



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

July 5, 2023

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

RE: **Notice of Exempt Modification -T-Mobile: CTFF013A**
Crown Site ID #857525
24 Dinglebrook Lane, Newtown, CT 06470
Latitude: 41° 28' 1.01" / Longitude: -73° 20' 2.05"

Dear Ms. Bachman:

Please accept this letter by Crown Castle USA Inc. on behalf of T-Mobile Northeast LLC ("T-Mobile") for notification of construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2) and § 16-50aa. The property is owned by Genesis TT LLC. The tower is operated by CCATT LLC ("Crown Castle"). A copy of this letter is being sent to Daniel C. Rosenthal, First Selectman, Town of Newtown and Rob Sibley, Director of Land Use, Town of Newtown as well as Genesis TT LLC, property owner. The facility was approved by the Connecticut Siting Council, Docket No. 376 on August 27, 2009.

T-Mobile proposes to install four (4) antennas and ancillary equipment at the 129' mount level on the existing 150-foot monopole tower located at 24 Dinglebrook Lane, Newtown, CT. 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.

Planned Modification:

Tower:

Installed New:

- (4) Ericsson-AIR 6419 B41 Antennas
- (4) Hybrid Cables (6x24)
- (4) Ericsson-4460 B2/B25 B66 RRUs

Remove:

- (4) Hybrid Cables (6x12)
- (4) Ericsson-AIR 32 B2A/B66AA Antennas

Melanie A. Bachman

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Ground:

Installed New:

- (1) B160 Battery Cabinet
- (1) 6161 Cabinet

The planned modification to the facility falls within the activities explicitly provided for in R.C.S.A §16-50j 72(b)(2), specifically:

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, Suite 250
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Melanie A. Bachman

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Attachments

cc:

Daniel C. Rosenthal, First Selectman
Town of Newtown
3 Primrose Street
Newtown, CT 06470
(203) 270-4201

Rob Sibley, Director of Land Use
Town of Newtown
3 Primrose Street
Newtown, CT 06470
(203) 270-4351

Genesis TT LLC Property Owner
C/O Lease Administration
1001 3rd Ave West, Suite 420
Bradenton, FL 34205
(941) 757-5010

<p>DOCKET NO. 376 - New Cingular Wireless PCS, LLC (AT&T) } application for a Certificate of Environmental Compatibility and } Public Need for the construction, maintenance and operation of a } telecommunications facility located at 24 Dinglebrook Lane, } Newtown, Connecticut. }</p>	<p>Connecticut Siting Council August 27, 2009</p>
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Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to New Cingular Wireless PCS, LLC (AT&T), hereinafter referred to as the Certificate Holder, for a telecommunications facility located at 24 Dinglebrook Lane, Newtown, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of the Certificate Holder and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level. The height at the top of the Certificate Holder’s antennas shall not exceed 152-foot 6-inches feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Newtown for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road including its possible relocation, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities’ antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Newtown public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Not later than 45 days after the installation of the monopole, at least one carrier's antennas shall be installed on the tower.
9. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Newtown. Any proposed modifications to this Decision and Order shall likewise be so served.
10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Newtown Bee.

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

The parties and intervenors to this proceeding are:

Applicant

New Cingular Wireless PCS, LLC (AT&T)

Intervenor

Cellco Partnership d/b/a Verizon Wireless

Its Representative

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

AT&T
500 Enterprise Drive
Rocky Hill, CT 06067
Attention: Michele Briggs

Its Representative

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



Property Information

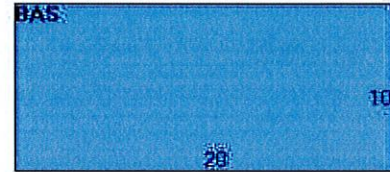
Property Location	24 DINGLEBROOK LANE
Owner	GENESIS TT LLC
Co-Owner	C/O TARPON TOWERS II, LLC
Mailing Address	8916 77TH TERRACE EAST #103 LAKEWOOD FL 34202
Land Use	4310 CELL SITE
Land Class	I
Zoning Code	R-2
Census Tract	

Neighborhood	0
Acreage	0
Utilities	Well,Septic
Lot Setting/Desc	NA NA
Book / Page	1120/0239
Additional Info	

Photo



Sketch



Primary Construction Details

Year Built	0
Building Desc.	CELL SITE
Building Style	NA
Building Grade	
Stories	0
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	NA

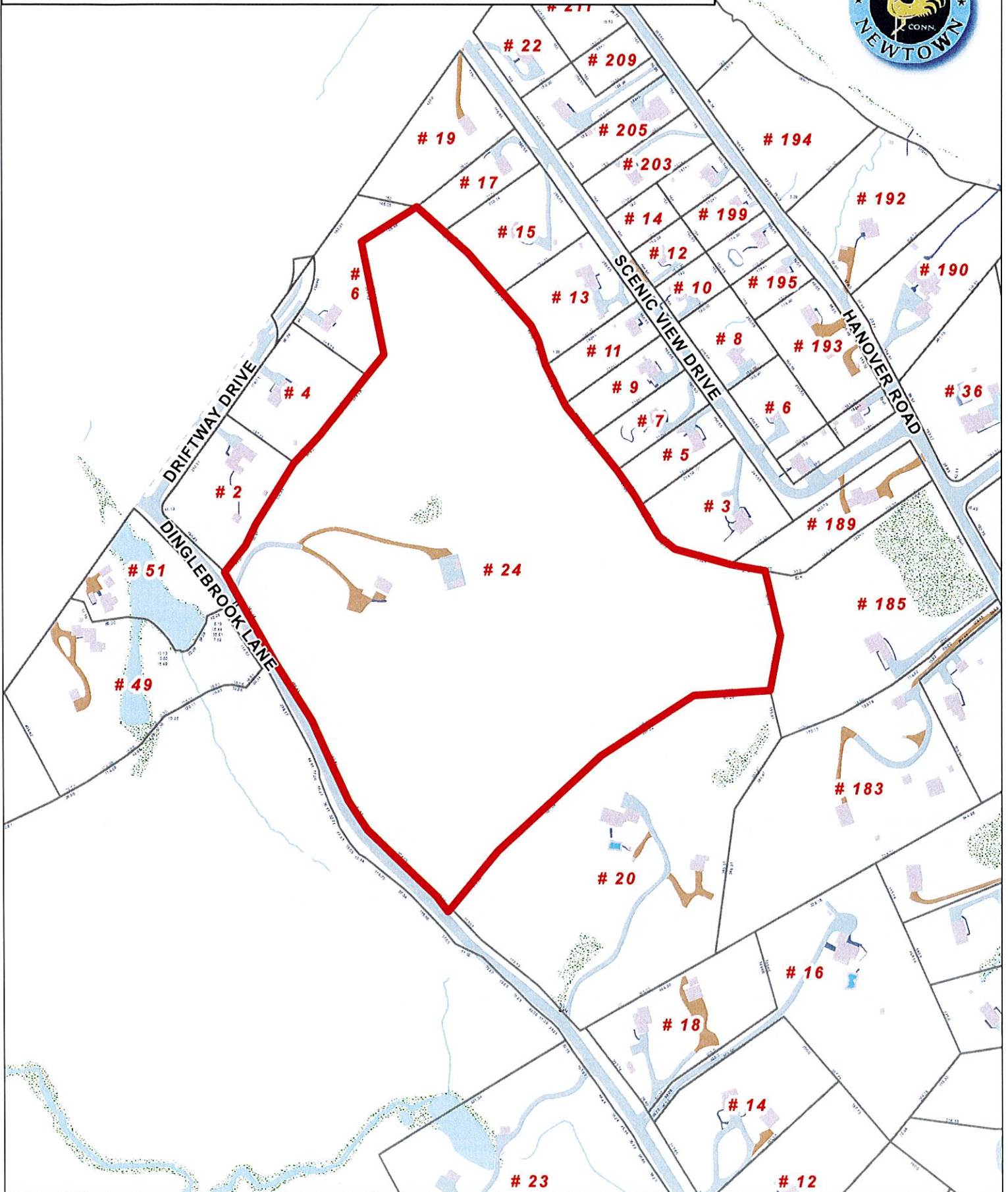
Heating Fuel	
Heating Type	
AC %	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	0

(*Industrial / Commercial Details)	
Building Use	Vacant
Building Condition	
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

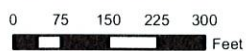
Town of Newtown, Connecticut - Assessment Parcel Map

Parcel: 22-3-4

Address: 24 DINGLEBROOK LANE



Approximate Scale:



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

Map Produced Nov 2020

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, July 6, 2023 10:15 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 772643176406: Your package has been delivered

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



Hi. Your package was
delivered Thu, 07/06/2023 at
10:08am.



Delivered to 3 PRIMROSE ST, NEWTOWN, CT 06470
Received by W.ANNA

[OBTAIN PROOF OF DELIVERY](#)

How was your delivery ?



TRACKING NUMBER	772643176406
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Newtown First Selectman Daniel Rosenthal 3 Primrose Street NEWTOWN, CT, US, 06470
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 7/05/2023 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	NEWTOWN, CT, US, 06470
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, July 6, 2023 10:17 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 772643193383: Your package has been delivered

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Hi. Your package was
delivered Thu, 07/06/2023 at
10:10am.



Delivered to 3 PRIMROSE ST, NEWTOWN, CT 06470
Received by F.DAWN

[OBTAIN PROOF OF DELIVERY](#)

How was your delivery ?



TRACKING NUMBER	772643193383
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Newtown Rob Sibley, Director of Land Use 3 Primrose Street NEWTOWN, CT, US, 06470
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 7/05/2023 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	NEWTOWN, CT, US, 06470
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, July 10, 2023 10:17 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 772643222041: 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 Mon, 07/10/2023 at
10:10am.



Delivered to 8916 77TH TER E 103, BRADENTON, FL 34205
Received by B.BOWMAN

[OBTAIN PROOF OF DELIVERY](#)

How was your delivery ?



TRACKING NUMBER	772643222041
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Genesis TT LLC c/o Lease Administration 1001 3rd Avenue West Suite 420 BRADENTON, FL, US, 34205
DOOR TAG NUMBER	DT106021008342
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 7/05/2023 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BRADENTON, FL, US, 34205
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Date: **May 15, 2023**



Telamon Tower Engineering, PLLC
319 Chapanoke Road, Suite 118
Raleigh, NC 27603
(405) 348-5460
Engineering@ttepllc.com

Subject: Mount Analysis Report

Carrier Designation: T-Mobile Equipment Change-Out
Carrier Site Number: CTFF013A
Carrier Site Name: CTFF013A

Crown Castle Designation: BU Number: 857525
Site Name: NEWTOWN DINGLEBROOK
JDE Job Number: 745974
Order Number: 649515 Rev. 0

Engineering Firm Designation: Telamon Tower Engineering, PLLC Project #:42284-CTFF013A-02-MA

Site Data: 24 DINGLEBROOK LANE, NEWTOWN, CT 06470, Fairfield County
Latitude: 41° 28' 1.01" Longitude: -73° 20' 2.05"

Structure Information: Tower Height & Type: 149 ft Monopole
Mount Elevation: 131 ft
Mount Width & Type: 12.5 ft Platform w/ Support Rails

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

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

Platform w/ Support Rails

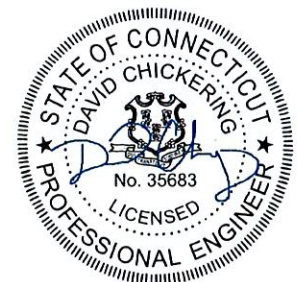
Sufficient

This analysis utilizes an ultimate 3-second gust wind speed of 115 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Vignesh Hari

Respectfully Submitted by:

Digitally signed
by David W
Chickering
Date: 2023.05.15
11:49:26 -04'00'



David Chickering
Telamon Tower Engineering PLLC
PE # 35683 Exp. 01/31/2024

1) INTRODUCTION

The proposed equipment is to be mounted to the existing 4-sector 12.5 ft Platform w/ Support Rails.

2) ANALYSIS CRITERIA

Building Code:	2021 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	115 mph
Exposure Category:	C
Topographic Factor, K_{zt}:	1.00
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.21
Seismic S_1:	0.06
Live Loading Wind Speed:	30 mph
Man Live Load at Mount Pipes:	500 lb
Man Live Load at Mid/End-Points:	250 lb

Table 1 – Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
131.0	131.0	4	Ericsson	RADIO 4449 B12/B71	12.5 ft Platform w/ Support Rails
	129.0	4	RFS Celwave	APXVAARR24_43-U-NA20	
		4	Ericsson	RADIO 4460 B2/B25_B66_TMO	
		4	Ericsson	AIR 6419 B41_TMO_CCIV2	
	128.0	1	Ericsson	ANT3 A 0.9 HPX	
		2	Ericsson	MINI-LINK 6365	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
SITE PHOTOS	DATED OCTOBER 06, 2022	-	CCI SITES
MOUNT DRAWINGS	SITE PRO 1 DWG# F4P-HRK12		SITE PRO 1
LOADING APPLICATION	ORDER #649515 Rev. 0 MAY 08, 2023	-	CCI SITES
STRUCTURAL ANALYSIS	CROWN CASTLE PROJECT# 2150233, DATED AUGUST 18, 2022	10533751	CCI SITES
MOUNT ANALYSIS	TELAMON TOWER ENGINEERING, PLLC, PROJECT #42284-CTFF013A-01-MA DATED APRIL 25, 2023	10925379	CCI SITES
RFDS	T-MOBILE, SITE ID: CTFF013A, VER 2.0, DATED APRIL 11, 2023	-	CCI SITES

3.1) Analysis Method

RISA-3D (Version 20.0.4), 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 Telamon Tower Engineering, PLLC 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 (Rev. E).

3.2) Assumptions

- 1) The analysis of the existing tower or the effect of the mount attachment to the tower is not within the current scope of work.
- 2) The antenna mounting system was properly fabricated, installed, and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 3) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1.
- 4) 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. All U-Bolt connections have been properly tightened. This analysis will be required to be revised if the existing conditions in the field allowance was made for any damaged, missing, or rusted members.
- 5) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	Q325/ASTM A36 (GR 36)
HSS (Rectangular)	Q235
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. Telamon Tower Engineering, PLLC 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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1, 3	Stand-Off Horizontals	G_SA1	131	31%	Pass
1, 3	Support Rail	A_SR1	131	19%	Pass
1, 3	Bracing Members	M354	131	25%	Pass
1, 3	Mount Pipes	A_MP3_S	131	35%	Pass
1, 3	Grating Pipe	M519_1	131	10%	Pass
1, 3	Corner Plates	M193	131	46%	Pass
2-3	Connections	-	131	17%	Pass

Structure Rating (max from all components) =	46%
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Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) See additional documentation in "Appendix D – Additional Calculations" for detailed mount connection calculations.
- 3) All sectors are typical.

4.1) Recommendations

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

Date: **May 18, 2023**



Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **T-Mobile Co-Locate**
Site Number: CTFF013A
Site Name: CTFF013A

Crown Castle Designation: **BU Number:** 857525
Site Name: NEWTOWN DINGLEBROOK
JDE Job Number: 745974
Work Order Number: 2229563
Order Number: 649515 Rev. 0

Engineering Firm Designation: **Crown Castle Project Number:** 2229563

Site Data: **24 DINGLEBROOK LANE, NEWTOWN, FAIRFIELD County, CT**
Latitude 41° 28' 1.01", Longitude -73° 20' 2.05"
149 Foot - Monopole Tower

Crown Castle is 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 – 96.9%**

This analysis has been performed in accordance with the 2022 Connecticut Building Code based upon an ultimate 3-second gust wind speed of 115 mph. Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Jared Koski, EI

Respectfully submitted by:

Terry P. Styran, P.E.
Senior Project Engineer



Terry P Styran
2023.05.19
12:31:17 -04'00'

1) INTRODUCTION

This tower is a 149 ft Monopole tower designed by Sabre Communications. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 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)
131.0	131.0	4	ericsson	RADIO 4449 B12/B71	2 4	3/8 1-5/8
		1	mounts	Site Pro1_F4P-12[W]_Platform		
		1	mounts	Site Pro1_F4P-HRK12_Handrail Kit		
	129.0	4	ericsson	AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe		
		4	ericsson	RADIO 4460 B2/B25 B66_TMO		
		4	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	128.0	1	ericsson	ANT3 A 0.9 HPX		
		2	ericsson	MINI-LINK 6365		

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)
153.0	164.0	1	db spectra	DS1F06F36U-D	1	7/8
	153.0	1	tower mounts	8' x 2" Mount Pipe		
		1	tower mounts	Side Arm Mount [SO 102-1]		
148.0	150.0	3	ericsson	RRUS-11	1 2 12	3/8 3/4 1-5/8
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		6	powerwave technologies	P90-14-XLH-RR w/ Mount Pipe		
		6	powerwave technologies	TT19-08BP111-001		
		1	raycap	DC6-48-60-18-8F		
	148.0	1	tower mounts	Platform Mount [LP 602-1]		
140.0	142.0	3	alcatel lucent	B13 RRH 4X30	8	1-5/8
		3	alcatel lucent	B66A RRH4X45		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
	140.0	3	nokia	AHCA		
		6	andrew	DB846F65ZAXY w/ Mount Pipe		
		6	commscope	JAHH-65B-R3B w/ Mount Pipe		
		1	rfs celwave	DB-C1-12C-24AB-0Z		
		1	tower mounts	T-Arm Mount [TA 602-3]		
119.0	119.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		
90.0	90.0	1	dbspectra	DS1F03P36D-D	1	7/8
		1	tower mounts	8' x 2" Mount Pipe		
		1	tower mounts	Side Arm Mount [SO 102-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4308150	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4895572	CCISITES
4-TOWER MANUFACTURER DRAWINGS	4570932	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4860017	CCISITES
4-POST-MODIFICATION INSPECTION	4871327	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5461906	CCISITES
4-POST-MODIFICATION INSPECTION	5652840	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	7839699	CCISITES
4-POST-MODIFICATION INSPECTION	8504433	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.4.0), 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.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

- 1) 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. Crown Castle 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	% Capacity	Pass / Fail
L1	149 - 144	Pole	TP16.865x16x0.1875	Pole	10.7%	Pass
L2	144 - 139	Pole	TP17.73x16.865x0.1875	Pole	19.8%	Pass
L3	139 - 134	Pole	TP18.595x17.73x0.1875	Pole	32.0%	Pass
L4	134 - 129	Pole	TP19.459x18.595x0.1875	Pole	46.6%	Pass
L5	129 - 125	Pole	TP20.151x19.459x0.1875	Pole	60.8%	Pass
L6	125 - 124.75	Pole + Reinf.	TP20.195x20.151x0.35	Reinf. 15 Tension Rupture	59.2%	Pass
L7	124.75 - 119.75	Pole + Reinf.	TP21.059x20.195x0.3438	Reinf. 15 Tension Rupture	75.1%	Pass
L8	119.75 - 118.5	Pole + Reinf.	TP21.276x21.059x0.3438	Reinf. 15 Tension Rupture	79.5%	Pass
L9	118.5 - 118.25	Pole + Reinf.	TP21.319x21.276x0.625	Reinf. 9 Tension Rupture	46.6%	Pass
L10	118.25 - 117	Pole + Reinf.	TP21.535x21.319x0.625	Reinf. 9 Tension Rupture	49.3%	Pass
L11	117 - 116.75	Pole + Reinf.	TP21.578x21.535x0.625	Reinf. 9 Tension Rupture	49.9%	Pass
L12	116.75 - 111.75	Pole + Reinf.	TP22.443x21.578x0.6	Reinf. 9 Tension Rupture	60.2%	Pass
L13	111.75 - 106.75	Pole + Reinf.	TP23.308x22.443x0.575	Reinf. 9 Tension Rupture	69.7%	Pass
L14	106.75 - 98.5	Pole + Reinf.	TP24.735x23.308x0.5625	Reinf. 9 Tension Rupture	78.0%	Pass
L15	98.5 - 97	Pole + Reinf.	TP24.62x23.755x0.625	Reinf. 9 Tension Rupture	78.8%	Pass
L16	97 - 96.75	Pole + Reinf.	TP24.663x24.62x0.7625	Reinf. 9 Tension Rupture	65.3%	Pass
L17	96.75 - 93.98	Pole + Reinf.	TP25.142x24.663x0.75	Reinf. 9 Tension Rupture	68.5%	Pass
L18	93.98 - 93.73	Pole + Reinf.	TP25.186x25.142x0.75	Reinf. 9 Tension Rupture	68.8%	Pass
L19	93.73 - 91.5	Pole + Reinf.	TP25.572x25.186x0.75	Reinf. 9 Tension Rupture	71.2%	Pass
L20	91.5 - 91.38	Pole + Reinf.	TP25.592x25.572x0.6375	Reinf. 26 Tension Rupture	80.1%	Pass
L21	91.38 - 91.25	Pole + Reinf.	TP25.615x25.592x0.9	Reinf. 26 Tension Rupture	60.3%	Pass
L22	91.25 - 91.13	Pole + Reinf.	TP25.636x25.615x0.9	Reinf. 26 Tension Rupture	60.4%	Pass
L23	91.13 - 89	Pole + Reinf.	TP26.004x25.636x0.8875	Reinf. 26 Tension Rupture	62.4%	Pass
L24	89 - 88.75	Pole + Reinf.	TP26.047x26.004x0.75	Reinf. 26 Tension Rupture	73.4%	Pass
L25	88.75 - 83.75	Pole + Reinf.	TP26.913x26.047x0.725	Reinf. 26 Tension Rupture	78.6%	Pass
L26	83.75 - 80.08	Pole + Reinf.	TP27.548x26.913x0.7125	Reinf. 26 Tension Rupture	82.1%	Pass
L27	80.08 - 79.83	Pole + Reinf.	TP27.591x27.548x0.9	Reinf. 25 Tension Rupture	65.5%	Pass
L28	79.83 - 74.83	Pole + Reinf.	TP28.456x27.591x0.875	Reinf. 25 Tension Rupture	69.3%	Pass
L29	74.83 - 73.5	Pole + Reinf.	TP28.686x28.456x0.875	Reinf. 25 Tension Rupture	70.3%	Pass
L30	73.5 - 73.25	Pole + Reinf.	TP28.73x28.686x1.075	Reinf. 25 Tension Rupture	58.6%	Pass
L31	73.25 - 71	Pole + Reinf.	TP29.119x28.73x1.05	Reinf. 25 Tension Rupture	60.0%	Pass
L32	71 - 70.75	Pole + Reinf.	TP29.162x29.119x0.925	Reinf. 25 Tension Rupture	67.5%	Pass
L33	70.75 - 65.75	Pole + Reinf.	TP30.027x29.162x0.9	Reinf. 25 Tension Rupture	70.8%	Pass
L34	65.75 - 64.13	Pole + Reinf.	TP30.308x30.027x0.9	Reinf. 25 Tension Rupture	71.8%	Pass
L35	64.13 - 63.88	Pole + Reinf.	TP30.351x30.308x0.675	Reinf. 25 Tension Rupture	92.9%	Pass
L36	63.88 - 63	Pole + Reinf.	TP30.503x30.351x0.675	Reinf. 25 Tension Rupture	93.5%	Pass
L37	63 - 62.75	Pole + Reinf.	TP30.547x30.503x0.825	Reinf. 25 Tension Rupture	76.9%	Pass
L38	62.75 - 62.08	Pole + Reinf.	TP30.663x30.547x0.825	Reinf. 25 Tension Rupture	77.3%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L39	62.08 - 61.83	Pole + Reinf.	TP30.706x30.663x0.775	Reinf. 24 Tension Rupture	81.4%	Pass
L40	61.83 - 60.67	Pole + Reinf.	TP30.907x30.706x0.7625	Reinf. 24 Tension Rupture	82.1%	Pass
L41	60.67 - 60.42	Pole + Reinf.	TP30.95x30.907x0.85	Reinf. 24 Tension Rupture	79.4%	Pass
L42	60.42 - 59	Pole + Reinf.	TP31.196x30.95x0.85	Reinf. 24 Tension Rupture	80.2%	Pass
L43	59 - 58.75	Pole + Reinf.	TP31.239x31.196x0.8375	Reinf. 12 Tension Rupture	74.6%	Pass
L44	58.75 - 53.75	Pole + Reinf.	TP32.104x31.239x0.825	Reinf. 12 Tension Rupture	77.4%	Pass
L45	53.75 - 48.5	Pole + Reinf.	TP33.013x32.104x0.825	Reinf. 12 Tension Rupture	77.7%	Pass
L46	48.5 - 47.5	Pole + Reinf.	TP32.682x31.691x0.8625	Reinf. 6 Tension Rupture	74.0%	Pass
L47	47.5 - 46.88	Pole + Reinf.	TP32.789x32.682x0.8625	Reinf. 6 Tension Rupture	74.3%	Pass
L48	46.88 - 46.63	Pole + Reinf.	TP32.832x32.789x0.875	Reinf. 4 Tension Rupture	72.7%	Pass
L49	46.63 - 43.5	Pole + Reinf.	TP33.372x32.832x0.8625	Reinf. 4 Tension Rupture	74.0%	Pass
L50	43.5 - 43.25	Pole + Reinf.	TP33.415x33.372x1.0125	Reinf. 11 Tension Rupture	68.4%	Pass
L51	43.25 - 38.25	Pole + Reinf.	TP34.278x33.415x1	Reinf. 11 Tension Rupture	70.3%	Pass
L52	38.25 - 33.25	Pole + Reinf.	TP35.14x34.278x0.9875	Reinf. 11 Tension Rupture	72.1%	Pass
L53	33.25 - 32.58	Pole + Reinf.	TP35.256x35.14x0.975	Reinf. 11 Tension Rupture	72.3%	Pass
L54	32.58 - 32.33	Pole + Reinf.	TP35.299x35.256x0.9875	Reinf. 11 Tension Rupture	72.1%	Pass
L55	32.33 - 29.67	Pole + Reinf.	TP35.758x35.299x0.9625	Reinf. 11 Tension Rupture	73.0%	Pass
L56	29.67 - 29.42	Pole + Reinf.	TP35.801x35.758x0.8125	Reinf. 11 Tension Rupture	91.7%	Pass
L57	29.42 - 29.13	Pole + Reinf.	TP35.851x35.801x0.8125	Reinf. 11 Tension Rupture	91.8%	Pass
L58	29.13 - 28.88	Pole + Reinf.	TP35.894x35.851x0.95	Reinf. 10 Tension Rupture	75.3%	Pass
L59	28.88 - 28	Pole + Reinf.	TP36.046x35.894x0.9375	Reinf. 10 Tension Rupture	75.6%	Pass
L60	28 - 27.75	Pole + Reinf.	TP36.089x36.046x0.9125	Reinf. 10 Tension Rupture	78.7%	Pass
L61	27.75 - 26.92	Pole + Reinf.	TP36.232x36.089x0.9125	Reinf. 10 Tension Rupture	79.0%	Pass
L62	26.92 - 26.67	Pole + Reinf.	TP36.275x36.232x0.875	Reinf. 10 Tension Rupture	79.9%	Pass
L63	26.67 - 26.5	Pole + Reinf.	TP36.304x36.275x0.875	Reinf. 10 Tension Rupture	80.0%	Pass
L64	26.5 - 26.25	Pole + Reinf.	TP36.347x36.304x0.8375	Reinf. 10 Tension Rupture	80.7%	Pass
L65	26.25 - 24.92	Pole + Reinf.	TP36.577x36.347x0.8375	Reinf. 10 Tension Rupture	81.1%	Pass
L66	24.92 - 24.67	Pole + Reinf.	TP36.62x36.577x0.8	Reinf. 1 Tension Rupture	80.2%	Pass
L67	24.67 - 22.17	Pole + Reinf.	TP37.051x36.62x0.7875	Reinf. 1 Tension Rupture	80.9%	Pass
L68	22.17 - 21.92	Pole + Reinf.	TP37.094x37.051x0.8625	Reinf. 1 Tension Rupture	73.0%	Pass
L69	21.92 - 16.92	Pole + Reinf.	TP37.957x37.094x0.8375	Reinf. 1 Tension Rupture	74.4%	Pass
L70	16.92 - 11.92	Pole + Reinf.	TP38.819x37.957x0.825	Reinf. 1 Tension Rupture	75.7%	Pass
L71	11.92 - 6.92	Pole + Reinf.	TP39.681x38.819x0.8125	Reinf. 1 Tension Rupture	76.9%	Pass
L72	6.92 - 1.92	Pole + Reinf.	TP40.544x39.681x0.8	Reinf. 1 Tension Rupture	78.0%	Pass
L73	1.92 - 1.5	Pole + Reinf.	TP40.616x40.544x0.8	Reinf. 1 Tension Rupture	78.1%	Pass
L74	1.5 - 1.25	Pole + Reinf.	TP40.659x40.616x0.6375	Reinf. 3 Tension Rupture	95.7%	Pass
L75	1.25 - 1	Pole + Reinf.	TP40.703x40.659x0.4938	Pole	85.5%	Pass
L76	1 - 0	Pole + Reinf.	TP40.875x40.703x0.4875	Pole	85.7%	Pass
					Summary	
				Pole	85.0%	Pass
				Reinforcement	95.7%	Pass
				Overall	95.7%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	66.1	Pass
1	Base Plate	0	86.9	Pass
1	Base Foundation (Structure)	0	96.9	Pass
1	Base Foundation (Soil Interaction)	0	52.2	Pass
Structure Rating (max from all components) =				96.9%

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

The results of the tilt and twist values for a 60 mph 3-second gust service wind speed per the TIA-222-H Standard are given below:

Critical Deflections and Radius of Curvature - Service Wind						
<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection</i>	<i>Tilt</i>	<i>Twist</i>	<i>Radius of Curvature</i>
<i>ft</i>			<i>in</i>	<i>°</i>	<i>°</i>	<i>ft</i>
128.0000	ANT3 A 0.9 HPX	14	19.87	1.59	0.01	2622



T-MOBILE SITE NUMBER: CTFF013A
T-MOBILE SITE NAME: CTFF013A
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'-0"

BUSINESS UNIT #: 857525
SITE ADDRESS: 24 DINGLEBROOK LANE
NEWTOWN, CT 06470
COUNTY: FAIRFIELD
JURISDICTION: FAIRFIELD COUNTY

CTFF013A : 4SEC-67D5998E_1XAIR+1QP+1OP

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 ATLANTA, GA 30346

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BU #: 857525
NEWTOWN DINGLEBROOK

24 DINGLEBROOK LANE
NEWTOWN, CT 06470

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
A	06/01/23	CB	PRELIMINARY	CB
0	06/12/23	CB	100% FINALS	CB
1	06/29/23	CB	100% FINALS	CB

SITE INFORMATION

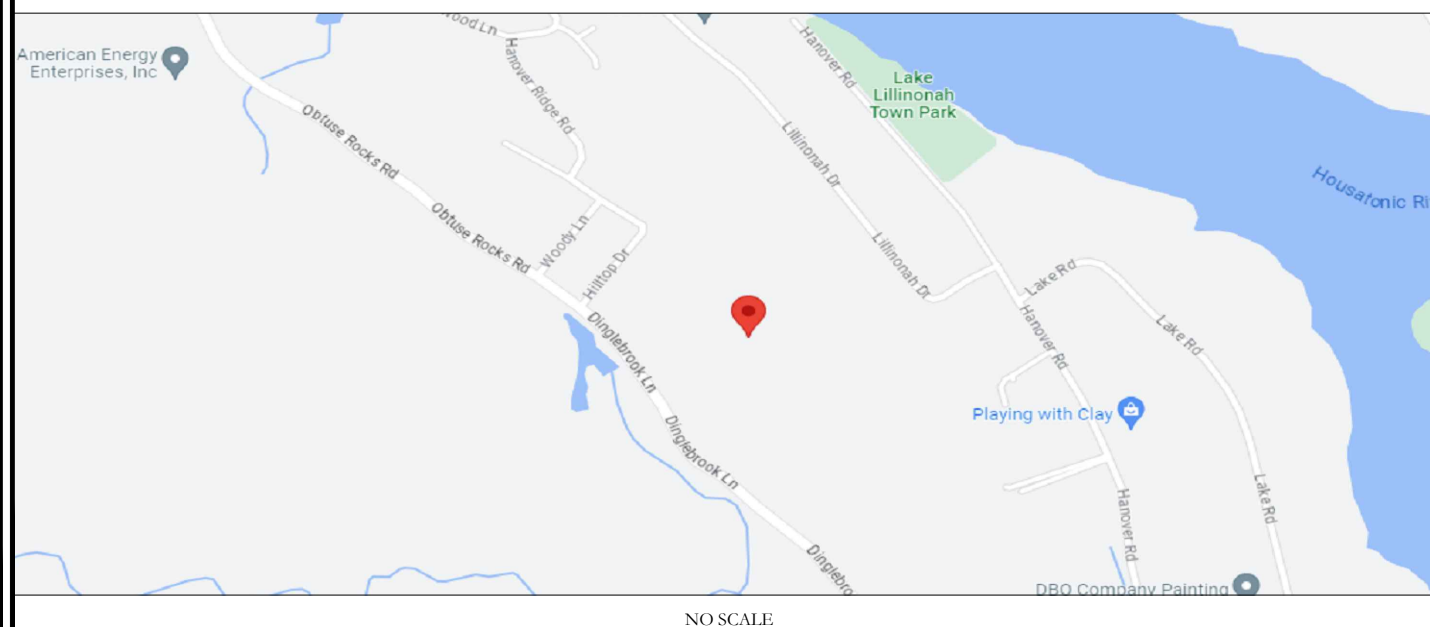
CROWN CASTLE USA INC. NEWTOWN DINGLEBROOK
SITE NAME:
SITE ADDRESS: 24 DINGLEBROOK LANE
 NEWTOWN, CT 06470
COUNTY: FAIRFIELD
MAP/PARCEL #: VERIFY
AREA OF CONSTRUCTION: EXISTING
LATITUDE: 41° 28' 01.01" (41.466947°) N
LONGITUDE: -73° 20' 02.05" (73.333903°) W
LAT/LONG TYPE: NAD83
GROUND ELEVATION: ±413 FT
CURRENT ZONING: TBD
JURISDICTION: FAIRFIELD COUNTY
OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION: IIB
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER: TBD
TOWER OWNER: CROWN CASTLE
 2000 CORPORATE DRIVE
 CANONSBURG, PA 15317
CARRIER/APPLICANT: T-MOBILE
 1 RAVINIA DRIVE, SUITE 1000
 ATLANTA, GA 30346
ELECTRIC PROVIDER: TBD
TELCO PROVIDER: TBD

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN & EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
C-6	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

LOCATION MAP



NO SCALE

PROJECT DESCRIPTION

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

- TOWER SCOPE OF WORK:**
- REMOVE (4) HYBRID CABLES (6X12)
 - REMOVE (4) ANTENNAS
 - INSTALL (4) ANTENNAS
 - INSTALL (4) HYBRID CABLES (6X24)
 - INSTALL (4) 4460 RRUS

- GROUND SCOPE OF WORK:**
- INSTALL (2) EQUIPMENT CABINETS

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

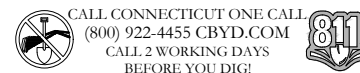
APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2022 CONNECTICUT BUILDING CODE/2021 IBC
MECHANICAL	2022 CONNECTICUT BUILDING CODE/2021 IMC
ELECTRICAL	2022 CONNECTICUT BUILDING CODE/2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	05/18/23
MOUNT ANALYSIS:	TELAMON TOWER ENGINEERING, PLLC
DATED:	05/15/23
RFDS REVISION:	2
DATED:	04/11/2023
ORDER ID:	649515
REVISION:	0



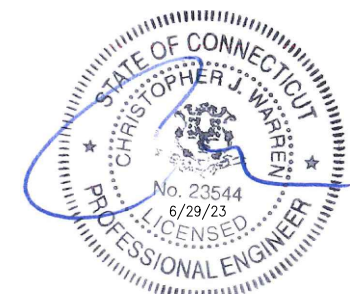
APPROVALS

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.

PROJECT TEAM

A&E FIRM: INFINIGY
 500 WEST OFFICE CENTER DR. SUITE 150,
 FORT WASHINGTON, PA 19034
CROWN CASTLE USA INC. DISTRICT CONTACTS: 1500 CORPORATE DRIVE
 CANONSBURG, PA 15317
TRICIA PELON - PROJECT MANAGER
 TRICIA.PELON@CROWNCastle.COM
JENNIFER MERSING - CONSTRUCTION MANAGER
 JENNIFER.MERSING@CROWNCastle.COM



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:

1

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...
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...

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...
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS...

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...

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, 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.

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.

Table with columns: SYSTEM, CONDUCTOR, COLOR. Lists conductor color codes for various systems like 120/240V, 120/208V, 277/480V, and DC VOLTAGE.

APWA UNIFORM COLOR CODE:

- WHITE: PROPOSED EXCAVATION
PINK: TEMPORARY SURVEY MARKINGS
RED: ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW: GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS

ABBREVIATIONS:

- ANT: ANTENNA
(E): EXISTING
FIF: FACILITY INTERFACE FRAME
GEN: GENERATOR
GPS: GLOBAL POSITIONING SYSTEM

T-Mobile logo and contact information: 1 RAVINIA DRIVE, SUITE 1000 ATLANTA, GA 30346. Crown Castle logo and address: 2000 CORPORATE DRIVE CANONSBURG, PA 15317.

INFINIGY logo with tagline 'FROM ZERO TO INFINIGY the solutions are endless' and address: 500 West Office Center Dr. Suite 150 | Fort Washington, PA 19034 www.infinigy.com

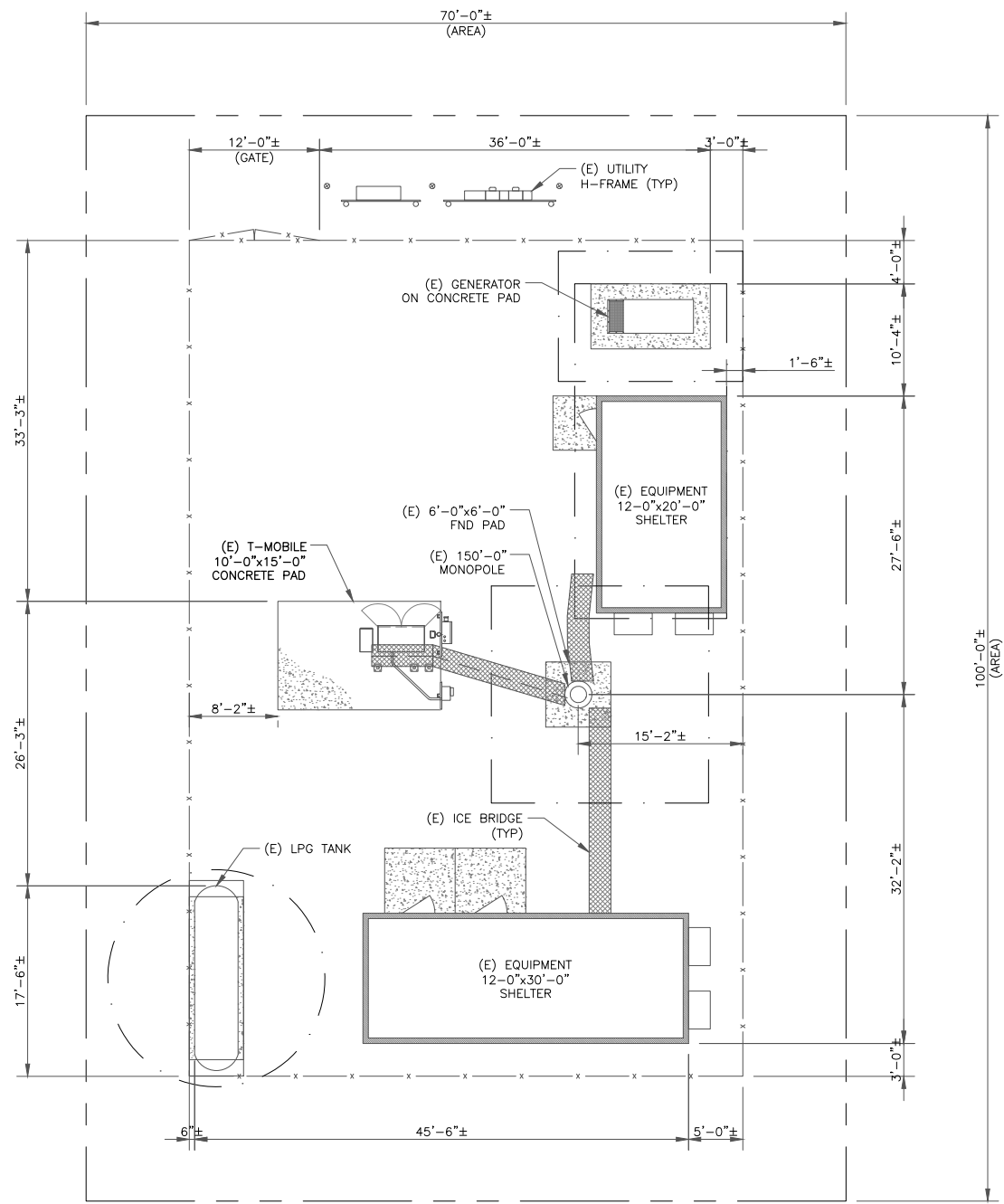
T-MOBILE SITE NUMBER: CTFF013A BU #: 857525 NEWTOWN DINGLEBROOK

24 DINGLEBROOK LANE NEWTOWN, CT 06470

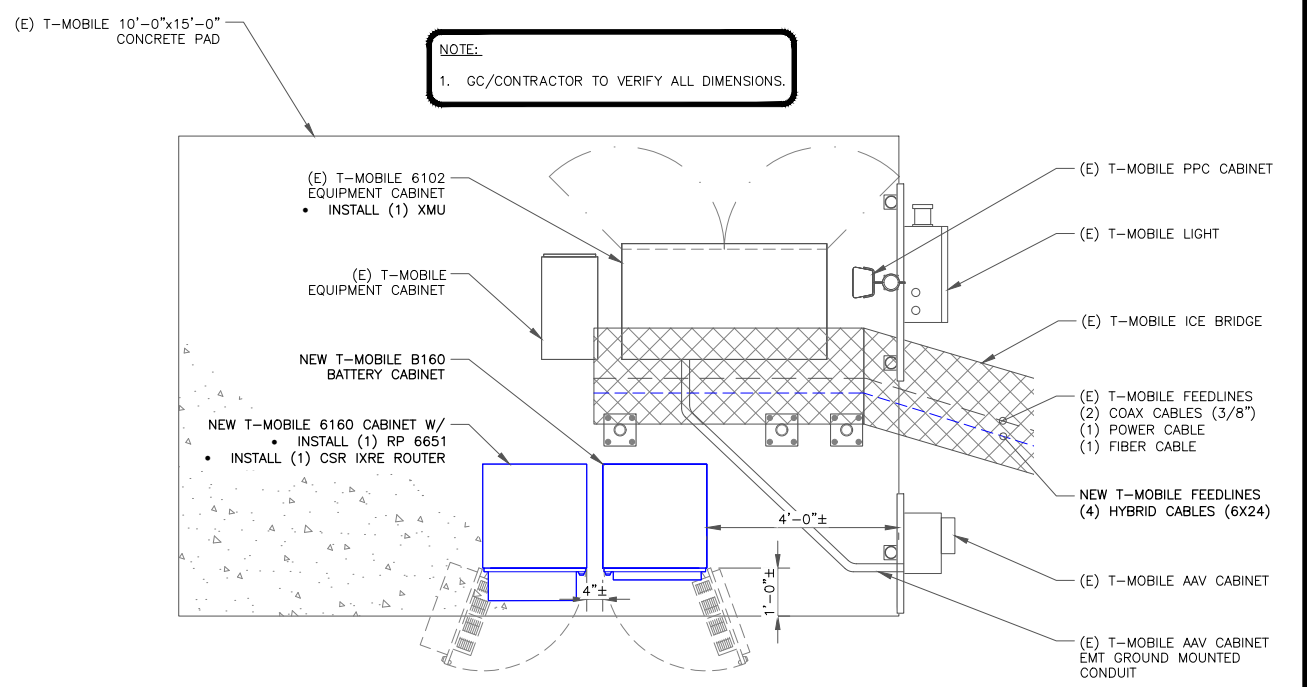
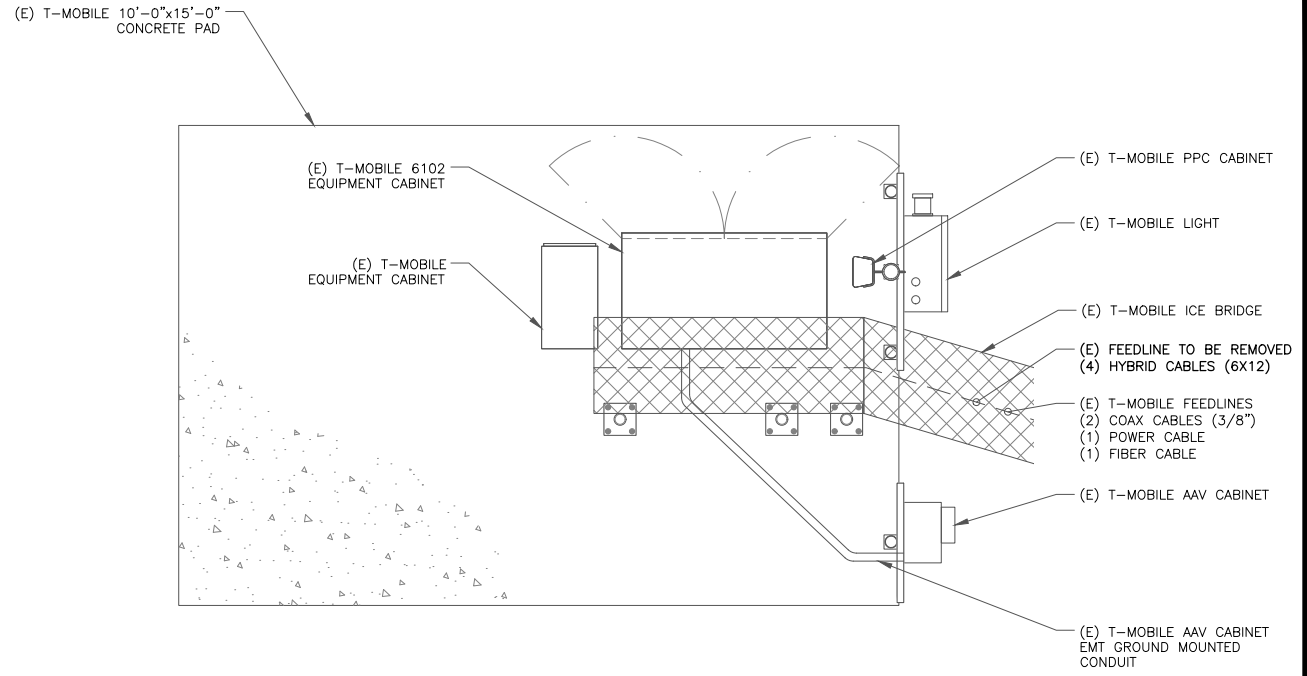
EXISTING 150'-0" MONOPOLE

ISSUED FOR: Table with columns: REV, DATE, DRWN, DESCRIPTION, DES/QA. Shows revision history for preliminary and final drawings.

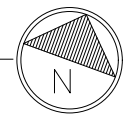
Professional Engineer Seal for Christopher J. Warren, No. 23544, 6/29/23. Includes sheet information: SHEET NUMBER: T-2 REVISION: 1. Bottom text: IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



1 SITE PLAN
SCALE: 1/8"=1'-0" (FULL SIZE)
1/16"=1'-0" (11x17)



2 EQUIPMENT PLANS
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



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T-MOBILE SITE NUMBER:
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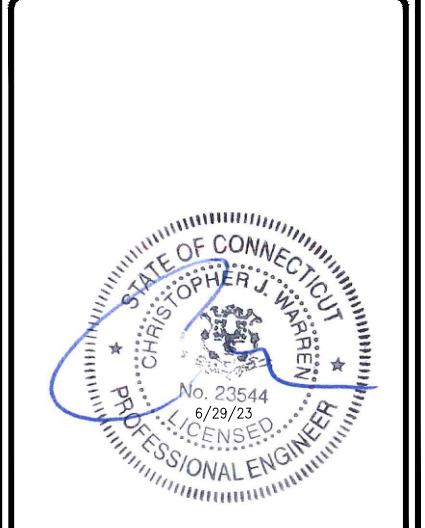
BU #: 857525
**NEWTOWN
DINGLEBROOK**

24 DINGLEBROOK LANE
NEWTOWN, CT 06470

EXISTING 150'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
A	06/01/23	CB	PRELIMINARY	CB
0	06/12/23	CB	100% FINALS	CB
1	06/29/23	CB	100% FINALS	CB



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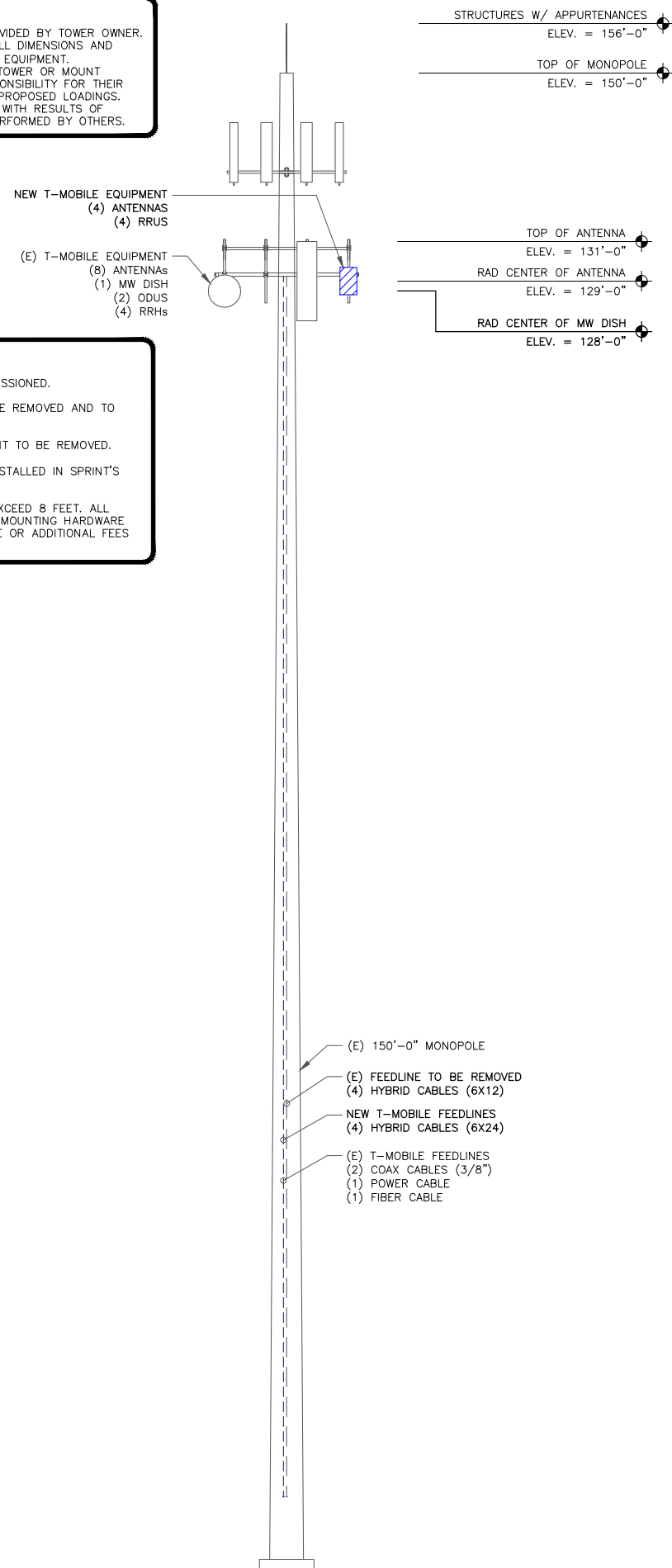
SHEET NUMBER: **C-1** REVISION: **1**

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

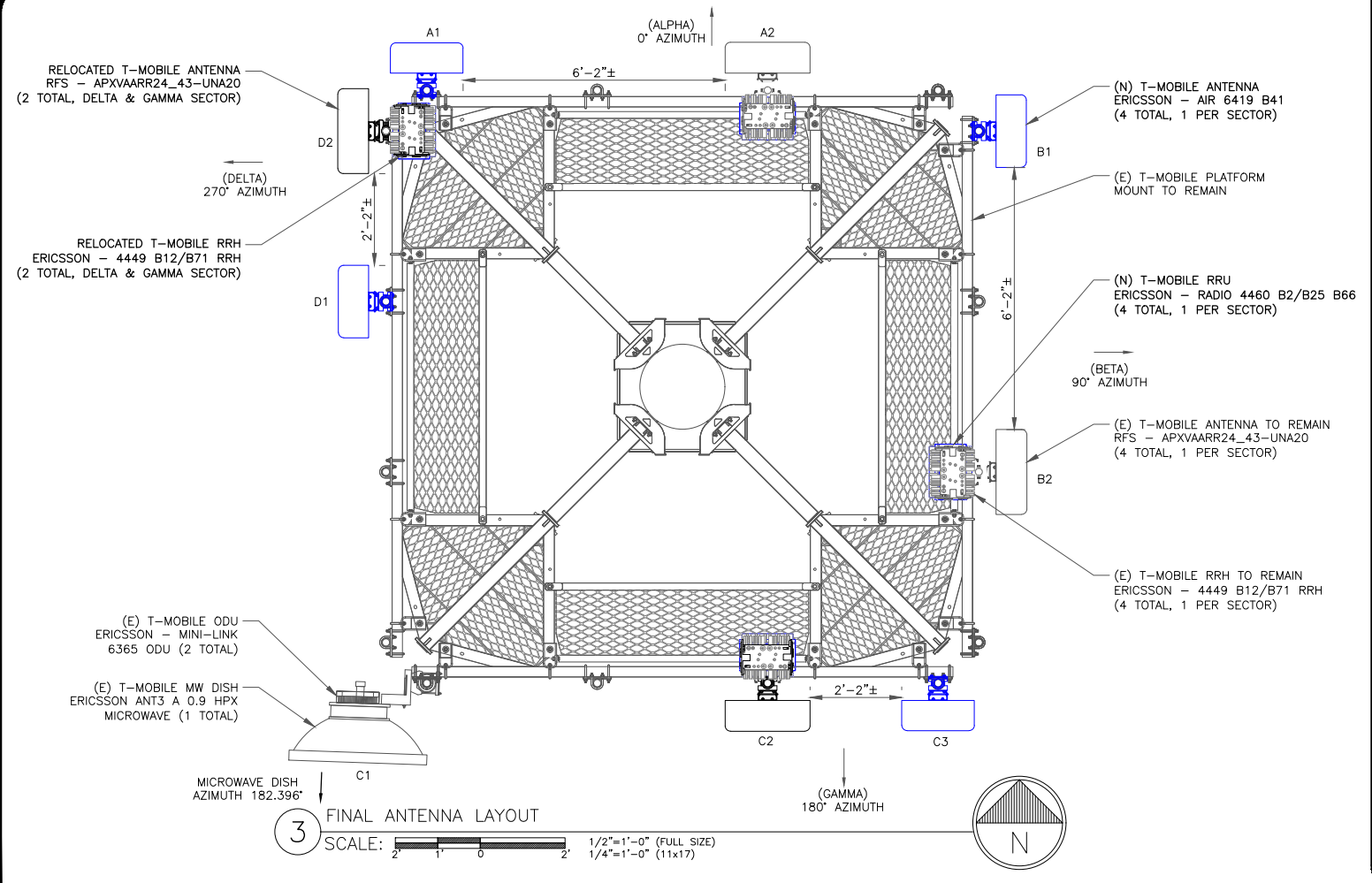
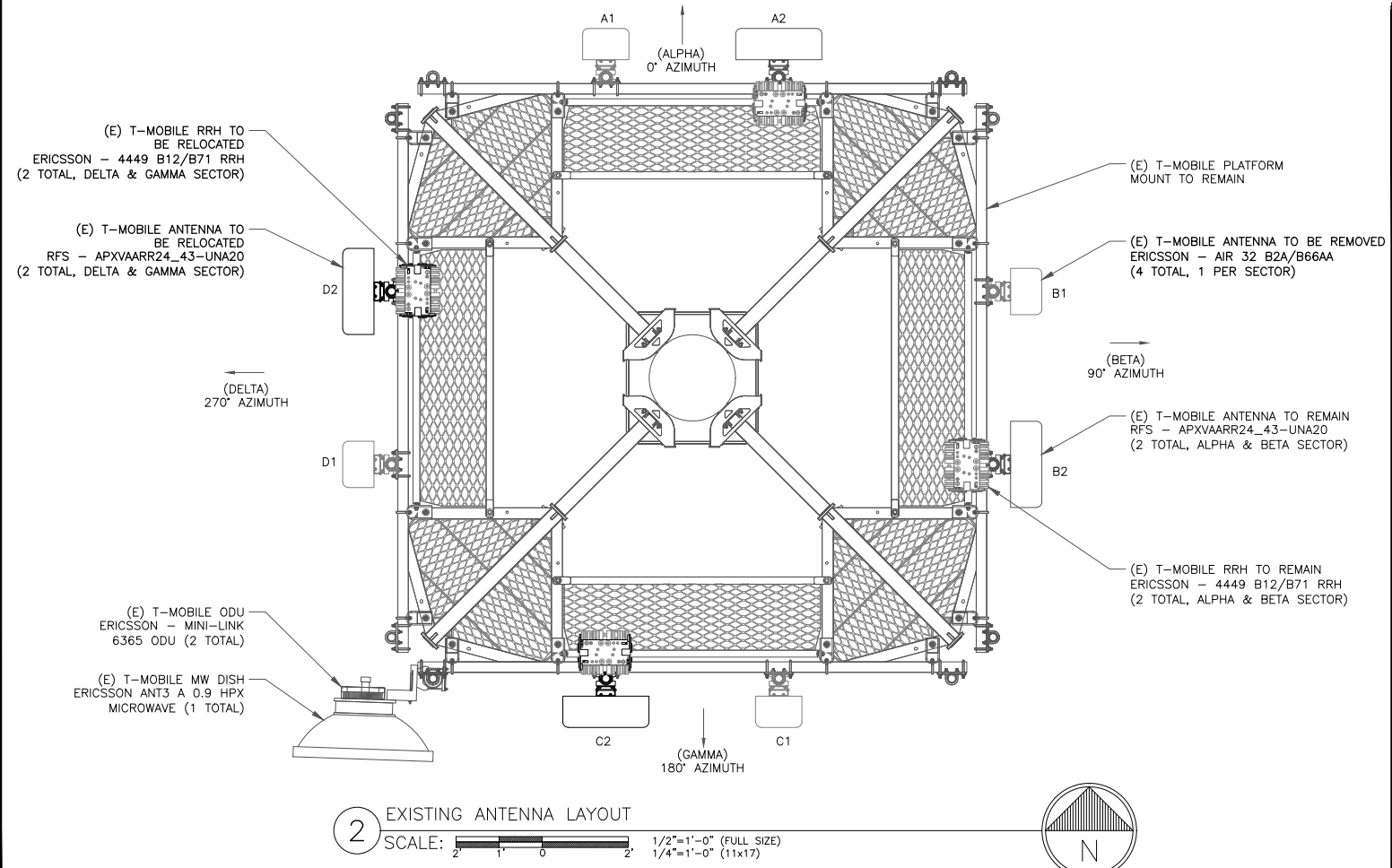
- PROJECT SPECIFIC NOTES:**
- SPRINT EQUIPMENT WILL BE DECOMMISSIONED.
 - ALL SPRINT TOWER EQUIPMENT TO BE REMOVED AND TO RELINQUISH THEIR RAD CENTER.
 - EXISTING T-MOBILE TOWER EQUIPMENT TO BE REMOVED.
 - NEW T-MOBILE EQUIPMENT TO BE INSTALLED IN SPRINT'S PREVIOUS RAD CENTER.
 - VERTICAL TOWER SPACE MAY NOT EXCEED 8 FEET. ALL EQUIPMENT INCLUDING MOUNTS AND MOUNTING HARDWARE MUST FIT WITHIN VERTICAL ENVELOPE OR ADDITIONAL FEES MAY APPLY.

T-MOBILE EQUIPMENT
 ANTENNA CL: 129'-0"
 MICROWAVE DISH: 128'-0"
 MOUNT CL: 131'-0"

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



1 FINAL ELEVATION
 SCALE: 1/8"=1'-0" (FULL SIZE)
 1/16"=1'-0" (11x17)



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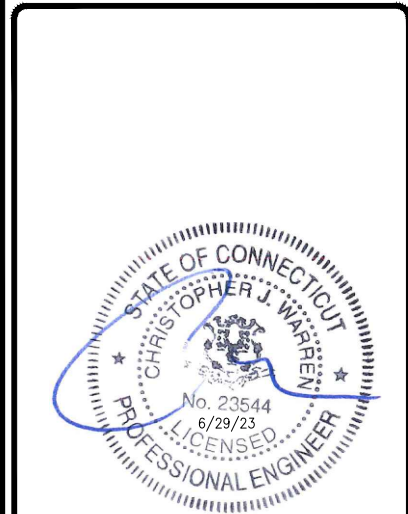
BU #: 857525
NEWTOWN
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EXISTING 150'-0"
MONOPOLE

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SHEET NUMBER:
C-2

REVISION:
1

T-MOBILE SITE NUMBER:
CTFF013A

BU #: 857525
**NEWTOWN
DINGLEBROOK**

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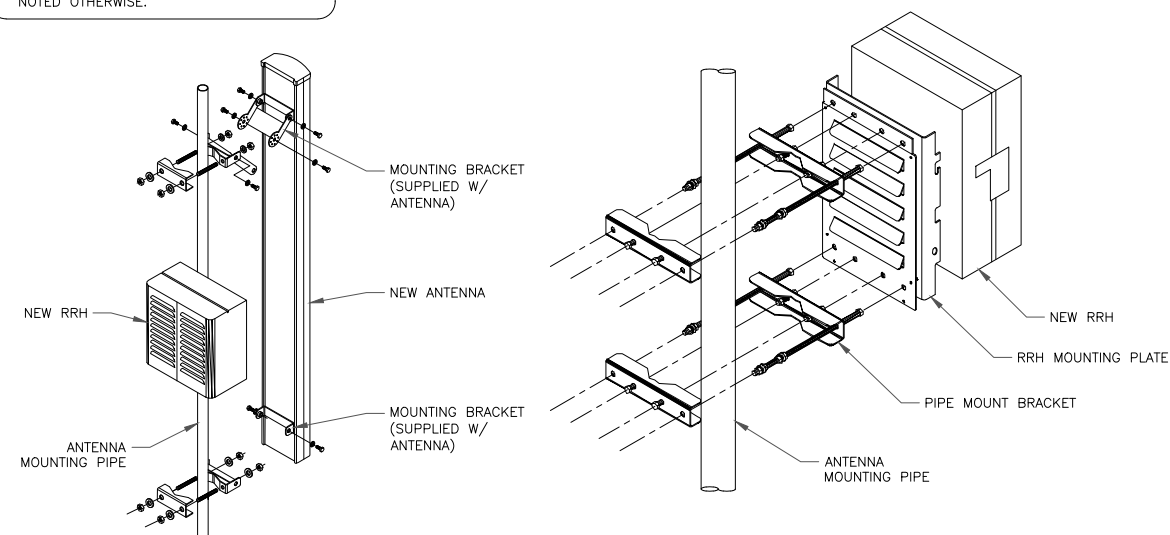
EXISTING 150'-0"
MONOPOLE

ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	N2500	129'-0"	0°	ERICSSON	AIR 6419 B41	-	-	-	-
ALPHA	A2	L700,L600,N600,G1900,L2100,L1900,N1900	129'-0"	0°	RFS	APXVAARR24_43-U-NA20	-	2/2/2	(1) ERICSSON - 4449 B12/B71 (1) ERICSSON - RADIO 4460 B25+B66	(1) 6X24 HYBRID 60M IN LENGTH
BETA	B1	N2500	129'-0"	90°	ERICSSON	AIR 6419 B41	-	-	-	-
BETA	B2	L700,L600,N600,G1900,L2100,L1900,N1900	129'-0"	90°	RFS	APXVAARR24_43-U-NA20	-	2/2/2	(1) ERICSSON - 4449 B12/B71 (1) ERICSSON - RADIO 4460 B25+B66	(1) 6X24 HYBRID 60M IN LENGTH
GAMMA	C1	N2500	129'-0"	180°	ERICSSON	AIR 6419 B41	-	-	-	-
GAMMA	C2	L700,L600,N600,G1900,L2100,L1900,N1900	129'-0"	180°	RFS	APXVAARR24_43-U-NA20	-	2/2/2	(1) ERICSSON - 4449 B12/B71 (1) ERICSSON - RADIO 4460 B25+B66	(1) 6X24 HYBRID 60M IN LENGTH
GAMMA	C3	-	128'-0"	182.396°	ERICSSON	ANT3 A 0.9 HPX	-	-	(2) ERICSSON - MINI-LINK 6365	(2) 3/8" COAX (1) POWER CABLE (1) FIBER CABLE
DELTA	D1	N2500	129'-0"	270°	ERICSSON	AIR 6419 B41	-	-	-	-
DELTA	D2	L700,L600,N600,G1900,L2100,L1900,N1900	129'-0"	270°	RFS	APXVAARR24_43-U-NA20	-	2/2/2	(1) ERICSSON - 4449 B12/B71 (1) ERICSSON - RADIO 4460 B25+B66	(1) 6X24 HYBRID 60M IN LENGTH

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

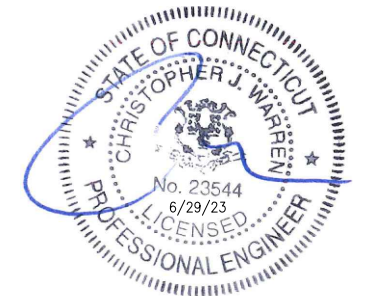
1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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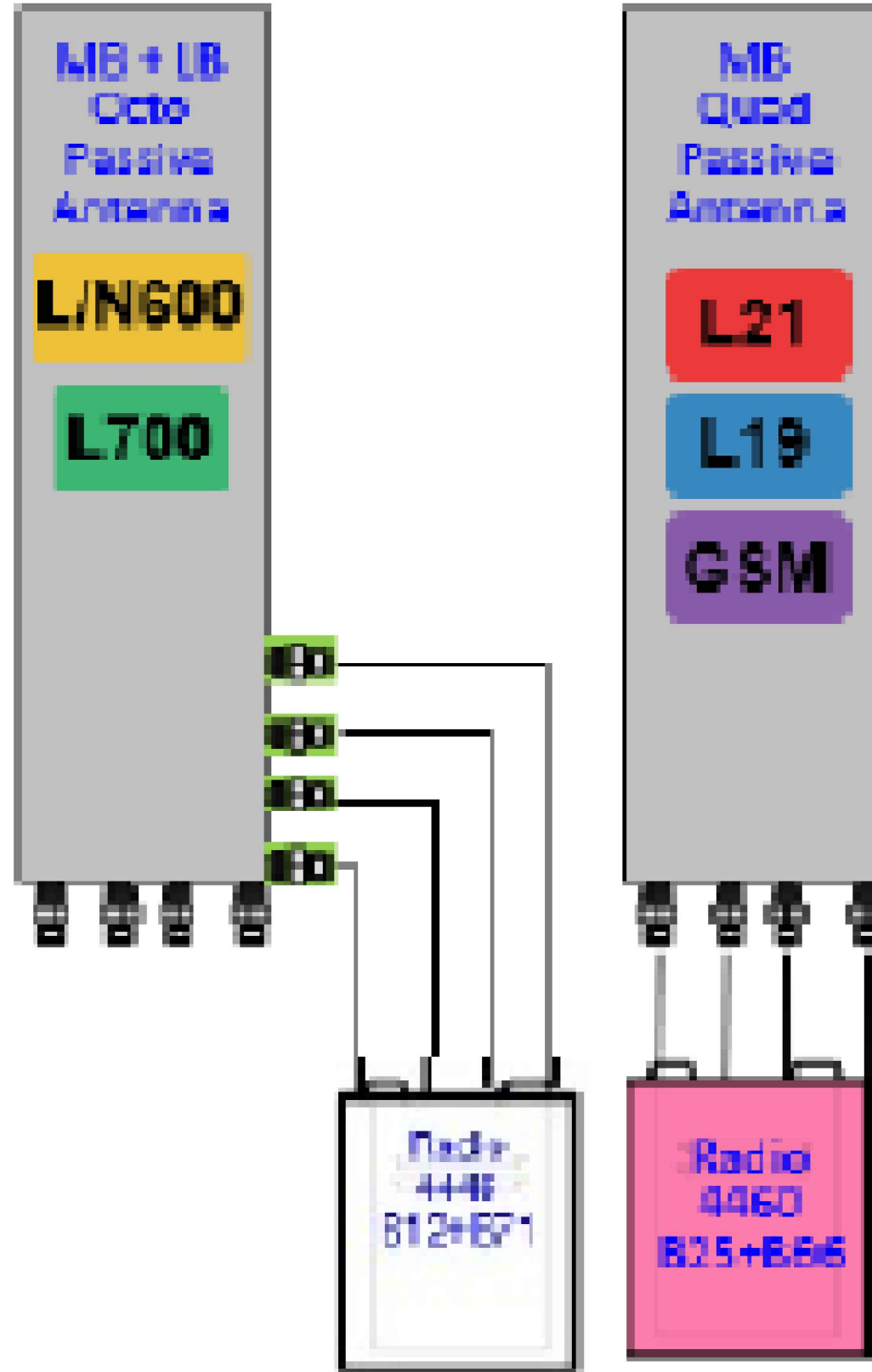
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SHEET NUMBER:

C-3

REVISION:

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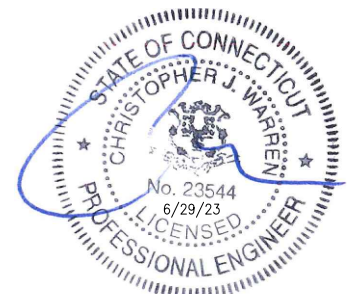
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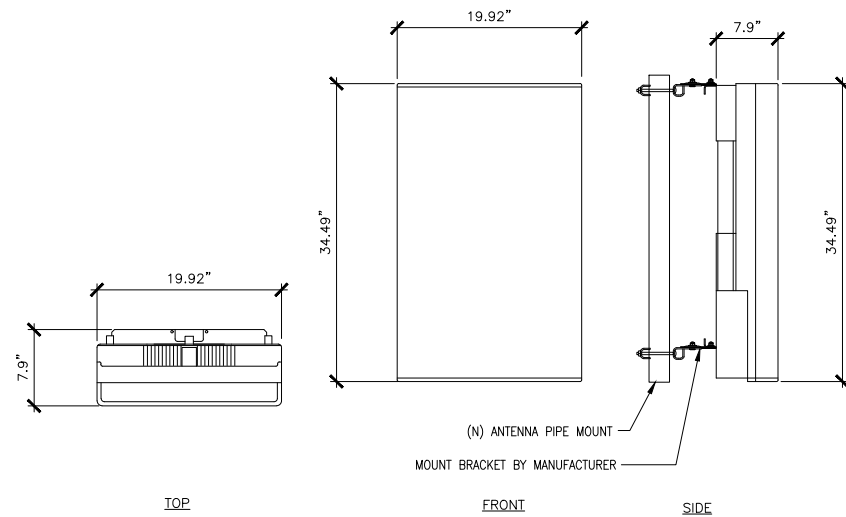
C-4

REVISION:

1

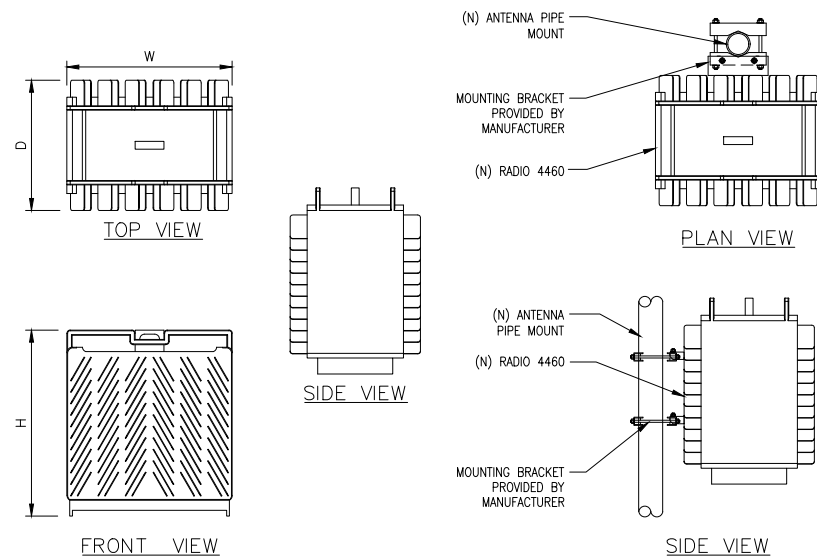
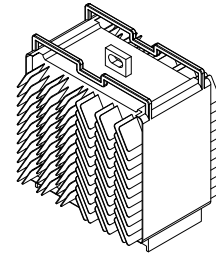
1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

MANUFACTURER: ERICSSON
 MODEL: AIR6419 B41
 WEIGHT: 81.84 LBS (W/ MOUNT BRACKET 113)
 DIMENSIONS: 34.49"H. X 19.92"W. X 7.9"D.
 FREQUENCY: REFER TO RF DATA SHEET

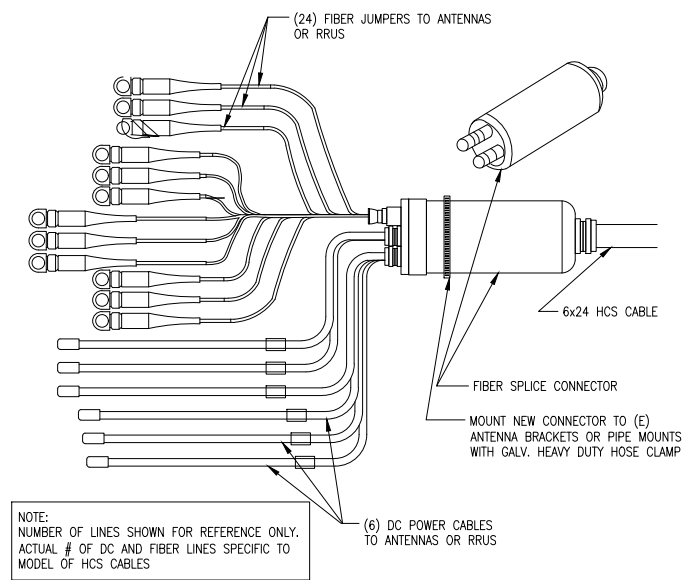


1 (N) AIR6419 B41 ANTENNA SPEC
 SCALE: NOT TO SCALE

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



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



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

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

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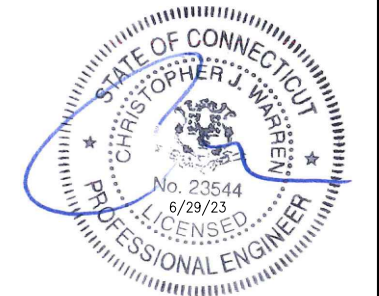
T-MOBILE SITE NUMBER:
CTFF013A
 BU #: 857525
NEWTOWN DINGLEBROOK

24 DINGLEBROOK LANE
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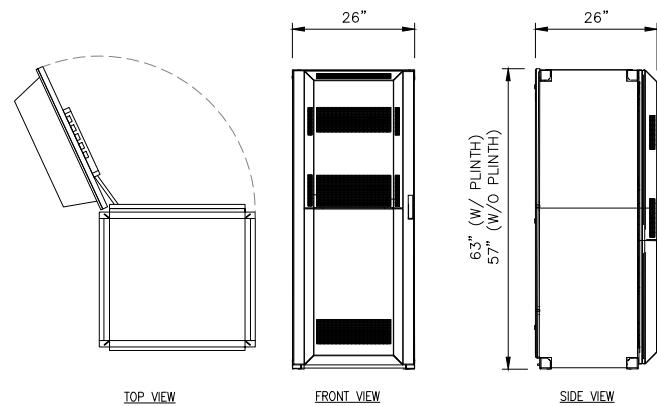
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4 NOT USED
 SCALE: NOT TO SCALE

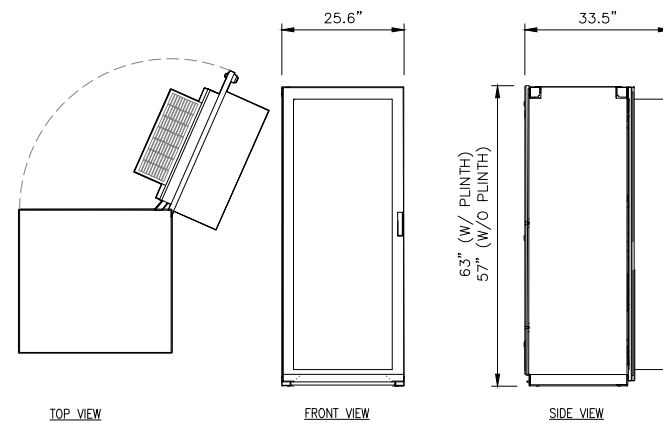
5 NOT USED
 SCALE: NOT TO SCALE

6 NOT USED
 SCALE: NOT TO SCALE



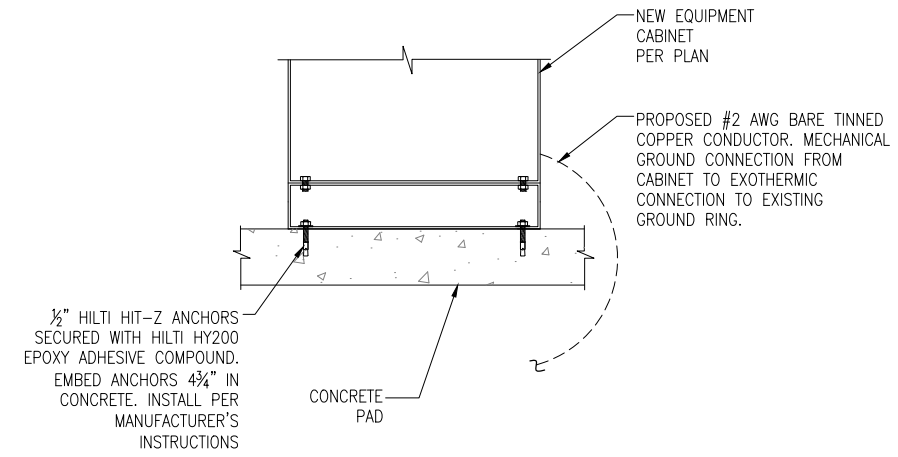
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

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

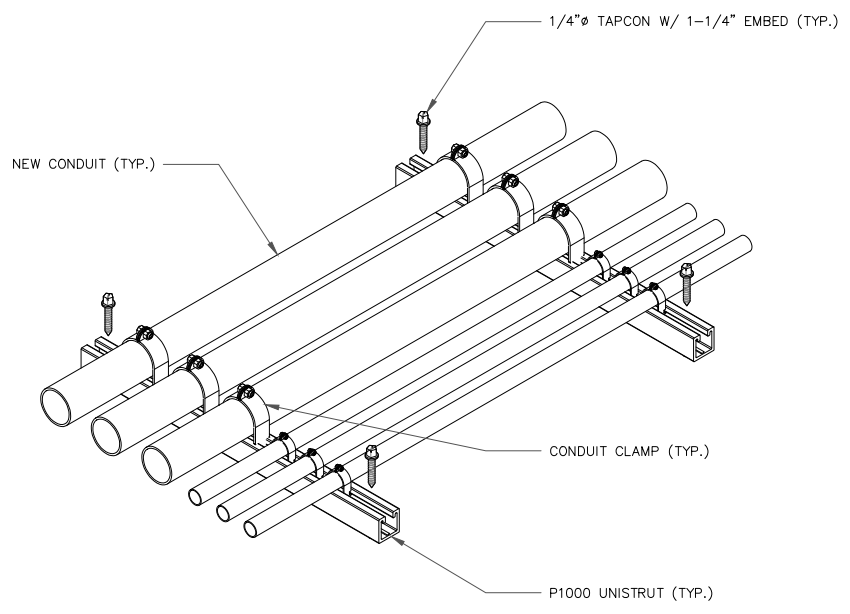


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

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



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



4 CONDUIT PAD MOUNT DETAIL
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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EXISTING 150'-0"
MONOPOLE

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STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
6/29/23
LICENSED PROFESSIONAL ENGINEER

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SHEET NUMBER: **C-6** REVISION: **1**

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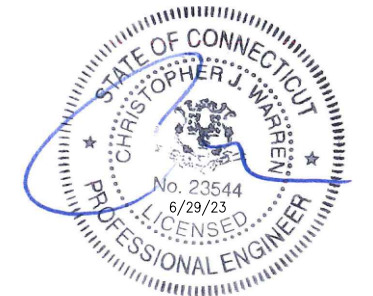
BU #: **857525**
NEWTOWN
DINGLEBROOK

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SHEET NUMBER:

E-1

REVISION:

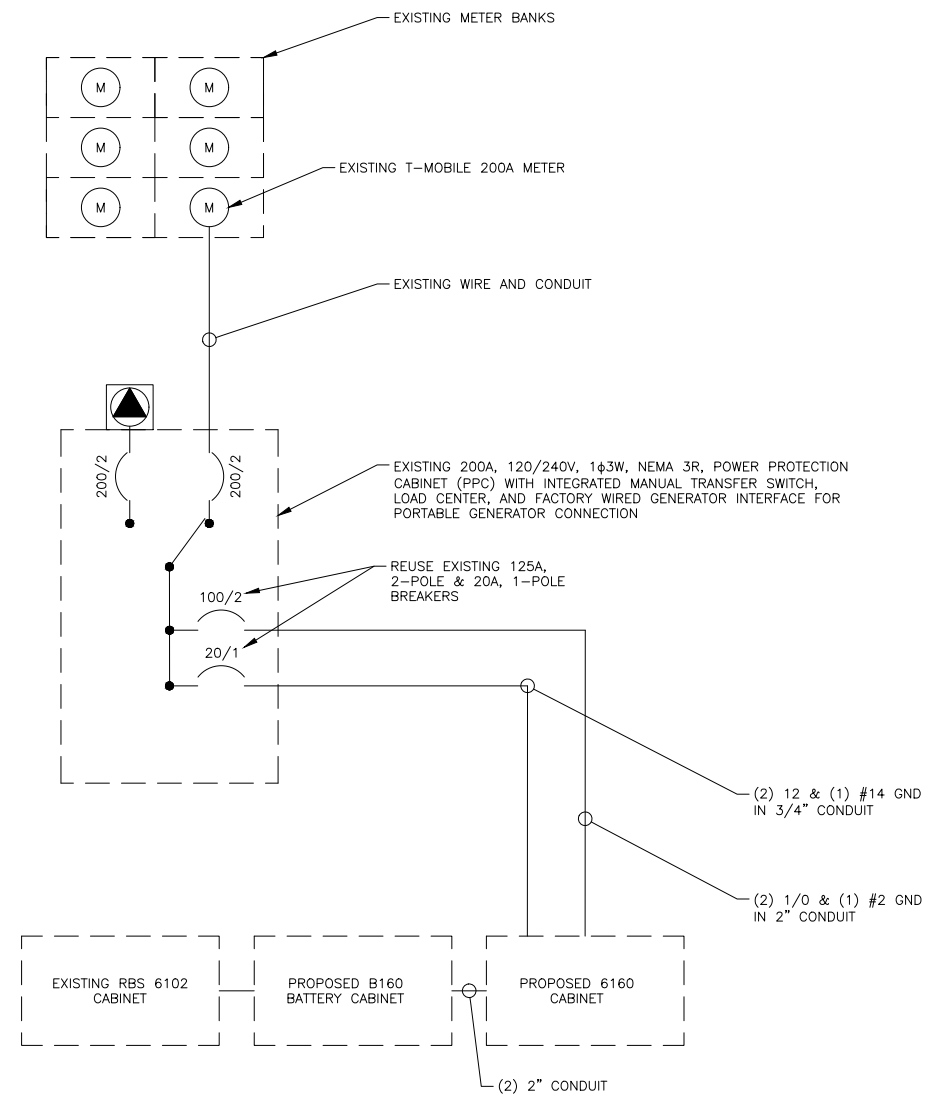
1

NOTES:

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

T-MOBILE PANEL SCHEDULE											
MAIN: 200A MAIN BREAKER			VOTAGE/PHASE: 120/240V, 1-PHASE, 3-WIRE					SHORT CIRCUIT CURRENT RATING: --			
MOUNTING: H-FRAME			ENCLOSURE: NEMA 3R					SURGE PROTECTION DEVICE: YES			
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	PHASE LOADS (VA)		CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
					A	B					
SURGE SUPPRESSOR			60	1	180		2	20	NC	180	GFCI
				3	3500		4		3500		6201
SPARE			20	5	3500		6	125	C	3500	
6160 GFI *	180	NC	20	7		380	8	20	NC	200	LIGHT
				9	3500		10			3500	
				11		3500	12	100	C	3500	6160
				13	0		14				
				15		0	16				
				17	0		18				
				19		0	20				
				21	0		22				
				23		0	24				
BASE LOAD (VA) =					7180	7380	C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD				
25% OF CONTINUOUS LOAD (VA) =					1750	1750	NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.				
TOTAL LOAD (VA) =					8930	9130					
TOTAL LOAD (A) =					74	76					

* BREAKER TO BE REUSED FOR PROPOSED CABINET





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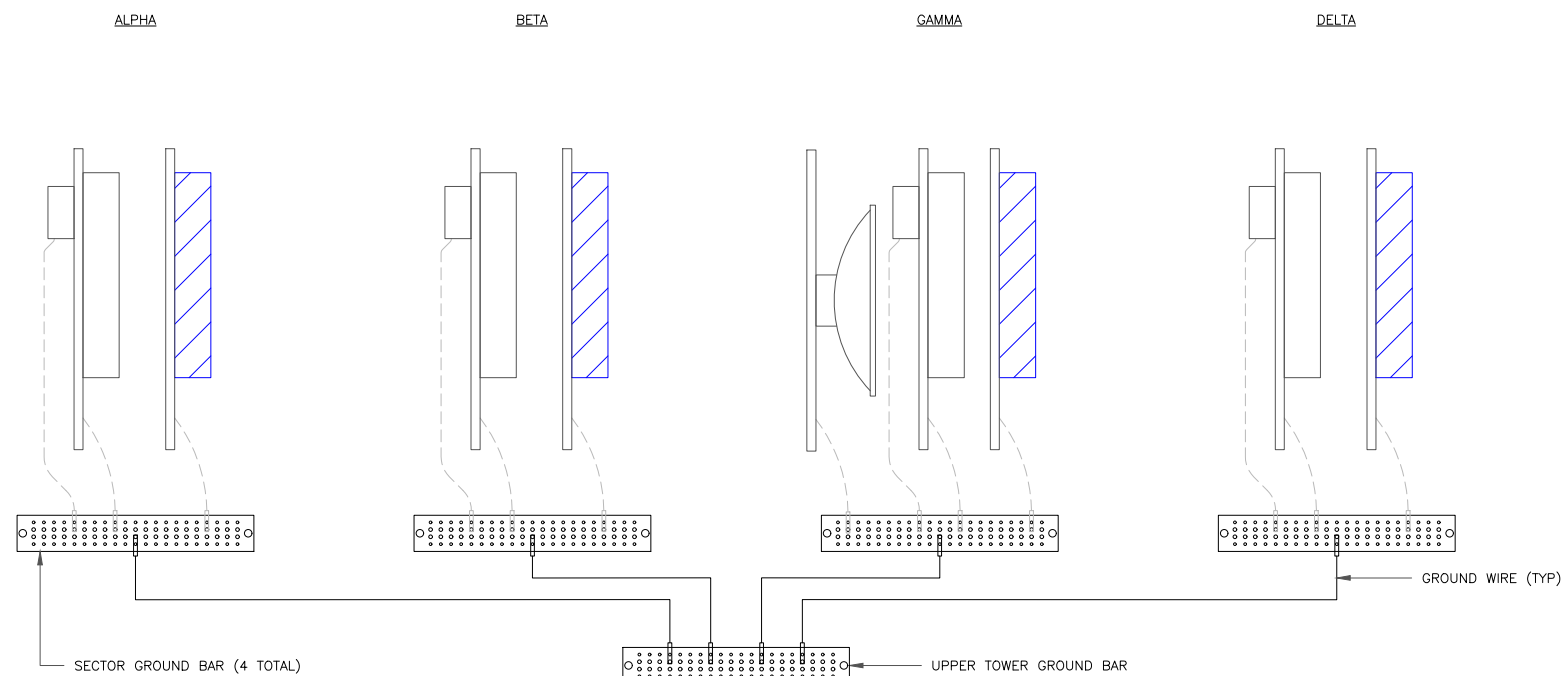
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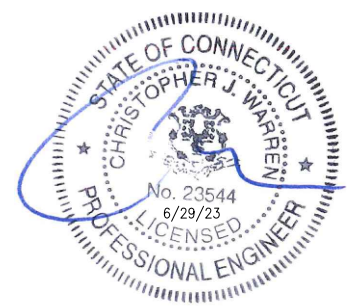
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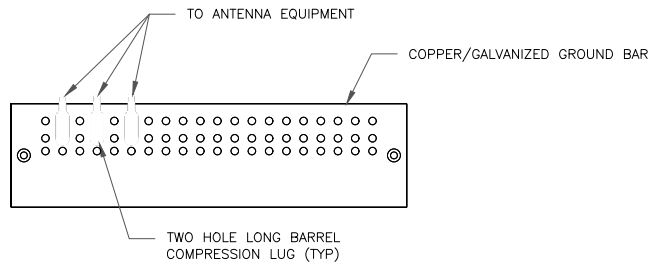
NOTE:
ALL NEW GROUNDS TO BE #6 STRANDED
COPPER WITH GREEN INSULATION UNLESS
NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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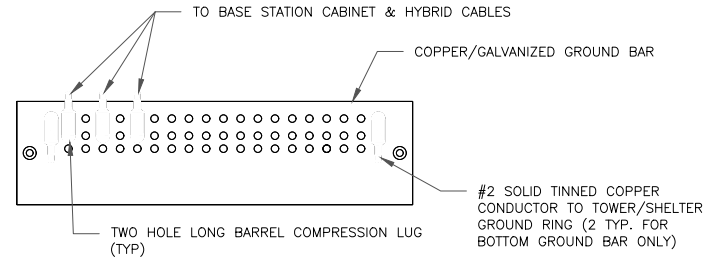
SHEET NUMBER: G-1	REVISION: 1
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NOTES:

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

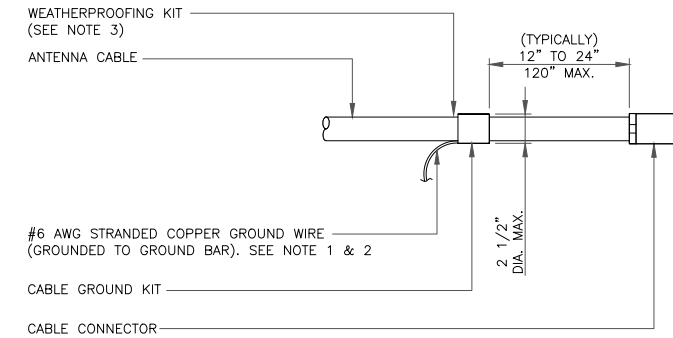
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

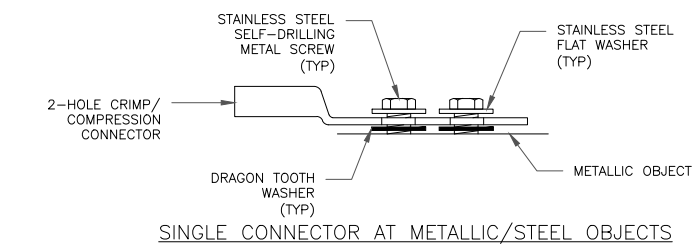
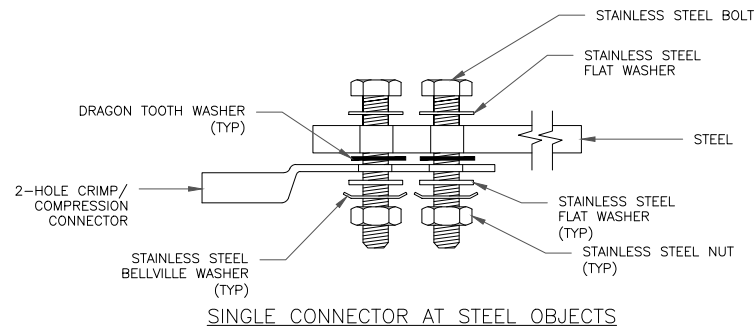
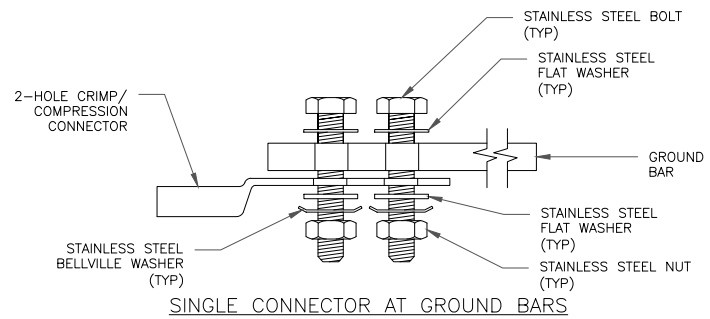
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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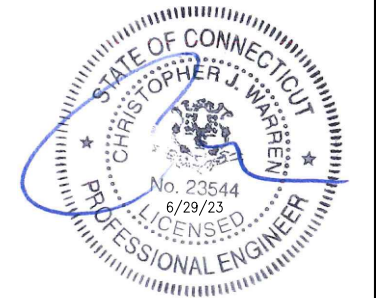
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**NEWTOWN
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1	06/29/23	CB	100% FINALS	CB



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SHEET NUMBER: **G-2** REVISION: **1**

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, July 6, 2023 10:15 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 772643176406: Your package has been delivered

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



Hi. Your package was
delivered Thu, 07/06/2023 at
10:08am.



Delivered to 3 PRIMROSE ST, NEWTOWN, CT 06470
Received by W.ANNA

[OBTAIN PROOF OF DELIVERY](#)

How was your delivery ?



TRACKING NUMBER	772643176406
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Newtown First Selectman Daniel Rosenthal 3 Primrose Street NEWTOWN, CT, US, 06470
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 7/05/2023 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	NEWTOWN, CT, US, 06470
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, July 6, 2023 10:17 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 772643193383: Your package has been delivered

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Hi. Your package was
delivered Thu, 07/06/2023 at
10:10am.



Delivered to 3 PRIMROSE ST, NEWTOWN, CT 06470
Received by F.DAWN

[OBTAIN PROOF OF DELIVERY](#)

How was your delivery ?



TRACKING NUMBER	772643193383
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Newtown Rob Sibley, Director of Land Use 3 Primrose Street NEWTOWN, CT, US, 06470
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 7/05/2023 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	NEWTOWN, CT, US, 06470
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



Radio Frequency Exposure Analysis Report

June 5, 2023

T-Mobile

Site Name: Newton Dinglebrook

Site Number: CTF013A

Site Address: 24 Dinglebrook Lane, Newtown, CT 06470



Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2024

Signed 05 June 2023

Site Compliance Summary

T-Mobile Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	1.77744 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	0.22414%



June 5, 2023

Centerline
Attn: Jessica Meyer, Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **Newton Dinglebrook**

Centerline was contracted to analyze the proposed T-Mobile facility at **24 Dinglebrook Lane, Newtown, CT 06470** 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 ground level.

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(s) below. The cumulative power density and cumulative % MPE are displayed at the bottom of the table(s) below.



Maximum Calculated Cumulative Power Density @ Ground Level
(Location: approximately 363' NW 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 SON_AIR6419	2500	15.55	129.00	1.00	60.00	2153.53	0.01311	1000.00	0.00131
T-Mobile A 1	ERICSSON SON_AIR6419	2500	22.05	129.00	2.00	90.00	28858.42	0.85128	1000.00	0.08513
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	700	13.20	129.00	4.00	40.00	3342.87	0.08330	466.67	0.01785
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	40.00	3297.01	0.07118	400.00	0.01780
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	30.00	2472.76	0.05339	400.00	0.01335
T-Mobile A 2	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	2.00	10.00	676.13	0.01084	1000.00	0.00108
T-Mobile A 2	RFS APXVAARR24_43-U-NA20	2100	17.32	129.00	4.00	60.00	12948.25	0.14252	1000.00	0.01425
T-Mobile A 2	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	35.00	4732.91	0.07585	1000.00	0.00759
T-Mobile A 2	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	40.00	5409.04	0.08669	1000.00	0.00867
T-Mobile B 3	ERICSSON SON_AIR6419	2500	15.55	129.00	1.00	60.00	2153.53	0.00086	1000.00	0.00009
T-Mobile B 3	ERICSSON SON_AIR6419	2500	22.05	129.00	2.00	90.00	28858.42	0.05595	1000.00	0.00560
T-Mobile B 4	RFS APXVAARR24 43-U-NA20	700	13.20	129.00	4.00	40.00	3342.87	0.00054	466.67	0.00012
T-Mobile B 4	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	40.00	3297.01	0.00262	400.00	0.00066
T-Mobile B 4	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	30.00	2472.76	0.00197	400.00	0.00049
T-Mobile B 4	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	2.00	10.00	676.13	0.00021	1000.00	0.00002
T-Mobile B 4	RFS APXVAARR24_43-U-NA20	2100	17.32	129.00	4.00	60.00	12948.25	0.00053	1000.00	0.00005
T-Mobile B 4	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	35.00	4732.91	0.00148	1000.00	0.00015
T-Mobile B 4	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	40.00	5409.04	0.00169	1000.00	0.00017
T-Mobile C 5	ERICSSON SON_AIR6419	2500	15.55	129.00	1.00	60.00	2153.53	0.00001	1000.00	0.00000
T-Mobile C 5	ERICSSON SON_AIR6419	2500	22.05	129.00	2.00	90.00	28858.42	0.00087	1000.00	0.00009
T-Mobile C 6	RFS APXVAARR24 43-U-NA20	700	13.20	129.00	4.00	40.00	3342.87	0.00012	466.67	0.00003
T-Mobile C 6	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	160.00	3297.01	0.00000	400.00	0.00000
T-Mobile C 6	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	120.00	2472.76	0.00000	400.00	0.00000
T-Mobile C 6	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	2.00	20.00	676.13	0.00000	1000.00	0.00000
T-Mobile C 6	RFS APXVAARR24_43-U-NA20	2100	17.32	129.00	4.00	240.00	12948.25	0.00002	1000.00	0.00000
T-Mobile C 6	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	140.00	4732.91	0.00000	1000.00	0.00000
T-Mobile C 6	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	160.00	5409.04	0.00001	1000.00	0.00000
T-Mobile D 7	ERICSSON SON_AIR6419	2500	15.55	129.00	1.00	60.00	2153.53	0.00086	1000.00	0.00009
T-Mobile D 7	ERICSSON SON_AIR6419	2500	22.05	129.00	2.00	180.00	28858.42	0.05595	1000.00	0.00560
T-Mobile D 8	RFS APXVAARR24 43-U-NA20	700	13.20	129.00	4.00	160.00	3342.87	0.00088	466.67	0.00019
T-Mobile D 8	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	160.00	3297.01	0.00050	400.00	0.00013
T-Mobile D 8	RFS APXVAARR24 43-U-NA20	600	13.14	129.00	4.00	120.00	2472.76	0.00038	400.00	0.00009
T-Mobile D 8	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	2.00	20.00	676.13	0.00010	1000.00	0.00001
T-Mobile D 8	RFS APXVAARR24_43-U-NA20	2100	17.32	129.00	4.00	240.00	12948.25	0.00061	1000.00	0.00006
T-Mobile D 8	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	140.00	4732.91	0.00069	1000.00	0.00007



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 D 8	RFS APXVAARR24_43-U-NA20	1900	15.29	129.00	4.00	160.00	5409.04	0.00079	1000.00	0.00008
T-Mobile E 9	GENERIC MICROWAVE	11000	38.65	128.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Verizon A 10	POWERWAVE P90-14-XLH-RR	700	9.55	150.00	4.00	160.00	1442.51	0.07986	466.67	0.01711
Verizon A 10	POWERWAVE P90-14-XLH-RR	850	10.65	150.00	4.00	160.00	1858.32	0.08451	566.67	0.01491
Verizon A 11	KMW AM-X-CD-16-65-00T-RET-	2100	15.35	150.00	4.00	160.00	5484.28	0.07830	1000.00	0.00783
Verizon B 12	POWERWAVE P90-14-XLH-RR	700	9.55	150.00	4.00	160.00	1442.51	0.00192	466.67	0.00041
Verizon B 12	POWERWAVE P90-14-XLH-RR	850	10.65	150.00	4.00	160.00	1858.32	0.00056	566.67	0.00010
Verizon B 13	KMW AM-X-CD-16-65-00T-RET-	2100	15.35	150.00	4.00	160.00	5484.28	0.00007	1000.00	0.00001
Verizon C 14	POWERWAVE P90-14-XLH-RR	700	9.55	150.00	4.00	160.00	1442.51	0.00171	466.67	0.00037
Verizon C 14	POWERWAVE P90-14-XLH-RR	850	10.65	150.00	4.00	160.00	1858.32	0.00085	566.67	0.00015
Verizon C 15	KMW AM-X-CD-16-65-00T-RET-	2100	15.35	150.00	4.00	160.00	5484.28	0.00014	1000.00	0.00001
Newtown, Town Of A 16	GENERIC OMNI	850	2.60	164.00	1.00	100.00	181.97	0.01372	566.67	0.00242
							Cumulative Power Density:	1.77744 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	0.22414%



Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level 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
RF EME Technical Writer II
Centerline Communications, LLC

