



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

January 8, 2021

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

RE: **Notice of Exempt Modification for T-Mobile:
842869 - T-Mobile Site ID: CT11733B
450 West Main Street, Meriden, CT 06451
Latitude: 41° 32' 24.11" / Longitude: -72° 49' 8.47"**

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 86-foot mount on the existing 100-foot Monopole Tower, located at 450 West Main Street, Meriden, CT. The tower is owned by Crown Castle and the property is owned by Hunter Family Limited Partnership. T-Mobile now intends to replace three (3) existing antennas with three (3) new 2500/2500 MHz antennas and three (3) new 600/700/1900 MHz antennas. The new antennas will be installed at the 86-ft mount level of the tower and are capable of providing 5G service. T-Mobile is also proposing tower mount modification pursuant to the enclosed Mount Analysis.

Planned Modifications:

Tower:

Remove:

(2) 1 5/8" Coax

Remove and Replace:

(3) LNX 6515DS-A1M Antenna **(REMOVE)** - (3) AIR6449 B41 Antenna 2500/2500 MHz **(REPLACE)**

(3) RRUS11 B12 **(REMOVE)** – (3) Radio 4449 B71/B12 **(REPLACE)**

Install New:

(2) 1 5/8" Hybrid Fiber Line

(3) RFS-APXVAARR24_43-U-NA20 Antenna 600/700/1900 MHz

(3) Radio 4415 B25

Existing to Remain:

(9) 1 5/8" Coax

(2) Fiber line

(3) AIR32_B66A_B2A Antenna 1900/2100 MHz

(3) AIR21_KRC118023-1_B2A_B4P Antenna 1900/2100 MHz

(3) TMA

Ground:

Proposed 4'x6' concrete equipment pad for (2) proposed cabinets.

The Foundation for a Wireless World.

CrownCastle.com

The facility was approved for a replacement tower by the Connecticut Siting Council in Petition No. 614 on March 11, 2013.

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 Scarpati, Mayor for the City of Meriden, Paul Dickson, Planning Director, Crown Castle as the tower owner, and the Hunter Family Limited Partnership as the property 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: Anne Marie Zsamba.

Sincerely,

Anne Marie Zsamba
Site Acquisition Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments

cc:

Kevin Scarpati, Mayor
City of Meriden
Office of the Mayor

Melanie A. Bachman

Page 3

142 East Main Street
Meriden, CT 06450
203.630.4084

Paul Dickson, Planning Director
City of Meriden
Planning & Zoning
142 East Main Street
Meriden, CT 06450
203.630.4084

Hunter Family Limited Partnership, Property Owner
450 West Main Street
Meriden, CT 06451

Crown Castle, Tower Owner

ORIGIN ID: SCHA (201) 236-9224
ANNE MARIE ZSAMBRA
CROWN CASTLE
21 HEATHER DRIVE

SHIP DATE: 08JAN21
ACT WGT: 1.00 LB
CAD: 104924194/NET4280

GANSEVOORT, NY 12831
UNITED STATES US

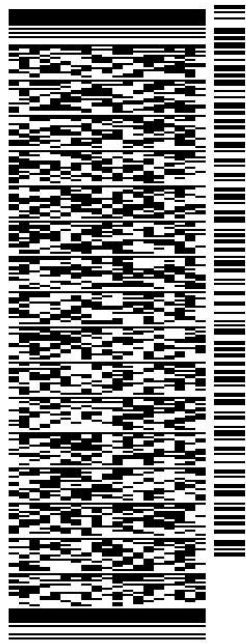
BILL SENDER

TO HUNTER FAMILY LIMITED PARTNERSHIP

450 WEST MAIN STREET

MERIDEN CT 06451

(201) 236-9224 REF: 1734 7890
INV/ PO: DEPT:



J202020071401uv

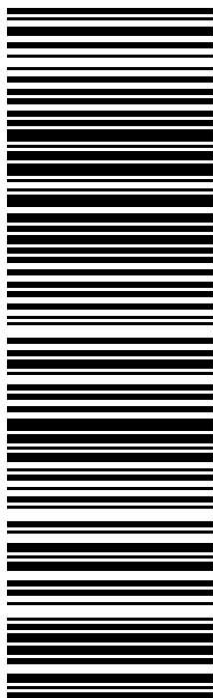
56BJ111136/B766

TRK# 7725 7149 4661
0201

MON - 11 JAN 10:30A
PRIORITY OVERNIGHT

SE RSPA

06451
CT-US BDL



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Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID: SCHA (201) 236-9224
ANNE MARIE ZSAMBA
CROWN CASTLE
21 HEATHER DRIVE

GANSEVOORT, NY 12831
UNITED STATES US

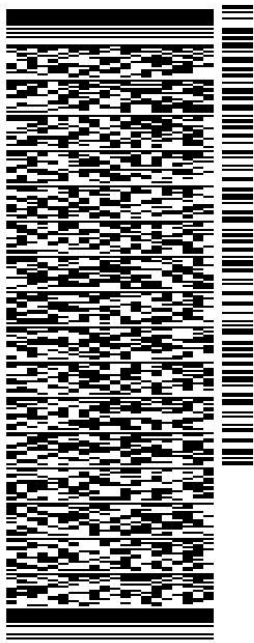
SHIP DATE: 08JAN21
ACT WGT: 1.00 LB
CAD: 104924194/INET4280

BILL SENDER

TO **MAYOR KEVIN SCARPATI**
CITY OF MERIDEN
142 EAST MAIN ST

MERIDEN CT 06450

(518) 373-3543 REF: 1734 7890
INV/ PO DEPT:



J202020071401uv

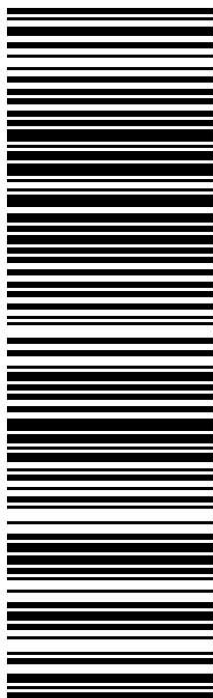
56BJ1/1136/B766

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MON - 11 JAN 10:30A
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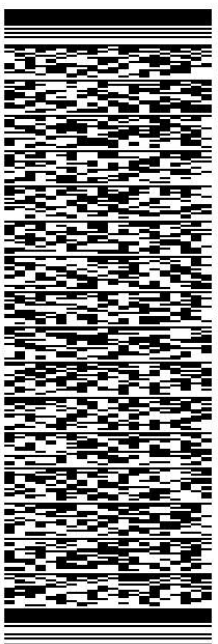
TO **PAUL DICKSON, PLANNING DIRECTOR**
CITY OF MERIDEN
142 EAST MAIN ST

MERIDEN CT 06450

REF: 1734 7890

INV/
PO:

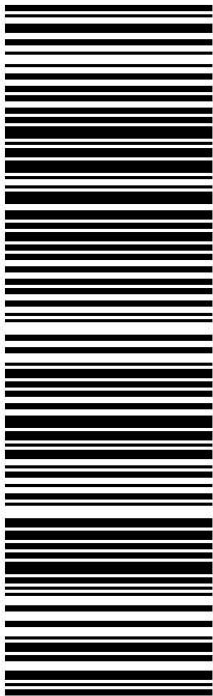
DEPT:



TRK# 7725 7148 9033
0201

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Exhibit A

Original Facility Approval

Petition No. 614
AT&T Wireless PCS, LLC
Staff Report
March 11, 2003

On March 5, 2003, Connecticut Siting Council (Council) member Philip T. Ashton and Christina Lepage of the Council staff met with AT&T Wireless PCS, LLC (AT&T) representatives Anthony Gioffre III, and Charisma King at 450-478 West Main Street, Meriden, Connecticut for the inspection of an existing tower site. The existing property and structure are owned by Hunters Family Limited Partnership. AT&T proposes to replace the existing structure and is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the modification.

The existing facility consists of a 100-foot guyed lattice tower, which is currently used by Hunter's Ambulance Company. AT&T proposes to replace the existing guyed lattice tower with a 100-foot monopole approximately 15 feet to the southeast. Existing antennas used by the ambulance company would be relocated to the top of the monopole. AT&T proposes to install 6 panel antennas at the 100-foot level of the proposed monopole. The proposed monopole would be designed to accommodate the antennas of two additional carriers.

The proposed equipment would be located at the base of the tower within 7-foot by 16-foot equipment pad. An 8-foot high stockade fence would surround the equipment compound. AT&T proposes to install a retaining wall along the southern portion of the equipment compound.

Access to the site would be via an existing driveway. AT&T proposes to provide utilities to the site overhead from an existing utility pole to the south. The utility corridor would cross over property recently purchased by Hunter's Ambulance Company. Two new poles would be necessary to install a utility line to the site. AT&T submits that the proposed overhead utility installation would cause the least amount of disturbance to the site and surrounding area, due to the presence of bedrock, sidewalks and a parking lot.

Surrounding land uses include a mix of residential and commercial uses. The proposed site is zoned Commercial. The calculated cumulative worst-case radio frequency power density would not exceed the applicable standard.

AT&T contends that it would not need to construct a telecommunications tower to provide coverage to this area of Meriden, and the proposed modification of the existing structure would not cause a substantial adverse environmental effect. Staff recommends approval, with the condition that the tower be situated so as to avoid the removal of an existing tree.

Exhibit B

Property Card



CITY OF MERIDEN

GIS Services

PROPERTY INFORMATION Location: **450 WEST MAIN ST** Map/Lot: 0612-0202-0001-0002

OWNER INFORMATION Owner(s): HUNTER FAMILY LTD PRTSHP Owner Address: 450 W MAIN ST
MERIDEN, CT 06451

BUILDING INFORMATION

Card Number: 1

Total Units: 0

OVERVIEW	
Building ID	9661
Finished Area	27,374
Comm/Rental Units	0
Living Units	0
Building Type	Mixed Use-M
Year Built	1980
Effective Yr Built	
Building Number	1
Condo Name	

INTERIOR DETAILS	
Rooms	
BedRooms	
Full Bath	0
Full Bath Rating	
Half Bath	0
Half Bath Rating	
Kitchens	0
Kitchen Rating	
Fireplaces	0

CONSTRUCTION DETAILS	
Exterior	Brick
Roof Structure	Gable
Roof Cover	Asphalt
Quality	C
Heat Fuel	Oil
Heat Type	Forced Air
Prcnt. Heated	100.00
Prcnt. AC	50.00
Stories	2 story
Foundation	Concrete

Sub Area Summary

Building ID	Description	Total Area	Fin. Area	Perimeter
9661	1st FLOOR	4,980	4,980	388
9661	1st FLOOR	3,988	3,988	272
9661	2nd FLOOR	4,980	4,980	388
9661	CARPORT	4,312	0	284
9661	GARAGE	1,248	0	152
9661	OPEN PORCH	160	0	74

Special Features

No Special Features found.

APPRAISAL INFORMATION

Tax District: 2 District Name: INNER DISTRICT District Mill Rate: 43.41

Grand List
Year: 2019

Land Appraised	Building Appraised	Yard Appraised	Total Appraised Value	Land Assessed	Building Assessed	Yard Assessed	Special Land Value	Total Assessed Value
\$487,100	\$1,578,500	\$42,800	\$2,108,400	\$340,970	\$1,104,950	\$29,960	\$0	\$1,475,880

Previous
Year: 2018

Land Value	Building Value	Yard Items	Appraised Value	Land Value	Building Value	Yard Items	Assessed Value
\$487,400	\$1,578,400	\$42,800	\$2,108,600	\$341,180	\$1,104,880	\$29,960	\$1,476,020

LAND INFORMATION

Land Use	Zoning	Land Area	Neighborhood Description
Comm Bldg	C-2	2.60069	OUTER W. MAIN

*Confirm zoning with Planning Office.
Zoning map is the official document to determine zone.

SALES INFORMATION

Sale Date	Sale Price	Book	Page	Grantor	Grantee	Deed Type
12/31/1997	\$650,000	2322	336			

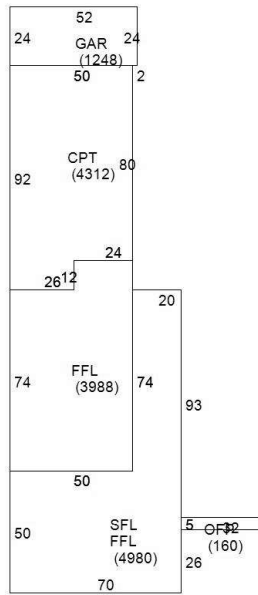
ASSESSOR'S PERMIT HISTORY

Date	Permit#	Description	Permit Type	Status	Cost
5/10/2017	B-17-334	REPLACE ROOF.		Closed	\$31,275
4/21/2017	B-17-267	REPLACE ANTENNA PANELS.ADD REMOTE RADIO HEADS TO CELL TOWER.		Closed	\$15,000
3/6/2017	B-17-109	AT&T REPLACE 3 ANTENNA & 3 RRU'S TO EXISTING EQUIPMENT.		Closed	\$20,000
7/15/2016	B-16-659	REPLACE 3 ANTENNAI W/NEW.		Closed	\$19,450
9/24/2015	B-15-743	AT&T ADD 3 ANTENNAE/3 RRU'S/1 FIBER LINE TO EXISTING EQUIPMENT ON TOWER.		Closed	\$20,000
6/22/2015	E-15-295	INSTALL NEW 150A SERVICE (VERIZON),aAPPROVED BY BLDG DEPT.		Closed	\$25,000
5/18/2015	E-15-210	NEW 200A/3PH/4W/ SERVICE FROM MDP TO SHELTER BLDG.		Closed	\$5,000
4/6/2015	P-15-64			Closed	\$10,000
2/20/2015	B-15-61	INSTALL ANTENNAE & GROUND EQUIPMENT FOR VERIZON WIRELESS TELE.		Closed	\$75,000
1/5/2015	B-14-285	ADD ANTENNAE TO EXISTING TOWER		Closed	\$15,000
7/21/2014	2157			Closed	\$30,000
6/6/2014	1664			Closed	\$8,000
6/6/2014	1665			Closed	\$1,000
2/25/2013	473	SPRINT - MODIF. TO TELEC. INSTALLATION ON MONOPOLE TOWER, REPL. 3 ANTENNA & CABLES AND ADD RRH'S AND NOTCH FILTERS BEHIND THE NEW ANTENNA ON TOWER, ADD CIENA EQUIP. ENCL. & FIBER JUNCTION BOX & EITHER RETROFIT OR REPLACE BTS CABINET WITHIN EQUIP. SHELTER.		Closed	\$30,000
12/21/2012	3950	AT&T - REMOVE & REPLACE ONE D.C. POWER CABINET, INSTALL NEW LTE EQUIPMENT ON OPEN SLAB, CONDUITS, AC & DC CIRCUITS, FIBER OPTICS, GROUNDING & BONDING.		Closed	\$3,800
11/1/2012	3422	AT&T - ADD 3 LTE ANTENNAS, SURGE ARRESTOR, RRU'S, PURCELL CABINET, CONCRETE PAD & DC/FIBER LINES		Closed	\$25,000
12/5/2003	4261	200 AMP SERV	CA	Closed	\$9,400
12/5/2003	4261	AT&T WIRELESS CELLSITE	CA	Closed	\$9,400
8/28/2003	3042	REP EX COMMUNI TOWER	CA	Closed	\$125,000
8/28/2003	3042	INSTALL COMMUNICA EQUIPME	CA	Closed	\$125,000
1/1/1900	3042	INSTALL COMMUNICA EQUIPME	CA	Closed	\$125,000
1/1/1900	4261	200 AMP SERV	CA	Closed	\$9,400
1/1/1900	3042	REP EX COMMUNI TOWER	CA	Closed	\$125,000
1/1/1900	4261	AT&T WIRELESS CELLSITE	CA	Closed	\$9,400

PROPERTY
IMAGES



1 2



9663
0612-0202-0001-0002
1

Exhibit C

Construction Drawings

T-MOBILE NORTHEAST LLC

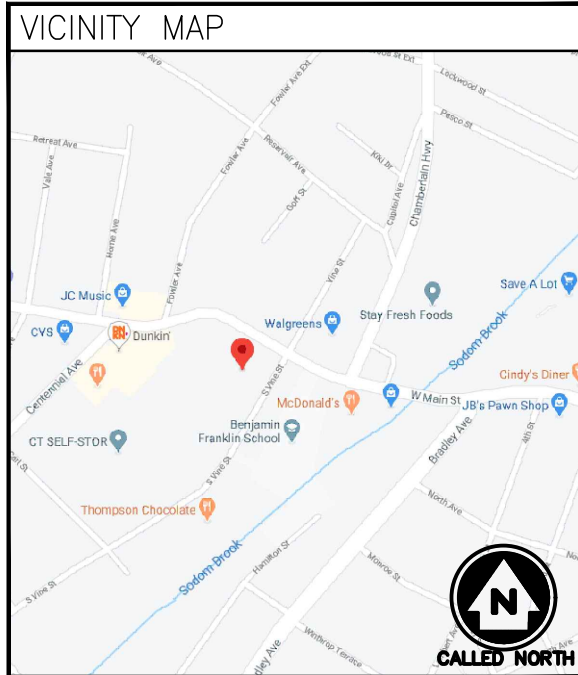
T-MOBILE SITE NUMBER: CT11733B

CT733/AT&THNTR AMBLNCE FT

CROWN CASTLE BU NUMBER: 842869

462 WEST MAIN STREET
MERIDEN, CT 06451

(67D5A992DB OUTDOOR CONFIGURATION)



DO NOT SCALE DRAWINGS
CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL:
"CALL BEFORE YOU DIG"
WWW.CBYD.COM
CALL 811

CALL THREE WORKING DAYS PRIOR TO DIGGING
SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC - RED	SEWER - GREEN
GAS/OIL - YELLOW	SURVEY - PINK
TEL/CATV - ORANGE	PROPOSED EXCAVATION - WHITE
WATER - BLUE	RECLAIMED WATER - PURPLE

GENERAL NOTES

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

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 CT STATE BUILDING CODE
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

PROJECT SUMMARY

SITE NUMBER:	CT11733B	APPLICANT:	T-MOBILE NORTHEAST LLC 103 MONARCH DRIVE LIVERPOOL, NY 13088
SITE NAME:	CT733/AT&THNTR AMBLNCE FT		
SITE ADDRESS:	462 WEST MAIN STREET MERIDEN, CT 06451	PROJECT MANAGER:	CROWN CASTLE 1200 MACARTHUR BLVD, SUITE 200 MAHWAH, NJ 07430
TOWER OWNER:	CROWN CASTLE 3 CORPORATE PARK DRIVE CLIFTON PARK, NY 12065	CONTACT:	LORI DEGENOVA (865) 296-8988
CROWN BU NUMBER:	842869	ARCHITECT/ENGINEER:	INFINIGY ENGINEERING 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205
LAT./LONG.:	N 41.53997700' / W -72.81906000'	CONTACT:	ALEX WELLER 518-690-0790
CONSTRUCTION TYPE:	ANCHOR		

PROJECT DESCRIPTION

- | | | |
|---|---|---|
| <input type="checkbox"/> EXISTING SELF SUPPORT | <input checked="" type="checkbox"/> EXISTING CABINET(S) | <input checked="" type="checkbox"/> OUTDOOR |
| <input type="checkbox"/> EXISTING GUYED TOWER | <input type="checkbox"/> EXISTING RBS 2106 | <input type="checkbox"/> INDOOR |
| <input type="checkbox"/> EXISTING TRANSMISSION TOWER | <input checked="" type="checkbox"/> EXISTING RBS 6131 | <input checked="" type="checkbox"/> EXISTING CONCRETE PAD |
| <input type="checkbox"/> EXISTING WATER TANK | <input type="checkbox"/> EXISTING RBS 6201 | <input type="checkbox"/> EXISTING STEEL PLATFORM |
| <input type="checkbox"/> EXISTING BUILDING | <input type="checkbox"/> EXISTING BATTERY | <input type="checkbox"/> EXISTING PPC |
| <input checked="" type="checkbox"/> EXISTING MONOPOLE | <input type="checkbox"/> SITE SUPPORT CABINET | <input checked="" type="checkbox"/> EXISTING PANELBOARD |
| <input type="checkbox"/> EXISTING FORT WORTH | <input checked="" type="checkbox"/> GPS | |

T-MOBILE NORTHEAST LLC PROPOSES THE MODIFICATION OF AN UNMANNED WIRELESS BROADBAND FACILITY, INCLUDING:

TOWER SCOPE
REMOVE (3) PANEL ANTENNAS, INSTALL (6) PANEL ANTENNAS, REMOVE (3) RRUS, INSTALL (6) RRUS, ADD (2) 6x12 HYBRID CABLES, REMOVE (2) EXISTING COAX. MODIFY EXISTING PLATFORM

GROUND SCOPE
ADD (1) 66160 CABINET, ADD (1) B160 BATTERY CABINET, REMOVE EXISTING NORTEL CABINET

SHEET INDEX

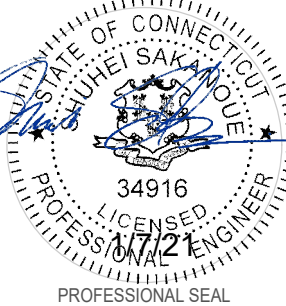
SHEET	DESCRIPTION
T-1	TITLE SHEET
C-1	SITE PLAN
C-2	COMPOUND PLAN & ELEVATION
C-3	RF SCHEDULE
C-4	EQUIPMENT SPECIFICATIONS
E-1	GROUNDING DIAGRAMS
E-2	ONE LINE DIAGRAM & PANEL SCHEDULE
E-3	COAX/FIBER PLUMBING DIAGRAM
N-1	GENERAL AND ELECTRICAL NOTES



DATE	DESCRIPTION	REVISION
07/28/20	FOR REVIEW	A
08/11/20	REVISED PER COMMENT	B
11/13/20	FOR CONSTRUCTION	0
12/23/20	REVISED INNERCONNECT DESIGN	1
01/07/21	CODE ADDED	2

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 1039-C0002-C
DRAWN BY: BMM
CHECKED BY: ASW



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NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NATED SCALE.

SITE NUMBER
CT11733B

SITE NAME
CT733/AT&THNTR AMBLNCE FT
462 WEST MAIN STREET
MERIDEN, CT 06451

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



INFINIGY8
 INFINIGY ENGINEERING, PLLC
 1033 Wateryield Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793

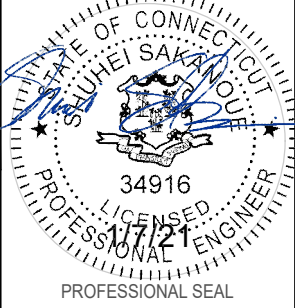
- GENERAL SITE NOTES:**
1. A COMPLETE BOUNDARY SURVEY OF THE HOST PARCEL HAS NOT BEEN PERFORMED BY INFINIGY. BOUNDARY INFORMATION IF SHOWN WAS OBTAINED FROM INFORMATION PROVIDED BY OTHERS. PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
 2. BASEMAPPING INFORMATION BASED ON PROVIDED INFORMATION.
 3. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
 4. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
 5. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
 6. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
 7. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
 8. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCING WORK.
 9. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

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RF MAN.			
ZONING			
OPS			
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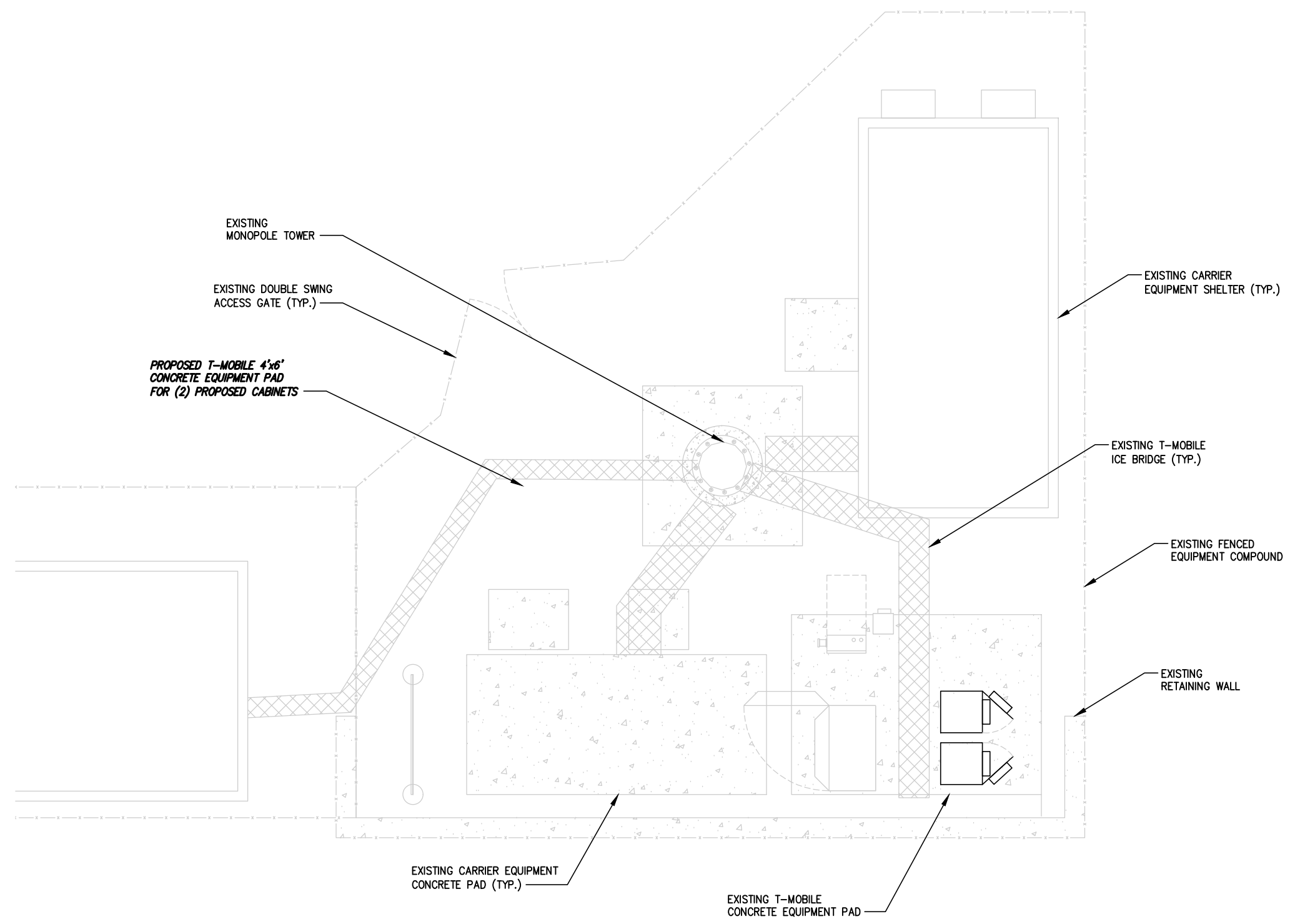
SITE NUMBER
 CT11733B
SITE NAME
 CT733/AT&THNTR AMBLNCE FT
 462 WEST MAIN STREET
 MERIDEN, CT 06451

SHEET TITLE
SITE PLAN

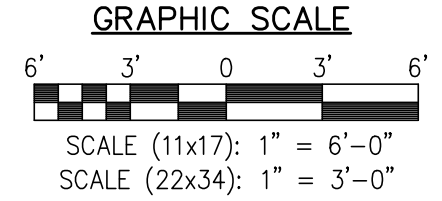
SHEET NUMBER
C-1

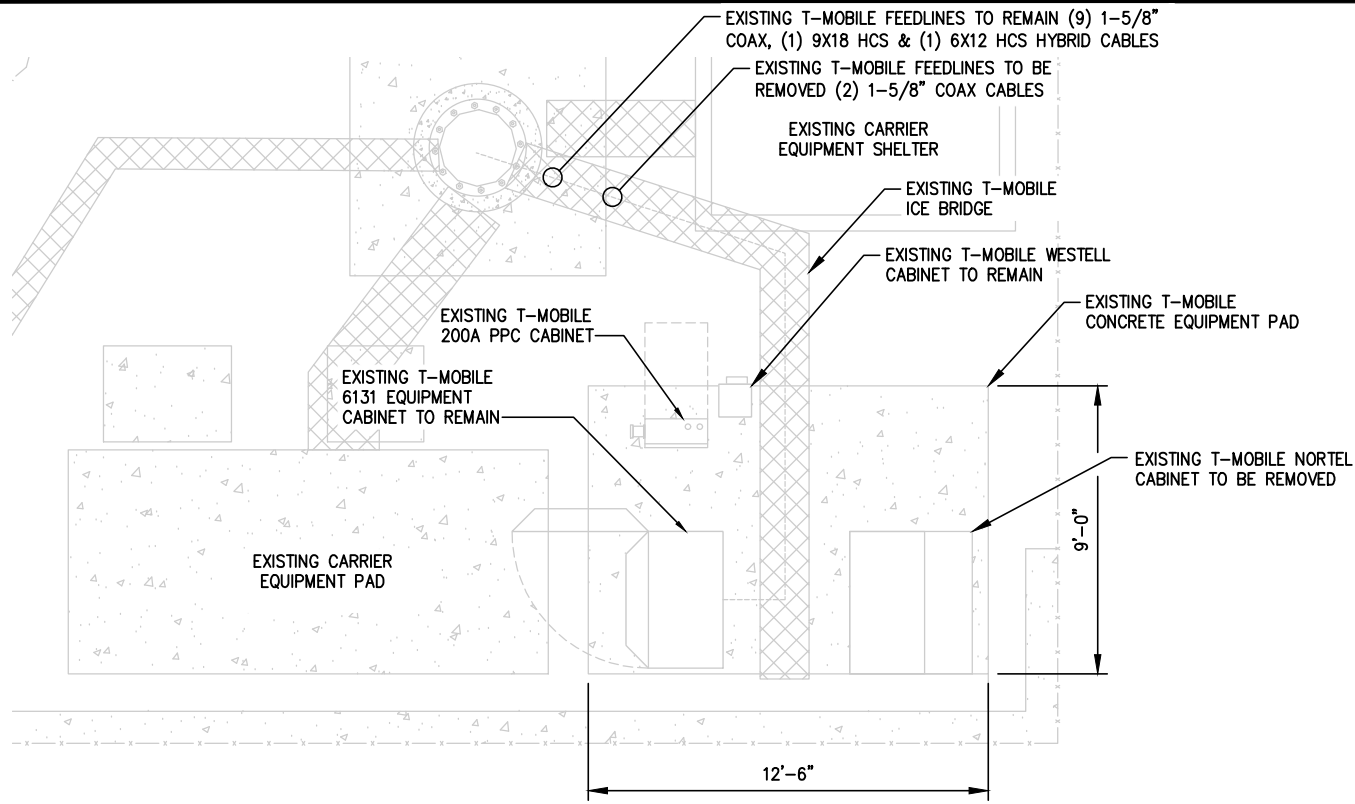
SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- - - - CHAIN LINK FENCE
- OPAQUE WOODEN FENCE
- ⊗ TREES/SHRUBS
- ~ TREE LINE
- ⊗ UTILITY POLE
- (E) EXISTING
- (N) NEW
- (P) PROPOSED
- (F) FUTURE

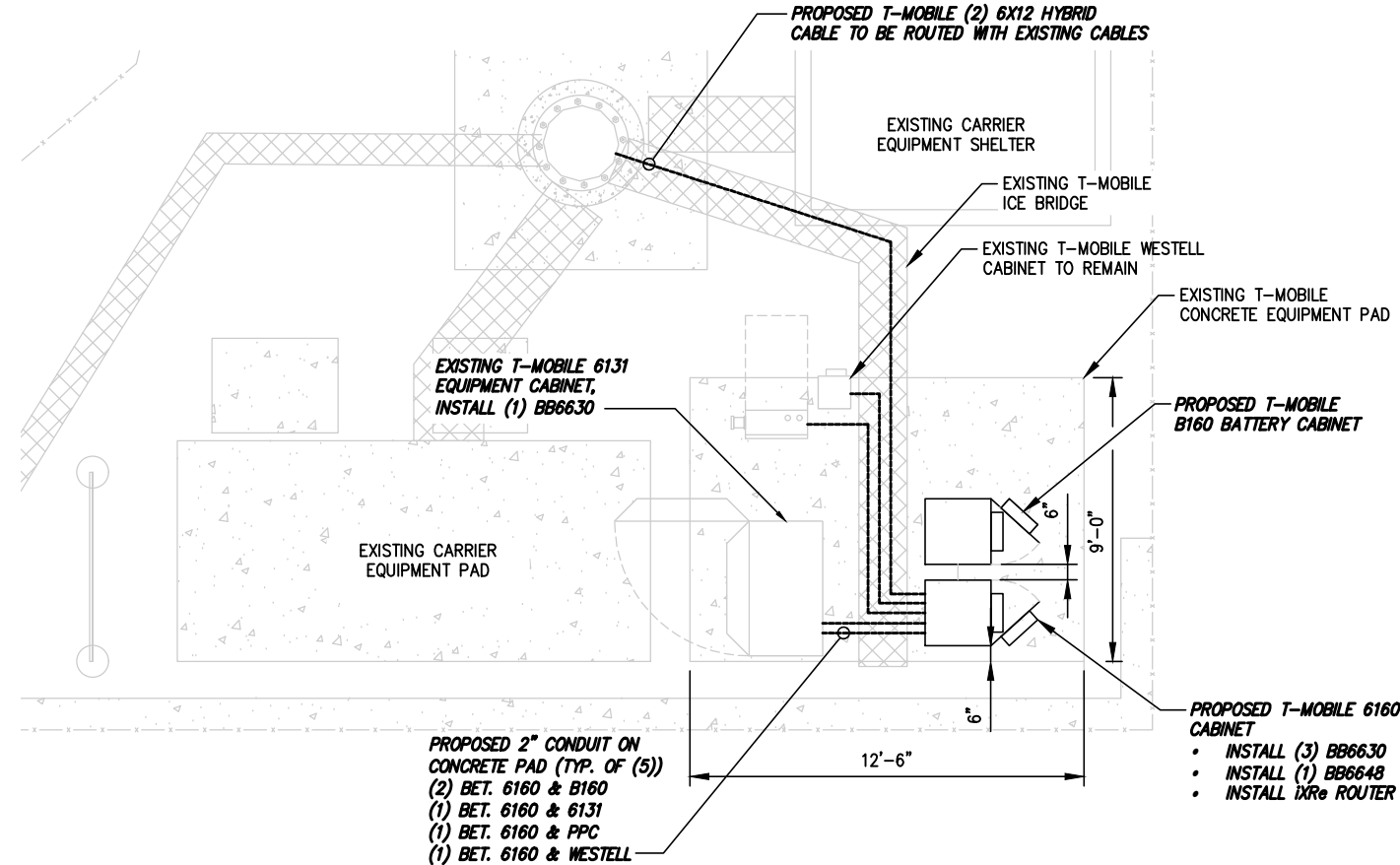


1 COMPOUND PLAN
 SCALE: AS NOTED



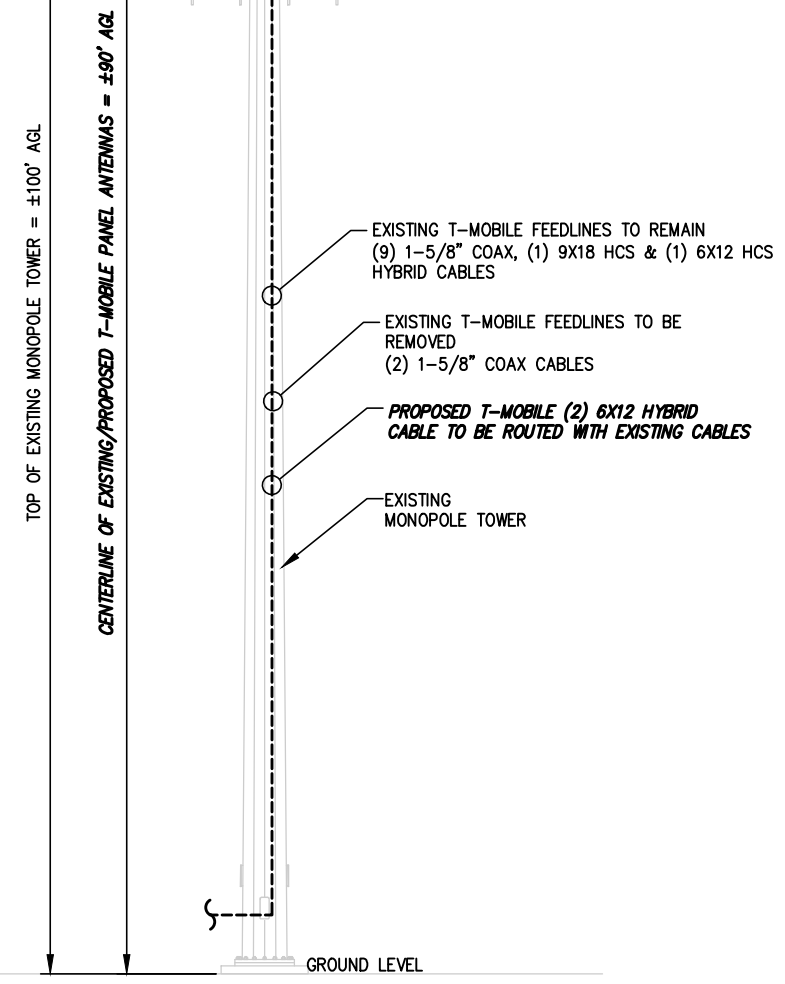
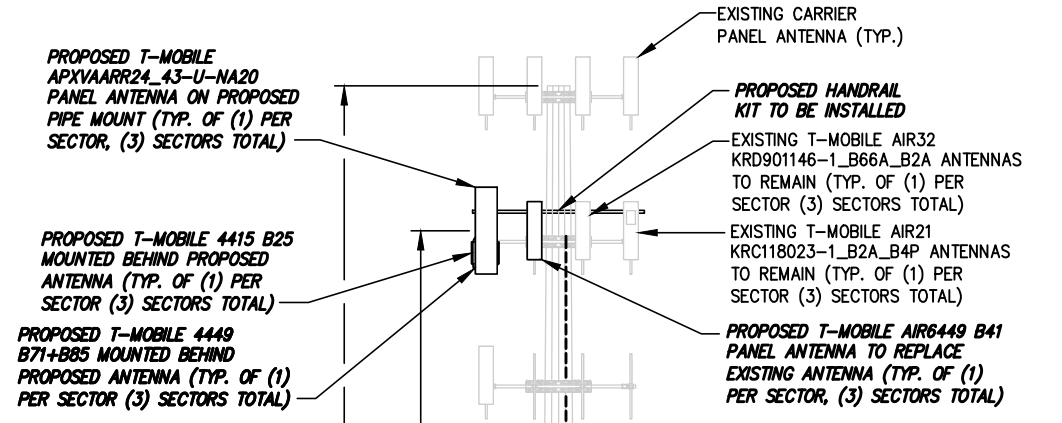


1 EXISTING EQUIPMENT PLAN
SCALE: 1"=6'
CALLED NORTH



2 PROPOSED EQUIPMENT PLAN
SCALE: 1"=6'
CALLED NORTH

NOTE:
 • INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY STRUCTURAL ANALYSIS.
 • FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE "MOUNT ANALYSIS REPORT" COMPLETED BY INFINIGY, DATED 6/22/20. INSTALL COMMSCOPE MT-195-12 HANDRAIL KIT 42" ABOVE MOUNT FACE HORIZONTAL PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT



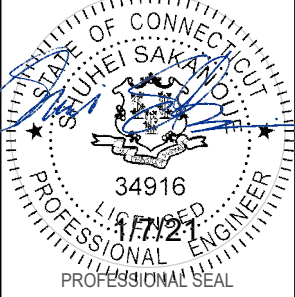
3 TOWER ELEVATION
NOT TO SCALE

SUBMITTALS

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RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 1039-C0002-C
 DRAWN BY: BMM
 CHECKED BY: ASW



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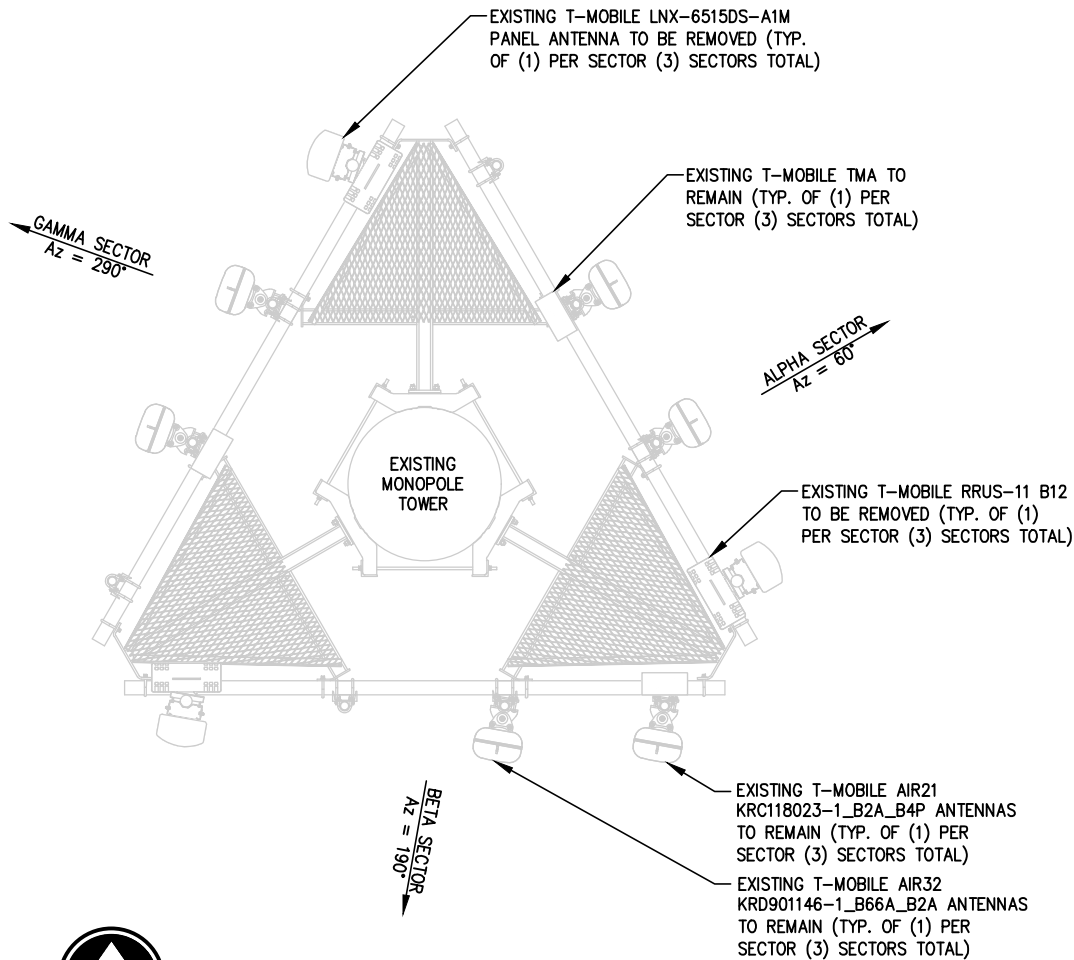
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 CT11733B

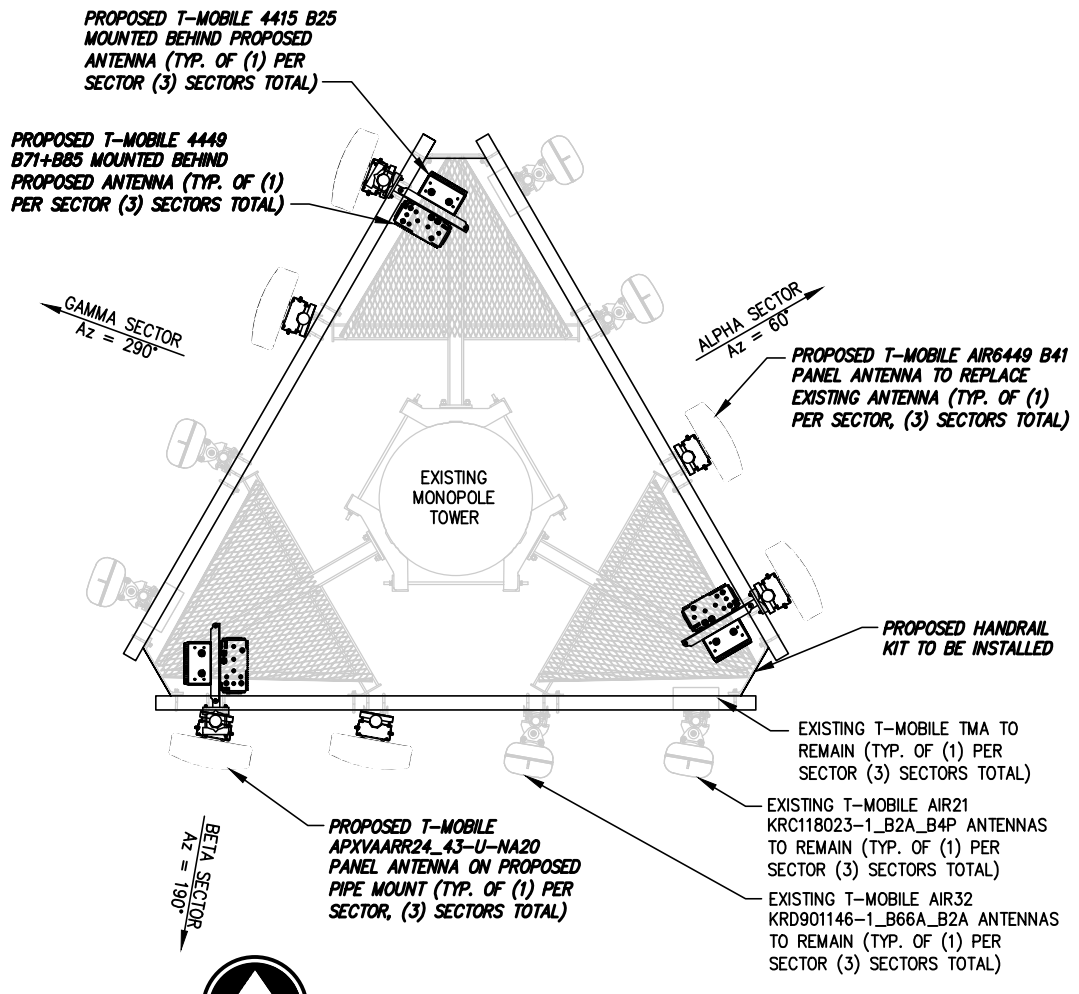
SITE NAME
 CT733/AT&THNTR AMBLNCE FT
 462 WEST MAIN STREET
 MERIDEN, CT 06451

SHEET TITLE
COMPOUND PLAN & ELEVATION

SHEET NUMBER
C-2



1 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

STRUCTURAL NOTES:
1. SPECIFICATIONS / CODES:
 -CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
 -STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 9TH EDITION.
 -WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-92 "STRUCTURAL WELDING" CODE-STEEL.
 -REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI), "MANUAL OF STANDARD PRACTICE."
2. MATERIALS:
 -CONCRETE: fc' - 3000psi. (MIN. U.N.O.)
 -REINFORCING STEEL: ASTM A615, GRADE 60.
 -WIRE MESH: ASTM A185.
 -STRUCTURAL STEEL: ASTM A36.
 -ELECTRODES FOR WELDING: E 70xx.
 -GALVANIZING: ASTM A153 (BOLTS) OR ASTM A123 (SHAPES, PLATES).
 -EXPANSION BOLTS: HILTI KWIK BOLT II, STAINLESS STEEL, 3/4"x43/4" EMBEDMENT OR AN APPROVED EQUAL.

T-Mobile
 T-MOBILE NORTHEAST LLC
 103 MONARCH DRIVE
 LIVERPOOL, NY 13088

CROWN CASTLE
 CROWN CASTLE
 1200 MACARTHUR BLVD, SUITE 200
 MAHWAH, NJ 07430

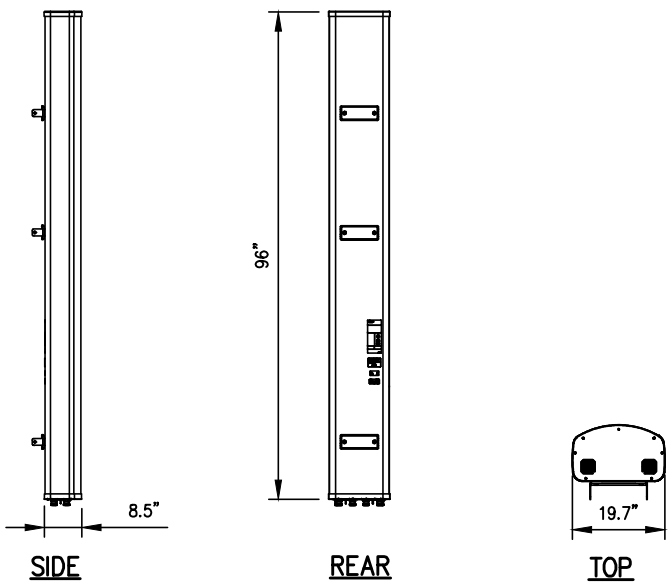
INFINIGY8
 INFINIGY ENGINEERING, PLLC
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793

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SITE AC.			

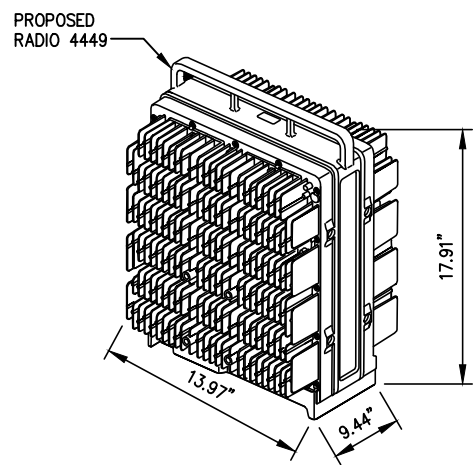
PROJECT NO: 1039-C0002-C
 DRAWN BY: BMM
 CHECKED BY: ASW



RFS MODEL NO.: APXVAARR24_43-U-NA20

RADOME MATERIAL: FIBERGLASS, UV RESISTANT
RADOME COLOR: LIGHT GRAY
DIMENSIONS, HxWxD: 96"x19.7"x8.5" (2438 x 500 x 216 mm)
WEIGHT, W/ PRE-MOUNTED BRACKETS: 60.5 LBS (133.4 kg)
CONNECTOR: 7-16 DIN FEMALE

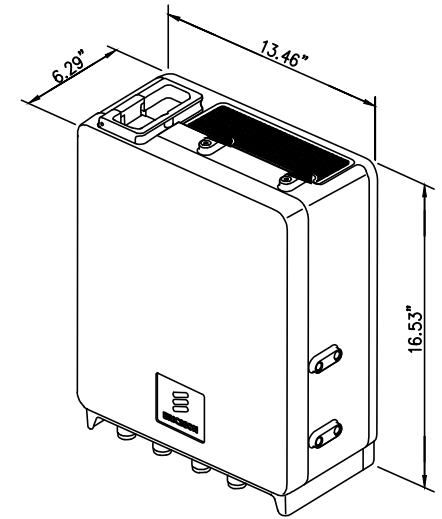
3 ANTENNA DETAIL
NOT TO SCALE



RADIO 4449 SPECIFICATIONS

- HxWxD, (INCHES) : 17.91"x13.97"x9.44"
- WEIGHT (LBS) : 70.54
- COLOR : GRAY

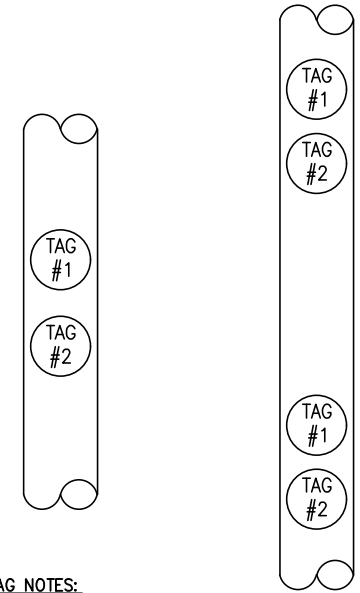
4 ERICSSON RADIO 4449 DETAIL
NOT TO SCALE



RADIO 4415 SPECIFICATIONS

- HxWxD, (INCHES): 16.53"x13.46"x6.29"
- WEIGHT (LBS): 47.4
- COLOR: NCS S 1002-B/NCS S 6502-B

5 ERICSSON RADIO 4415 DETAIL
NOT TO SCALE



METALLIC TAG NOTES:

- TWO METALLIC TAGS SHALL BE ATTACHED AT EACH END OF EVERY CABLE LONGER THAN (3) THREE FEET.
- CABLES LESS THAN (3) THREE FEET WILL HAVE TWO METALLIC TAGS ATTACHED AT THE CENTER OF THE CABLE.
- TAGS WILL BE FASTENED WITH STAINLESS STEEL ZIP TIES APPROPRIATE FOR CABLE DIAMETER.
- STANDARDIZED METALLIC TAG KITS WILL BE ASSEMBLED WITH TAGS ALREADY ENGRAVED TO ACCOMMODATE ALL CONFIGURATIONS.

6 METALLIC TAG DETAIL
NOT TO SCALE

STATE OF CONNECTICUT
 SHUHEI SAKAIGU
 34916
 LICENSED PROFESSIONAL ENGINEER
 PROFESSIONAL SEAL

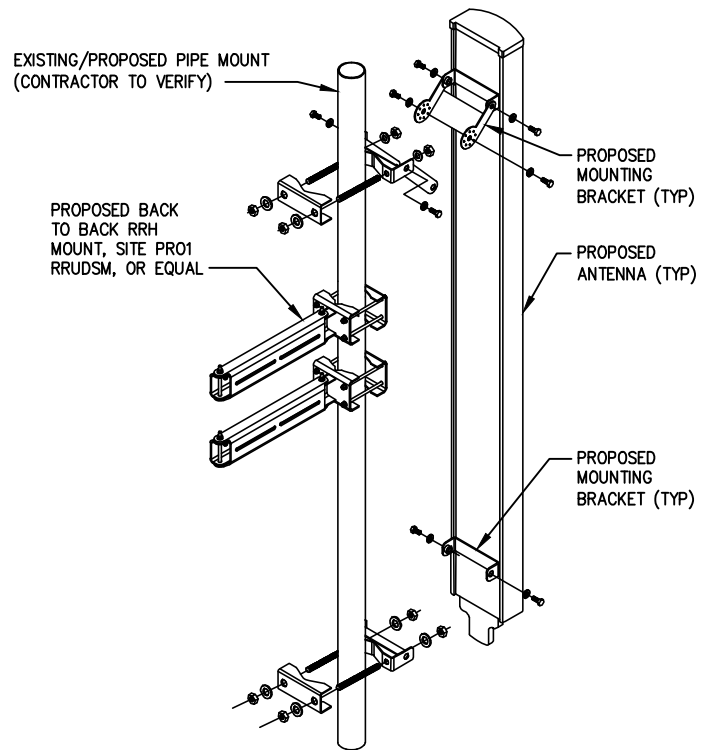
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 462 WEST MAIN STREET
 MERIDEN, CT 06451

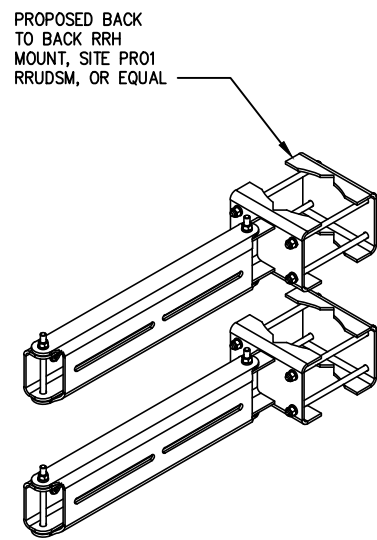
SHEET TITLE
ANTENNA DETAILS

SHEET NUMBER
C-3



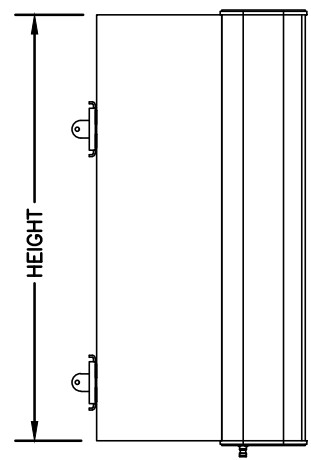
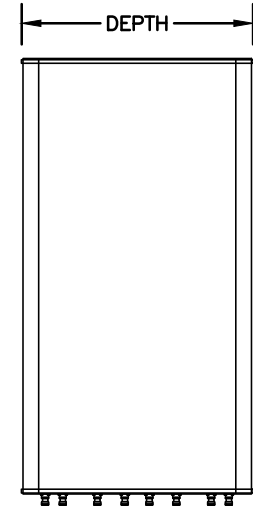
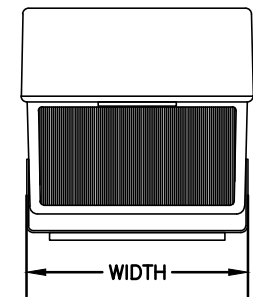
1 ANTENNA MOUNTING DETAIL
NOT TO SCALE

NOTE:
3RD RRH MOUNT SHALL BE
INSTALLED TO ACCOMMODATE
DIFFERENT RRH BRACKETS IF NEEDED.

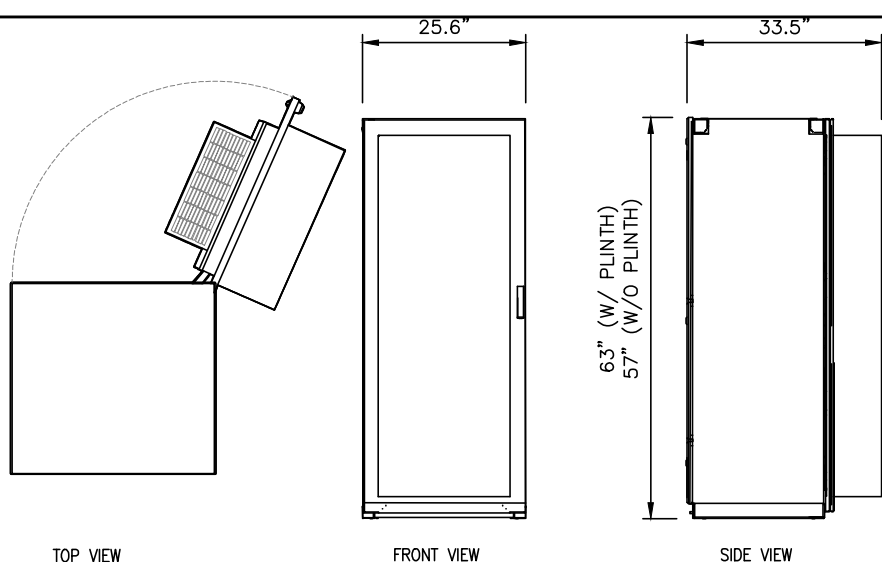


2 B2B RRH MOUNTING DETAIL
NOT TO SCALE

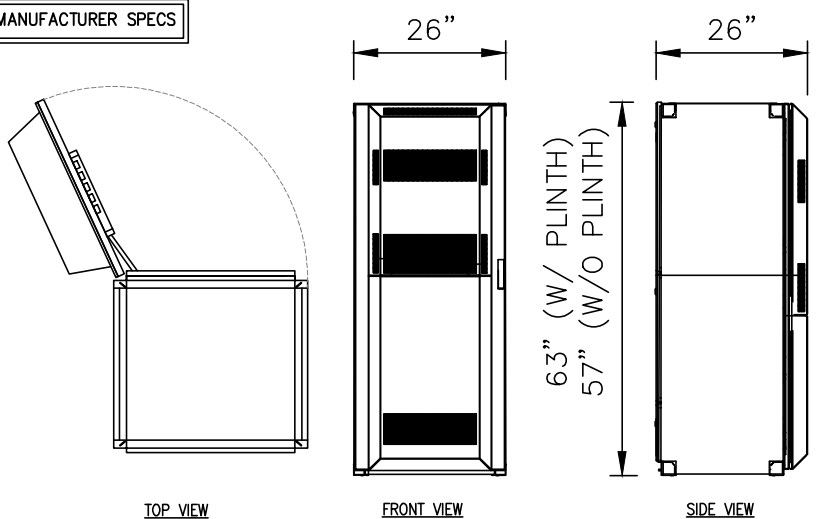
ERICSSON ANTENNA SPECIFICATIONS	
MANUF.	ERICSSON
MODEL #	AIR6449 B41
HEIGHT	33.1"
WIDTH	20.5"
DEPTH	8.3"
WEIGHT	112.4± LBS.



3 AIR6449 B41 DETAIL
NOT TO SCALE



INSTALL PER MANUFACTURER SPECS



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

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

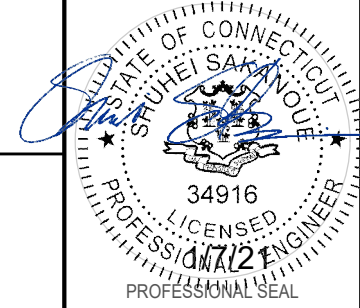
4 6160 CABINET AND B160 CABINET DETAIL
NOT TO SCALE

5 DETAIL NOT USED
NOT TO SCALE

SUBMITTALS		
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07/28/20	FOR REVIEW	A
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SHEET TITLE
ANTENNA DETAILS

SHEET NUMBER
C-4

FINAL ANTENNA CONFIGURATION

SECTOR	BAND	ANTENNA MODEL	ANTENNA RAD	AZIMUTH	ELECTRICAL TILT	MECHANICAL TILT	RADIOS	TMAS	CABLE FEED LINES	CABLE LENGTH
A	U1900/G1900/U2100	(E) AIR21 KRC118023-1 B2A/B4P	90'-0"	60°	5°/5°	0°	--	(E) GENERIC TWIN STYLE 1B AWS	(3) (E) COAX CABLES	±110'
	L1900/L2100	(E) AIR32 KRD901146-1 B66A/B2A	90'-0"	60°	5°/5°	0°	--	--	(1) (E) 9X18 HCS HYBRID CABLE (SHARED)	±110'
	L2500/N2500	(P) AIR6449 B41	90'-0"	60°	5°/5°	0°	--	--	(1) (P) 6X12 HYBRID CABLE (SHARED)	±110'
	L600/L700/N600/L1900	(P) APXVAARR24_43-U-NA20	90'-0"	60°	5°	0°	(P) RADIO 4449 B71+B85 (P) 4415 B25	--	(1) (P) 6X12 HYBRID CABLE (SHARED)	±110'
B	U1900/G1900/U2100	(E) AIR21 KRC118023-1 B2A/B4P	90'-0"	190°	5°/5°	0°	--	(E) GENERIC TWIN STYLE 1B AWS	(3) (E) COAX CABLES	±110'
	L1900/L2100	(E) AIR32 KRD901146-1 B66A/B2A	90'-0"	190°	5°/5°	0°	--	--	(1) (E) 9X18 HCS HYBRID CABLE (SHARED)	±110'
	L2500/N2500	(P) AIR6449 B41	90'-0"	190°	5°/5°	0°	--	--	(1) (P) 6X12 HYBRID CABLE (SHARED)	±110'
	L600/L700/N600/L1900	(P) APXVAARR24_43-U-NA20	90'-0"	190°	5°	0°	(P) RADIO 4449 B71+B85 (P) 4415 B25	--	(1) (P) 6X12 HYBRID CABLE (SHARED)	±110'
C	U1900/G1900/U2100	(E) AIR21 KRC118023-1 B2A/B4P	90'-0"	290°	5°/5°	0°	--	(E) GENERIC TWIN STYLE 1B AWS	(3) (E) COAX CABLES	±110'
	L1900/L2100	(E) AIR32 KRD901146-1 B66A/B2A	90'-0"	290°	5°/5°	0°	--	--	(1) (E) 9X18 HCS HYBRID CABLE (SHARED)	±110'
	L2500/N2500	(P) AIR6449 B41	90'-0"	290°	5°/5°	0°	--	--	(1) (P) 6X12 HYBRID CABLE (SHARED)	±110'
	L600/L700/N600/L1900	(P) APXVAARR24_43-U-NA20	90'-0"	290°	5°	0°	(P) RADIO 4449 B71+B85 (P) 4415 B25	--	(1) (P) 6X12 HYBRID CABLE (SHARED)	±110'

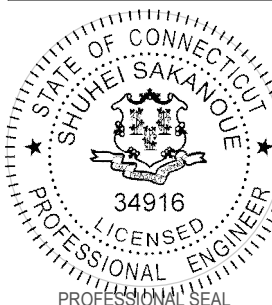
* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20% BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.

1 RF ANTENNA SCHEDULE
-- NOT TO SCALE

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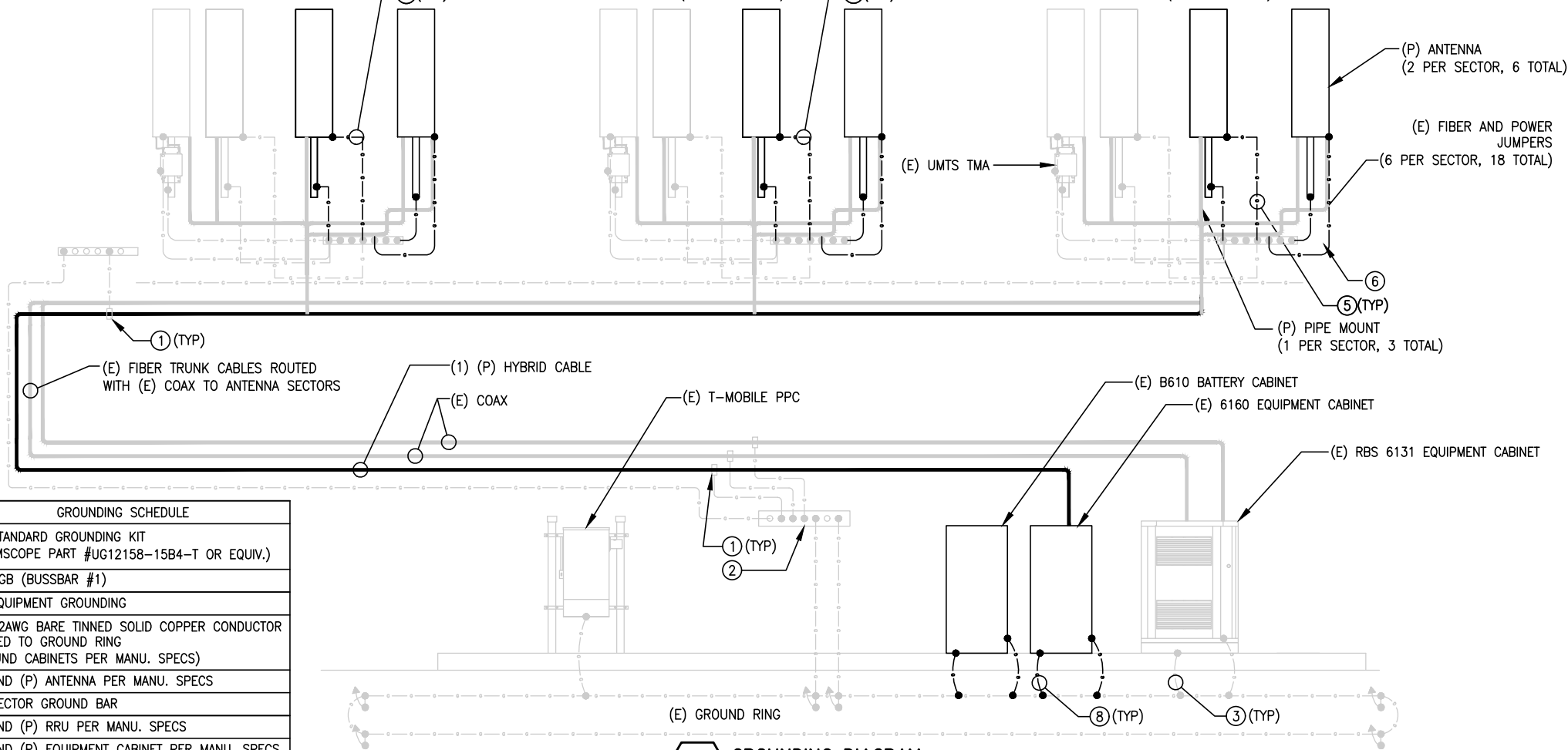
SHEET TITLE
ANTENNA DETAILS

SHEET NUMBER
C-5

(E) SECTOR "A"
(VIEW FROM BEHIND)

(E) SECTOR "B"
(VIEW FROM BEHIND)

(E) SECTOR "C"
(VIEW FROM BEHIND)



STAINLESS STEEL HARDWARE

TWO HOLE COPPER COMPRESSION TERMINAL

GROUNDING CABLE

GROUND BAR

STAR WASHER (TYP)

NUT (TYP)

GROUNDING CABLE

FLAT WASHER (TYP)

1/2" x 1 1/2" HEX BOLT

GROUND BAR

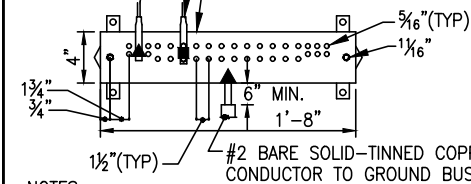
EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM, NO INSULATION ALLOWED WITHIN THE COMPRESSION TERMINAL (TYP.)

SECTION "A-A"

NOTES:

1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

#2AWG WITH LONG BARREL COMPRESSION LUGS, USE STAR WASHERS, LOCKWASHERS, AND STAINLESS STEEL HARDWARE TO SECURE TO EXTERNAL GROUND BAR BY GENERAL CONTRACTOR.
NEW COAXIAL GROUND KITS WITH LONG BARREL COMPRESSION LUGS WITH TWO (2) 3/8" Ø BOLTS AND LOCK WASHERS SIMILAR TO ANDREW 3241088-9.
COPPER GROUND BAR



NOTES:

1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/8".

2 GROUND BAR CONNECTION DETAILS
SCALE: NOT TO SCALE

GROUNDING SCHEDULE

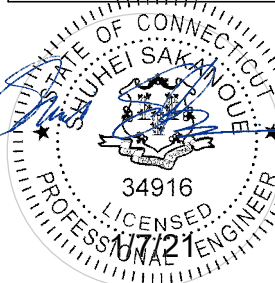
1	(P) STANDARD GROUNDING KIT (COMMSCOPE PART #UG12158-15B4-T OR EQUIV.)
2	(E) MGB (BUSSBAR #1)
3	(E) EQUIPMENT GROUNDING
4	(P) #2AWG BARE TINNED SOLID COPPER CONDUCTOR BONDED TO GROUND RING (GROUND CABINETS PER MANU. SPECS)
5	GROUND (P) ANTENNA PER MANU. SPECS
6	(E) SECTOR GROUND BAR
7	GROUND (P) RRU PER MANU. SPECS
8	GROUND (P) EQUIPMENT CABINET PER MANU. SPECS

1 GROUNDING DIAGRAM
SCALE: NOT TO SCALE

SUBMITTALS		
DATE	DESCRIPTION	REVISION
07/28/20	FOR REVIEW	A
08/11/20	REVISED PER COMMENT	B
11/13/20	FOR CONSTRUCTION	0
12/23/20	REVISED INNERCONNECT DESIGN	1
01/07/21	CODE ADDED	2

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 1039-C0002-C
DRAWN BY: BMM
CHECKED BY: ASW



PROFESSIONAL SEAL

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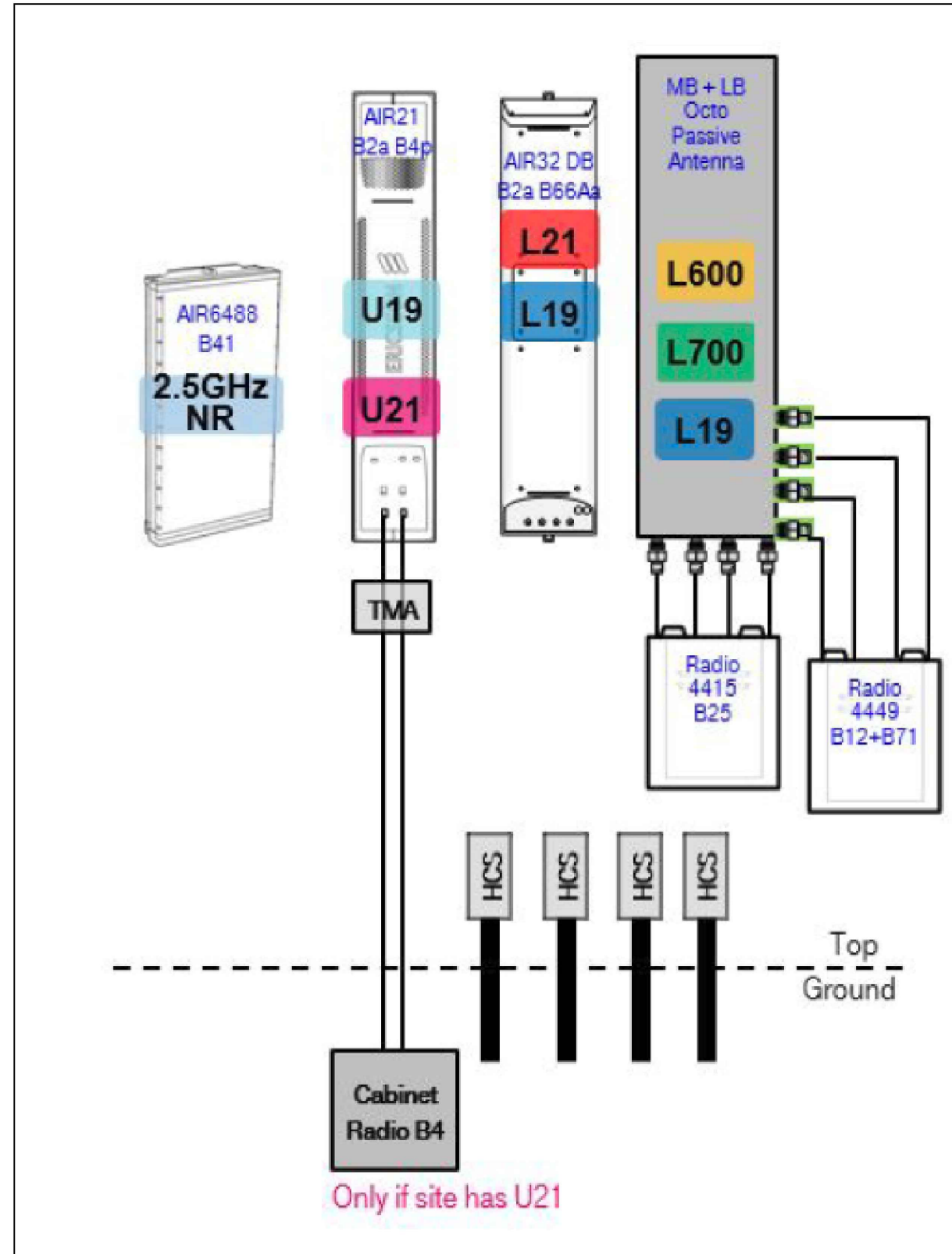
SITE NUMBER
CT11733B
SITE NAME
CT733/AT&THNTR AMBLNCE FT
462 WEST MAIN STREET
MERIDEN, CT 06451

SHEET TITLE
GROUNDING DIAGRAM

SHEET NUMBER
E-1

5/11/2020

CT11733B_Anchor_4_draft_2020-05-12



Only if site has U21

Notes:

1 COAX/FIBER PLUMBING DIAGRAM
NOT TO SCALE



T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088



CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430



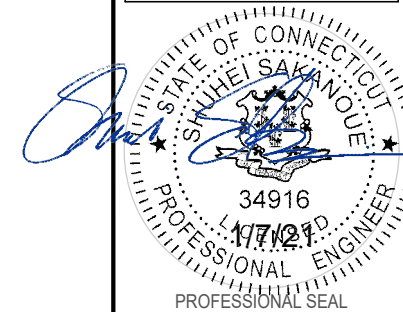
INFINIGY8 ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
07/28/20	FOR REVIEW	A
08/11/20	REVISED PER COMMENT	B
11/13/20	FOR CONSTRUCTION	0
12/23/20	REVISED INNERCONNECT DESIGN	1
01/07/21	CODE ADDED	2

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 1039-C0002-C
DRAWN BY: BMM
CHECKED BY: ASW



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SITE NUMBER
CT11733B

SITE NAME
CT733/AT&THNTR AMBLNCE FT
462 WEST MAIN STREET
MERIDEN, CT 06451

SHEET TITLE
COAX/FIBER
PLUMBING
DIAGRAM

SHEET NUMBER

E-3

Exhibit D

Structural Analysis Report



Date: **June 24, 2020**

Denice Nicholson
Crown Castle
3 Corporate Dr
Clifton Park, NY 12065

B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Subject: **Structural Analysis Report**

Carrier Designation: **T-Mobile Co-Locate**
Carrier Site Number: CT11733B
Carrier Site Name: CT733/AT&THntr Amblnce FT

Crown Castle Designation: **Crown Castle BU Number:** 842869
Crown Castle Site Name: Meriden West Central
Crown Castle JDE Job Number: 511473
Crown Castle Work Order Number: 1860739
Crown Castle Order Number: 445375 Rev. 5

Engineering Firm Designation: **B+T Group Project Number:** 92699.005.01

Site Data: **450-478 West Main Street, Meriden, New Haven County, CT**
Latitude 41° 32' 24.11", Longitude -72° 49' 8.47"
100 Foot - Monopole Tower

Dear Denice Nicholson,

B+T Group 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:

LC5: Proposed Equipment Configuration

Sufficient Capacity – 52.4%

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code (2015IBC). Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Kishore Machani

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2021



6/24/20

Scott S. Vance, P.E.

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Additional Calculations

1) INTRODUCTION

This tower is a 100 ft. Monopole tower designed by Glen Martin Engineering, Inc.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 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)
86.0	90.0	3	Ericsson	AIR6449 B41	4 6	1-5/8 7/8
		3	Ericsson	AIR -32 B2A/B66AA		
		3	Ericsson	ERICSSON AIR 21 B2A B4P		
		3	Ericsson	KRY 112 144/1		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RRUS 4415 B25		
	3	RFS Celwave	APXVAARR24_43-U-NA20			
	86.0	1	--	Platform Mount [LP 305-1_HR-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	
100.0	112.0	1	Decibel	ASP-3711	6 6 2	1-1/4 3/4 3/8	
	106.0	3	Decibel	DB201-A			
		1	KMW Comm.	HB-X-AW-19-65-00T			
	100.0		3	CCI Antennas			DTMABP7819VG12A
			3	CCI Antennas			OPA-65R-LCUU-H6
			4	Decibel			DB432-A
			3	Ericsson			RRUS 11
			3	Ericsson			RRUS 32
			3	Ericsson			RRUS 32 B2
			3	Ericsson			RRUS 32 B66
			3	Ericsson			RRUS 4478 B14
			3	Kathrein			80010965
			3	KMW Comm.			AM-X-CD-16-65-00T-RET
	3	Quintel Tech.	QS66512-2				
1	Raycap	DC6-48-60-0-8F					

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		2	Raycap	DC6-48-60-18-8F		
		1	--	Platform Mount [LP 1302-1]		
78.0	80.0	3	Alcatel Lucent	1900MHz RRH	--	--
		3	Alcatel Lucent	800 EXTERNAL NOTCH FILTER		
		3	Alcatel Lucent	TME-800MHZ RRH		
	78.0	1	--	Side Arm Mount [SO 104-3]		
76.0	79.0	3	Alcatel Lucent	TD-RRH8x20-25	3 1 1	1-1/4 3/4 5/8
		3	RFS Celwave	APXVSPP18-C-A20		
		3	RFS Celwave	APXVTM14-C-120		
	76.0	1	--	Platform Mount [LP 303-1]		
65.0	67.0	3	Alcatel Lucent	B4 RRH2X60-4R	2	1-5/8
		3	Alcatel Lucent	RRH2x60-700		
		2	RFS Celwave	DB-T1-6Z-8AB-0Z		
	65.0	3	Antel	BXA-171063/12CF		
		3	Antel	BXA-70063/6CF		
		6	Commscope	SBNHH-1D45B		
		1	--	Platform Mount [LP 304-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Online Order Information	T-Mobile Co-Locate, Rev# 5	445375	CCI Sites
Tower Manufacturer Drawing	GM Engineering, Inc., Dwg No: SP13462	4713237	CCI Sites
Mount Analysis	Infinigy Engineering, Date: 06/22/2020	9140041	CCI Sites
Foundation Drawings	GM Engineering, Inc., Date: 12/15/2003	4529387	CCI Sites
Geotech Report	Tectonic, Date: 08/28/2002	4529388	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 06/23/2020	CCI Sites

3.1) Analysis Method

tnxTower (version 8.0.5.0), 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. B+T Group 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	100 - 47	Pole	TP40.72x28x0.313	1	-23.875	2386.104	29.8	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-38.564	3747.093	41.3	Pass
							Summary	
						Pole (L2)	41.3	Pass
						Rating =	41.3	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
1	Anchor Rods	Base	31.8	Pass
1	Base Plate	Base	27.6	Pass
1	Base Foundation (Structure)	Base	20.2	Pass
1	Base Foundation (Soil Interaction)	Base	52.4	Pass

Structure Rating (max from all components) =	52.4%
---	--------------

Notes:

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

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

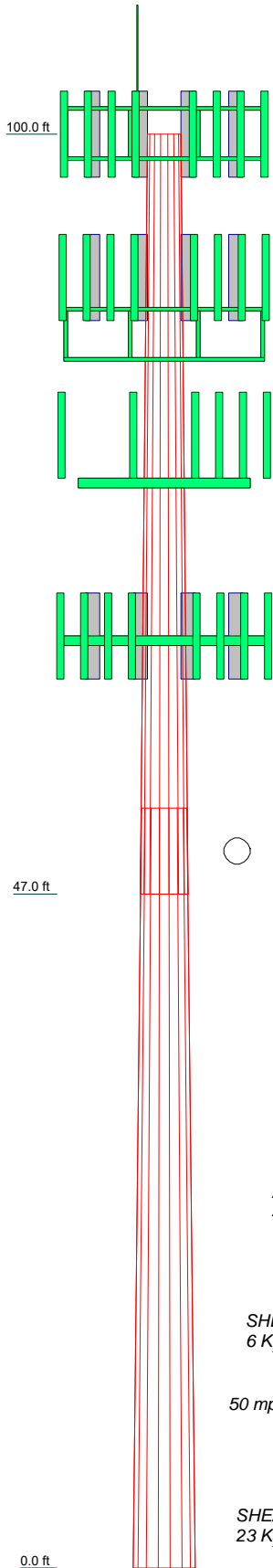
MATERIAL STRENGTH

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

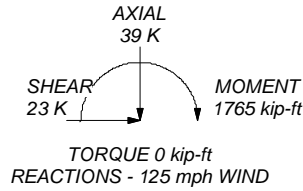
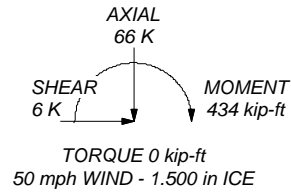
TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 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: 41.3%

Section	1	2
Length (ft)	53.000	53.000
Number of Sides	16	16
Thickness (in)	0.313	0.375
Socket Length (ft)	6.000	38.655
Top Dia (in)	28.000	51.370
Bot Dia (in)	40.720	51.370
Grade	A572-65	A572-65
Weight (K)	6.1	9.6
		15.8



ALL REACTIONS ARE FACTORED



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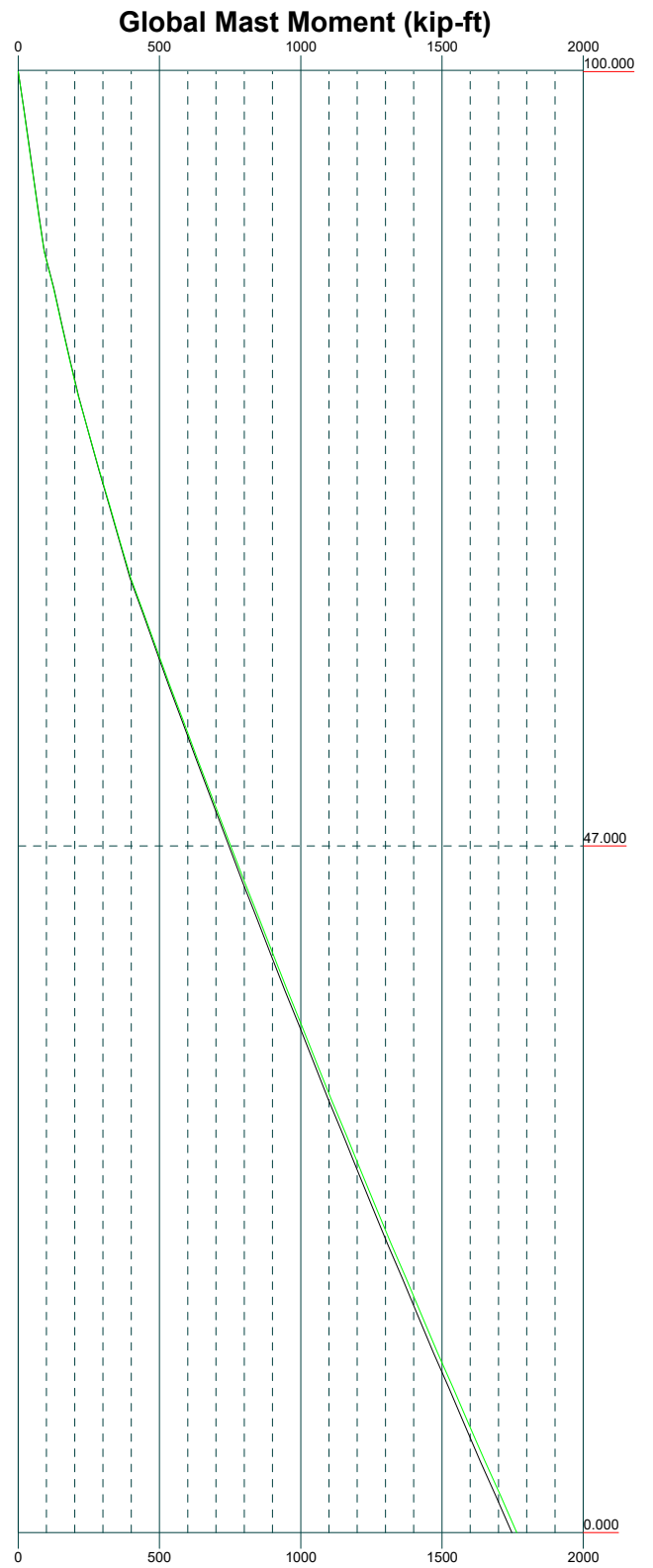
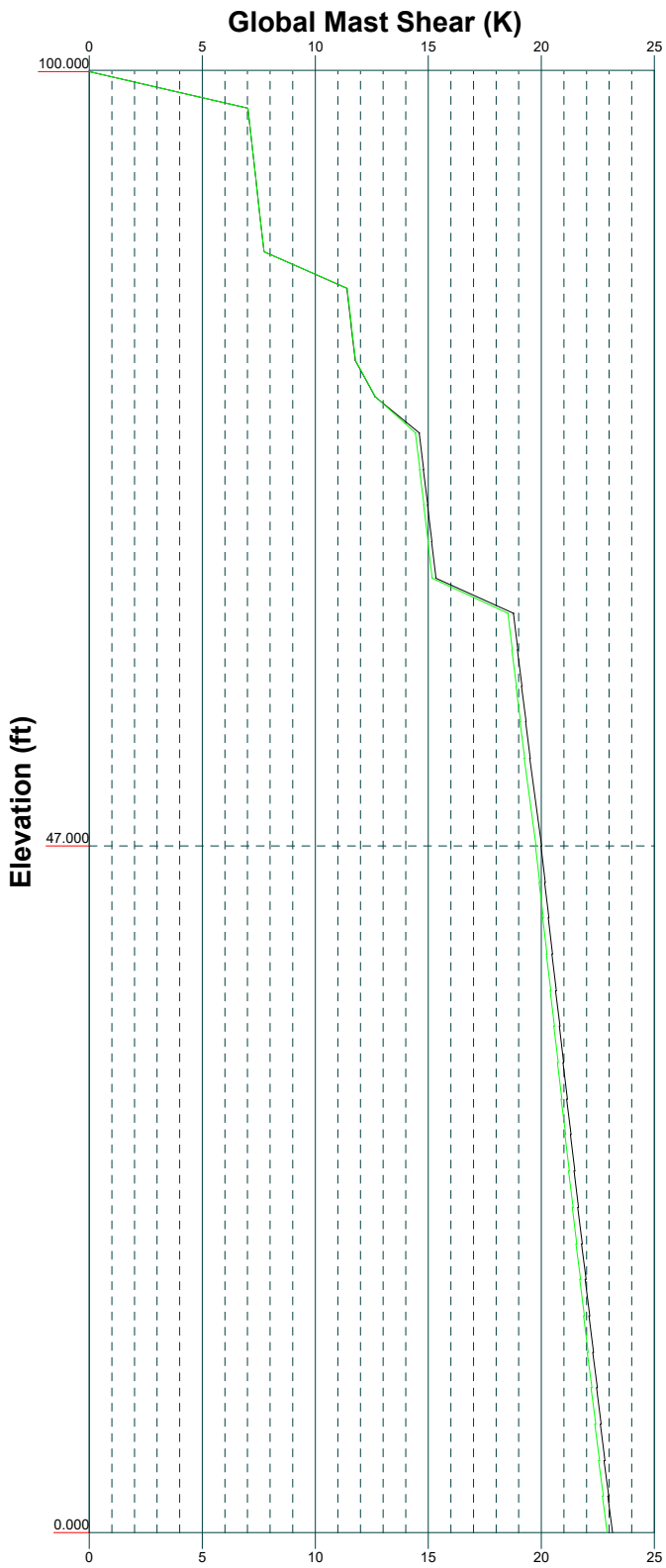
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Project:			
Client:	Crown Castle	Drawn by:	Regan
Code:	TIA-222-H	Date:	06/24/20
Path:			Scale: NTS
			Dwg No. E-1

Vx

Vz

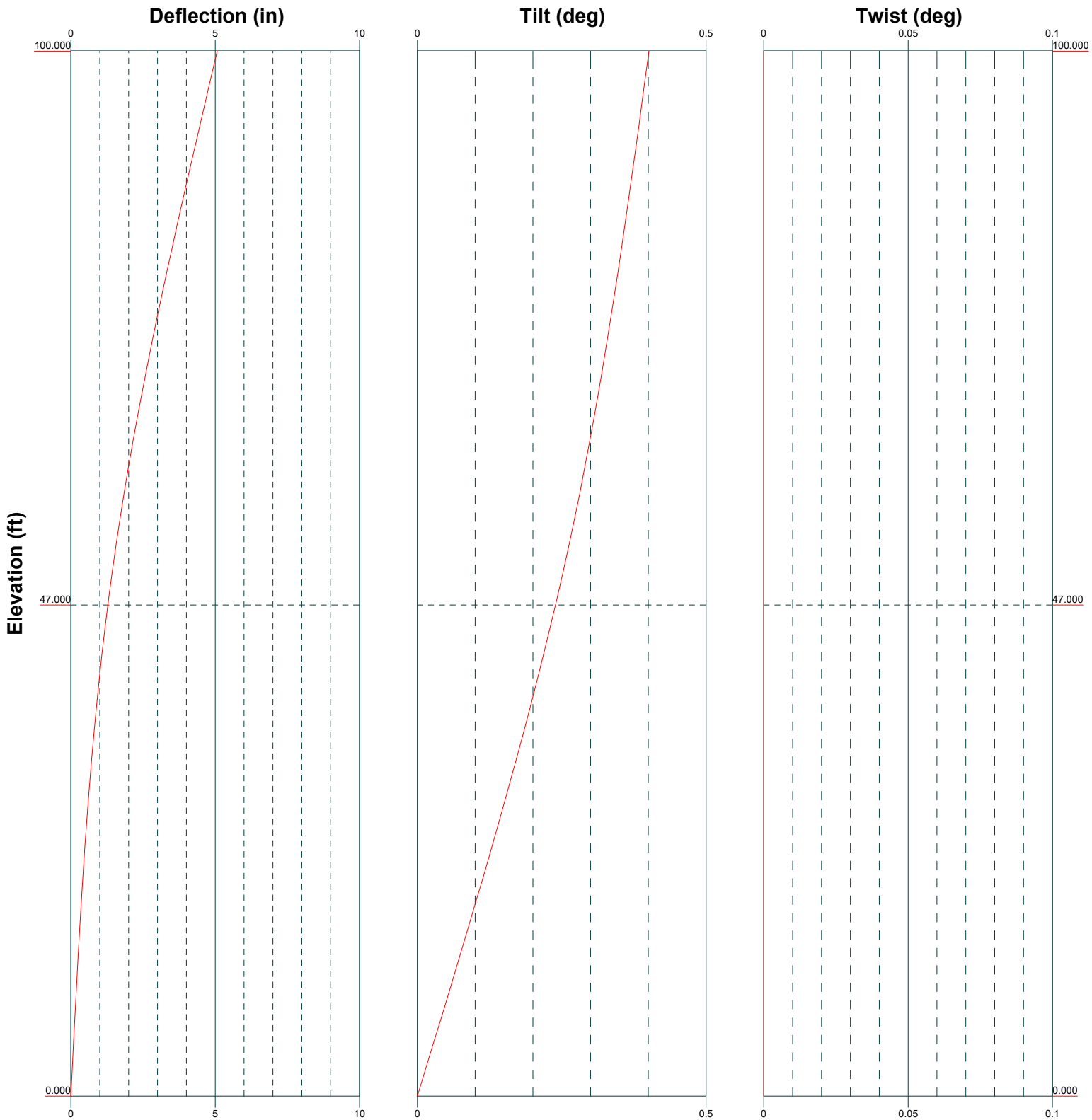
Mx


Mz



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 FAX: (918) 295-0265

Job: 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 84286)		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 06/24/20	Scale: NTS
Path:	Dwg No. E-4	

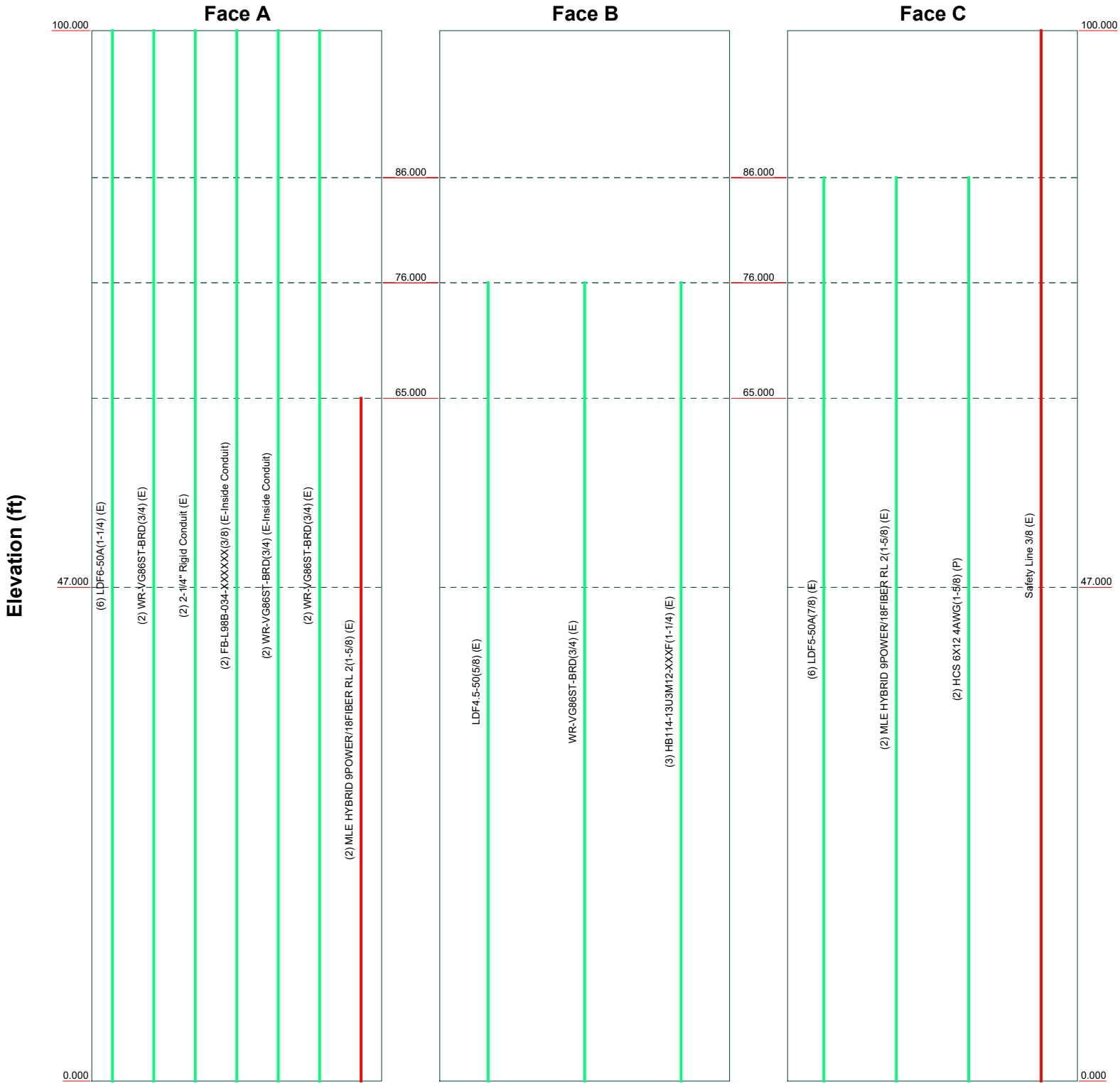


 <p>B+T Group 1717 S Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	Job: 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 84286)		
	Project:		
	Client: Crown Castle	Drawn by: Regan	App'd:
	Code: TIA-222-H	Date: 06/24/20	Scale: NTS
	Path:	Dwg No. E-5	

Feed Line Distribution Chart

0' - 100'

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



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Job: 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 84286)		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 06/24/20	Scale: NTS
Path:	Dwg No: E-7	

tnxTower B+T Group 1717 S Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 842869)	Page 1 of 19
	Project	Date 16:33:49 06/24/20
	Client Crown Castle	Designed by Regan

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 New Haven County, Connecticut.

Tower base elevation above sea level: 165.000 ft.

Basic wind speed of 125 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.500 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 1.05.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-H Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are
		Known

tnxTower B+T Group 1717 S Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 842869)	Page 2 of 19
	Project	Date 16:33:49 06/24/20
	Client Crown Castle	Designed by Regan

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	100.000-47.000	53.000	6.000	16	28.000	40.720	0.313	1.250	A572-65 (65 ksi)
L2	47.000-0.000	53.000		16	38.655	51.370	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	It/Q in ²	w in	w/t
L1	28.487	27.601	2673.045	9.857	14.280	187.188	5386.564	13.647	4.950	15.84
	41.457	40.281	8308.852	14.385	20.767	400.095	16743.510	19.917	7.481	23.94
L2	40.806	45.792	8477.194	13.628	19.714	430.008	17082.742	22.642	6.946	18.523
	52.303	61.003	20040.987	18.154	26.199	764.961	40385.419	30.163	9.476	25.27

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 100.000-47.000				1	1	1			
0									
L2 47.000-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

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
* MLE HYBRID 9POWER/18FIBER RL 2(1-5/8) (E) *	A	No	Surface Ar (CaAa)	65.000 - 0.000	2	2	-0.450 -0.350	1.625		0.001
* Safety Line 3/8 (E) *	C	No	Surface Ar (CaAa)	100.000 - 0.000	1	1	0.250 0.250	0.375		0.000

Feed Line/Linear Appurtenances - Entered As Area

tnxTower B+T Group 1717 S Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 842869)	Page 3 of 19
	Project	Date 16:33:49 06/24/20
	Client Crown Castle	Designed by Regan

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight klf
LDF6-50A(1-1/4) (E)	A	No	No	Inside Pole	100.000 - 0.000	6	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
WR-VG86ST-BRD(3/4) (E)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
2-1/4" Rigid Conduit (E)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.003 0.003 0.003 0.003
FB-L98B-034-XXX XXX(3/8) (E-Inside Conduit)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
WR-VG86ST-BRD(3/4) (E-Inside Conduit)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
WR-VG86ST-BRD(3/4) (E)	A	No	No	Inside Pole	100.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
* LDF5-50A(7/8) (E)	C	No	No	Inside Pole	86.000 - 0.000	6	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8) (E)	C	No	No	Inside Pole	86.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
HCS 6X12 4AWG(1-5/8) (P)	C	No	No	Inside Pole	86.000 - 0.000	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.002 0.002 0.002 0.002
* LDF4.5-50(5/8) (E)	B	No	No	Inside Pole	76.000 - 0.000	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
WR-VG86ST-BRD(3/4) (E)	B	No	No	Inside Pole	76.000 - 0.000	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
HB114-13U3M12-XXF(1-1/4) (E)	B	No	No	Inside Pole	76.000 - 0.000	3	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.001 0.001 0.001 0.001
*									

Feed Line/Linear Appurtenances Section Areas

tnxTower B+T Group 1717 S Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 842869)	Page 4 of 19
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	Client Crown Castle	Designed by Regan

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	100.000-47.000	A	0.000	0.000	5.850	0.000	0.738
		B	0.000	0.000	0.000	0.000	0.108
		C	0.000	0.000	1.987	0.000	0.360
L2	47.000-0.000	A	0.000	0.000	15.275	0.000	0.721
		B	0.000	0.000	0.000	0.000	0.174
		C	0.000	0.000	1.763	0.000	0.430

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 _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	100.000-47.000	A	1.380	0.000	0.000	13.520	0.000	0.865
		B		0.000	0.000	0.000	0.000	0.108
		C		0.000	0.000	16.610	0.000	0.516
L2	47.000-0.000	A	1.229	0.000	0.000	35.303	0.000	1.051
		B		0.000	0.000	0.000	0.000	0.174
		C		0.000	0.000	14.730	0.000	0.569

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	100.000-47.000	-1.043	0.535	-1.678	1.391
L2	47.000-0.000	-2.369	0.956	-3.137	1.796

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	18	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	47.00 - 65.00	1.0000	1.0000
L1	20	Safety Line 3/8	47.00 - 100.00	1.0000	1.0000

Discrete Tower Loads

tnxTower

B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
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Client
Crown Castle

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Regan

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Lateral			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
Lightning Rod 5/8" x 8' (E)	C	From Leg	1.000		0.000	100.000	No Ice	0.500	0.500	0.031
			0.000				1/2" Ice	1.314	1.314	0.037
			4.000				1" Ice	2.144	2.144	0.047
							2" Ice	3.613	3.613	0.084
*										
AM-X-CD-16-65-00T-RET (E)	A	From Leg	4.000		0.000	100.000	No Ice	4.690	2.340	0.049
			0.000				1/2" Ice	5.150	2.770	0.095
			0.000				1" Ice	5.610	3.200	0.148
							2" Ice	6.570	4.100	0.272
AM-X-CD-16-65-00T-RET (E)	B	From Leg	4.000		0.000	100.000	No Ice	4.690	2.340	0.049
			0.000				1/2" Ice	5.150	2.770	0.095
			0.000				1" Ice	5.610	3.200	0.148
							2" Ice	6.570	4.100	0.272
AM-X-CD-16-65-00T-RET (E)	C	From Leg	4.000		0.000	100.000	No Ice	4.690	2.340	0.049
			0.000				1/2" Ice	5.150	2.770	0.095
			0.000				1" Ice	5.610	3.200	0.148
							2" Ice	6.570	4.100	0.272
OPA-65R-LCUU-H6 (E)	A	From Leg	4.000		0.000	100.000	No Ice	9.200	4.630	0.080
			0.000				1/2" Ice	9.970	5.340	0.137
			0.000				1" Ice	10.760	6.070	0.200
							2" Ice	12.390	7.570	0.347
OPA-65R-LCUU-H6 (E)	B	From Leg	4.000		0.000	100.000	No Ice	9.200	4.630	0.080
			0.000				1/2" Ice	9.970	5.340	0.137
			0.000				1" Ice	10.760	6.070	0.200
							2" Ice	12.390	7.570	0.347
OPA-65R-LCUU-H6 (E)	C	From Leg	4.000		0.000	100.000	No Ice	9.200	4.630	0.080
			0.000				1/2" Ice	9.970	5.340	0.137
			0.000				1" Ice	10.760	6.070	0.200
							2" Ice	12.390	7.570	0.347
QS66512-2 (E)	A	From Leg	4.000		0.000	100.000	No Ice	4.010	3.370	0.111
			0.000				1/2" Ice	4.410	3.760	0.168
			0.000				1" Ice	4.810	4.150	0.232
							2" Ice	5.650	4.970	0.378
QS66512-2 (E)	B	From Leg	4.000		0.000	100.000	No Ice	4.010	3.370	0.111
			0.000				1/2" Ice	4.410	3.760	0.168
			0.000				1" Ice	4.810	4.150	0.232
							2" Ice	5.650	4.970	0.378
QS66512-2 (E)	C	From Leg	4.000		0.000	100.000	No Ice	4.010	3.370	0.111
			0.000				1/2" Ice	4.410	3.760	0.168
			0.000				1" Ice	4.810	4.150	0.232
							2" Ice	5.650	4.970	0.378
HB-X-AW-19-65-00T (E)	A	From Leg	4.000		0.000	100.000	No Ice	2.083	2.083	0.029
			0.000				1/2" Ice	3.175	3.175	0.055
			6.000				1" Ice	3.561	3.561	0.085
							2" Ice	4.361	4.361	0.159
80010965 (E)	A	From Leg	4.000		0.000	100.000	No Ice	12.230	4.210	0.109
			0.000				1/2" Ice	13.000	4.880	0.185
			0.000				1" Ice	13.790	5.570	0.269
							2" Ice	15.410	6.990	0.458
80010965 (E)	B	From Leg	4.000		0.000	100.000	No Ice	12.230	4.210	0.109
			0.000				1/2" Ice	13.000	4.880	0.185
			0.000				1" Ice	13.790	5.570	0.269
							2" Ice	15.410	6.990	0.458
80010965 (E)	C	From Leg	4.000		0.000	100.000	No Ice	12.230	4.210	0.109
			0.000				1/2" Ice	13.000	4.880	0.185
			0.000				1" Ice	13.790	5.570	0.269
							2" Ice	15.410	6.990	0.458

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	Client		Crown Castle		Designed by		Regan	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Lateral			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
DB201-A (E)	A	From Leg	4.000	0.000	0.000	100.000	No Ice	1.100	1.100	0.025
			0.000				1/2" Ice	1.980	1.980	0.033
			6.000				1" Ice	2.860	2.860	0.040
							2" Ice	4.620	4.620	0.055
DB201-A (E)	B	From Leg	4.000	0.000	0.000	100.000	No Ice	1.100	1.100	0.025
			0.000				1/2" Ice	1.980	1.980	0.033
			6.000				1" Ice	2.860	2.860	0.040
							2" Ice	4.620	4.620	0.055
DB201-A (E)	C	From Leg	4.000	0.000	0.000	100.000	No Ice	1.100	1.100	0.025
			0.000				1/2" Ice	1.980	1.980	0.033
			6.000				1" Ice	2.860	2.860	0.040
							2" Ice	4.620	4.620	0.055
(2) DB432-A (E)	B	From Leg	4.000	0.000	0.000	100.000	No Ice	0.300	0.300	0.005
			0.000				1/2" Ice	0.540	0.540	0.006
			0.000				1" Ice	0.780	0.780	0.008
							2" Ice	1.260	1.260	0.011
(2) DB432-A (E)	C	From Leg	4.000	0.000	0.000	100.000	No Ice	0.300	0.300	0.005
			0.000				1/2" Ice	0.540	0.540	0.006
			0.000				1" Ice	0.780	0.780	0.008
							2" Ice	1.260	1.260	0.011
ASP-3711 (E)	A	From Leg	4.000	0.000	0.000	100.000	No Ice	1.300	1.300	0.013
			0.000				1/2" Ice	2.340	2.340	0.017
			12.000				1" Ice	3.380	3.380	0.021
							2" Ice	5.460	5.460	0.029
DTMABP7819VG12A (E)	A	From Leg	4.000	0.000	0.000	100.000	No Ice	0.976	0.339	0.019
			0.000				1/2" Ice	1.100	0.419	0.026
			0.000				1" Ice	1.232	0.510	0.036
							2" Ice	1.517	0.714	0.060
DTMABP7819VG12A (E)	B	From Leg	4.000	0.000	0.000	100.000	No Ice	0.976	0.339	0.019
			0.000				1/2" Ice	1.100	0.419	0.026
			0.000				1" Ice	1.232	0.510	0.036
							2" Ice	1.517	0.714	0.060
DTMABP7819VG12A (E)	C	From Leg	4.000	0.000	0.000	100.000	No Ice	0.976	0.339	0.019
			0.000				1/2" Ice	1.100	0.419	0.026
			0.000				1" Ice	1.232	0.510	0.036
							2" Ice	1.517	0.714	0.060
RRUS 32 (E)	A	From Leg	4.000	0.000	0.000	100.000	No Ice	2.857	1.777	0.055
			0.000				1/2" Ice	3.083	1.968	0.077
			0.000				1" Ice	3.316	2.166	0.103
							2" Ice	3.805	2.583	0.165
RRUS 32 (E)	B	From Leg	4.000	0.000	0.000	100.000	No Ice	2.857	1.777	0.055
			0.000				1/2" Ice	3.083	1.968	0.077
			0.000				1" Ice	3.316	2.166	0.103
							2" Ice	3.805	2.583	0.165
RRUS 32 (E)	C	From Leg	4.000	0.000	0.000	100.000	No Ice	2.857	1.777	0.055
			0.000				1/2" Ice	3.083	1.968	0.077
			0.000				1" Ice	3.316	2.166	0.103
							2" Ice	3.805	2.583	0.165
RRUS 4478 B14 (E)	A	From Leg	4.000	0.000	0.000	100.000	No Ice	1.843	1.059	0.060
			0.000				1/2" Ice	2.012	1.197	0.076
			0.000				1" Ice	2.190	1.342	0.094
							2" Ice	2.566	1.656	0.140
RRUS 4478 B14 (E)	B	From Leg	4.000	0.000	0.000	100.000	No Ice	1.843	1.059	0.060
			0.000				1/2" Ice	2.012	1.197	0.076
			0.000				1" Ice	2.190	1.342	0.094
							2" Ice	2.566	1.656	0.140
RRUS 4478 B14	C	From Leg	4.000	0.000	0.000	100.000	No Ice	1.843	1.059	0.060

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	Client Crown Castle						Designed by Regan	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			Horz ft	Lateral ft					
(E)			0.000			1/2" Ice	2.012	1.197	0.076
			0.000			1" Ice	2.190	1.342	0.094
						2" Ice	2.566	1.656	0.140
RRUS 32 B66 (E)	A	From Leg	4.000	0.000	100.000	No Ice	2.743	1.668	0.053
			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32 B66 (E)	B	From Leg	4.000	0.000	100.000	No Ice	2.743	1.668	0.053
			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 32 B66 (E)	C	From Leg	4.000	0.000	100.000	No Ice	2.743	1.668	0.053
			0.000			1/2" Ice	2.965	1.855	0.074
			0.000			1" Ice	3.194	2.049	0.098
						2" Ice	3.675	2.458	0.157
RRUS 11 (E)	C	From Leg	4.000	0.000	100.000	No Ice	2.784	1.187	0.048
			0.000			1/2" Ice	2.992	1.334	0.068
			0.000			1" Ice	3.207	1.490	0.092
						2" Ice	3.658	1.833	0.150
RRUS 11 (E)	A	From Leg	4.000	0.000	100.000	No Ice	2.784	1.187	0.048
			0.000			1/2" Ice	2.992	1.334	0.068
			0.000			1" Ice	3.207	1.490	0.092
						2" Ice	3.658	1.833	0.150
RRUS 11 (E)	B	From Leg	4.000	0.000	100.000	No Ice	2.784	1.187	0.048
			0.000			1/2" Ice	2.992	1.334	0.068
			0.000			1" Ice	3.207	1.490	0.092
						2" Ice	3.658	1.833	0.150
RRUS 32 B2 (E)	A	From Leg	4.000	0.000	100.000	No Ice	2.731	1.668	0.053
			0.000			1/2" Ice	2.953	1.855	0.074
			0.000			1" Ice	3.182	2.049	0.098
						2" Ice	3.663	2.458	0.157
RRUS 32 B2 (E)	B	From Leg	4.000	0.000	100.000	No Ice	2.731	1.668	0.053
			0.000			1/2" Ice	2.953	1.855	0.074
			0.000			1" Ice	3.182	2.049	0.098
						2" Ice	3.663	2.458	0.157
RRUS 32 B2 (E)	C	From Leg	4.000	0.000	100.000	No Ice	2.731	1.668	0.053
			0.000			1/2" Ice	2.953	1.855	0.074
			0.000			1" Ice	3.182	2.049	0.098
						2" Ice	3.663	2.458	0.157
(2) DC6-48-60-18-8F (E)	A	From Leg	4.000	0.000	100.000	No Ice	1.212	1.212	0.033
			0.000			1/2" Ice	1.892	1.892	0.055
			0.000			1" Ice	2.105	2.105	0.080
						2" Ice	2.570	2.570	0.138
DC6-48-60-0-8F (E)	A	From Leg	4.000	0.000	100.000	No Ice	0.917	0.917	0.033
			0.000			1/2" Ice	1.458	1.458	0.051
			0.000			1" Ice	1.643	1.643	0.071
						2" Ice	2.042	2.042	0.119
Platform Mount [LP 1302-1] (E-4MP Per Sector / 14' Per TIA)	C	None		0.000	100.000	No Ice	56.400	56.400	2.413
						1/2" Ice	67.500	67.500	3.131
						1" Ice	78.600	78.600	3.849
						2" Ice	100.800	100.800	5.285
(3) Miscellaneous [NA 509-1] (E-Per Photo)	C	None		0.000	100.000	No Ice	6.320	4.850	0.092
						1/2" Ice	7.790	6.360	0.139
						1" Ice	9.360	7.940	0.199
						2" Ice	12.810	11.320	0.361
Side Arm Mount [SO 102-3] (E-Per Photo)	C	None		0.000	100.000	No Ice	3.600	3.600	0.075
						1/2" Ice	4.180	4.180	0.105

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Client		Designed by		
Crown Castle		Regan		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						°
						1" Ice	4.750	4.750	0.135	
						2" Ice	5.900	5.900	0.195	
*										
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E-Installed)	A	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	6.329 6.775 7.214 8.117	5.642 6.426 7.131 8.591	0.112 0.169 0.233 0.383
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E-Installed)	B	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	6.329 6.775 7.214 8.117	5.642 6.426 7.131 8.591	0.112 0.169 0.233 0.383
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (E-Installed)	C	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	6.329 6.775 7.214 8.117	5.642 6.426 7.131 8.591	0.112 0.169 0.233 0.383
AIR -32 B2A/B66AA w/ Mount Pipe (E-Installed)	A	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	6.747 7.202 7.648 8.565	6.070 6.867 7.583 9.063	0.153 0.214 0.282 0.441
AIR -32 B2A/B66AA w/ Mount Pipe (E-Installed)	B	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	6.747 7.202 7.648 8.565	6.070 6.867 7.583 9.063	0.153 0.214 0.282 0.441
AIR -32 B2A/B66AA w/ Mount Pipe (E-Installed)	C	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	6.747 7.202 7.648 8.565	6.070 6.867 7.583 9.063	0.153 0.214 0.282 0.441
(3) KRY 112 144/1 (E-Installed)	A	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.350 0.426 0.509 0.698	0.175 0.234 0.301 0.456	0.011 0.014 0.019 0.032
AIR6449 B41 w/ Mount Pipe (P)	A	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.893 6.257 6.630 7.406	3.284 3.742 4.217 5.215	0.118 0.167 0.221 0.350
AIR6449 B41 w/ Mount Pipe (P)	B	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.893 6.257 6.630 7.406	3.284 3.742 4.217 5.215	0.118 0.167 0.221 0.350
AIR6449 B41 w/ Mount Pipe (P)	C	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.893 6.257 6.630 7.406	3.284 3.742 4.217 5.215	0.118 0.167 0.221 0.350
APXVAARR24_43-U-NA20 w/ Mount Pipe (P)	A	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	14.690 15.460 16.230 17.820	6.870 7.550 8.250 9.670	0.186 0.315 0.458 0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe (P)	B	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	14.690 15.460 16.230 17.820	6.870 7.550 8.250 9.670	0.186 0.315 0.458 0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe (P)	C	From Leg	4.000 0.000 4.000		0.000	86.000	No Ice 1/2" Ice 1" Ice 2" Ice	14.690 15.460 16.230 17.820	6.870 7.550 8.250 9.670	0.186 0.315 0.458 0.788
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000 0.000		0.000	86.000	No Ice 1/2" Ice	1.970 2.147	1.587 1.749	0.073 0.093

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA}		Weight K
			Horz Lateral ft	Vert ft			Front ft ²	Side ft ²	
(P)			4.000				1" Ice 2.331	1.918	0.116
							2" Ice 2.721	2.280	0.170
RADIO 4449 B71	B	From Leg	4.000	0.000	86.000		No Ice 1.970	1.587	0.073
B85A_T-MOBILE			0.000				1/2" Ice 2.147	1.749	0.093
(P)			4.000				1" Ice 2.331	1.918	0.116
							2" Ice 2.721	2.280	0.170
RADIO 4449 B71	C	From Leg	4.000	0.000	86.000		No Ice 1.970	1.587	0.073
B85A_T-MOBILE			0.000				1/2" Ice 2.147	1.749	0.093
(P)			4.000				1" Ice 2.331	1.918	0.116
							2" Ice 2.721	2.280	0.170
RRUS 4415 B25	A	From Leg	4.000	0.000	86.000		No Ice 1.644	0.679	0.044
(P)			0.000				1/2" Ice 1.804	0.791	0.056
			4.000				1" Ice 1.972	0.913	0.071
							2" Ice 2.329	1.183	0.109
RRUS 4415 B25	B	From Leg	4.000	0.000	86.000		No Ice 1.644	0.679	0.044
(P)			0.000				1/2" Ice 1.804	0.791	0.056
			4.000				1" Ice 1.972	0.913	0.071
							2" Ice 2.329	1.183	0.109
RRUS 4415 B25	C	From Leg	4.000	0.000	86.000		No Ice 1.644	0.679	0.044
(P)			0.000				1/2" Ice 1.804	0.791	0.056
			4.000				1" Ice 1.972	0.913	0.071
							2" Ice 2.329	1.183	0.109
Platform Mount [LP	C	None		0.000	86.000		No Ice 19.590	19.590	1.366
305-1_HR-1]							1/2" Ice 24.480	24.480	1.782
(P-12.5' Per MA)							1" Ice 29.240	29.240	2.286
							2" Ice 38.490	38.490	3.562
*									
TME-800MHZ RRH	A	From Leg	2.000	0.000	78.000		No Ice 2.134	1.773	0.053
(E-CL Per Photos)			0.000				1/2" Ice 2.320	1.946	0.074
			2.000				1" Ice 2.512	2.127	0.098
							2" Ice 2.920	2.510	0.157
TME-800MHZ RRH	B	From Leg	2.000	0.000	78.000		No Ice 2.134	1.773	0.053
(E-CL Per Photos)			0.000				1/2" Ice 2.320	1.946	0.074
			2.000				1" Ice 2.512	2.127	0.098
							2" Ice 2.920	2.510	0.157
TME-800MHZ RRH	C	From Leg	2.000	0.000	78.000		No Ice 2.134	1.773	0.053
(E-CL Per Photos)			0.000				1/2" Ice 2.320	1.946	0.074
			2.000				1" Ice 2.512	2.127	0.098
							2" Ice 2.920	2.510	0.157
1900MHz RRH	A	From Leg	2.000	0.000	78.000		No Ice 2.492	3.258	0.044
(E-CL Per Photos)			0.000				1/2" Ice 2.695	3.484	0.075
			2.000				1" Ice 2.906	3.718	0.110
							2" Ice 3.351	4.206	0.192
1900MHz RRH	B	From Leg	2.000	0.000	78.000		No Ice 2.492	3.258	0.044
(E-CL Per Photos)			0.000				1/2" Ice 2.695	3.484	0.075
			2.000				1" Ice 2.906	3.718	0.110
							2" Ice 3.351	4.206	0.192
1900MHz RRH	C	From Leg	2.000	0.000	78.000		No Ice 2.492	3.258	0.044
(E-CL Per Photos)			0.000				1/2" Ice 2.695	3.484	0.075
			2.000				1" Ice 2.906	3.718	0.110
							2" Ice 3.351	4.206	0.192
800 EXTERNAL NOTCH	A	From Leg	2.000	0.000	78.000		No Ice 0.660	0.321	0.011
FILTER			0.000				1/2" Ice 0.763	0.398	0.017
(E-CL Per Photos)			2.000				1" Ice 0.873	0.483	0.024
							2" Ice 1.115	0.674	0.045
800 EXTERNAL NOTCH	B	From Leg	2.000	0.000	78.000		No Ice 0.660	0.321	0.011
FILTER			0.000				1/2" Ice 0.763	0.398	0.017

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Crown Castle						Regan		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
(E-CL Per Photos)			2.000						
						1" Ice	0.873	0.483	0.024
						2" Ice	1.115	0.674	0.045
800 EXTERNAL NOTCH	C	From Leg	2.000	0.000	78.000	No Ice	0.660	0.321	0.011
FILTER			0.000			1/2" Ice	0.763	0.398	0.017
(E-CL Per Photos)			2.000			1" Ice	0.873	0.483	0.024
						2" Ice	1.115	0.674	0.045
5' x 4" Std. Pipe	A	From Leg	2.000	0.000	78.000	No Ice	1.606	1.606	0.054
(E-Per Photos)			0.000			1/2" Ice	2.076	2.076	0.070
			2.000			1" Ice	2.397	2.397	0.090
						2" Ice	3.067	3.067	0.141
5' x 4" Std. Pipe	B	From Leg	2.000	0.000	78.000	No Ice	1.606	1.606	0.054
(E-Per Photos)			0.000			1/2" Ice	2.076	2.076	0.070
			2.000			1" Ice	2.397	2.397	0.090
						2" Ice	3.067	3.067	0.141
5' x 4" Std. Pipe	C	From Leg	2.000	0.000	78.000	No Ice	1.606	1.606	0.054
(E-Per Photos)			0.000			1/2" Ice	2.076	2.076	0.070
			2.000			1" Ice	2.397	2.397	0.090
						2" Ice	3.067	3.067	0.141
Side Arm Mount [SO 104-3]	C	None		0.000	78.000	No Ice	2.620	2.620	0.288
(E)						1/2" Ice	3.300	3.300	0.408
						1" Ice	3.980	3.980	0.528
						2" Ice	5.350	5.350	0.768
*									
(2) APXVSP18-C-A20 w/	B	From Leg	4.000	0.000	76.000	No Ice	4.600	4.010	0.095
Mount Pipe			0.000			1/2" Ice	5.050	4.450	0.160
(E)			3.000			1" Ice	5.500	4.890	0.235
						2" Ice	6.440	5.820	0.419
APXVSP18-C-A20 w/	C	From Leg	4.000	0.000	76.000	No Ice	4.600	4.010	0.095
Mount Pipe			0.000			1/2" Ice	5.050	4.450	0.160
(E)			3.000			1" Ice	5.500	4.890	0.235
						2" Ice	6.440	5.820	0.419
(2) APXVTM14-C-120 w/	B	From Leg	4.000	0.000	76.000	No Ice	4.090	2.860	0.077
Mount Pipe			0.000			1/2" Ice	4.480	3.230	0.127
(E)			3.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
APXVTM14-C-120 w/	C	From Leg	4.000	0.000	76.000	No Ice	4.090	2.860	0.077
Mount Pipe			0.000			1/2" Ice	4.480	3.230	0.127
(E)			3.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
(2) TD-RRH8x20-25	B	From Leg	4.000	0.000	76.000	No Ice	4.045	1.535	0.070
(E)			0.000			1/2" Ice	4.298	1.714	0.097
			3.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
TD-RRH8x20-25	C	From Leg	4.000	0.000	76.000	No Ice	4.045	1.535	0.070
(E)			0.000			1/2" Ice	4.298	1.714	0.097
			3.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
(4) 6' x 2" Mount Pipe	A	From Leg	4.000	0.000	76.000	No Ice	1.425	1.425	0.022
(E-Empty)			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
(2) 6' x 2" Mount Pipe	C	From Leg	4.000	0.000	76.000	No Ice	1.425	1.425	0.022
(E-Empty)			0.000			1/2" Ice	1.925	1.925	0.033
			2.000			1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
Platform Mount [LP 303-1]	C	None		0.000	76.000	No Ice	14.690	14.690	1.250
(E-12' Per TIA)						1/2" Ice	18.010	18.010	1.569

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						°
						1" Ice	21.340	21.340	1.942	
						2" Ice	28.080	28.080	2.852	
*										
(2) SBNHH-1D45B w/ Mount Pipe (E)	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	8.260 8.830 9.410 10.610	4.390 4.910 5.430 6.530	0.090 0.168 0.257 0.470
(2) SBNHH-1D45B w/ Mount Pipe (E)	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	8.260 8.830 9.410 10.610	4.390 4.910 5.430 6.530	0.090 0.168 0.257 0.470
(2) SBNHH-1D45B w/ Mount Pipe (E)	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	8.260 8.830 9.410 10.610	4.390 4.910 5.430 6.530	0.090 0.168 0.257 0.470
BXA-171063/12CF w/ Mount Pipe (E)	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.029 5.583 6.103 7.166	5.289 6.459 7.348 9.148	0.041 0.087 0.140 0.273
BXA-171063/12CF w/ Mount Pipe (E)	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.029 5.583 6.103 7.166	5.289 6.459 7.348 9.148	0.041 0.087 0.140 0.273
BXA-171063/12CF w/ Mount Pipe (E)	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	5.029 5.583 6.103 7.166	5.289 6.459 7.348 9.148	0.041 0.087 0.140 0.273
BXA-70063/6CF w/ Mount Pipe (E)	A	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	7.819 8.370 8.886 9.942	5.695 6.849 7.715 9.497	0.040 0.100 0.168 0.331
BXA-70063/6CF w/ Mount Pipe (E)	B	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	7.819 8.370 8.886 9.942	5.695 6.849 7.715 9.497	0.040 0.100 0.168 0.331
BXA-70063/6CF w/ Mount Pipe (E)	C	From Leg	4.000 0.000 0.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	7.819 8.370 8.886 9.942	5.695 6.849 7.715 9.497	0.040 0.100 0.168 0.331
B4 RRH2X60-4R (E-CL Per Photos)	A	From Leg	4.000 0.000 2.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.356 3.613 3.877 4.425	2.005 2.238 2.477 2.976	0.055 0.078 0.105 0.170
B4 RRH2X60-4R (E-CL Per Photos)	B	From Leg	4.000 0.000 2.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.356 3.613 3.877 4.425	2.005 2.238 2.477 2.976	0.055 0.078 0.105 0.170
B4 RRH2X60-4R (E-CL Per Photos)	C	From Leg	4.000 0.000 2.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.356 3.613 3.877 4.425	2.005 2.238 2.477 2.976	0.055 0.078 0.105 0.170
RRH2x60-700 (E-CL Per Photos)	A	From Leg	4.000 0.000 2.000		0.000	65.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.500 3.761 4.029 4.585	1.816 2.052 2.289 2.785	0.060 0.083 0.109 0.173
RRH2x60-700 (E-CL Per Photos)	B	From Leg	4.000 0.000		0.000	65.000	No Ice 1/2" Ice	3.500 3.761	1.816 2.052	0.060 0.083

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			Horz Lateral ft	Vert ft					
			2.000						
RRH2x60-700 (E-CL Per Photos)	C	From Leg	4.000	0.000	65.000	1" Ice	4.029	2.289	0.109
			0.000			2" Ice	4.585	2.785	0.173
			2.000			No Ice	3.500	1.816	0.060
						1/2" Ice	3.761	2.052	0.083
(2) DB-T1-6Z-8AB-0Z (E-CL & Hz Offset Per Photos)	C	From Leg	1.000	0.000	65.000	1" Ice	4.029	2.289	0.109
			0.000			2" Ice	4.585	2.785	0.173
			2.000			No Ice	4.800	2.000	0.044
						1/2" Ice	5.070	2.193	0.080
(2) 3' x 2" Pipe Mount (E-For TME's Per Photos)	C	From Leg	1.000	0.000	65.000	1" Ice	5.348	2.393	0.120
			0.000			2" Ice	5.926	2.815	0.213
			1.000			No Ice	0.583	0.583	0.011
						1/2" Ice	0.770	0.770	0.017
Platform Mount [LP 304-1] (E-14' Per TIA)	C	None		0.000	65.000	1" Ice	0.967	0.967	0.024
						2" Ice	1.388	1.388	0.047
						No Ice	17.490	17.490	1.349
						1/2" Ice	21.370	21.370	1.709
					1" Ice	25.280	25.280	2.131	
					2" Ice	33.170	33.170	3.164	
*									

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
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

Comb. No.	Description
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	100 - 47	Pole	Max Tension	26	0.000	0.000	0.000
			Max. Compression	26	-46.570	-1.703	-2.973
			Max. Mx	8	-23.875	-633.549	-1.574
			Max. My	14	-23.884	-1.168	-628.627
			Max. Vy	8	19.510	-633.549	-1.574
			Max. Vx	14	19.266	-1.168	-628.627
			Max. Torque	8			1.176
L2	47 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-65.511	-0.903	-2.831
			Max. Mx	8	-38.564	-1764.813	-0.850
			Max. My	14	-38.564	-0.322	-1747.170
			Max. Vy	8	23.152	-1764.813	-0.850
			Max. Vx	14	22.913	-0.322	-1747.170
			Max. Torque	17			0.450

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	31	65.511	-4.881	-2.796
	Max. H _x	20	38.577	23.131	-0.012
	Max. H _z	2	38.577	-0.012	22.892
	Max. M _x	2	1745.107	-0.012	22.892
	Max. M _z	8	1764.813	-23.131	0.012
	Max. Torsion	17	0.450	11.576	-19.832

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. Vert	25	28.932	11.555	19.819
	Min. H _x	8	38.577	-23.131	0.012
	Min. H _z	14	38.577	0.012	-22.892
	Min. M _x	14	-1747.170	0.012	-22.892
	Min. M _z	20	-1763.805	23.131	-0.012
	Min. Torsion	5	-0.450	-11.576	19.832

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	32.147	0.000	0.000	0.832	-0.402	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	38.577	0.012	-22.892	-1745.107	-0.687	0.378
0.9 Dead+1.0 Wind 0 deg - No Ice	28.932	0.012	-22.892	-1736.024	-0.558	0.381
1.2 Dead+1.0 Wind 30 deg - No Ice	38.577	11.576	-19.832	-1511.259	-882.820	0.442
0.9 Dead+1.0 Wind 30 deg - No Ice	28.932	11.576	-19.832	-1503.429	-877.972	0.450
1.2 Dead+1.0 Wind 60 deg - No Ice	38.577	20.038	-11.457	-872.193	-1528.534	0.388
0.9 Dead+1.0 Wind 60 deg - No Ice	28.932	20.038	-11.457	-867.786	-1520.231	0.398
1.2 Dead+1.0 Wind 90 deg - No Ice	38.577	23.131	-0.012	0.850	-1764.813	0.231
0.9 Dead+1.0 Wind 90 deg - No Ice	28.932	23.131	-0.012	0.583	-1755.245	0.240
1.2 Dead+1.0 Wind 120 deg - No Ice	38.577	20.026	11.436	873.941	-1528.350	0.013
0.9 Dead+1.0 Wind 120 deg - No Ice	28.932	20.026	11.436	869.001	-1520.046	0.019
1.2 Dead+1.0 Wind 150 deg - No Ice	38.577	11.555	19.819	1513.139	-882.503	-0.209
0.9 Dead+1.0 Wind 150 deg - No Ice	28.932	11.555	19.819	1504.779	-877.652	-0.207
1.2 Dead+1.0 Wind 180 deg - No Ice	38.577	-0.012	22.892	1747.170	-0.322	-0.375
0.9 Dead+1.0 Wind 180 deg - No Ice	28.932	-0.012	22.892	1737.558	-0.189	-0.379
1.2 Dead+1.0 Wind 210 deg - No Ice	38.577	-11.576	19.832	1513.322	881.811	-0.442
0.9 Dead+1.0 Wind 210 deg - No Ice	28.932	-11.576	19.832	1504.963	877.224	-0.450
1.2 Dead+1.0 Wind 240 deg - No Ice	38.577	-20.038	11.457	874.257	1527.525	-0.391
0.9 Dead+1.0 Wind 240 deg - No Ice	28.932	-20.038	11.457	869.321	1519.483	-0.400
1.2 Dead+1.0 Wind 270 deg - No Ice	38.577	-23.131	0.012	1.215	1763.805	-0.233
0.9 Dead+1.0 Wind 270 deg - No Ice	28.932	-23.131	0.012	0.952	1754.498	-0.243
1.2 Dead+1.0 Wind 300 deg - No Ice	38.577	-20.026	-11.436	-871.876	1527.342	-0.013
0.9 Dead+1.0 Wind 300 deg - No Ice	28.932	-20.026	-11.436	-867.466	1519.299	-0.019

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">B+T Group 1717 S Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p>	<p>Job 92699.005.01 - MERIDEN WEST CENTRAL, CT (BU# 842869)</p>	<p>Page 15 of 19</p>
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	<p>Client Crown Castle</p>	<p>Designed by Regan</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
1.2 Dead+1.0 Wind 330 deg - No Ice	38.577	-11.555	-19.819	-1511.075	881.494	0.211
0.9 Dead+1.0 Wind 330 deg - No Ice	28.932	-11.555	-19.819	-1503.244	876.905	0.210
1.2 Dead+1.0 Ice+1.0 Temp	65.511	0.000	0.000	2.831	-0.903	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	65.511	0.002	-5.597	-425.981	-1.011	0.019
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	65.511	2.820	-4.848	-368.532	-217.037	-0.056
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	65.511	4.883	-2.800	-211.541	-375.169	-0.116
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	65.511	5.637	-0.002	2.927	-433.035	-0.145
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	65.511	4.881	2.796	217.405	-375.131	-0.135
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	65.511	2.817	4.846	374.423	-216.971	-0.089
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	65.511	-0.002	5.597	431.910	-0.935	-0.019
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	65.511	-2.820	4.848	374.461	215.091	0.056
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	65.511	-4.883	2.800	217.470	373.223	0.116
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	65.511	-5.637	0.002	3.002	431.089	0.145
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	65.511	-4.881	-2.796	-211.475	373.185	0.135
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	65.511	-2.817	-4.846	-368.494	215.026	0.089
Dead+Wind 0 deg - Service	32.147	0.003	-4.968	-376.764	-0.458	0.082
Dead+Wind 30 deg - Service	32.147	2.512	-4.303	-326.192	-191.228	0.097
Dead+Wind 60 deg - Service	32.147	4.348	-2.486	-187.988	-330.871	0.086
Dead+Wind 90 deg - Service	32.147	5.019	-0.003	0.816	-381.969	0.052
Dead+Wind 120 deg - Service	32.147	4.346	2.482	189.631	-330.831	0.004
Dead+Wind 150 deg - Service	32.147	2.507	4.301	327.865	-191.159	-0.045
Dead+Wind 180 deg - Service	32.147	-0.003	4.968	378.476	-0.378	-0.082
Dead+Wind 210 deg - Service	32.147	-2.512	4.303	327.904	190.393	-0.097
Dead+Wind 240 deg - Service	32.147	-4.348	2.486	189.701	330.036	-0.086
Dead+Wind 270 deg - Service	32.147	-5.019	0.003	0.896	381.134	-0.052
Dead+Wind 300 deg - Service	32.147	-4.346	-2.482	-187.919	329.996	-0.004
Dead+Wind 330 deg - Service	32.147	-2.507	-4.301	-326.152	190.323	0.045

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-32.147	0.000	0.000	32.147	0.000	0.000%
2	0.012	-38.577	-22.892	-0.012	38.577	22.892	0.000%
3	0.012	-28.932	-22.892	-0.012	28.932	22.892	0.000%
4	11.576	-38.577	-19.832	-11.576	38.577	19.832	0.000%
5	11.576	-28.932	-19.832	-11.576	28.932	19.832	0.000%
6	20.038	-38.577	-11.457	-20.038	38.577	11.457	0.000%
7	20.038	-28.932	-11.457	-20.038	28.932	11.457	0.000%
8	23.131	-38.577	-0.012	-23.131	38.577	0.012	0.000%
9	23.131	-28.932	-0.012	-23.131	28.932	0.012	0.000%
10	20.026	-38.577	11.436	-20.026	38.577	-11.436	0.000%
11	20.026	-28.932	11.436	-20.026	28.932	-11.436	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
12	11.555	-38.577	19.819	-11.555	38.577	-19.819	0.000%
13	11.555	-28.932	19.819	-11.555	28.932	-19.819	0.000%
14	-0.012	-38.577	22.892	0.012	38.577	-22.892	0.000%
15	-0.012	-28.932	22.892	0.012	28.932	-22.892	0.000%
16	-11.576	-38.577	19.832	11.576	38.577	-19.832	0.000%
17	-11.576	-28.932	19.832	11.576	28.932	-19.832	0.000%
18	-20.038	-38.577	11.457	20.038	38.577	-11.457	0.000%
19	-20.038	-28.932	11.457	20.038	28.932	-11.457	0.000%
20	-23.131	-38.577	0.012	23.131	38.577	-0.012	0.000%
21	-23.131	-28.932	0.012	23.131	28.932	-0.012	0.000%
22	-20.026	-38.577	-11.436	20.026	38.577	11.436	0.000%
23	-20.026	-28.932	-11.436	20.026	28.932	11.436	0.000%
24	-11.555	-38.577	-19.819	11.555	38.577	19.819	0.000%
25	-11.555	-28.932	-19.819	11.555	28.932	19.819	0.000%
26	0.000	-65.511	0.000	0.000	65.511	-0.000	0.000%
27	0.002	-65.511	-5.597	-0.002	65.511	5.597	0.000%
28	2.820	-65.511	-4.848	-2.820	65.511	4.848	0.000%
29	4.883	-65.511	-2.800	-4.883	65.511	2.800	0.000%
30	5.637	-65.511	-0.002	-5.637	65.511	0.002	0.000%
31	4.881	-65.511	2.796	-4.881	65.511	-2.796	0.000%
32	2.817	-65.511	4.846	-2.817	65.511	-4.846	0.000%
33	-0.002	-65.511	5.597	0.002	65.511	-5.597	0.000%
34	-2.820	-65.511	4.848	2.820	65.511	-4.848	0.000%
35	-4.883	-65.511	2.800	4.883	65.511	-2.800	0.000%
36	-5.637	-65.511	0.002	5.637	65.511	-0.002	0.000%
37	-4.881	-65.511	-2.796	4.881	65.511	2.796	0.000%
38	-2.817	-65.511	-4.846	2.817	65.511	4.846	0.000%
39	0.003	-32.147	-4.968	-0.003	32.147	4.968	0.000%
40	2.512	-32.147	-4.303	-2.512	32.147	4.303	0.000%
41	4.348	-32.147	-2.486	-4.348	32.147	2.486	0.000%
42	5.019	-32.147	-0.003	-5.019	32.147	0.003	0.000%
43	4.346	-32.147	2.482	-4.346	32.147	-2.482	0.000%
44	2.507	-32.147	4.301	-2.507	32.147	-4.301	0.000%
45	-0.003	-32.147	4.968	0.003	32.147	-4.968	0.000%
46	-2.512	-32.147	4.303	2.512	32.147	-4.303	0.000%
47	-4.348	-32.147	2.486	4.348	32.147	-2.486	0.000%
48	-5.019	-32.147	0.003	5.019	32.147	-0.003	0.000%
49	-4.346	-32.147	-2.482	4.346	32.147	2.482	0.000%
50	-2.507	-32.147	-4.301	2.507	32.147	4.301	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00001976
3	Yes	4	0.00000001	0.00001227
4	Yes	4	0.00000001	0.00029493
5	Yes	4	0.00000001	0.00019323
6	Yes	4	0.00000001	0.00028534
7	Yes	4	0.00000001	0.00018638
8	Yes	4	0.00000001	0.00001624
9	Yes	4	0.00000001	0.00000962
10	Yes	4	0.00000001	0.00028720
11	Yes	4	0.00000001	0.00018758
12	Yes	4	0.00000001	0.00029655

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13	Yes	4	0.00000001	0.00019397
14	Yes	4	0.00000001	0.00001987
15	Yes	4	0.00000001	0.00001234
16	Yes	4	0.00000001	0.00028266
17	Yes	4	0.00000001	0.00018470
18	Yes	4	0.00000001	0.00029318
19	Yes	4	0.00000001	0.00019186
20	Yes	4	0.00000001	0.00001625
21	Yes	4	0.00000001	0.00000963
22	Yes	4	0.00000001	0.00029232
23	Yes	4	0.00000001	0.00019130
24	Yes	4	0.00000001	0.00028208
25	Yes	4	0.00000001	0.00018462
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00021697
28	Yes	4	0.00000001	0.00022588
29	Yes	4	0.00000001	0.00022789
30	Yes	4	0.00000001	0.00022240
31	Yes	4	0.00000001	0.00023083
32	Yes	4	0.00000001	0.00023056
33	Yes	4	0.00000001	0.00022189
34	Yes	4	0.00000001	0.00022860
35	Yes	4	0.00000001	0.00022803
36	Yes	4	0.00000001	0.00021942
37	Yes	4	0.00000001	0.00022524
38	Yes	4	0.00000001	0.00022408
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	5.069	42	0.402	0.001
L2	53 - 0	1.576	42	0.266	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.000	Lightning Rod 5/8" x 8'	42	5.069	0.402	0.001	84340
86.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	42	3.895	0.368	0.000	30121
78.000	TME-800MHZ RRH	42	3.254	0.347	0.000	19168

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Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
76.000	(2) APXVSPP18-C-A20 w/ Mount Pipe	42	3.099	0.341	0.000	17571
65.000	(2) SBNHH-1D45B w/ Mount Pipe	42	2.304	0.308	0.000	12048

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	100 - 47	23.410	8	1.858	0.002
L2	53 - 0	7.282	8	1.228	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
100.000	Lightning Rod 5/8" x 8'	8	23.410	1.858	0.003	18305
86.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	8	17.989	1.700	0.002	6537
78.000	TME-800MHZ RRH	8	15.030	1.602	0.001	4159
76.000	(2) APXVSPP18-C-A20 w/ Mount Pipe	8	14.317	1.577	0.001	3812
65.000	(2) SBNHH-1D45B w/ Mount Pipe	8	10.646	1.424	0.001	2614

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L _u	Kl/r	A	P _u	φP _n	Ratio P _u /φP _n
	ft		ft	ft		in ²	K	K	
L1	100 - 47 (1)	TP40.72x28x0.313	53.000	0.000	0.0	38.846	-23.875	2272.480	0.011
L2	47 - 0 (2)	TP51.37x38.655x0.375	53.000	0.000	0.0	61.003	-38.564	3568.660	0.011

Pole Bending Design Data

Section No.	Elevation	Size	M _{ux}	φM _{ux}	Ratio M _{ux} /φM _{ux}	M _{uy}	φM _{uy}	Ratio M _{uy} /φM _{uy}
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	100 - 47 (1)	TP40.72x28x0.313	633.551	2103.400	0.301	0.000	2103.400	0.000

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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 $\frac{M_{uy}}{\phi M_{uy}}$
L2	47 - 0 (2)	TP51.37x38.655x0.375	1764.817	4179.683	0.422	0.000	4179.683	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	100 - 47 (1)	TP40.72x28x0.313	19.510	681.743	0.029	0.231	2329.483	0.000
L2	47 - 0 (2)	TP51.37x38.655x0.375	23.152	1070.600	0.022	0.231	4787.300	0.000

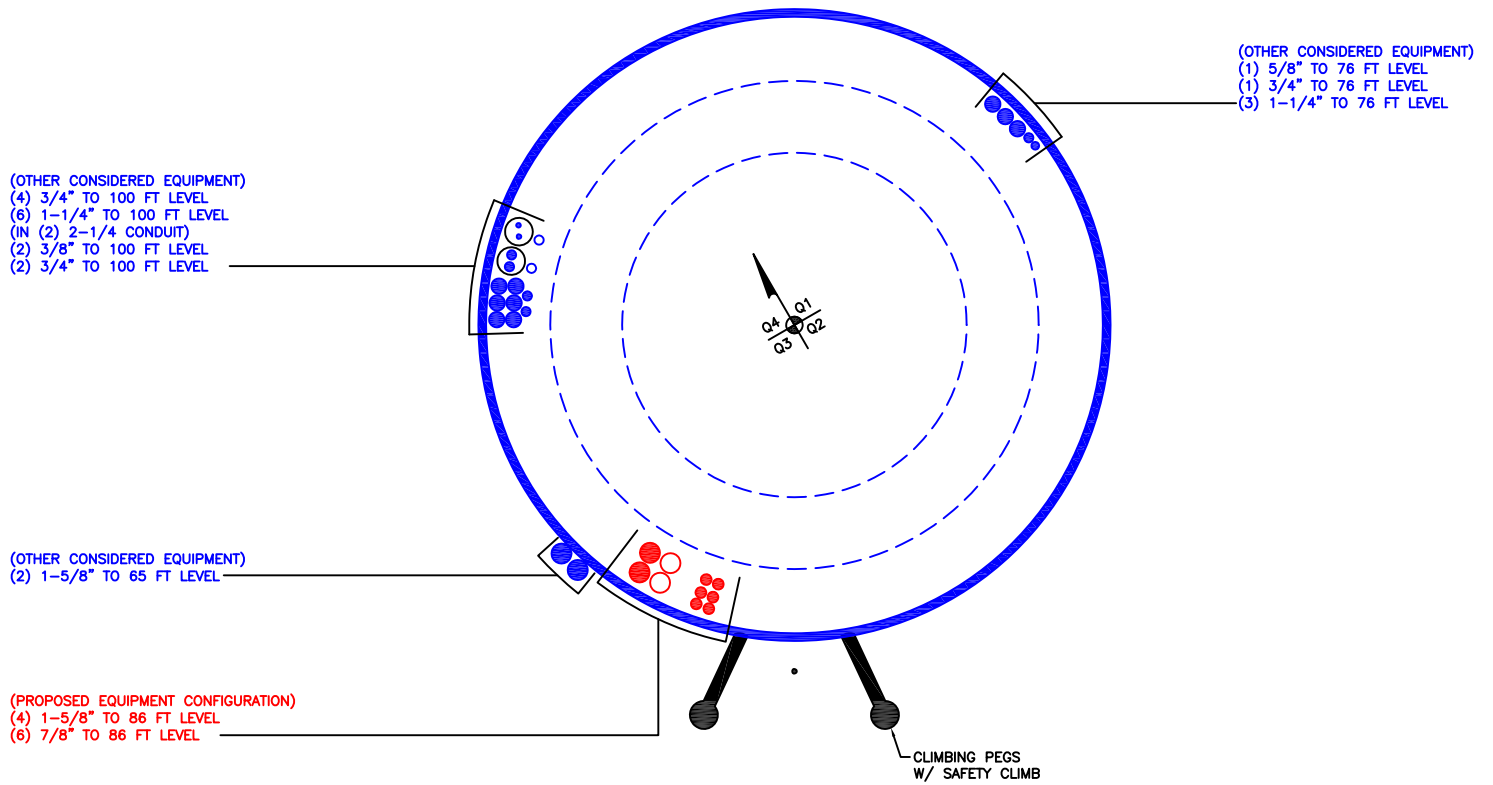
Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	Ratio $\frac{M_{uy}}{\phi M_{uy}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 47 (1)	0.011	0.301	0.000	0.029	0.000	0.313	1.050	4.8.2 ✓
L2	47 - 0 (2)	0.011	0.422	0.000	0.022	0.000	0.434 ✓	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	100 - 47	Pole	TP40.72x28x0.313	1	-23.875	2386.104	29.8	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-38.564	3747.093	41.3	Pass
Summary								
Pole (L2)							41.3	Pass
RATING =							41.3	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT:842869

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

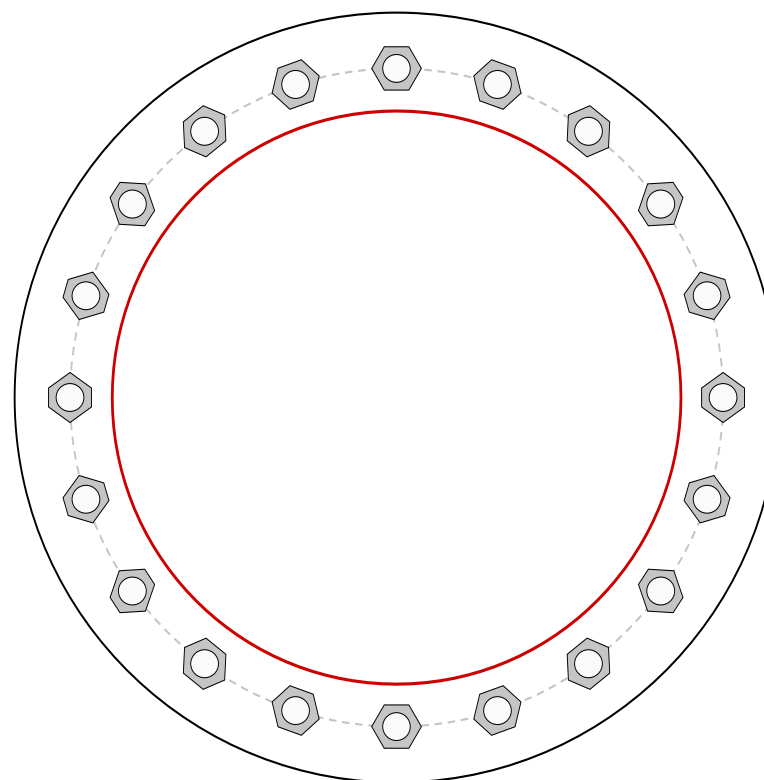


Site Info	
BU #	842869
Site Name	RIDEN WEST CENTRAL
Order #	445375, Rev.5

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	1764.81
Axial Force (kips)	38.56
Shear Force (kips)	23.15

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(20) 2-1/2" ϕ bolts (A572-50 N; $F_y=50$ ksi, $F_u=65$ ksi) on 59" BC
Base Plate Data
69" OD x 3" Plate (A36; $F_y=36$ ksi, $F_u=58$ ksi)
Stiffener Data
N/A
Pole Data
51.37" x 0.375" 16-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary		<i>(units of kips, kip-in)</i>
$P_{u_c} = 73.66$	$\phi P_{n_c} = 220.89$	Stress Rating
$V_u = 1.16$	$\phi V_n = 99.4$	31.8%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	9.4	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	27.6%	Pass

Pier and Pad Foundation



BU #: 842869
 Site Name: MERIDEN WEST C
 App. Number: 445375, Rev.5

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	39	kips
Base Shear, V_{u_comp} :	23	kips
Moment, M_u :	1765	ft-kips
Tower Height, H :	100	ft
BP Dist. Above Fdn, bp_{dist} :	0	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	190.35	23.00	11.5%	Pass
<i>Bearing Pressure (ksf)</i>	6.62	2.32	35.1%	Pass
<i>Overtuning (kip*ft)</i>	3744.34	1960.50	52.4%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	16122.68	1903.00	11.2%	Pass
<i>Pier Compression (kip)</i>	40734.72	108.12	0.3%	Pass
<i>Pad Flexure (kip*ft)</i>	3474.94	513.13	14.1%	Pass
<i>Pad Shear - 1-way (kips)</i>	576.22	111.68	18.5%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.190	0.026	13.2%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	5377.97	1141.80	20.2%	Pass

Pier Properties		
Pier Shape:	Square	
Pier Diameter, d_{pier} :	8	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, S_c :	11	
Pier Rebar Quantity, m_c :	60	
Pier Tie/Spiral Size, S_t :	4	
Pier Tie/Spiral Quantity, m_t :	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Soil Rating*:	52.4%
Structural Rating*:	20.2%

Pad Properties		
Depth, D :	7.5	ft
Pad Width, W :	20	ft
Pad Thickness, T :	2.5	ft
Pad Rebar Size (Bottom), S_p :	9	
Pad Rebar Quantity (Bottom), m_p :	32	
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 :	110	pcf
Ultimate Net Bearing, Q_{net} :	8.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	30	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.35	
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	N/A	ft

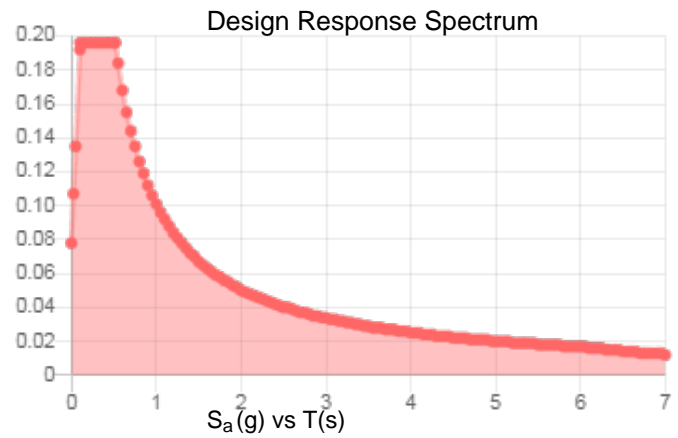
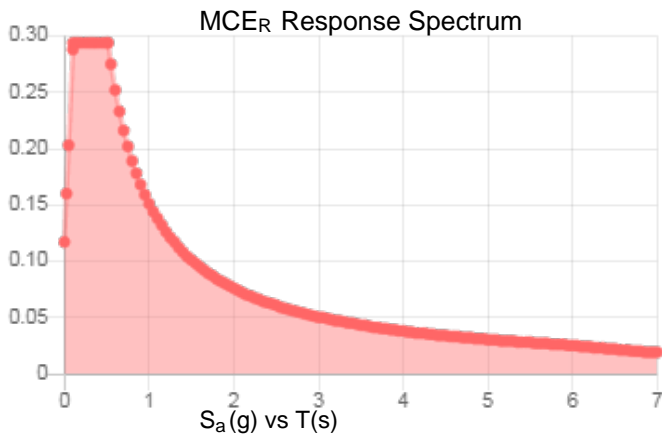
<--Toggle between Gross and Net

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.184	S_{DS} :	0.196
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.094
S_{MS} :	0.294	PGA_M :	0.151
S_{M1} :	0.151	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Tue Jun 23 2020

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: Tue Jun 23 2020

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.

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Exhibit E

Mount Analysis

Date: **June 22, 2020**

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
Infinigy Engineering, PLLC
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518-690-0790
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Darcy Tarr
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 405-6589

Subject: Mount Analysis Report

Carrier Designation: T-Mobile Anchor
Carrier Site Number: CT11733B
Carrier Site Name: CT733/AT&THntr Amblnce FT

Crown Castle Designation: Crown Castle BU Number: 842869
Crown Castle Site Name: Meriden West Central
Crown Castle JDE Job Number: 511473
Crown Castle Order Number: 445375 Rev. 5

Engineering Firm Designation: Infinigy Engineering, PLLC Report Designation: 1039-Z0001-B

Site Data: 450-478 West Main Street, Meriden, New Haven County, CT 06451
Latitude 41°32'24.11" Longitude -72°49'8.47"

Structure Information: Tower Height & Type: 100.0 ft Monopole
Mount Elevation: 86.0 ft
Mount Type: 12.5 ft Platform

Dear Darcy Tarr,

Infinigy 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 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 125 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: Jacques Grimaldi, M.S., E.I.T.

Respectfully Submitted by:
John Stevens, P.E.
518-690-0790
jstevens@infinigy.com
CT PE License No. PEN.0024705



6-22-2020

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Additional Calculations

1) INTRODUCTION

This is an existing 3 sector 12.5 ft Platform, designed by Commscope.

2) ANALYSIS CRITERIA

Building Code:	2018 Connecticut State Building Code / 2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.186
Seismic S₁:	0.062
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
86.0	90.0	3	Ericsson	AIR-32 B2A/B66AA	12.5 ft Platform {Commscope MC-PA12S}
		3	Ericsson	AIR6449 B41	
		3	Ericsson	Ericsson AIR 21 B2A B4P	
		3	RFS/Celwave	APXVAARR24 43-U-NA20	
		3	Ericsson	KRY 112 144/1	
		3	Ericsson	Radio 4449 B71 B85A T-Mobile	
		3	Ericsson	RRUS 4415 B25	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	445375 Revision 5	CCI Sites
Mount Manufacturer Drawings	Commscope	MC-PA12S	Infinigy

3.1) Analysis Method

RISA-3D (Version 18), 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.

Infinigy Mount Analysis Tool V2.1.4, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

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

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 A529 (GR 50)
HSS (Rectangular)	ASTM A500 (GR C-46)
Pipe	ASTM A500 (GR C-46)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Infinigy 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 (Platform, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Mount Pipe(s)	MP11	86.0	76.2	Pass
	Corner Plate(s)	M5		54.5	Pass
	Standoff(s)	M43		44.5	Pass
	Handrail(s)	M28		40.5	Pass
	Horizontal(s)	M3		36.1	Pass
	Mount Connection(s)	--		34.9	Pass

Structure Rating (max from all components) =	76.2%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.

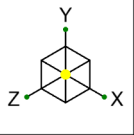
4.1) Recommendations

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. Install Commscope MT-195-12 handrail kit at a height of 42" from the mount face horizontals.

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

Infinigy Engineering, PLLC

JG

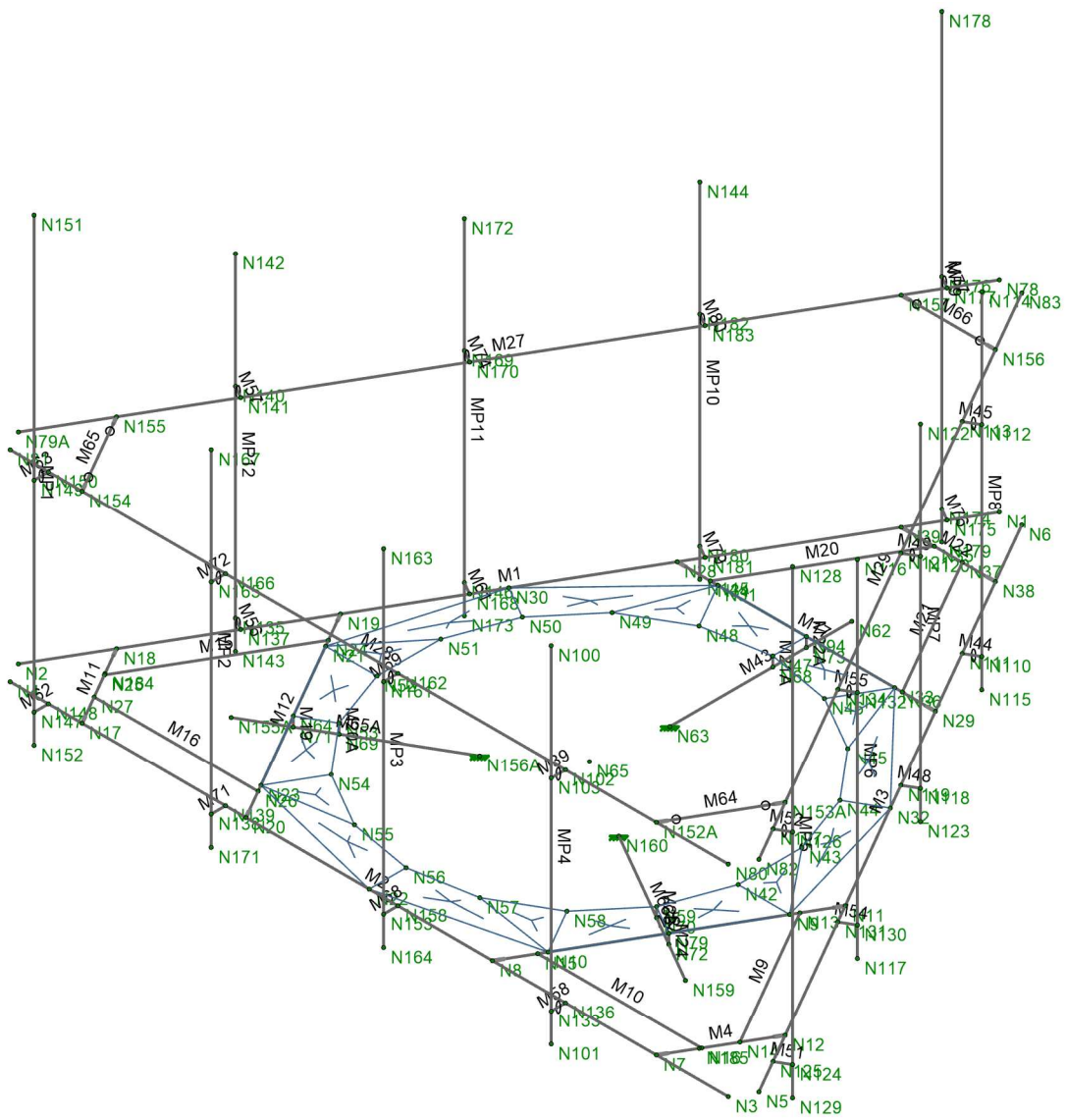
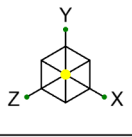
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Rendered1

Jun 22, 2020

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JG
1039-Z0001-B

842869

Wire Frame1
Jun 22, 2020
842869_loaded.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	Crown Castle
Carrier:	T-Mobile
Engineer:	Jacques Grimaldi

SITE INFORMATION	
Risk Category:	II
Exposure Category:	B
Topo Factor Procedure:	Method 1, Category 1
Site Class:	D - Stiff Soil
Ground Elevation:	166 ft *Rev H

MOUNT INFORMATION	
Mount Type:	Platform
Num Sectors:	3
Centerline AGL:	86.0 ft
Tower Height AGL:	100.0 ft

TOPOGRAPHIC DATA	
Topo Feature:	N/A
Slope Distance:	N/A ft
Crest Distance:	N/A ft
Crest Height:	N/A ft

FACTORS	
Directionality Fact. (K_d):	0.95
Ground Ele. Factor (K_e):	0.99 *Rev H Only
Roof Speed-Up (K_s):	1.00 *Rev H Only
Topographic Factor (K_{zt}):	1.00
Gust Effect Factor (G_N):	1.0

CODE STANDARDS	
Building Code:	2015 IBC
TIA Standard:	TIA-222-H
ASCE Standard:	ASCE 7-10

WIND AND ICE DATA	
Ultimate Wind (V_{ult}):	125 mph
Design Wind (V):	N/A mph
Ice Wind (V_{ice}):	50 mph
Base Ice Thickness (t_i):	1.5 in
Flat Pressure:	71.51 psf
Round Pressure:	42.90 psf
Ice Wind Pressure:	6.86 psf

SEISMIC DATA	
Short-Period Accel. (S_s):	0.19 g
1-Second Accel. (S_1):	0.06 g
Short-Period Design (S_{DS}):	0.20
1-Second Design (S_{D1}):	0.10
Short-Period Coeff. (F_a):	1.60
1-Second Coeff. (F_v):	2.40
Amplification Factor (a_p):	1.00
Response Mod. (R_p):	2.50
Overstrength (Ω_o):	1.00



Infinigy Load Calculator V2.1.4

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Primary Member Properties

	Label	I Node	J Node	K Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N1	N2			Horizontals	Beam	Pipe	A500 Gr...	Typical
2	M2	N3	N4			Horizontals	Beam	Pipe	A500 Gr...	Typical
3	M3	N5	N6			Horizontals	Beam	Pipe	A500 Gr...	Typical
4	M4	N7	N12			Bracing Plate	Beam	RECT	A529 Gr...	Typical
5	M5	N11	N8			Bracing Plate	Beam	RECT	A529 Gr...	Typical
6	M9	N13	N14			Angles	Beam	Single Angle	A529 Gr...	Typical
7	M10	N15	N16		270	Angles	Beam	Single Angle	A529 Gr...	Typical
8	M11	N17	N18			Bracing Plate	Beam	RECT	A529 Gr...	Typical
9	M12	N19	N20			Bracing Plate	Beam	RECT	A529 Gr...	Typical
10	M15	N24	N25		270	Angles	Beam	Single Angle	A529 Gr...	Typical
11	M16	N26	N27			Angles	Beam	Single Angle	A529 Gr...	Typical
12	M17	N28	N29			Bracing Plate	Beam	RECT	A529 Gr...	Typical
13	M20	N34	N35			Angles	Beam	Single Angle	A529 Gr...	Typical
14	M21	N36	N37		270	Angles	Beam	Single Angle	A529 Gr...	Typical
15	M22	N38	N39			Bracing Plate	Beam	RECT	A529 Gr...	Typical
16	M43	N62	N63			Standoffs	Beam	SquareTube	A500 Gr...	Typical
17	M19	N64	N71			RIGID	None	None	RIGID	Typical
18	M20A	N53	N69			RIGID	None	None	RIGID	Typical
19	M21A	N47	N68			RIGID	None	None	RIGID	Typical
20	M22A	N94	N73			RIGID	None	None	RIGID	Typical
21	M23A	N59	N70			RIGID	None	None	RIGID	Typical
22	M24	N79	N72			RIGID	None	None	RIGID	Typical
23	M27	N78	N79A			Handrails	Beam	Pipe	A500 Gr...	Typical
24	M28	N80	N81			Handrails	Beam	Pipe	A500 Gr...	Typical
25	M29	N82	N83			Handrails	Beam	Pipe	A500 Gr...	Typical
26	MP4	N100	N101			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
27	M39	N103	N102			RIGID	None	None	RIGID	Typical
28	M64	N152A	N153A			Corner Plates	Beam	RECT	A529 Gr...	Typical
29	M65	N154	N155			Corner Plates	Beam	RECT	A529 Gr...	Typical
30	M66	N156	N157			Corner Plates	Beam	RECT	A529 Gr...	Typical
31	M65A	N155A	N156A			Standoffs	Beam	SquareTube	A500 Gr...	Typical
32	M66A	N159	N160			Standoffs	Beam	SquareTube	A500 Gr...	Typical
33	M58	N133	N136			RIGID	None	None	RIGID	Typical
34	M62	N147	N148			RIGID	None	None	RIGID	Typical
35	M63	N149	N150			RIGID	None	None	RIGID	Typical
36	MP1	N151	N152			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
37	M68	N153	N158			RIGID	None	None	RIGID	Typical
38	M69	N161	N162			RIGID	None	None	RIGID	Typical
39	MP3	N163	N164			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
40	M71	N138	N139			RIGID	None	None	RIGID	Typical
41	M72	N165	N166			RIGID	None	None	RIGID	Typical
42	MP2	N167	N171			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
43	M44	N110	N111			RIGID	None	None	RIGID	Typical
44	M45	N112	N113			RIGID	None	None	RIGID	Typical
45	MP8	N114	N115			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
46	MP6	N116	N117			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
47	M48	N118	N119			RIGID	None	None	RIGID	Typical
48	M49	N120	N121			RIGID	None	None	RIGID	Typical
49	MP7	N122	N123			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
50	M51	N124	N125			RIGID	None	None	RIGID	Typical
51	M52	N126	N127			RIGID	None	None	RIGID	Typical
52	MP5	N128	N129			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
53	M54	N130	N131			RIGID	None	None	RIGID	Typical
54	M55	N132	N134			RIGID	None	None	RIGID	Typical
55	M56	N135	N137			RIGID	None	None	RIGID	Typical
56	M57	N140	N141			RIGID	None	None	RIGID	Typical
57	MP12	N142	N143			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
58	MP10	N144	N145			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical

Primary Member Properties (Continued)

	Label	I Node	J Node	K Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
59	M61	N146	N168			RIGID	None	None	RIGID	Typical
60	M74	N169	N170			RIGID	None	None	RIGID	Typical
61	MP11	N172	N173			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
62	M76	N174	N175			RIGID	None	None	RIGID	Typical
63	M77	N176	N177			RIGID	None	None	RIGID	Typical
64	MP9	N178	N179			Pipe Mounts	Beam	Pipe	A500 Gr...	Typical
65	M79	N180	N181			RIGID	None	None	RIGID	Typical
66	M80	N182	N183			RIGID	None	None	RIGID	Typical

Material Take-Off

	Material	Size	Pieces	Length [in]	Weight [lb]
1	General				
2	RIGID		30	84	0
3	Total General		30	84	0
4					
5	Hot Rolled Steel				
6	A500 Gr. C - 46	HSS4X4X4	3	114	108.94
7	A500 Gr. C - 46	PIPE 2.0	15	1386	400.881
8	A500 Gr. C - 46	PIPE 3.0	3	450	264.141
9	A529 Gr. 50	L2x2x2	6	205.5	28.611
10	A529 Gr. 50	PL4x3/8	9	248.5	105.703
11	Total HR Steel		36	2404	908.275
12					
13	Plate Elements	Thickness (in)		Volume (yds^3)	
14	gen Steel	0.3	18	0	151.364
15	Total Plates		18	0	151.364

Basic Load Cases

	BLC Description	Category	X Gra...	Y Gra...	Z Gra...	Nodal	Point	Distributed	Area(Mem...	Surface(Plate/...
1	Self Weight	DL		-1			33		3	
2	Wind Load AZI 0	WLZ					66			
3	Wind Load AZI 30	None					66			
4	Wind Load AZI 60	None					66			
5	Wind Load AZI 90	WLX					66			
6	Wind Load AZI 120	None					66			
7	Wind Load AZI 150	None					66			
8	Wind Load AZI 180	None					66			
9	Wind Load AZI 210	None					66			
10	Wind Load AZI 240	None					66			
11	Wind Load AZI 270	None					66			
12	Wind Load AZI 300	None					66			
13	Wind Load AZI 330	None					66			
14	Distr. Wind Load Z	WLZ						66		
15	Distr. Wind Load X	WLX						66		
16	Ice Weight	OL1					33	66	3	18
17	Ice Wind Load AZI...	OL2					66			
18	Ice Wind Load AZI...	None					66			
19	Ice Wind Load AZI...	None					66			
20	Ice Wind Load AZI...	OL3					66			
21	Ice Wind Load AZI...	None					66			
22	Ice Wind Load AZI...	None					66			
23	Ice Wind Load AZI...	None					66			
24	Ice Wind Load AZI...	None					66			
25	Ice Wind Load AZI...	None					66			
26	Ice Wind Load AZI...	None					66			
27	Ice Wind Load AZI...	None					66			
28	Ice Wind Load AZI...	None					66			



Basic Load Cases (Continued)

	BLC Description	Category	X Gra...	Y Gra...	Z Gra...	Nodal	Point	Distributed	Area(Mem...	Surface(Plate/...
29	Distr. Ice Wind Lo...	OL2						66		
30	Distr. Ice Wind Lo...	OL3						66		
31	Seismic Load Z	ELZ			-0.099		33			
32	Seismic Load X	ELX	-0.099				33			
33	Service Live Load 1	LL				1				
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				
43	Maintenance Load...	LL				1				
44	Maintenance Load...	LL				1				
45	Maintenance Load...	LL				1				
46	Service Live Load 2	LL				1				
47	Service Live Load 3	LL				1				
48	Service Live Load 4	LL				1				
49	Service Live Load 5	LL				1				
50	Service Live Load 6	LL				1				
51	Service Live Load 7	LL					1			
52	Service Live Load 8	LL					1			
53	Service Live Load 9	LL					1			
54	BLC 1 Transient A...	None						36		
55	BLC 16 Transient...	None						36		

Load Combinations

	Description	Solve PD...	S...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4DL	Yes	Y	1	1.4								
2	1.2DL + 1WL AZI 0	Yes	Y	1	1.2	2	1	14	1	15			
3	1.2DL + 1WL AZI 30	Yes	Y	1	1.2	3	1	14	0.866	15	0.5		
4	1.2DL + 1WL AZI 60	Yes	Y	1	1.2	4	1	14	0.5	15	0.866		
5	1.2DL + 1WL AZI 90	Yes	Y	1	1.2	5	1	14		15	1		
6	1.2DL + 1WL AZI 120	Yes	Y	1	1.2	6	1	14	-0.5	15	0.866		
7	1.2DL + 1WL AZI 150	Yes	Y	1	1.2	7	1	14	-0.8...	15	0.5		
8	1.2DL + 1WL AZI 180	Yes	Y	1	1.2	8	1	14	-1	15			
9	1.2DL + 1WL AZI 210	Yes	Y	1	1.2	9	1	14	-0.8...	15	-0.5		
10	1.2DL + 1WL AZI 240	Yes	Y	1	1.2	10	1	14	-0.5	15	-0.8...		
11	1.2DL + 1WL AZI 270	Yes	Y	1	1.2	11	1	14		15	-1		
12	1.2DL + 1WL AZI 300	Yes	Y	1	1.2	12	1	14	0.5	15	-0.8...		
13	1.2DL + 1WL AZI 330	Yes	Y	1	1.2	13	1	14	0.866	15	-0.5		
14	0.9DL + 1WL AZI 0	Yes	Y	1	0.9	2	1	14	1	15			
15	0.9DL + 1WL AZI 30	Yes	Y	1	0.9	3	1	14	0.866	15	0.5		
16	0.9DL + 1WL AZI 60	Yes	Y	1	0.9	4	1	14	0.5	15	0.866		
17	0.9DL + 1WL AZI 90	Yes	Y	1	0.9	5	1	14		15	1		
18	0.9DL + 1WL AZI 120	Yes	Y	1	0.9	6	1	14	-0.5	15	0.866		
19	0.9DL + 1WL AZI 150	Yes	Y	1	0.9	7	1	14	-0.8...	15	0.5		
20	0.9DL + 1WL AZI 180	Yes	Y	1	0.9	8	1	14	-1	15			
21	0.9DL + 1WL AZI 210	Yes	Y	1	0.9	9	1	14	-0.8...	15	-0.5		
22	0.9DL + 1WL AZI 240	Yes	Y	1	0.9	10	1	14	-0.5	15	-0.8...		
23	0.9DL + 1WL AZI 270	Yes	Y	1	0.9	11	1	14		15	-1		
24	0.9DL + 1WL AZI 300	Yes	Y	1	0.9	12	1	14	0.5	15	-0.8...		
25	0.9DL + 1WL AZI 330	Yes	Y	1	0.9	13	1	14	0.866	15	-0.5		
26	1.2D + 1.0Di	Yes	Y	1	1.2	16	1						
27	1.2D + 1.0Di + 1.0Wi A...	Yes	Y	1	1.2	16	1	17	1	29	1	30	
28	1.2D + 1.0Di + 1.0Wi A...	Yes	Y	1	1.2	16	1	18	1	29	0.866	30	0.5

Load Combinations (Continued)

	Description	Solve	PD...	S...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
29	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	19	1	29	0.5	30	0.866
30	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	20	1	29		30	1
31	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	21	1	29	-0.5	30	0.866
32	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	22	1	29	-0.8...	30	0.5
33	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	23	1	29	-1	30	
34	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	24	1	29	-0.8...	30	-0.5
35	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	25	1	29	-0.5	30	-0.8...
36	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	26	1	29		30	-1
37	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	27	1	29	0.5	30	-0.8...
38	1.2D + 1.0Di + 1.0Wi A...	Yes	Y		1	1.2	16	1	28	1	29	0.866	30	-0.5
39	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	1	32					
40	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	0.866	32	0.5				
41	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	0.5	32	0.866				
42	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31		32	1				
43	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	-0.5	32	0.866				
44	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	-0.8...	32	0.5				
45	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	-1	32					
46	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	-0.8...	32	-0.5				
47	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	-0.5	32	-0.8...				
48	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31		32	-1				
49	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	0.5	32	-0.8...				
50	(1.2 + 0.2Sds)DL + 1.0...	Yes	Y		1	1.24	31	0.866	32	-0.5				
51	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	1	32					
52	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	0.866	32	0.5				
53	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	0.5	32	0.866				
54	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31		32	1				
55	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	-0.5	32	0.866				
56	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	-0.8...	32	0.5				
57	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	-1	32					
58	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	-0.8...	32	-0.5				
59	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	-0.5	32	-0.8...				
60	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31		32	-1				
61	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	0.5	32	-0.8...				
62	(0.9 - 0.2Sds)DL + 1.0...	Yes	Y		1	0.86	31	0.866	32	-0.5				
63	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	2	0.23	14	0.23	15		33	1.5
64	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	3	0.23	14	0.2	15	0.115	33	1.5
65	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	4	0.23	14	0.115	15	0.2	33	1.5
66	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	5	0.23	14		15	0.23	33	1.5
67	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	6	0.23	14	-0.115	15	0.2	33	1.5
68	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	7	0.23	14	-0.2	15	0.115	33	1.5
69	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	8	0.23	14	-0.23	15		33	1.5
70	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	9	0.23	14	-0.2	15	-0.115	33	1.5
71	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	10	0.23	14	-0.115	15	-0.2	33	1.5
72	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	11	0.23	14		15	-0.23	33	1.5
73	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	12	0.23	14	0.115	15	-0.2	33	1.5
74	1.0DL + 1.5LL + 1.0S...	Yes	Y		1	1	13	0.23	14	0.2	15	-0.115	33	1.5
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5						
76	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	2	0.058	14	0.058	15	
77	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	3	0.058	14	0.05	15	0.029
78	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	4	0.058	14	0.029	15	0.05
79	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	5	0.058	14		15	0.058
80	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	6	0.058	14	-0.0...	15	0.05
81	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	7	0.058	14	-0.05	15	0.029
82	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	8	0.058	14	-0.0...	15	
83	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	9	0.058	14	-0.05	15	-0.0...
84	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	10	0.058	14	-0.0...	15	-0.05
85	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	11	0.058	14		15	-0.0...
86	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	12	0.058	14	0.029	15	-0.05

Load Combinations (Continued)

	Description	Solve	PD...	S...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
87	1.2DL + 1.5LM-MP1 +...	Yes	Y		1	1.2	34	1.5	13	0.058	14	0.05	15	-0.0...
88	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	2	0.058	14	0.058	15	
89	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	3	0.058	14	0.05	15	0.029
90	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	4	0.058	14	0.029	15	0.05
91	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	5	0.058	14		15	0.058
92	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	6	0.058	14	-0.0...	15	0.05
93	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	7	0.058	14	-0.05	15	0.029
94	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	8	0.058	14	-0.0...	15	
95	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	9	0.058	14	-0.05	15	-0.0...
96	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	10	0.058	14	-0.0...	15	-0.05
97	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	11	0.058	14		15	-0.0...
98	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	12	0.058	14	0.029	15	-0.05
99	1.2DL + 1.5LM-MP2 +...	Yes	Y		1	1.2	35	1.5	13	0.058	14	0.05	15	-0.0...
100	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	2	0.058	14	0.058	15	
101	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	3	0.058	14	0.05	15	0.029
102	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	4	0.058	14	0.029	15	0.05
103	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	5	0.058	14		15	0.058
104	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	6	0.058	14	-0.0...	15	0.05
105	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	7	0.058	14	-0.05	15	0.029
106	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	8	0.058	14	-0.0...	15	
107	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	9	0.058	14	-0.05	15	-0.0...
108	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	10	0.058	14	-0.0...	15	-0.05
109	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	11	0.058	14		15	-0.0...
110	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	12	0.058	14	0.029	15	-0.05
111	1.2DL + 1.5LM-MP3 +...	Yes	Y		1	1.2	36	1.5	13	0.058	14	0.05	15	-0.0...
112	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	2	0.058	14	0.058	15	
113	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	3	0.058	14	0.05	15	0.029
114	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	4	0.058	14	0.029	15	0.05
115	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	5	0.058	14		15	0.058
116	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	6	0.058	14	-0.0...	15	0.05
117	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	7	0.058	14	-0.05	15	0.029
118	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	8	0.058	14	-0.0...	15	
119	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	9	0.058	14	-0.05	15	-0.0...
120	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	10	0.058	14	-0.0...	15	-0.05
121	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	11	0.058	14		15	-0.0...
122	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	12	0.058	14	0.029	15	-0.05
123	1.2DL + 1.5LM-MP4 +...	Yes	Y		1	1.2	37	1.5	13	0.058	14	0.05	15	-0.0...
124	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	2	0.058	14	0.058	15	
125	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	3	0.058	14	0.05	15	0.029
126	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	4	0.058	14	0.029	15	0.05
127	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	5	0.058	14		15	0.058
128	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	6	0.058	14	-0.0...	15	0.05
129	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	7	0.058	14	-0.05	15	0.029
130	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	8	0.058	14	-0.0...	15	
131	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	9	0.058	14	-0.05	15	-0.0...
132	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	10	0.058	14	-0.0...	15	-0.05
133	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	11	0.058	14		15	-0.0...
134	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	12	0.058	14	0.029	15	-0.05
135	1.2DL + 1.5LM-MP5 +...	Yes	Y		1	1.2	38	1.5	13	0.058	14	0.05	15	-0.0...
136	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	2	0.058	14	0.058	15	
137	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	3	0.058	14	0.05	15	0.029
138	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	4	0.058	14	0.029	15	0.05
139	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	5	0.058	14		15	0.058
140	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	6	0.058	14	-0.0...	15	0.05
141	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	7	0.058	14	-0.05	15	0.029
142	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	8	0.058	14	-0.0...	15	
143	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	9	0.058	14	-0.05	15	-0.0...
144	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	10	0.058	14	-0.0...	15	-0.05

Load Combinations (Continued)

	Description	Solve	PD...	S...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
145	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	11	0.058	14		15	-0.0...
146	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	12	0.058	14	0.029	15	-0.05
147	1.2DL + 1.5LM-MP6 +...	Yes	Y		1	1.2	39	1.5	13	0.058	14	0.05	15	-0.0...
148	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	2	0.058	14	0.058	15	
149	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	3	0.058	14	0.05	15	0.029
150	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	4	0.058	14	0.029	15	0.05
151	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	5	0.058	14		15	0.058
152	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	6	0.058	14	-0.0...	15	0.05
153	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	7	0.058	14	-0.05	15	0.029
154	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	8	0.058	14	-0.0...	15	
155	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	9	0.058	14	-0.05	15	-0.0...
156	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	10	0.058	14	-0.0...	15	-0.05
157	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	11	0.058	14		15	-0.0...
158	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	12	0.058	14	0.029	15	-0.05
159	1.2DL + 1.5LM-MP7 +...	Yes	Y		1	1.2	40	1.5	13	0.058	14	0.05	15	-0.0...
160	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	2	0.058	14	0.058	15	
161	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	3	0.058	14	0.05	15	0.029
162	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	4	0.058	14	0.029	15	0.05
163	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	5	0.058	14		15	0.058
164	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	6	0.058	14	-0.0...	15	0.05
165	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	7	0.058	14	-0.05	15	0.029
166	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	8	0.058	14	-0.0...	15	
167	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	9	0.058	14	-0.05	15	-0.0...
168	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	10	0.058	14	-0.0...	15	-0.05
169	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	11	0.058	14		15	-0.0...
170	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	12	0.058	14	0.029	15	-0.05
171	1.2DL + 1.5LM-MP8 +...	Yes	Y		1	1.2	41	1.5	13	0.058	14	0.05	15	-0.0...
172	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	2	0.058	14	0.058	15	
173	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	3	0.058	14	0.05	15	0.029
174	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	4	0.058	14	0.029	15	0.05
175	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	5	0.058	14		15	0.058
176	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	6	0.058	14	-0.0...	15	0.05
177	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	7	0.058	14	-0.05	15	0.029
178	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	8	0.058	14	-0.0...	15	
179	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	9	0.058	14	-0.05	15	-0.0...
180	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	10	0.058	14	-0.0...	15	-0.05
181	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	11	0.058	14		15	-0.0...
182	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	12	0.058	14	0.029	15	-0.05
183	1.2DL + 1.5LM-MP9 +...	Yes	Y		1	1.2	42	1.5	13	0.058	14	0.05	15	-0.0...
184	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	2	0.058	14	0.058	15	
185	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	3	0.058	14	0.05	15	0.029
186	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	4	0.058	14	0.029	15	0.05
187	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	5	0.058	14		15	0.058
188	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	6	0.058	14	-0.0...	15	0.05
189	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	7	0.058	14	-0.05	15	0.029
190	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	8	0.058	14	-0.0...	15	
191	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	9	0.058	14	-0.05	15	-0.0...
192	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	10	0.058	14	-0.0...	15	-0.05
193	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	11	0.058	14		15	-0.0...
194	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	12	0.058	14	0.029	15	-0.05
195	1.2DL + 1.5LM-MP10...	Yes	Y		1	1.2	43	1.5	13	0.058	14	0.05	15	-0.0...
196	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	2	0.058	14	0.058	15	
197	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	3	0.058	14	0.05	15	0.029
198	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	4	0.058	14	0.029	15	0.05
199	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	5	0.058	14		15	0.058
200	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	6	0.058	14	-0.0...	15	0.05
201	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	7	0.058	14	-0.05	15	0.029
202	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	8	0.058	14	-0.0...	15	

Load Combinations (Continued)

	Description	Solve	PD...	S...	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
203	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	9	0.058	14	-0.05	15	-0.0...
204	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	10	0.058	14	-0.0...	15	-0.05
205	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	11	0.058	14		15	-0.0...
206	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	12	0.058	14	0.029	15	-0.05
207	1.2DL + 1.5LM-MP11...	Yes	Y		1	1.2	44	1.5	13	0.058	14	0.05	15	-0.0...
208	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	2	0.058	14	0.058	15	
209	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	3	0.058	14	0.05	15	0.029
210	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	4	0.058	14	0.029	15	0.05
211	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	5	0.058	14		15	0.058
212	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	6	0.058	14	-0.0...	15	0.05
213	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	7	0.058	14	-0.05	15	0.029
214	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	8	0.058	14	-0.0...	15	
215	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	9	0.058	14	-0.05	15	-0.0...
216	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	10	0.058	14	-0.0...	15	-0.05
217	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	11	0.058	14		15	-0.0...
218	1.2DL + 1.5LM-MP12...	Yes	Y		1	1.2	45	1.5	12	0.058	14	0.029	15	-0.05

Node Reactions

Node Label	X [lbs]	LC	Y [lbs]	LC	Z [lbs]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1 N63 max	1240.384	5	3242.108	27	265.251	14	7014.913	2	1201.497	11	1732.097	23
2 min	-1237....	11	-973.295	20	-6637....	33	-3035.787	20	-1198.685	5	-1837.289	5
3 N156A max	186.875	18	3226.104	31	3380.948	27	1977.81	25	1153.607	3	2291.559	24
4 min	-5730....	37	-823.574	24	-558.885	20	-4061.347	7	-1150.434	9	-5728.922	31
5 N160 max	5712.116	29	3225.688	35	3387.114	28	1921.001	15	1204.043	7	5890.846	35
6 min	-21.252	22	-818.01	16	-343.194	20	-3820.406	9	-1202.141	13	-2253.526	16
7 Totals: max	4295.629	5	8783.93	28	4744.573	14						
8 min	-4295....	23	2427.201	58	-4744....	8						

LRFD

Mem...	Shape	Code...	Loc...	LC	Shear...	Loc...	Dir	LC	phi*Pnc...	phi*Pnt...	phi*Mny...	phi*Mnz...	Cb	Eqn
1 MP11	PIPE 2.0	0.762	66	2	0.095	66		7	23945.8...	42228	2459.85	2459.85	2.176	H1-1b
2 MP7	PIPE 2.0	0.693	66	10	0.096	66		3	23945.8...	42228	2459.85	2459.85	1.921	H1-1b
3 MP3	PIPE 2.0	0.693	66	6	0.088	66		11	23945.8...	42228	2459.85	2459.85	1.987	H1-1b
4 MP6	PIPE 2.0	0.607	66	8	0.096	66		7	23945.8...	42228	2459.85	2459.85	1.957	H1-1b
5 MP10	PIPE 2.0	0.575	66	8	0.085	66		11	23945.8...	42228	2459.85	2459.85	1.789	H1-1b
6 MP2	PIPE 2.0	0.555	66	3	0.095	66		3	23945.8...	42228	2459.85	2459.85	2.093	H1-1b
7 M5	PL4x3/8	0.545	50.443	13	0.295	44.137	y	11	57101.2...	67500	527.344	5625	1.072	H1-1b
8 M12	PL4x3/8	0.542	0	9	0.309	6.306	y	7	57092.0...	67500	527.344	5625	1.058	H1-1b
9 M17	PL4x3/8	0.514	50.445	4	0.316	44.14	y	3	57101.2...	67500	527.344	5625	1.122	H1-1b
10 MP1	PIPE 2.0	0.5	48	8	0.086	48		3	15369.6...	42228	2459.85	2459.85	2.947	H1-1b
11 MP5	PIPE 2.0	0.493	48	12	0.089	48		7	15369.6...	42228	2459.85	2459.85	1.446	H1-1b
12 MP9	PIPE 2.0	0.493	48	4	0.077	90		11	15369.6...	42228	2459.85	2459.85	1.388	H1-1b
13 M43	HSS4X4X4	0.445	38	2	0.181	38	y	4	133783....	139518	16180.5	16180.5	2.128	H1-1b
14 M66A	HSS4X4X4	0.44	38	35	0.181	38	y	12	133783....	139518	16180.5	16180.5	2.349	H1-1b
15 M65A	HSS4X4X4	0.438	38	31	0.185	38	y	8	133783....	139518	16180.5	16180.5	2.349	H1-1b
16 M28	PIPE 2.0	0.405	135....	2	0.554	135....		2	6295.422	42228	2459.85	2459.85	2.265	H3-6
17 M29	PIPE 2.0	0.389	14.063	6	0.541	14.063		6	6295.422	42228	2459.85	2459.85	2.288	H3-6
18 M27	PIPE 2.0	0.386	14.063	10	0.539	14.063		10	6295.422	42228	2459.85	2459.85	2.326	H3-6
19 MP4	PIPE 2.0	0.38	66	2	0.141	66		37	23945.8...	42228	2459.85	2459.85	1.475	H1-1b
20 MP12	PIPE 2.0	0.365	66	10	0.14	66		33	23945.8...	42228	2459.85	2459.85	2.11	H1-1b
21 M3	PIPE 3.0	0.361	101....	3	0.318	48.438		6	28615.5...	85698	7555.5	7555.5	1.924	H3-6
22 M1	PIPE 3.0	0.354	101....	8	0.314	48.438		10	28615.5...	85698	7555.5	7555.5	2.06	H3-6
23 MP8	PIPE 2.0	0.353	66	6	0.14	66		29	23945.8...	42228	2459.85	2459.85	2.09	H1-1b
24 M2	PIPE 3.0	0.347	48.437	12	0.324	101....		2	28615.5...	85698	7555.5	7555.5	2.086	H3-6
25 M11	PL4x3/8	0.328	10.967	8	0.259	10.967	y	8	15137.3...	67500	527.344	5625	1.503	H1-1b
26 M4	PL4x3/8	0.319	5.229	12	0.251	5.229	y	12	15141.9...	67500	527.344	5625	1.529	H1-1b
27 M22	PL4x3/8	0.315	5.23	4	0.249	5.23	y	4	15137.3...	67500	527.344	5625	1.515	H1-1b



Company : Infinigy Engineering, PLLC
 Designer : JG
 Job Number : 1039-Z0001-B
 Model Name : 842869

6/23/2020
 12:59:52 AM
 Checked By : _____

LRFD (Continued)

Mem...	Shape	Code...	Loc...	LC	Shear...	Loc...	Dir	LC	phi*Pnc...	phi*Pnt...	phi*Mny...	phi*Mnz...	Cb	Eqn	
28	M21	L2x2x2	0.28	0	3	0.026	0	y	4	11484.3...	22095	559.115	1017.04	1.5	H2-1
29	M15	L2x2x2	0.275	0	7	0.026	0	y	8	11484.3...	22095	559.115	1017.04	1.5	H2-1
30	M10	L2x2x2	0.26	0	12	0.026	0	y	12	11484.3...	22095	559.115	1017.04	1.5	H2-1
31	M9	L2x2x2	0.237	34.248	6	0.024	0	z	7	11484.3...	22095	559.115	1017.04	1.5	H2-1
32	M16	L2x2x2	0.236	34.248	2	0.024	0	z	3	11484.3...	22095	559.115	1017.04	1.5	H2-1
33	M20	L2x2x2	0.233	34.248	10	0.023	0	z	10	11484.3...	22095	559.115	1017.04	1.5	H2-1
34	M65	PL4x3/8	0.226	0	2	0.417	0	y	8	15137.3...	67500	527.344	5625	1.282	H1-1b
35	M66	PL4x3/8	0.219	16.197	10	0.404	16.197	y	4	15137.3...	67500	527.344	5625	1.284	H1-1b
36	M64	PL4x3/8	0.218	16.194	6	0.407	16.194	y	12	15141.9...	67500	527.344	5625	1.285	H1-1b

APPENDIX D
ADDITIONAL CALCUATIONS

Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	Meriden West Central
Site Number:	842869
Job Code:	1039-Z0001-B
Connection Description:	Standoff Connection

APPLIED LOADS	
Bolt Tension:	7095.98 lbs
Bolt Shear:	782.04 lbs

BOLT PROPERTIES	
Bolt Type:	Bolt
Bolt Diameter:	0.625 in
Bolt Grade:	A325
# of Bolts:	4
Threads Excluded?	No

BOLT CHECK	
Tensile Strength	20340.15
Shear Strength	13805.83
Tensile Usage	34.9%
Shear Usage	5.7%
Interaction Check	0.12
Result	Pass

≤1.05

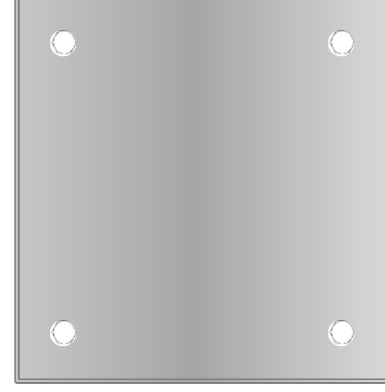


Exhibit F

Power Density/RF Emissions Report

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

T-Mobile Existing Facility

Site ID: CT11733B

CT733/AT&THntr Amblnce FT
462 West Main Street
Meriden, Connecticut 06451

July 10, 2020

EBI Project Number: 6220002989

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	84.30%

July 10, 2020

T-Mobile

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

Emissions Analysis for Site: CT11733B - CT733/AT&THntr Amblnce FT

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **462 West Main Street in Meriden, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 462 West Main Street in Meriden, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

- 6) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 7) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 8) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 9) 2 LTE channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 10) 2 NR channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 11) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 12) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 13) The antennas used in this modeling are the Ericsson AIR 21 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s) in Sector A, the Ericsson AIR 21 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s) in Sector B, the Ericsson AIR 21 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s) in Sector C. This is based on feedback

from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 14) The antenna mounting height centerline of the proposed antennas is 90 feet above ground level (AGL).
- 15) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.35 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.35 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.35 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	8,226.43	ERP (W):	8,226.43	ERP (W):	8,226.43
Antenna A1 MPE %:	3.65%	Antenna B1 MPE %:	3.65%	Antenna C1 MPE %:	3.65%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	8,728.31	ERP (W):	8,728.31	ERP (W):	8,728.31
Antenna A2 MPE %:	3.87%	Antenna B2 MPE %:	3.87%	Antenna C2 MPE %:	3.87%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	25,651.93	ERP (W):	25,651.93	ERP (W):	25,651.93
Antenna A3 MPE %:	11.39%	Antenna B3 MPE %:	11.39%	Antenna C3 MPE %:	11.39%
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd
Height (AGL):	90 feet	Height (AGL):	90 feet	Height (AGL):	90 feet
Channel Count:	7	Channel Count:	7	Channel Count:	7
Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts
ERP (W):	8,466.41	ERP (W):	8,466.41	ERP (W):	8,466.41
Antenna A4 MPE %:	6.25%	Antenna B4 MPE %:	6.25%	Antenna C4 MPE %:	6.25%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	25.16%
Hunters Whip & Yagis	37.97%
AT&T	9.77%
Sprint	1.27%
Verizon	10.13%
Site Total MPE % :	84.30%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	25.16%
T-Mobile Sector B Total:	25.16%
T-Mobile Sector C Total:	25.16%
Site Total MPE % :	84.30%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	90.0	18.26	1900 MHz GSM	1000	1.83%
T-Mobile 1900 MHz UMTS	2	1028.30	90.0	9.13	1900 MHz UMTS	1000	0.91%
T-Mobile 2100 MHz UMTS	2	1028.30	90.0	9.13	2100 MHz UMTS	1000	0.91%
T-Mobile 1900 MHz LTE	2	2056.61	90.0	18.26	1900 MHz LTE	1000	1.83%
T-Mobile 2100 MHz LTE	2	2307.55	90.0	20.48	2100 MHz LTE	1000	2.05%
T-Mobile 2500 MHz LTE	2	6412.98	90.0	56.93	2500 MHz LTE	1000	5.69%
T-Mobile 2500 MHz NR	2	6412.98	90.0	56.93	2500 MHz NR	1000	5.69%
T-Mobile 600 MHz LTE	2	591.73	90.0	5.25	600 MHz LTE	400	1.31%
T-Mobile 600 MHz NR	1	1577.94	90.0	7.00	600 MHz NR	400	1.75%
T-Mobile 700 MHz LTE	2	648.82	90.0	5.76	700 MHz LTE	467	1.23%
T-Mobile 1900 MHz LTE	2	2203.69	90.0	19.56	1900 MHz LTE	1000	1.96%
						Total:	25.16%

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	25.16%
Sector B:	25.16%
Sector C:	25.16%
T-Mobile Maximum MPE % (Sector A):	25.16%
Site Total:	84.30%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **84.30%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.