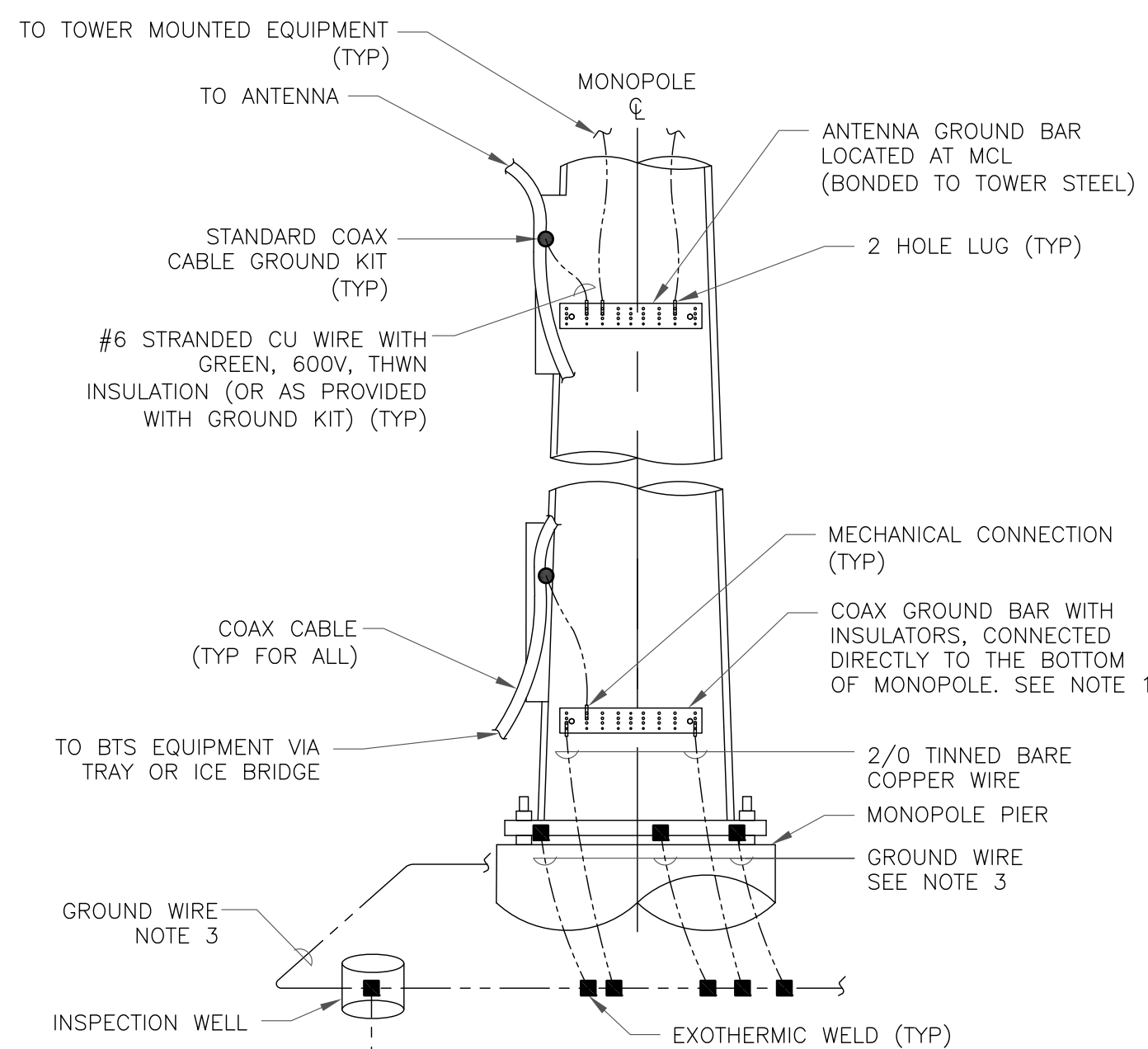
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
- GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D).

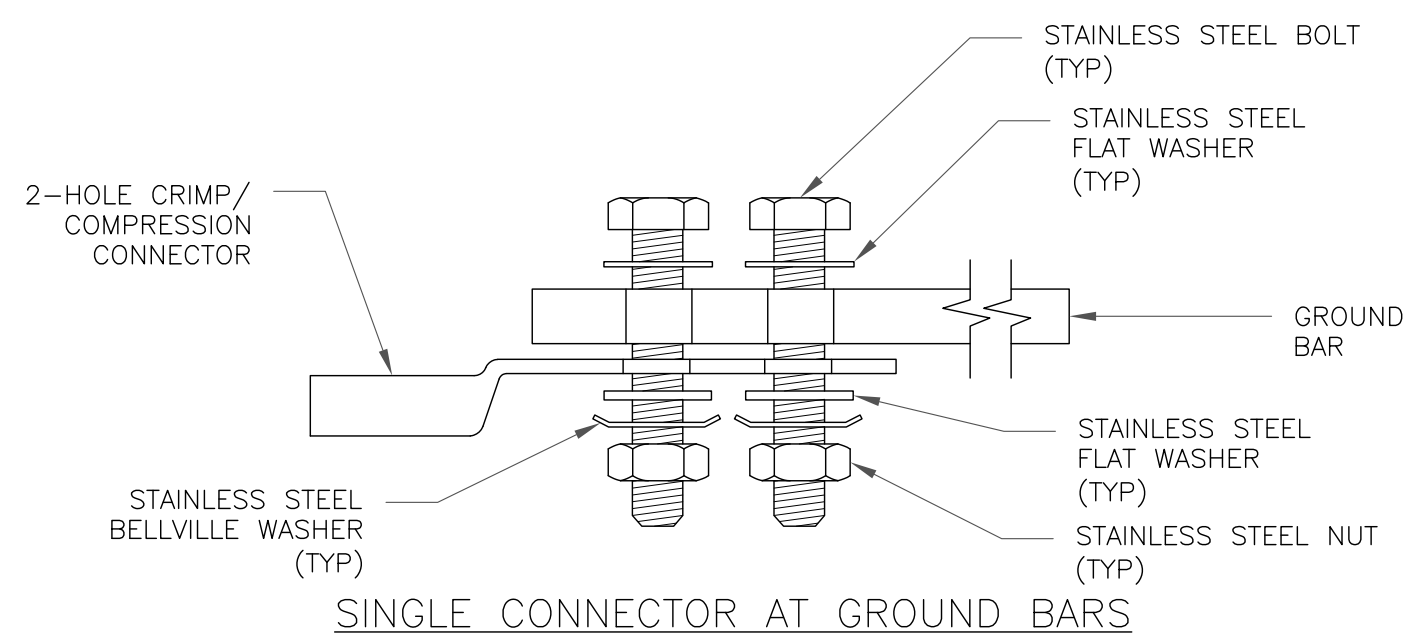
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



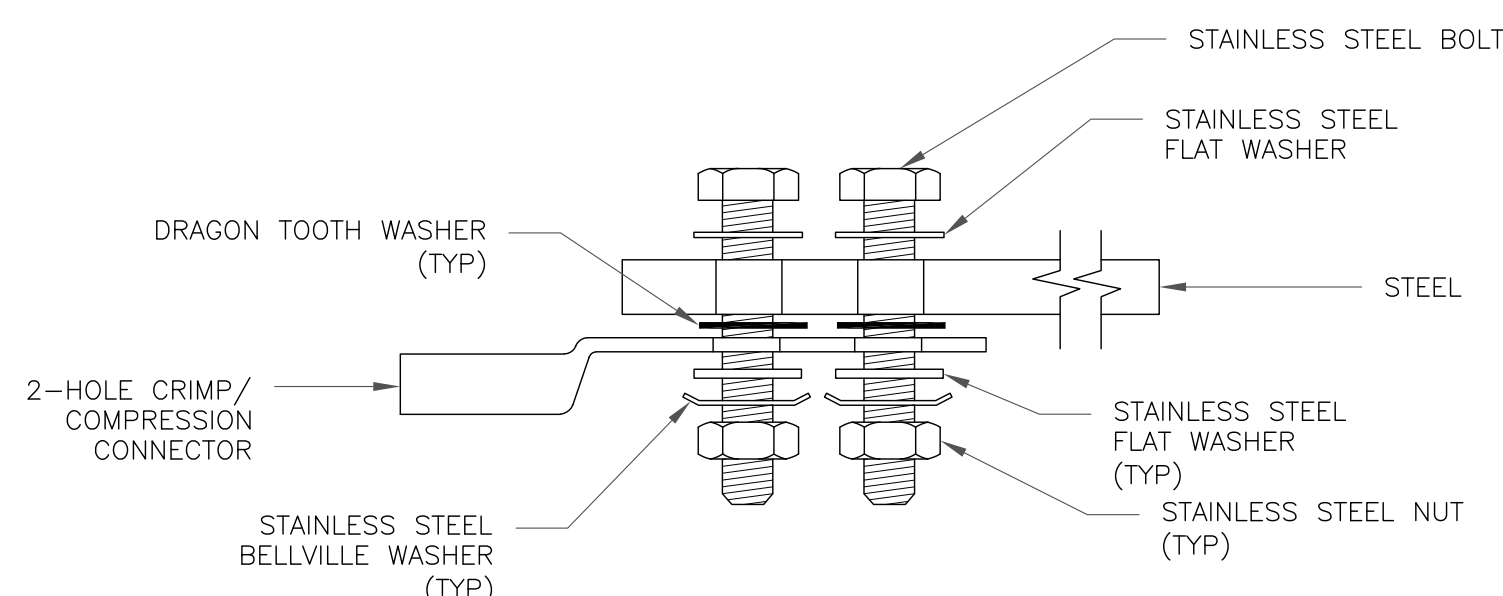
NOTES:

- NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
- ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
- ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

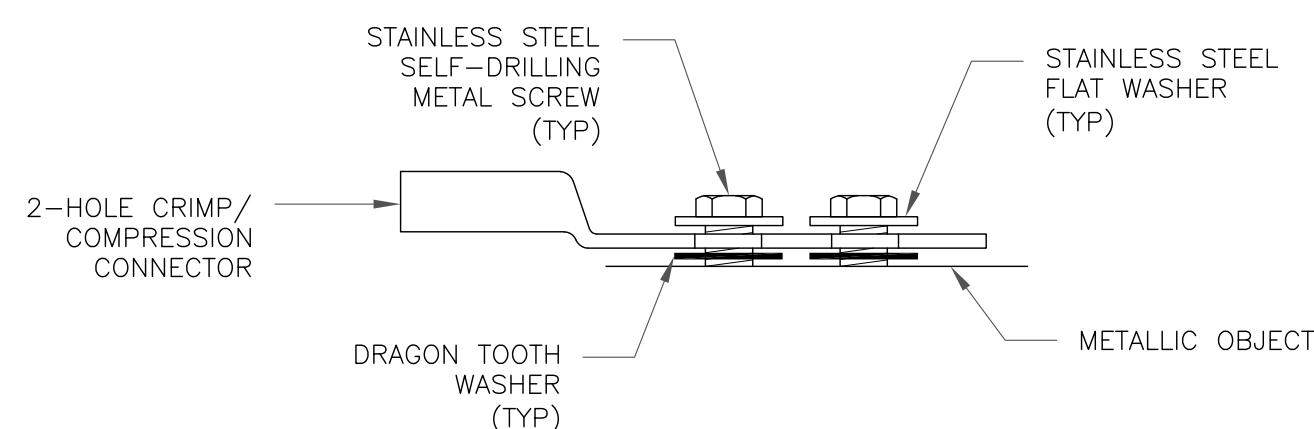
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

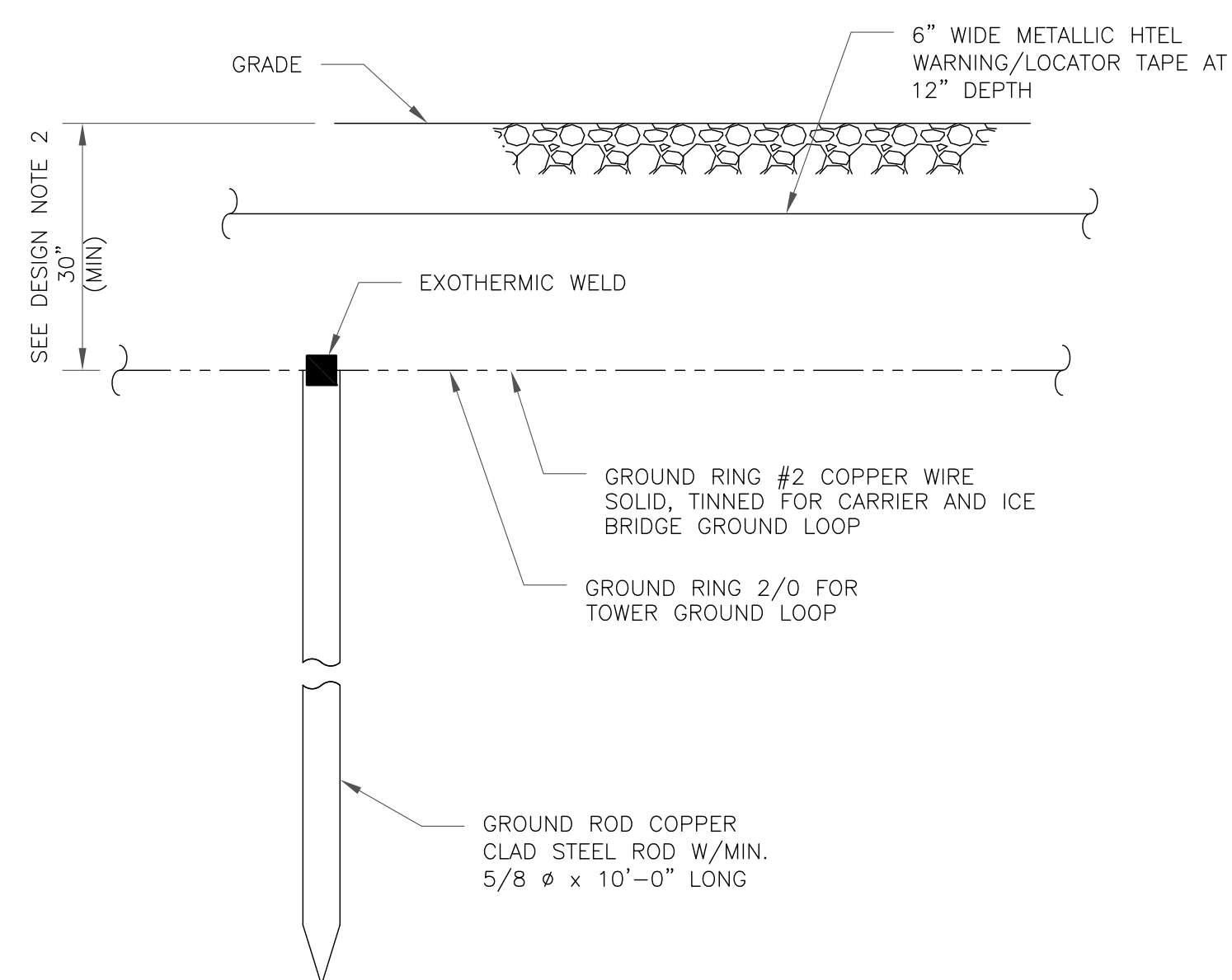


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
- GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D).

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

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

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE SITE NUMBER:
CT11314C

BU #: 826747
PLAINFIELD/I-395

1197 NORWICH ROAD
PLAINFIELD, CT 06234

EXISTING
149'-0" MONOPOLE

ISSUED FOR:

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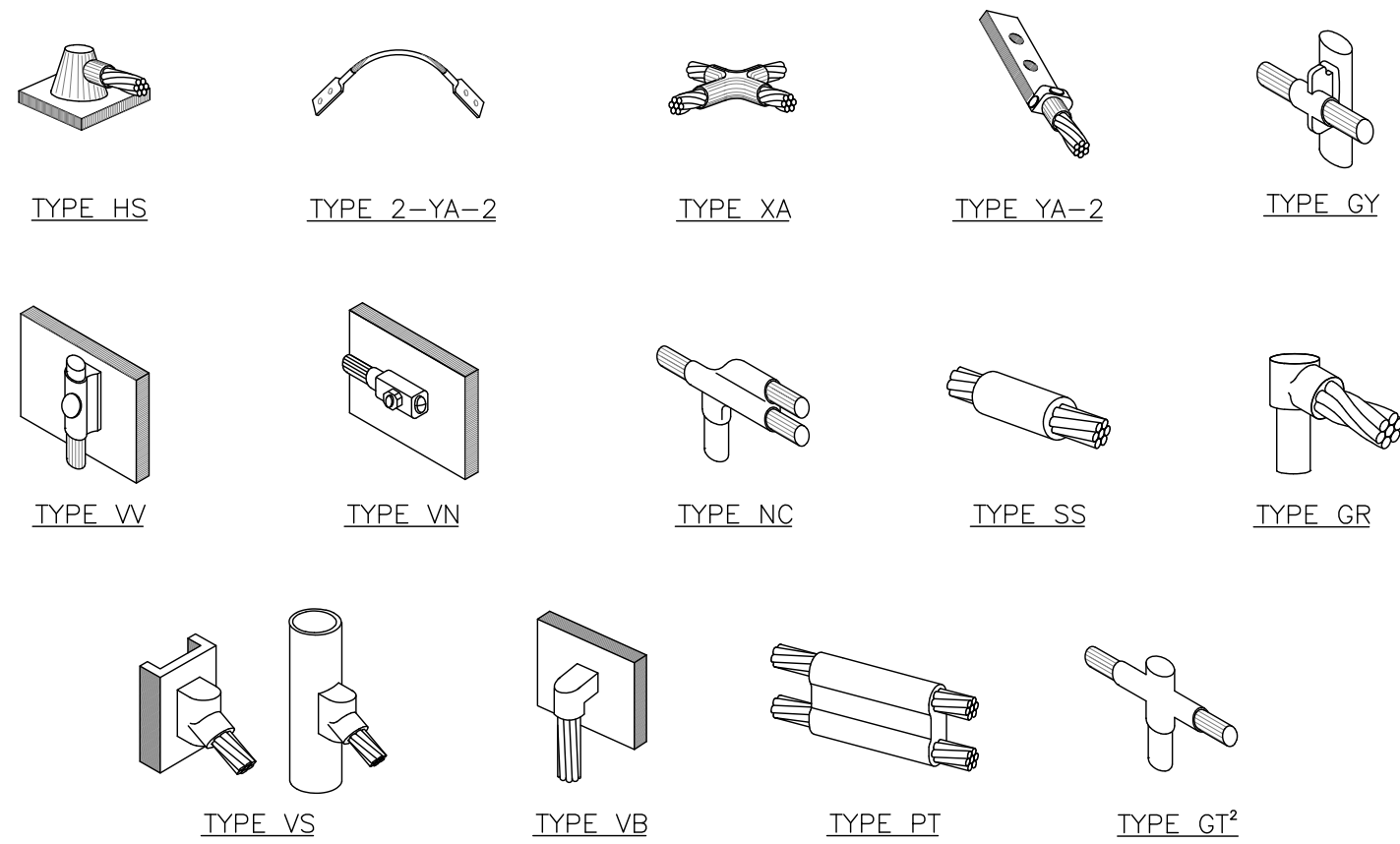
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SHEET NUMBER:

G-2

REVISION:

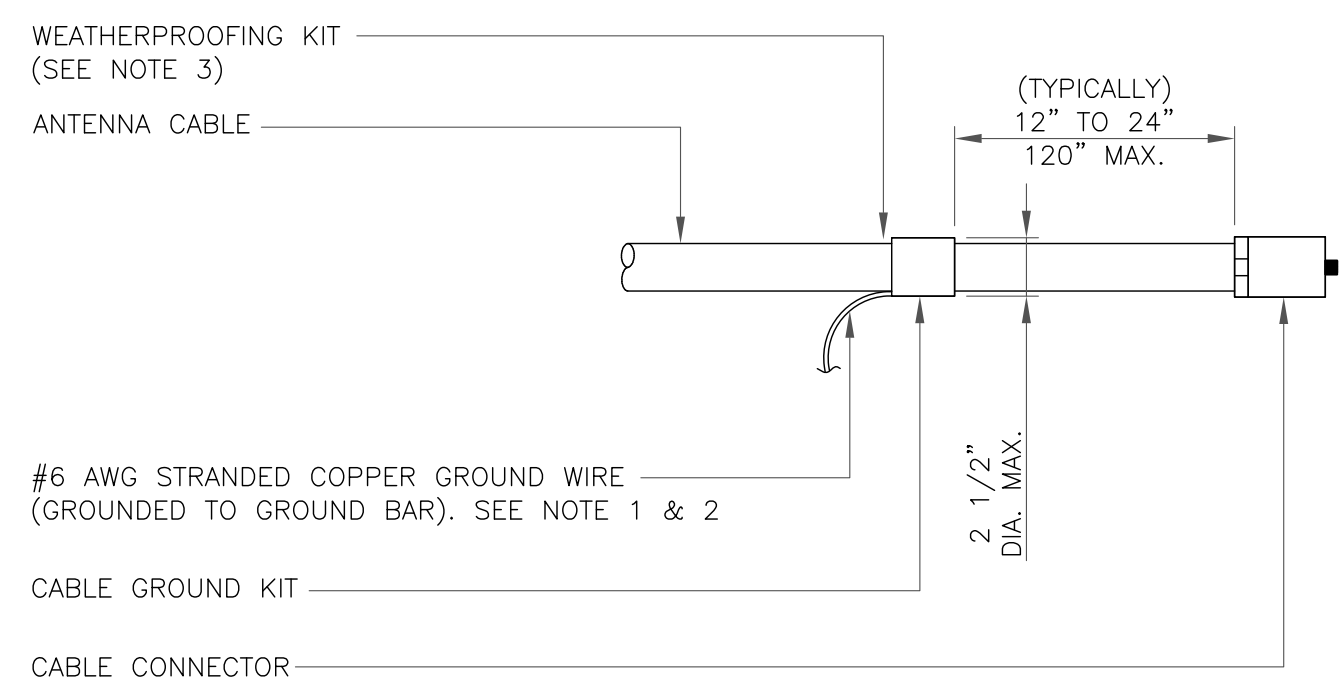
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NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

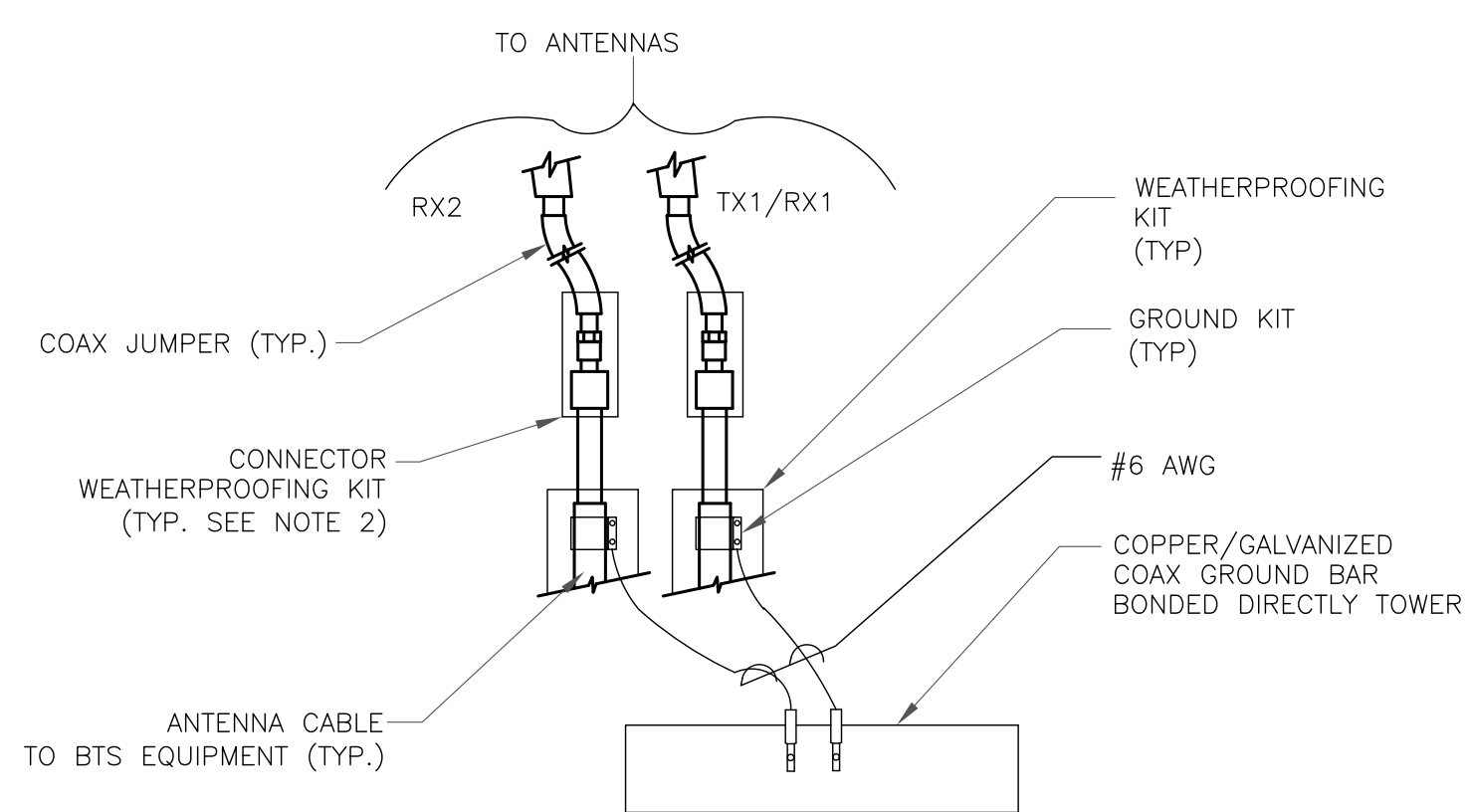
1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

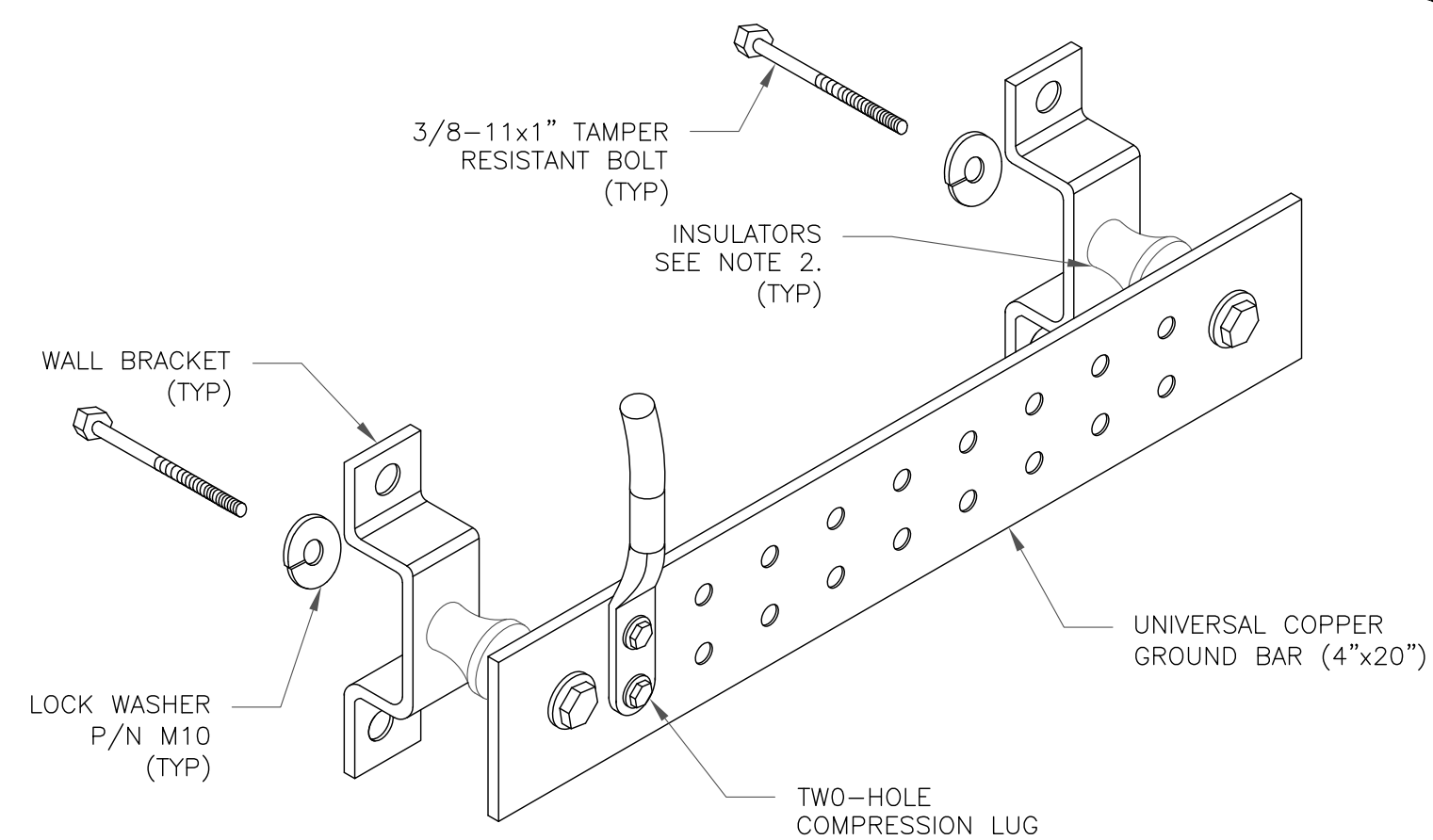
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

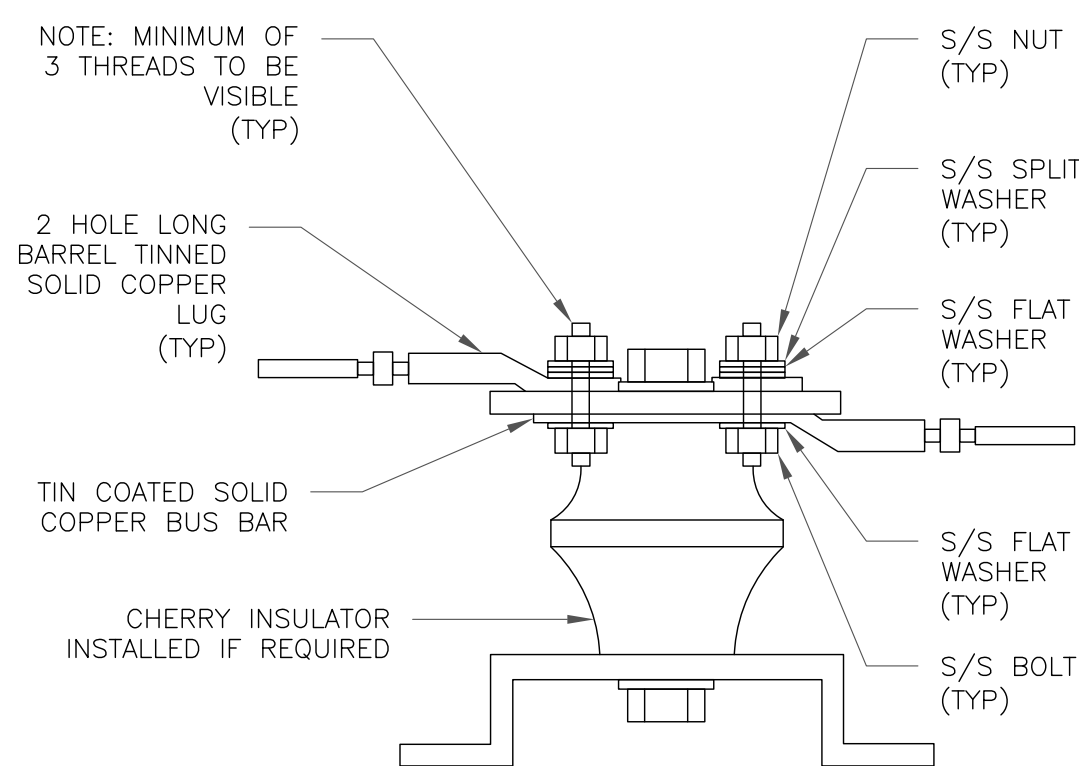
4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



NOTES:

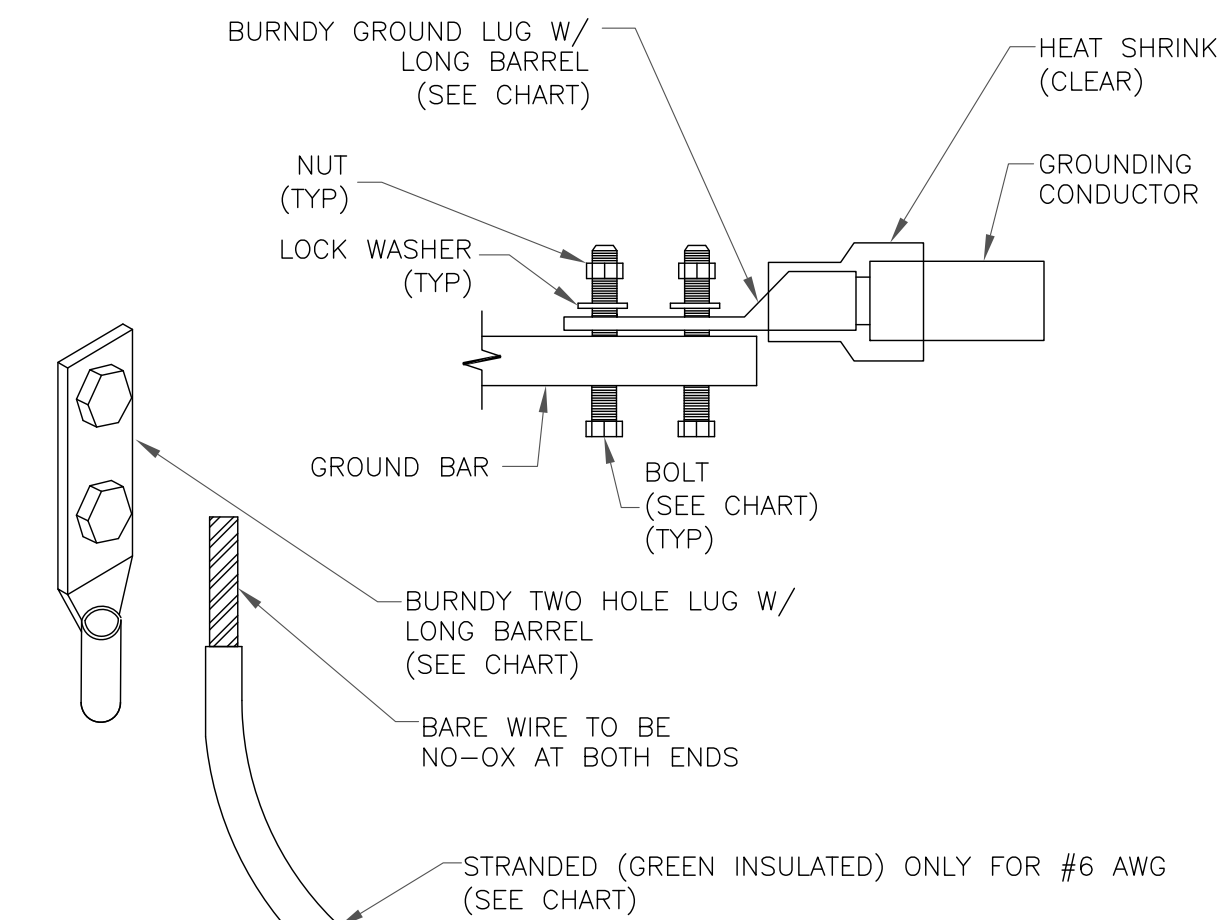
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

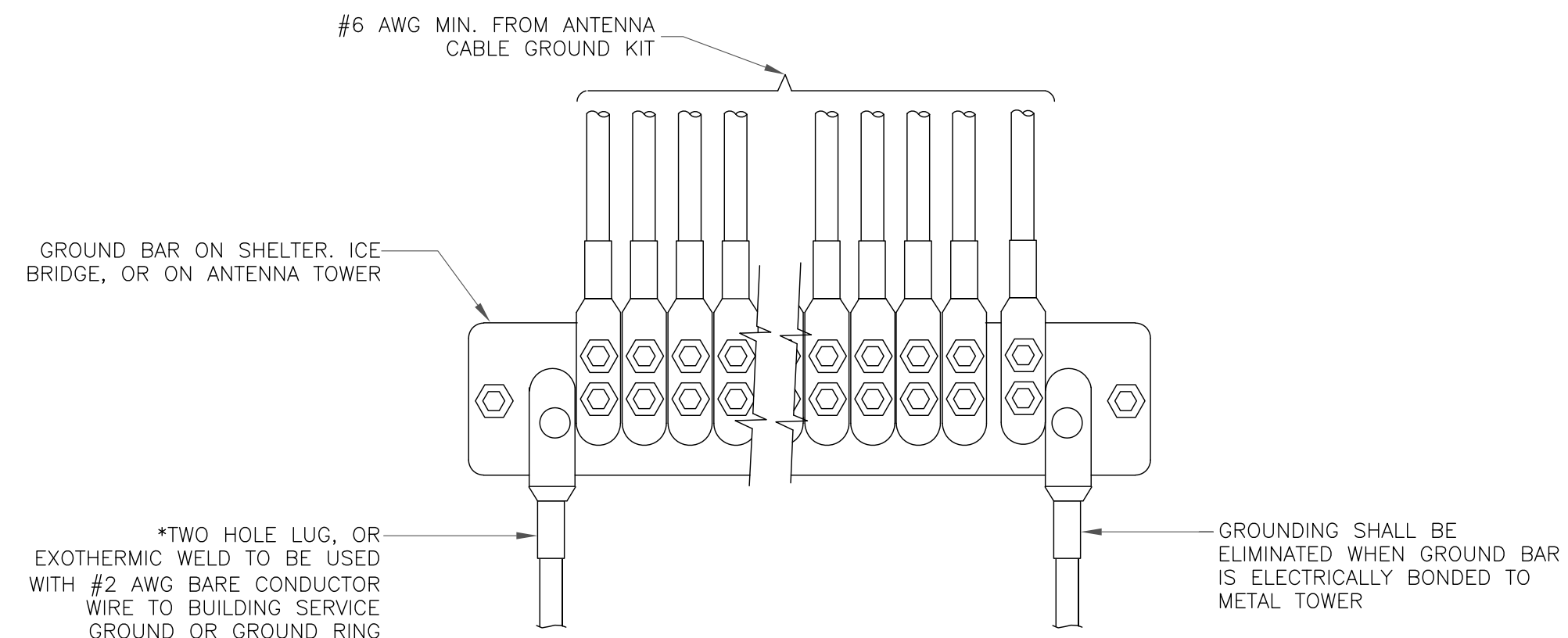
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



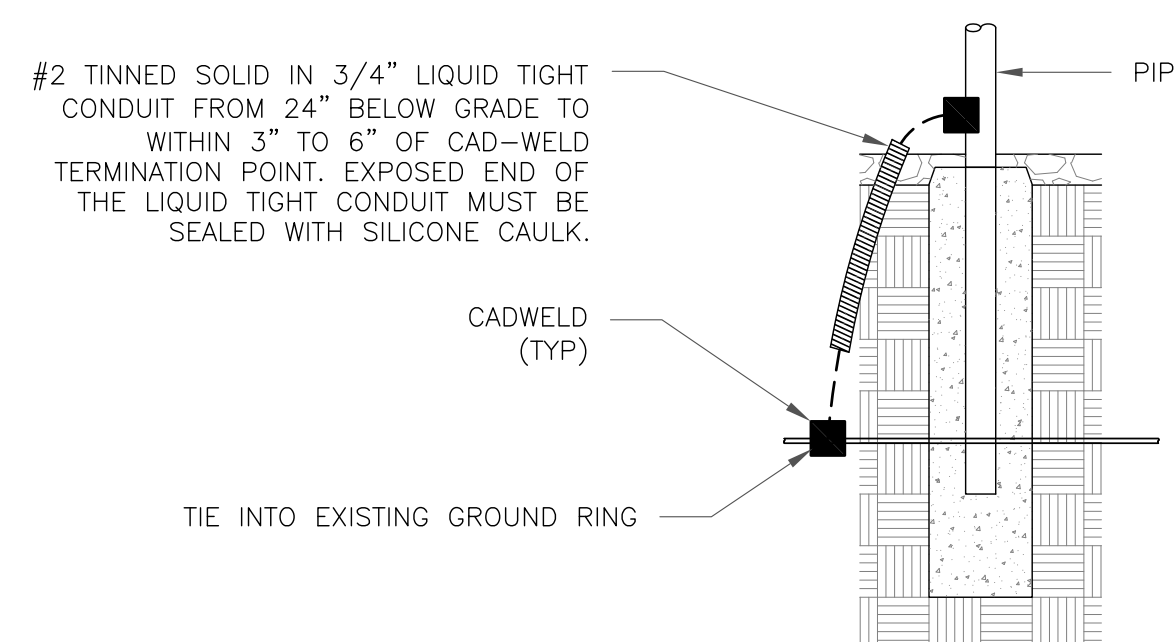
NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

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

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE SITE NUMBER:
CT11314C

BU #: **826747**
PLAINFIELD/I-395

1197 NORWICH ROAD
PLAINFIELD, CT 06234

EXISTING
149'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	6/2/22	TDG	PRELIMINARY REVIEW	KT
0	6/21/22	TDG	CONSTRUCTION	KT



MTS ENGINEERING P.L.L.C.
BER:2386985
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SHEET NUMBER:

G-3

REVISION:

0

T-Mobile



1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057



1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1-855-669-5421



DRAWING SCALES ARE INTENDED FOR 24"x36" SIZE
PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES
ARE DEEMED "NOT TO SCALE".

SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	05/17/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
PLAINFIELD/I-395

SITE NUMBER:
CT11314C

SITE ADDRESS:
1197 NORWICH ROAD,
PLAINFIELD, CT 06234

SHEET DESCRIPTION

TITLE SHEET

SHEET No.

T-1

UPGRADE: MOUNT REINFORCEMENT

SITE NAME:
PLAINFIELD/I-395

SITE NUMBER:
CT11314C

CROWN CASTLE BU#:
826747

SITE ADDRESS:
1197 NORWICH ROAD,
PLAINFIELD, CT 06234

PROJECT INFORMATION

SCOPE OF WORK:	REINFORCE AS FOLLOWS: <ul style="list-style-type: none"> REPLACE THE CORNER PIPES WITH 2.375" O.D., SCH. 40, 96" LONG PIPES (2 PER SECTOR). USE SITE PRO 1, SCX7-U CROSSOVER PLATES TO CONNECT THE NEW PIPES TO THE BOTTOM FACE HORIZONTAL (2 PER SECTOR). INSTALL NEW SITE PRO 1, HRK14-3HD HANDRAIL KIT AT APPROXIMATELY 12" BELOW THE BOTTOM FACE HORIZONTAL. INSTALL NEW SITE PRO 1, PRK-SFS STABILIZER KIT CONNECTED AT APPROXIMATELY 40" BELOW THE NEW FACE HORIZONTAL.
JURISDICTION:	WINDHAM COUNTY
SITE NAME:	PLAINFIELD/I-395
SITE ADDRESS:	1197 NORWICH ROAD, PLAINFIELD, CT 06234
LATITUDE:	41° 38' 46.77"
LONGITUDE:	-71° 56' 28.70"
TOWER TYPE:	MONOPOLE
OVERALL TOWER HEIGHT:	149.1'
ELEVATION OF WORK ON TOWER:	148'

SHEET INDEX

SHEET #	DESCRIPTION	REVISION #
T-1	TITLE SHEET	0
S-1	MOUNT REINFORCEMENT	0
S-2	MOUNT REINFORCEMENT DETAILS	0

APPROVALS

_____ T-MOBILE CONSTRUCTION MANAGER	_____ T-MOBILE RF ENGINEER
_____ LAND USE PLANNER	_____ NETWORK OPERATION
_____ PROPERTY OWNER	_____ CONTRACTOR

DRIVING DIRECTION

FROM THEODORE FRANCIS GREEN MEMORIAL STATE AIRPORT:
HEAD SOUTHWEST TOWARD WARWICK INDUSTRIAL DR (0.3 MI). TURN RIGHT ONTO WARWICK INDUSTRIAL DR (0.9 MI). TURN RIGHT ONTO MAIN AVE (1.6 MI). CONTINUE ONTO EAST AVE (0.4 MI). USE THE RIGHT LANE TO MERGE WITH I-95 S VIA THE RAMP TO NEWYORK (4.0 MI). KEEP RIGHT AT THE Y JUNCTION TO STAY ON I-95 S (10.8 MI). TAKE EXIT 5A TO MERGE WITH RI-102 S TOWARD EXETER (1.2 MI). TURN RIGHT ONTO RI-102 S/RI-3 S (1.3 MI). TURN RIGHT ONTO RI-165 W (7.1 MI). CONTINUE ONTO CT-165 W (3.8 MI). CONTINUE ONTO CT-138 W (2.2 MI). TURN RIGHT ONTO CT-201 N (2.0 MI). TURN RIGHT ONTO ROODE RD (2.6 MI). TURN RIGHT ONTO BISHOP CROSSING RD (1.0 MI). TURN LEFT ONTO CT-12 S (0.4 MI). TURN RIGHT (371 FT).

VICINITY MAP



GENERAL NOTES

PRIOR TO ACCESSING/ ENTERING THE SITE, YOU MUST CONTACT THE CROWN NOC AT 800-788-7011 AND CROWN CM CHAD STEINHOFF- 214-287-3756, CHAD.STEINHOFF@CROWNCastle.COM

THE HEIGHT OF THE TOWER WILL NOT BE INCREASED, NOR AN EXPANSION OF THE GROUND/ LEASE AREA WHEN AND WHERE APPLICABLE

BUILDING CODES

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

- 2015 INTERNATIONAL BUILDING CODE
- UNIFORM BUILDING CODE
- CITY/COUNTY ORDINANCES
- TIA-222-H

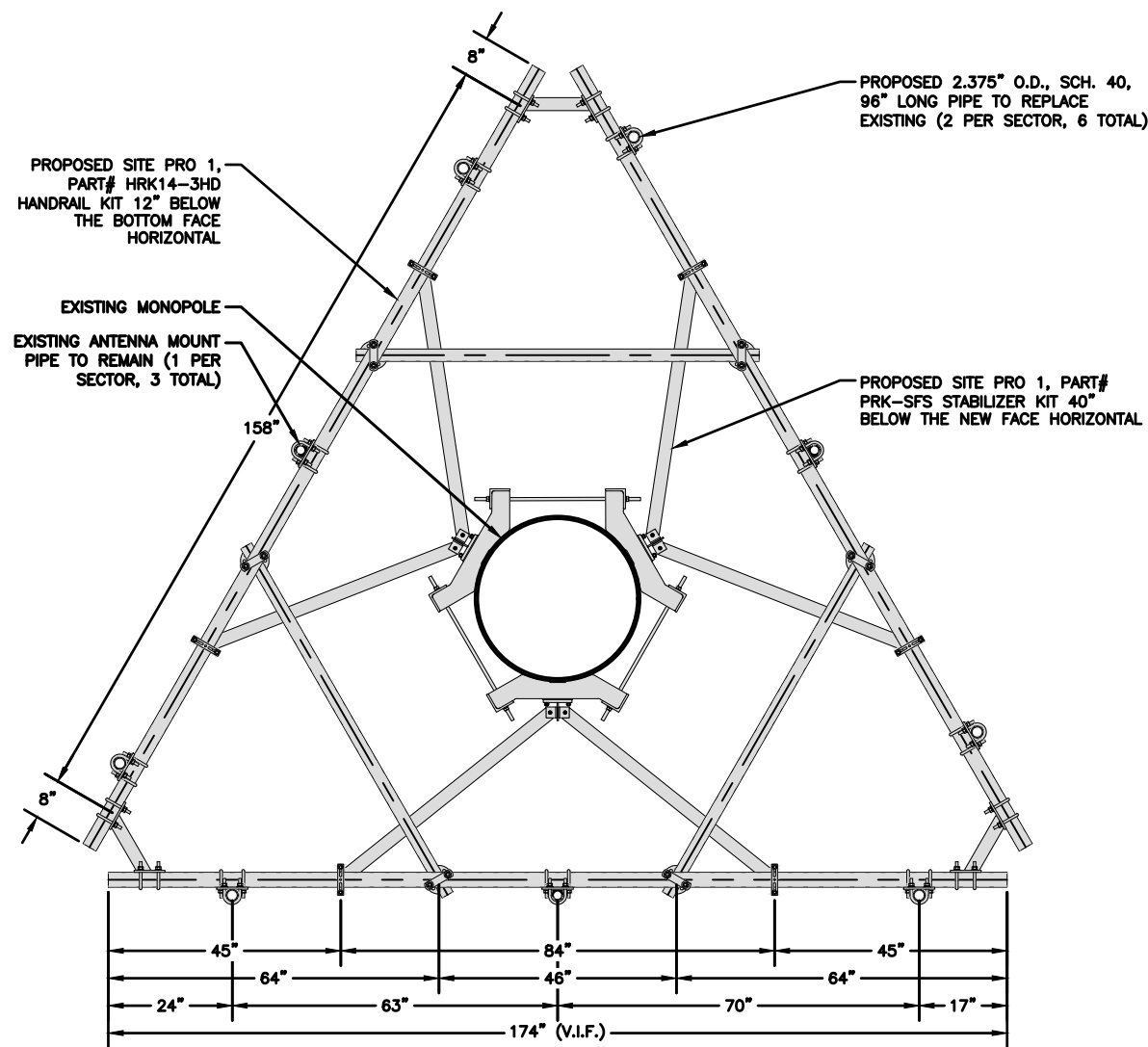


IF YOU DIG IN ANY STATE DIAL 811 FOR THE LOCAL "ONE CALL CENTER" IT'S THE LAW

THE UTILITIES SHOWN HEREIN ARE FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL THE UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO THE EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

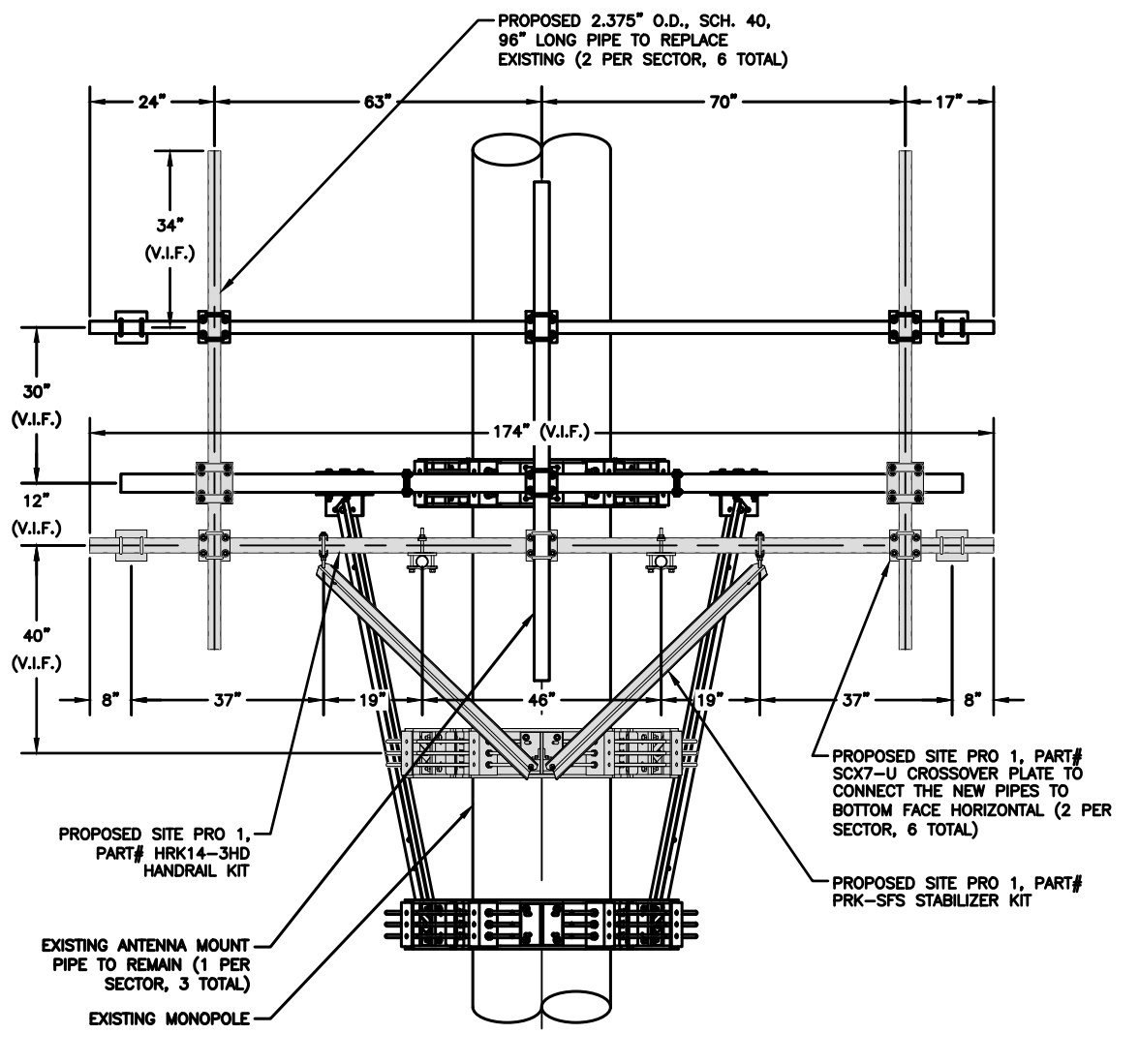
INSTALLATION NOTES:

- REPLACE THE CORNER PIPES WITH 2.375" O.D., SCH. 40, 96" LONG PIPES (2 PER SECTOR).
- USE SITE PRO 1, SCX7-U CROSSOVER PLATES TO CONNECT THE NEW PIPES TO THE BOTTOM FACE HORIZONTAL (2 PER SECTOR).
- INSTALL NEW SITE PRO 1, HRK14-3HD HANDRAIL KIT AT APPROXIMATELY 12" BELOW THE BOTTOM FACE HORIZONTAL.
- INSTALL NEW SITE PRO 1, PRK-SFS STABILIZER KIT CONNECTED AT APPROXIMATELY 40" BELOW THE NEW FACE HORIZONTAL.



EQUIPMENT NOT SHOWN FOR CLARITY.

1 PROPOSED BOTTOM PLAN VIEW (ALL SECTORS)
 S-1 SCALE: 3/4" = 1'-0" 0 0'-8" 1'-4" 2'-8" 4'-0"



EQUIPMENT NOT SHOWN FOR CLARITY.

2 PROPOSED ELEVATION VIEW (ALL SECTORS)
 S-1 SCALE: 3/4" = 1'-0" 0 0'-8" 1'-4" 2'-8" 4'-0"

BILL OF MATERIALS		
QTY.	KIT NO./PART NO.	DESCRIPTION
1 PER SECTOR, 3 TOTAL	-	2.375" O.D., SCH. 40, 96" LONG PIPE
2 PER SECTOR, 6 TOTAL	SCX7-U	CROSSOVER PLATE KIT
1 TOTAL	HRK14-3HD	HANDRAIL KIT
1 TOTAL	PRK-SFS	STABILIZER KIT

- GENERAL NOTES:**
1. ALL STEEL ANGLE TO BE ASTM A36 (GR 36) OR BETTER.
 2. ALL STEEL PLATE TO BE ASTM A36 (GR 36) OR BETTER.
 3. ALL PIPES TO BE ASTM A53 (GR 35) OR BETTER.
 4. HOT DIP GALVANIZE LEVEL 3 PARTS.
 5. APPLY TWO COATS OF GALVICON TO ALL FIELD CUT OR DRILL EDGES.
 6. ALL BOLTS TO MAINTAIN 1" EDGE DISTANCE.

1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057

1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1-855-669-5421

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SUBMITTALS			
REV	DATE	DESCRIPTION	BY
0	05/17/22	FOR REVIEW	RC

SITE INFORMATION

SITE NAME:
PLAINFIELD/I-395

SITE NUMBER:
CT11314C

SITE ADDRESS:
1197 NORWICH ROAD,
PLAINFIELD, CT 06234

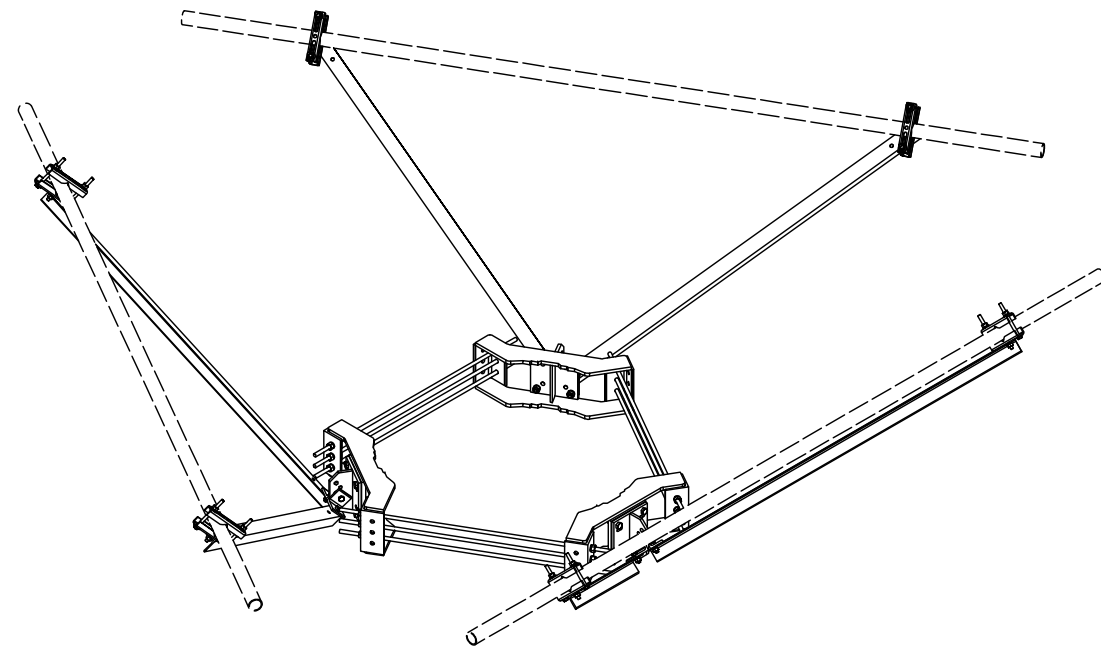
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MOUNT REINFORCEMENT

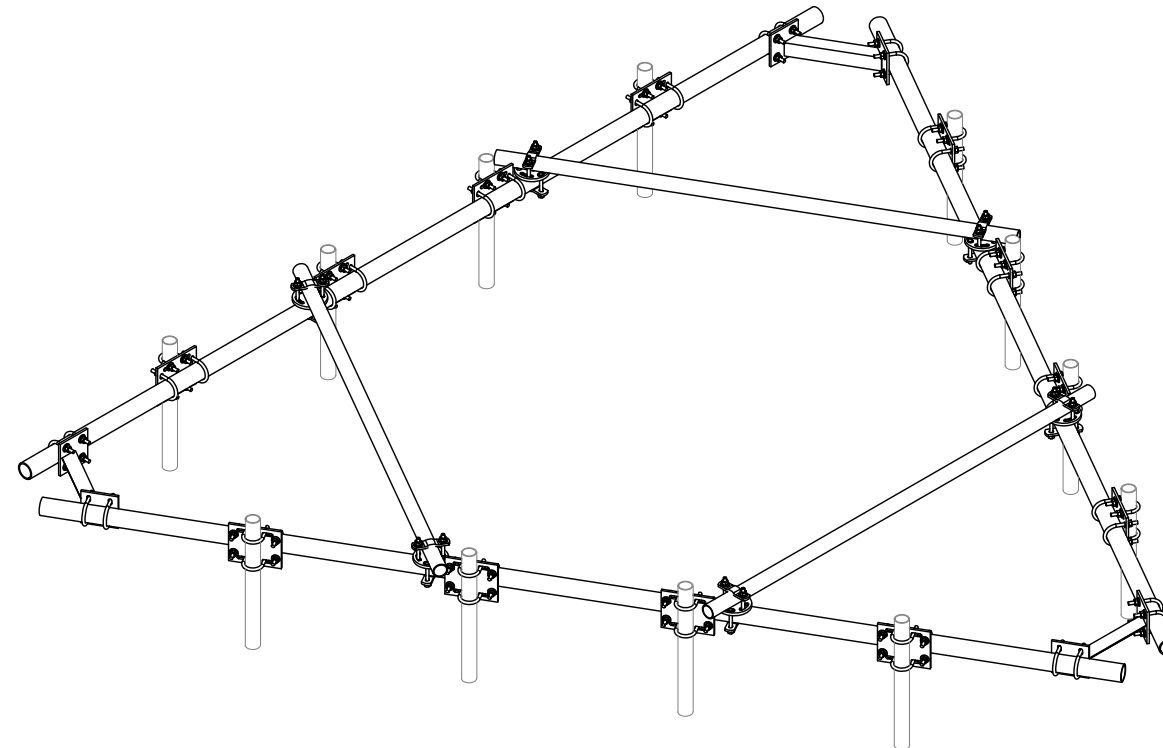
SHEET No.

S-1

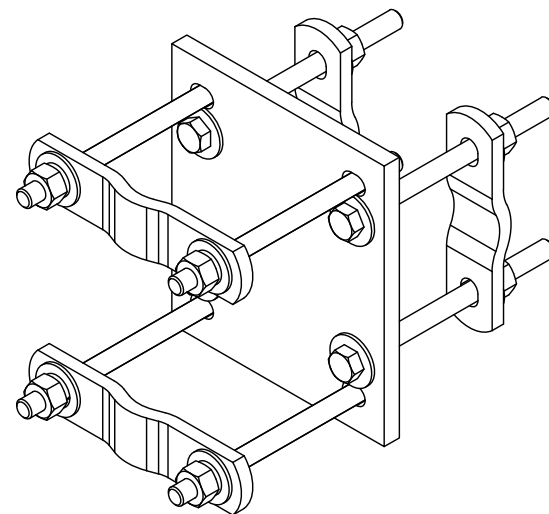
MOUNT KIT	
PART NUMBER	DESCRIPTION
PRK-SFS	REINFORCEMENT ASSEMBLY KIT



MOUNT KIT	
PART NUMBER	DESCRIPTION
HRK14-3HD	HANDRAIL KIT



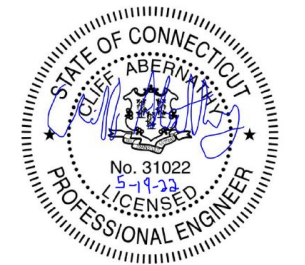
MOUNT KIT	
PART NUMBER	DESCRIPTION
SCX7-U	CROSSOVER PLATE KIT



1220 AUGUSTA DRIVE SUIT 500
HOUSTON, TX 77057



1825 W. WALNUT HILL LANE, SUITE 120
IRVING, TEXAS 75038
1-855-669-5421



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SITE NAME:
PLAINFIELD/I-395

SITE NUMBER:
CT11314C

SITE ADDRESS:
1197 NORWICH ROAD,
PLAINFIELD, CT 06234

SHEET DESCRIPTION

MOUNT REINFORCEMENT
DETAILS

SHEET No.

S-2