NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

February 17, 2023

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Exempt Modification Application
131 Manor Road, Guilford, CT 06437
Latitude: 42.330038
Longitude: -72.721794
Site#: 806361_ Crown_VZW

Dear Ms. Bachman:

Verizon Wireless is requesting to file an exempt modification for an existing tower located at 131 Manor Road, Guilford, CT 06437. Verizon Wireless currently maintains fifteen (15) antennas at the 150-foot level of the existing 150-foot tower. The property is owned by BW Bishop & Sons, Inc and the tower is owned by Crown Castle. Verizon now intends to replace nine (9) existing antennas. The new antennas would be installed at the 150-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

Verizon Planned Modifications:
Remove: NONE

Remove and Replace:
(3) BXA 70063-6CF Antenna (REMOVE) - (3) MT6407-77A Antenna (REPLACE)
(6) HBXX 6517DS Antenna (REMOVE) - (6) JMA MX06FRO660-03 Antenna (REPLACE)
(3) Samsung B5/B13 –(RF4440d-13A) RRH (REMOVE) - Samsung B5/B13 –(RF4440d-13A) RRH (REPLACE)
(1) OVP – 6 (REMOVE) – (1) OVP RAYCAP – RVZDC-6627-PF-48 (REPLACE)

Install New:
(3) Samsung B2/B66A –(RF4439D-25A) RRH
(1) Hybrid Lines

Existing to Remain:
(6) Antel – LPA -80063 Antenna
(13) Coax Line

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The facility was approved by the Connecticut Siting Council, Docket No. 56, on April 14, 1986. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Matthew T. Hoey III, First Selectman and Jaime Stein, Town Planner for the Town of Guilford. A copy is also being sent to the tower owner, and property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed 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, Verizon Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Denise Sabo

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments
cc:
Matthew T. Hoey III, First Selectman
Town of Guilford
31 Park Street Guilford, CT 06437

Jaime Stein, Town Planner
Town of Guilford
50 Boston Street Guilford, CT 06437

BW Bishop & Sons, Inc.
1355 Boston Post Road Guilford, CT 06437

Crown Castle Tower Owner

Exhibit A

Original Facility Approval

DOCKET NO. 56

AN APPLICATION OF METRO MOBILE CTS OF NEW HAVEN, INC., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN NEW HAVEN COUNTY.	:	CONNECTICUT SITING COUNCIL April 14, 1986

D E C I S I O N A N D O R D E R

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut (CGS) be issued to Metro Mobile CTS of New Haven, Inc., for the construction, maintenance, and operation of cellular mobile phone telecommunication towers and associated equipment in the towns of Wolcott, Naugatuck, West Haven (existing tower), Milford, Hamden (existing tower), Guilford, and North Branford subject to the conditions below.

1. The proposed and alternate Beacon Falls sites are rejected without prejudice.
2. The Wolcott tower shall be constructed to meet Zone C wind loading with 1" of radial ice and shall not exceed 180' in height excluding antennas.
3. The Naugatuck tower shall not exceed 160' in height, excluding antennas. The certificate holder shall offer to remove the existing privately owned, unused tower now on the site.
4. Any future actions requiring the removal of the existing West Haven or Hamden towers to be shared by the certificate holder shall also apply to the equipment mounted on those towers by the certificate holder, regardless of that equipment's status under Chapter 277a of the CGS.

5. The Milford tower shall be a monopole structure not to exceed 100' in height, excluding antennas.
6. The Guilford tower shall be a monopole structure not to exceed 150' in height, excluding antennas.
7. The North Branford Route 17 site is rejected. The North Branford East Reeds Gap Road tower shall not exceed 160' in height, excluding antennas.
8. The certificate holder shall submit a development and management plan for the Wolcott, Naugatuck, Milford, Hamden, Guilford, and North Branford sites pursuant to sections 16-50j-75 through 16-50j-77 of the RSA, except that irrelevant items in section 16-50j-76 need only be identified as such. In addition to the requirements of section 16-50j-76, the D&M plan shall provide plans for evergreen screening around the fenced perimeter at the Wolcott, Milford, Hamden, Guilford, and North Branford sites. The D&M plan shall include a proposal for painting the approved monopole structures to blend with the sky. Any changes to specifications in the D&M plan must be approved by the Council prior to facility operation.
9. All certified facilities shall be constructed, operated, and maintained as specified in the Council's record and in the site development and management plan required by order 8.
10. The certificate holder shall permit public or private entities to share space on the towers approved herein, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. In addition to complying with 16-50j-73, the

certificate holder shall notify the Council of the addition of any equipment to any approved tower.

11. A fence not lower than 8' shall surround each tower and associated equipment.

12. Unless necessary to comply with order 13, below, no lights shall be installed on any of these towers.

13. The facilities' construction and any future tower sharing shall be in accordance with all applicable federal, state, and municipal laws and regulations. Shared uses by entities not subject to jurisdiction pursuant to sections 16-50i and 16-50k of the CGS shall be subject to all applicable federal, state, and municipal laws and regulations.

14. Construction activities shall take place during daylight working hours.

15. This decision and order shall be void and the towers and associated equipment shall be dismantled and removed, or reapplication for any new use shall be made to the CSC before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction.

16. This decision and order shall be void if all construction authorized herein is not completed within three years of the issuance of this decision, or within three years of the completion of any appeal if appeal of this decision is taken, unless otherwise approved by the Council.

Pursuant to CGS section 16-50p, we hereby direct that a copy of the decision and order shall be served on each person listed below. A notice

of the issuance shall be published in The Record-Journal, The New Haven Register, The Branford Review, The Evening Sentinel, The Waterbury American, and The Waterbury Republican.

The parties to this proceeding are:

Metro Mobile CTS of New Haven, Inc. (Applicant)
5 Eversley Avenue
Norwalk, Connecticut 06855

ATTN: Armand Mascioli
General Manager

Mr. Kevin B. Sullivan, Esq. (its attorneys)
Byrne, Slater, Sandler, Shulman & Rouse, P.C.
111 Pearl Street
P.O. Box 3216
Hartford, Connecticut 06103

Mr. Richard Rubin, Esq.
Fleischman and Walsh, P.C.
1725 N Street, N.W.
Washington, D.C. 20036

Guilford Conservation Commission represented by:

Mr. David B. Damer
Chairman
Guilford Conservation Commission
440 Great Hill Road
Guilford, Connecticut 06437

Mr. Robert W. Griswold, Jr.
100 Rimmon Hill Road
Beacon Falls, Connecticut 06403

Town of Hamden
Memorial Town Hall
2372 Whitney Avenue
Hamden, Connecticut 06518

ATTN: Shirley Gonzales
Town Planner

Exhibit B

Property Card

All information is for assessment purposes only. Assessments are calculated at 70% of the estimated October 1, 2017 market value which was the date of the last revaluation as completed by eQuality Valuation Services, LLC.

Information on the Property Records for the Municipality of Guilford was last updated on 1/22/2021.

Parcel Information

Location:	LONG HILL RD	Map and Parcel:	090017	Census Tract:	1903
Zoning:	R-5	Developer's Map:		Developer's Lot:	
Total Acreage:	21.2	Farm, Forest, Open Space Acres:	20.2	Unique ID:	580

Value Information

	Appraised Value	Assessed Value
Land	845,130	391,500
Buildings	0	0
Detached Outbuildings	0	0
Total	845,130	391,500

Owner's Information

Owner's Data
BISHOP B W & SONS INC 1355 BOSTON POST RD GUILFORD, CT 06437

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
BISHOP B W & SONS INC	0131	0193	11/19/1987		No	$0

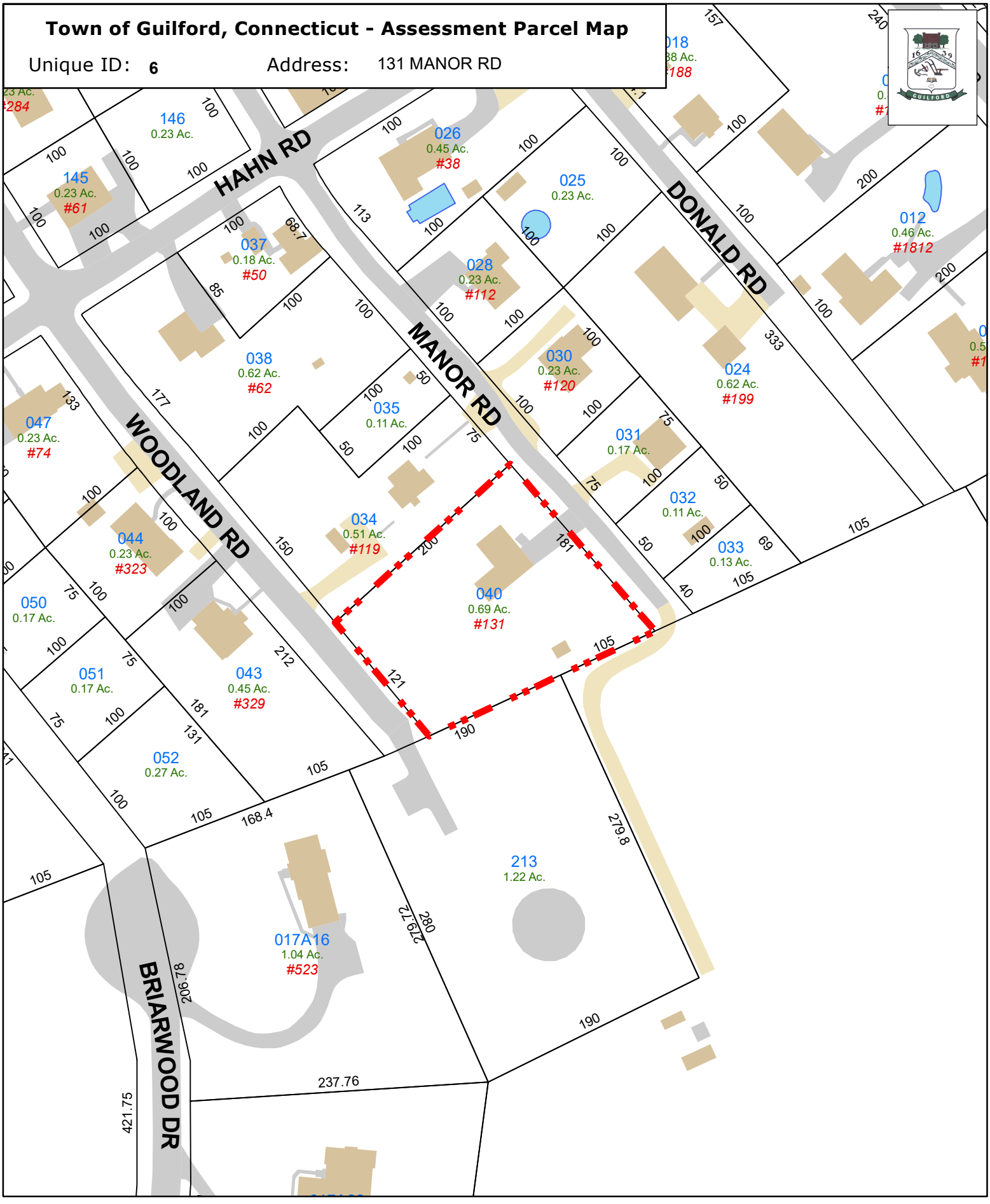

Town of Guilford, Connecticut - Assessment Parcel Map
Unique ID: 6
Address: 131 MANOR RD
HAHN RD
MANOR RD
WOODLAND RD
DONALD RD
BRIARWOOD DR
146
0.23 Ac.
145
0.23 Ac.
#61
026
0.45 Ac.
#38
025
0.23 Ac.
037
0.18 Ac.
#50
028
0.23 Ac.
#112
012
0.46 Ac.
#1812
038
0.62 Ac.
#62
030
0.23 Ac.
#120
024
0.62 Ac.
#199
035
0.11 Ac.
047
0.23 Ac.
#74
031
0.17 Ac.
032
0.11 Ac.
034
0.51 Ac.
#119
044
0.23 Ac.
#323
040
0.69 Ac.
#131
033
0.13 Ac.
050
0.17 Ac.
051
0.17 Ac.
043
0.45 Ac.
#329
052
0.27 Ac.
213
1.22 Ac.
017A16
1.04 Ac.
#523
Approximate Scale: 1 inch = 100 feet
0 60 120
Feet
Map Produced:
September 2020
Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Guilford and its mapping contractors
assume no legal responsibility
for the information contained herein.

Exhibit C

Construction Drawings

verizon

VERIZON SITE NUMBER: 467316
VERIZON SITE NAME: GUILFORD CT
SITE TYPE: MONOPOLE
TOWER HEIGHT: 150'-0"

BUSINESS UNIT #: 806361
SITE ADDRESS: 131 MANOR RD
GULFORD CT, 06437
COUNTY: NEW HAVEN
JURISDICTION: CONNECTICUT SITING COUNCIL

VERIZON 850 ADD

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	NHV 102 943127
SITE ADDRESS:	131 MANOR RD GULFORD CT, 06437
COUNTY:	NEW HAVEN
MAP/PARCEL #:	090017
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.330025°
LONGITUDE:	-72.721808°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	282'
CURRENT ZONING:	R-5
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	BISHOP B W & SONS INC 1355 BOSTON POST RD GUILFORD, CT 06437
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO (800) 286-2000
TELCO PROVIDER:	LIGHTOWER (855) 91-FIBER

PROJECT TEAM

A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 MARVIN PHILLIPS MARVIN.PHILLIPS@BTGRP.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	1200 MACARTHUR BLVD, SUITE 200 MAHWAH, NJ 07430 VERONICA CHAPMAN - PROJECT MANAGER VERONICA.CHAPMAN@CROWNCASTLE.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCASTLE.COM
VERIZON CONTACT:	TIMOTHY PARKS TIMOTHY.PARKS@VERIZONWIRELESS.COM

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN
C-2	TOWER ELEVATION & ANTENNA PLANS
C-3	EQUIPMENT SCHEDULES
C-4	EQUIPMENT DETAILS
C-5	EQUIPMENT DETAILS
C-6	PLUMBING DIAGRAM
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

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

APPROVALS

SIGNATURE	DATE

CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT	https://pmi.vxwsmart.com
SMART TOOL VENDOR PROJECT NUMBER	10141846
VzW LOCATION CODE (PSLC)	467316

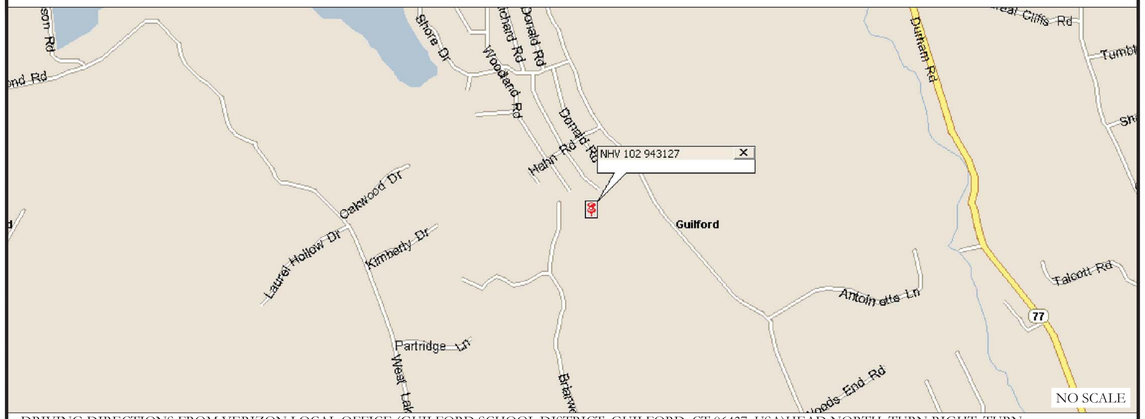
*** PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT

MOUNT MODIFICATION REQUIRED	N

VzW APPROVED SMART KIT VENDORS

REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VzW SMART KIT APPROVED VENDORS

LOCATION MAP



DRIVING DIRECTIONS FROM VERIZON LOCAL OFFICE (GUILFORD SCHOOL DISTRICT, GUILFORD, CT 06437, USA)HEAD NORTH, TURN RIGHT, TURN LEFT TOWARD LEWIS AVE, TURN RIGHT AT THE 1ST CROSS STREET ONTO LEWIS AVE, USE THE LEFT 2 LANES TO TURN LEFT TO MERGE WITH I-691 E TOWARD MIDDLETOWN/I-91, TAKE EXIT 10 TO MERGE WITH CT-15 S/WILBUR CROSS PKWY TOWARD I-91 S/NEW HAVEN, USE THE LEFT LANE TO TAKE EXIT 67S TO MERGE WITH I-91 S TOWARD NEW HAVEN/N.Y.CITY, TAKE EXIT 14 FOR E CENTER ST TOWARD CT-150/WALLINGFORD, TURN LEFT ONTO E CENTER ST, TURN RIGHT ONTO NORTHFORD RD, CONTINUE ONTO WOODS HILL RD, TURN RIGHT ONTO CT-17 S, CONTINUE ONTO CT-22 E, CONTINUE STRAIGHT TO STAY ON CT-22 E, USE THE LEFT 2 LANES TO TURN LEFT ONTO CT-22 E/CT-80 E, TURN RIGHT ONTO CT-22 E, AT THE ROUNDABOUT, TAKE THE 2ND EXIT ONTO US-1 N, TURN LEFT ONTO NEW ENGLAND RD, CONTINUE STRAIGHT ONTO BRIARWOOD DR, TURN RIGHT TO STAY ON BRIARWOOD DR, ARRIVE AT GUILFORD SCHOOL DISTRICT, GUILFORD, CT 06437, USA

APPLICABLE CODES/REFERENCE DOCUMENTS

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

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

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	7/21/22
MOUNT ANALYSIS:	MASER CONSULTING CONNECTICUT
DATED:	6/7/22
RFDS REVISION:	1
DATED:	8/26/22
ORDER ID:	623007
REVISION:	0

CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:
- REMOVE (9) ANTENNAS
- REMOVE (3) RRHs
- REMOVE (6) DIPLEXERS
- REMOVE (1) OVP
- REMOVE (1) COAX CABLE (1-5/8")
- INSTALL (9) ANTENNAS
- INSTALL (6) RRHs
- INSTALL (1) OVP
- INSTALL (1) STANDOFF w/ CROSSOVER PLATE SITEPRO1 SCP10L PIPE TO PIPE CLAMP
- INSTALL (1) HYBRID CABLE (1-1/4")

GROUND SCOPE OF WORK:
- REMOVE (3) UNKNOWN - TRIPLEXERS
- REMOVE (3) NOKIA - UHBA B13 RRH 4x30 RRU

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

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

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

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

VERIZON SITE NUMBER:
467316

BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/26/22	DAS	CONSTRUCTION	MTJ
1	10/3/22	TDG	CONSTRUCTION	MTJ
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

STATE OF CONNECTICUT
No. 23824
LICENSED
PROFESSIONAL ENGINEER
2/9/23

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

SHEET NUMBER: T-1
REVISION: 3

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED–STD–10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER..40 ksi
   #5 BARS AND LARGER..60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH......................3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 BARS AND LARGER..2"
   #5 BARS AND SMALLER..1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   SLAB AND WALLS..3/4"
   BEAMS AND COLUMNS..1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

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

ELECTRICAL INSTALLATION NOTES:

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

CONDUCTOR COLOR CODE

SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

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

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

VERIZON SITE NUMBER:
467316

BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

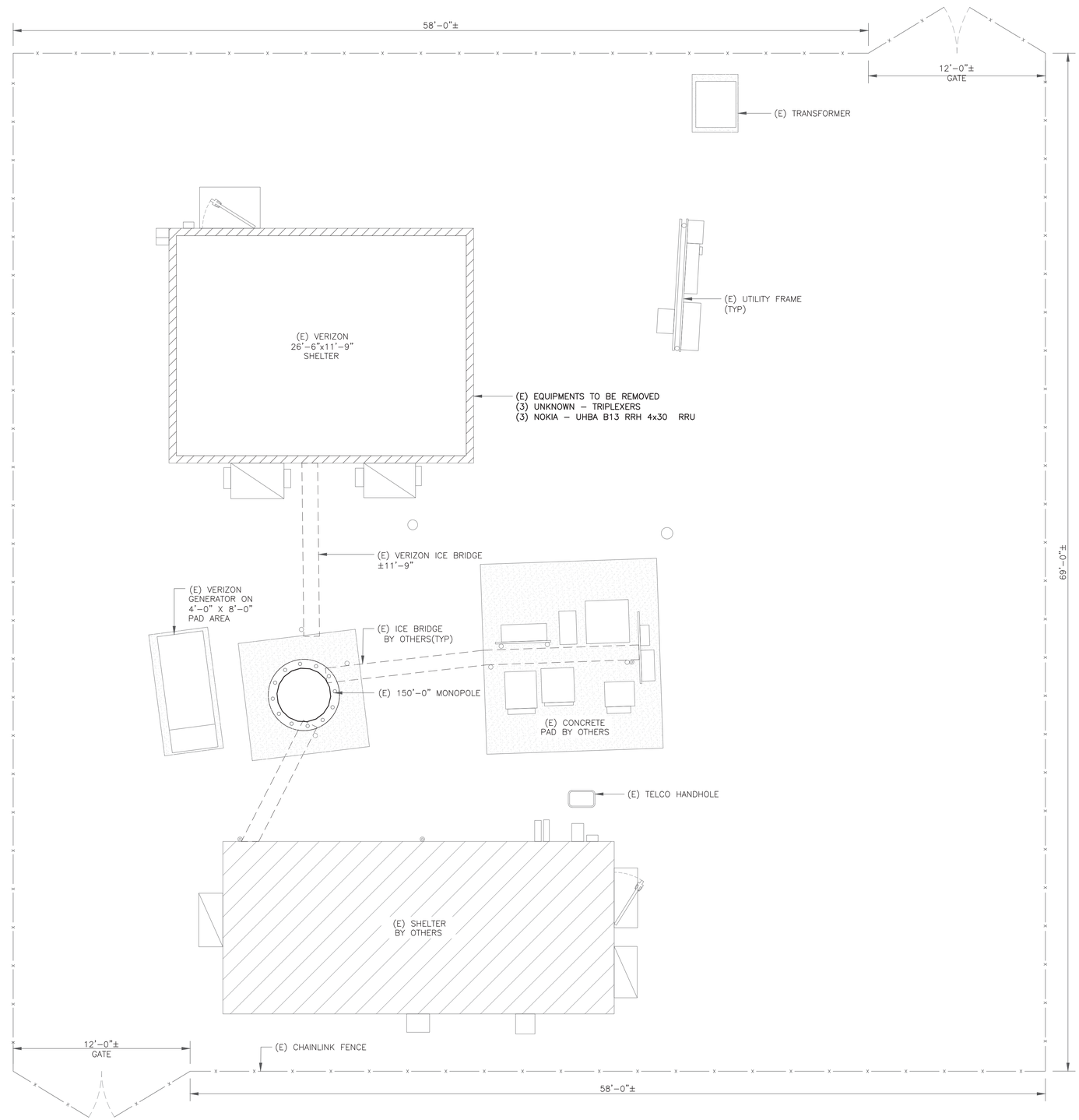
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/26/22	DAS	CONSTRUCTION	MTJ
1	10/3/22	TDG	CONSTRUCTION	MTJ
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

2/9/23

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

SHEET NUMBER: **T-2**
REVISION: **3**



1 SITE PLAN

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

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

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

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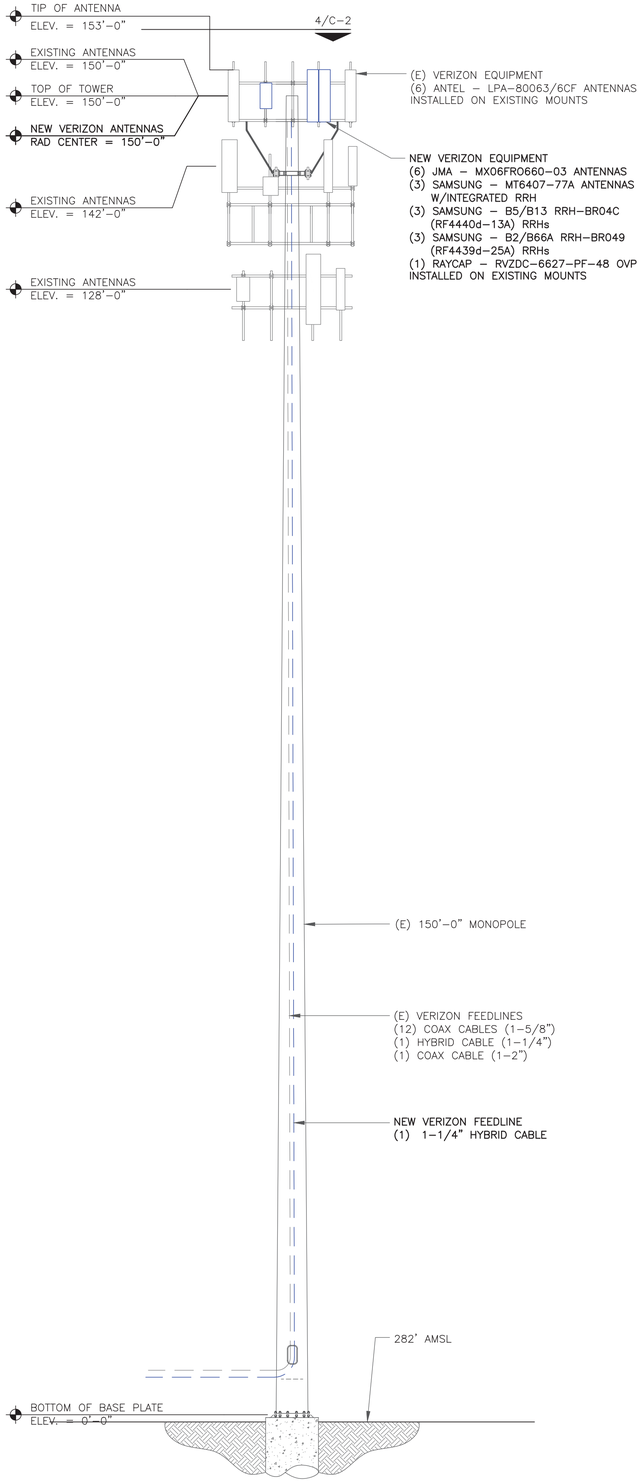
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

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

SHEET NUMBER: C-1

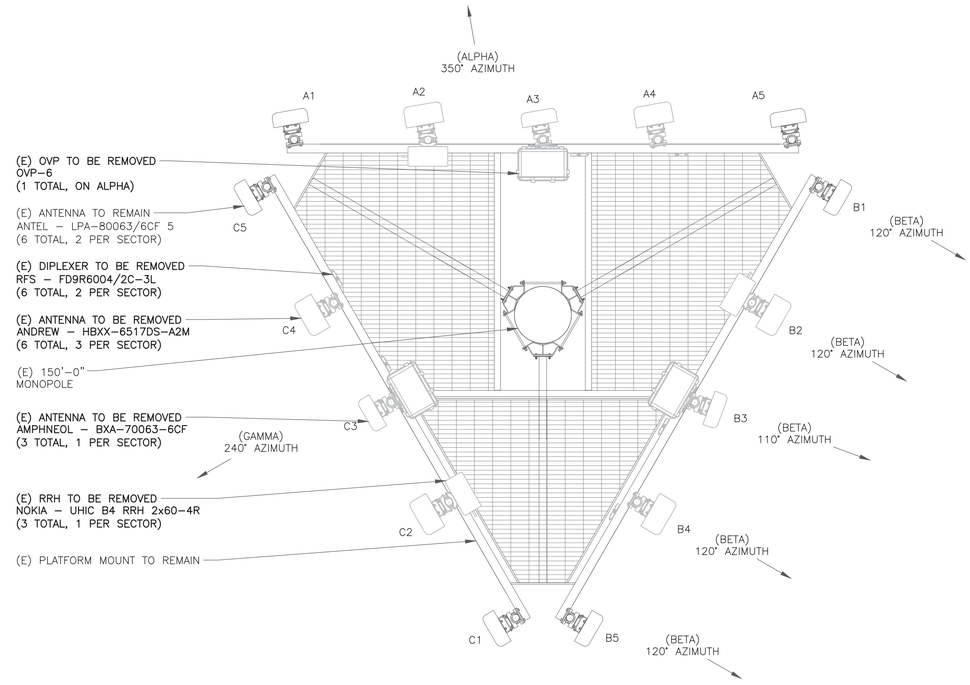
REVISION: 3



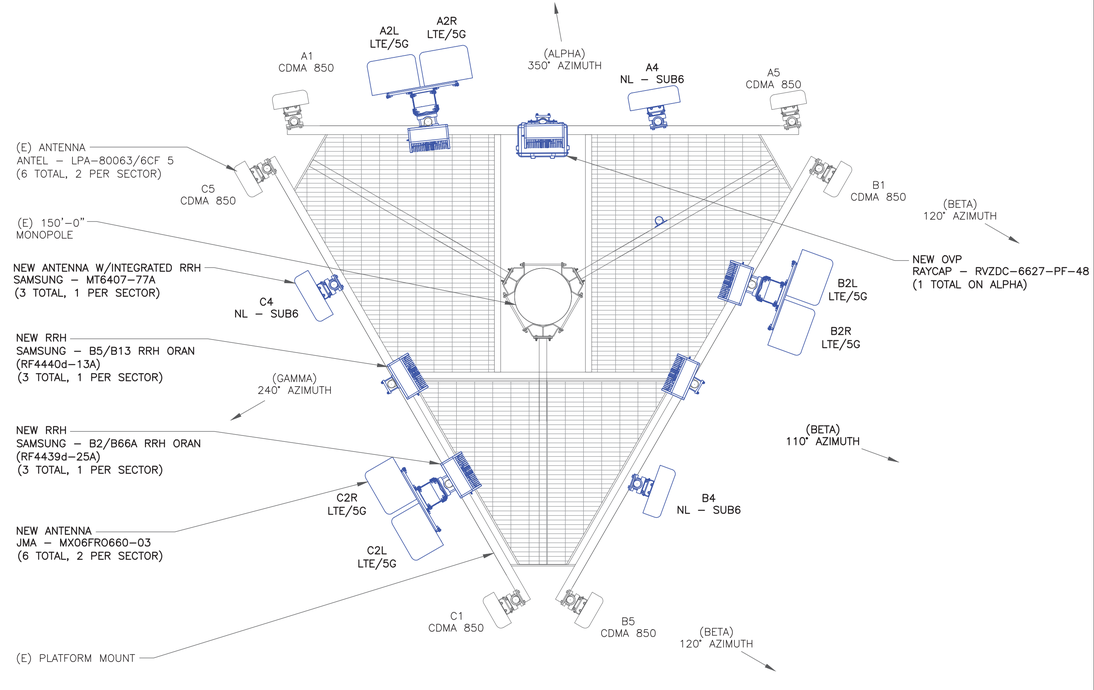
VERIZON EQUIPMENT

ANTENNA CL: 150'-0"
MOUNT CL: 149'-6"

1 TOWER ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: NOT TO SCALE



3 NEW ANTENNA PLAN
SCALE: NOT TO SCALE

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

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EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/26/22	DAS	CONSTRUCTION	MTJ
1	10/3/22	TDG	CONSTRUCTION	MTJ
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

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BER:2386985
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SHEET NUMBER: C-2

REVISION: 3

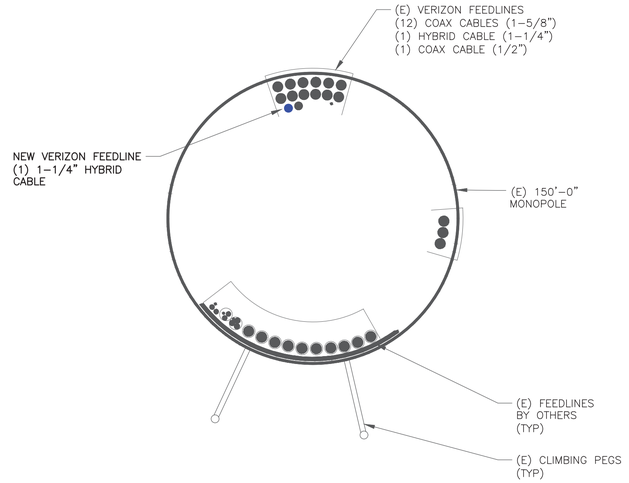
ANTENNA/RRH SCHEDULE

SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	EXISTING	ANTEL	LPA–80063/6CF 5	150'–0"	350°	0°	5°	–	–
A2L	NEW	JMA	MX06FRO660–03	150'–0"	350°	0°	3°/3°/3°/3°/3°	SAMSUNG	(1) B2/B66A RRH ORAN (RF4439d–25A)
A2R	NEW	JMA	MX06FRO660–03	150'–0"	350°	0°	3°/3°/3°/3°/3°		
A3	–	–	–	–	–	–	–	RAYCAP SAMSUNG	(1) RVZDC–6627–PF–48 (1) B5/B13 RRH ORAN (RF4440d–13A)
A4	NEW	SAMSUNG	MT6407–77A	150'–0"	350°	0°	6°	–	INTEGRATED WITHIN
A5	EXISTING	ANTEL	LPA–80063/6CF 5	150'–0"	350°	0°	5°	–	–
B1	EXISTING	ANTEL	LPA–80063/6CF 5	150'–0"	120°	0°	5°	–	–
B2L	NEW	JMA	MX06FRO660–03	150'–0"	110°	0°	3°/3°/3°/3°/3°	SAMSUNG	(1) B2/B66A RRH ORAN (RF4439d–25A)
B2R	NEW	JMA	MX06FRO660–03	150'–0"	110°	0°	3°/3°/3°/3°/3°		
B3	–	–	–	–	–	–	–	SAMSUNG	(1) B5/B13 RRH ORAN (RF4440d–13A)
B4	NEW	SAMSUNG	MT6407–77A	150'–0"	110°	0°	6°	–	INTEGRATED WITHIN
B5	EXISTING	ANTEL	LPA–80063/6CF 5	150'–0"	120°	0°	5°	–	–
C1	EXISTING	ANTEL	LPA–80063/6CF 5	150'–0"	240°	0°	5°	–	–
C2L	NEW	JMA	MX06FRO660–03	150'–0"	240°	0°	3°/3°/3°/3°/3°	SAMSUNG	(1) B2/B66A RRH ORAN (RF4439d–25A)
C2R	NEW	JMA	MX06FRO660–03	150'–0"	240°	0°	3°/3°/3°/3°/3°		
C3	–	–	–	–	–	–	–	SAMSUNG	(1) B5/B13 RRH ORAN (RF4440d–13A)
C4	NEW	SAMSUNG	MT6407–77A	150'–0"	240°	0°	6°	–	INTEGRATED WITHIN
C5	EXISTING	ANTEL	LPA–80063/6CF 5	150'–0"	240°	0°	5°	–	–

1 VERIZON TOWER EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

CABLE SCHEDULE

STATUS	CABLE TYPE	SIZE	LENGTH	QTY
EXISTING	COAX	1–5/8"	200'–0"±	12
EXISTING	COAX	1–2"	200'–0"±	1
EXISTING	HYBRID	1–5/8"	200'–0"±	1
NEW	HYBRID	1–5/8"	200'–0"±	1
TOTAL CABLE QTY:				14



2 BASE LEVEL DETAIL
SCALE: NOT TO SCALE

N

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www.btgrp.com

VERIZON SITE NUMBER:
467316

BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/26/22	DAS	CONSTRUCTION	MTJ
1	10/3/22	TDG	CONSTRUCTION	MTJ
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

STATE OF CONNECTICUT
No. 23824
LICENSED PROFESSIONAL ENGINEER
2/9/23

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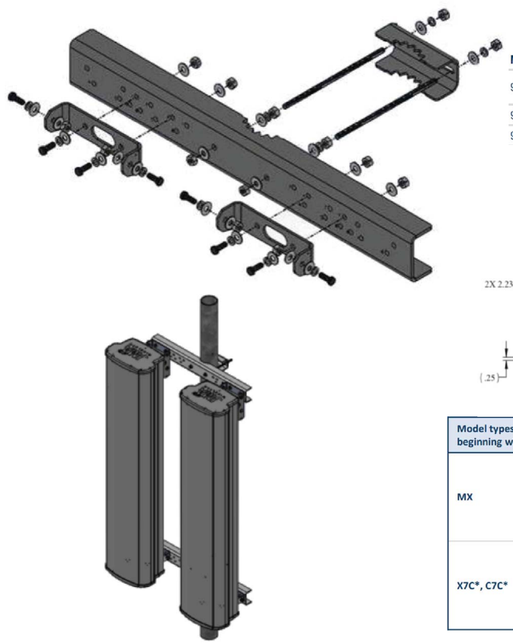
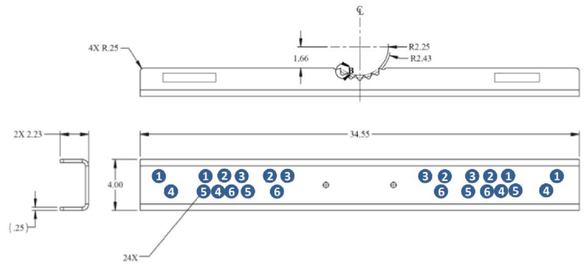
SHEET NUMBER: C-3

REVISION: 3



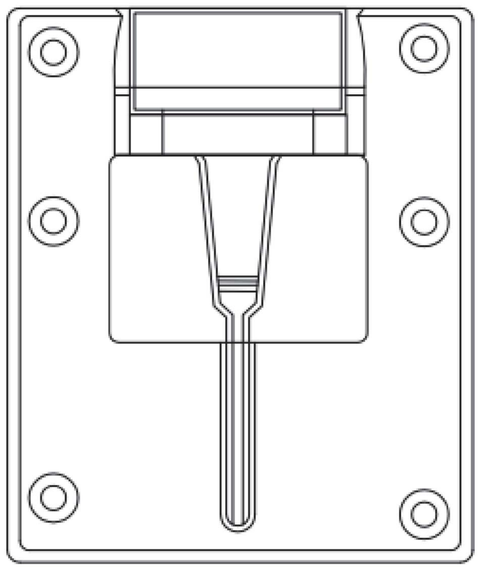
Mounting bracket model	Description
91900314-01	Single dual-mount antenna bracket assembly
91900314-02	Two dual-mount antenna bracket assemblies
91900314-03	Three dual-mount antenna bracket assemblies



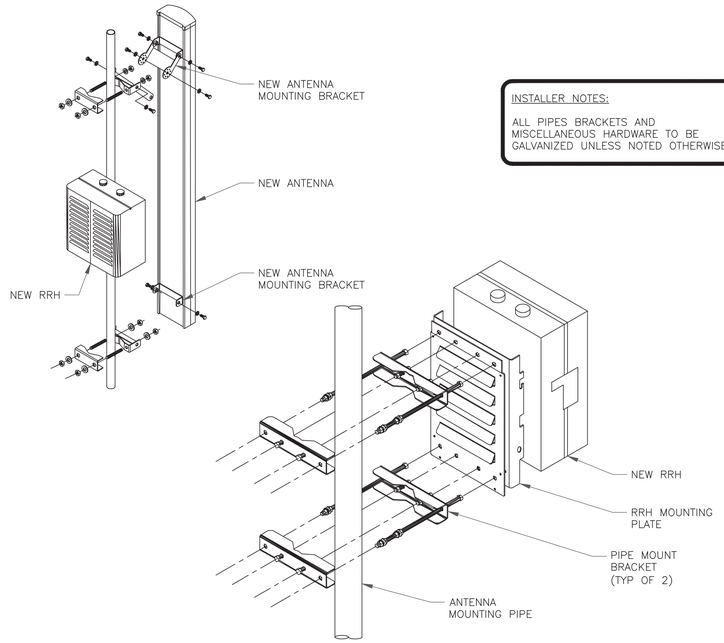
Model types beginning with:	Antenna width	Corresponding hole position	Resulting spacing between antennas
MX	15.4" (wide spacing)	1	12"
	15.4" (narrow spacing)	2	2"
	12"	3	2"
	20"	5	3/4"
X7C*, C7C*	12.5"	3	2"
	24.0"	4	2"
	18.8"	5	2"
	14.6"	6	2"

1 JMA – 91900314
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE



3 SAMSUNG – EP97-01585A BRACKET DETAIL
SCALE: NOT TO SCALE



INSTALLER NOTES:

ALL PIPES BRACKETS AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.

4 ANTENNA & RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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VERIZON SITE NUMBER:
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BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

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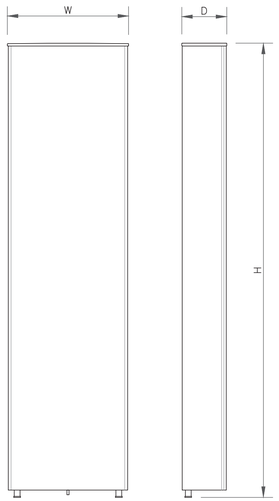
BER:2386985
Expires 3/31/23

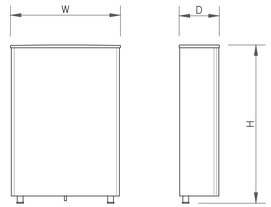
SHEET NUMBER: C-4

REVISION: 3



ANTENNA SPECS	
MANUFACTURER	JMA
MODEL #	MX06FRO660-03
WIDTH	15.40"
DEPTH	10.70"
HEIGHT	71.30"
WEIGHT	78.00 LBS

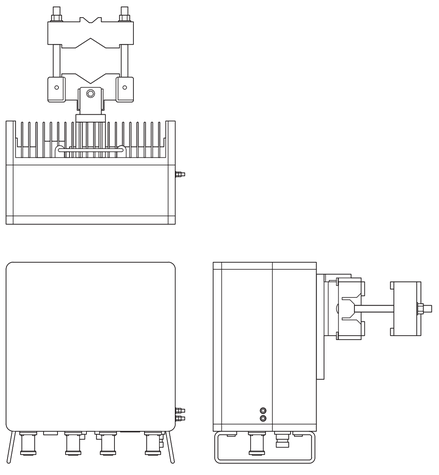
1 ANTENNA SPECIFICATIONS
SCALE: NOT TO SCALE



ANTENNA SPECS	
MANUFACTURER	SAMSUNG
MODEL #	MT6407-77A
WIDTH	16.06"
DEPTH	5.51"
HEIGHT	35.06"
WEIGHT	81.57 LBS

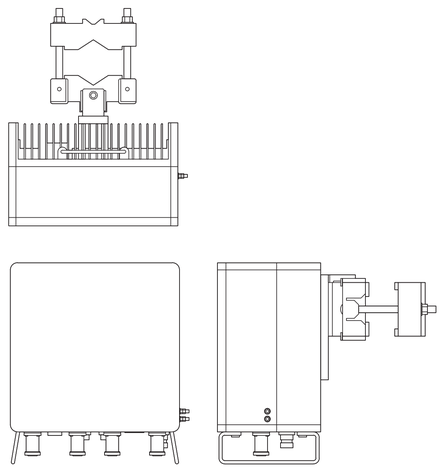
2 ANTENNA SPECIFICATIONS
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE



RRU SPECS	
MANUFACTURER	SAMSUNG
MODEL #	B2/B66A RRH-BR049
WIDTH	15.00"
DEPTH	8.10"
HEIGHT	15.00"
WEIGHT	70.30 LBS

4 RRU SPECIFICATIONS
SCALE: NOT TO SCALE



RRU SPECS	
MANUFACTURER	SAMSUNG
MODEL #	B5/B13 RRH-BR04C
WIDTH	15.00"
DEPTH	10.00"
HEIGHT	15.00"
WEIGHT	84.40 LBS

5 RRU SPECIFICATIONS
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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VERIZON SITE NUMBER:
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BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

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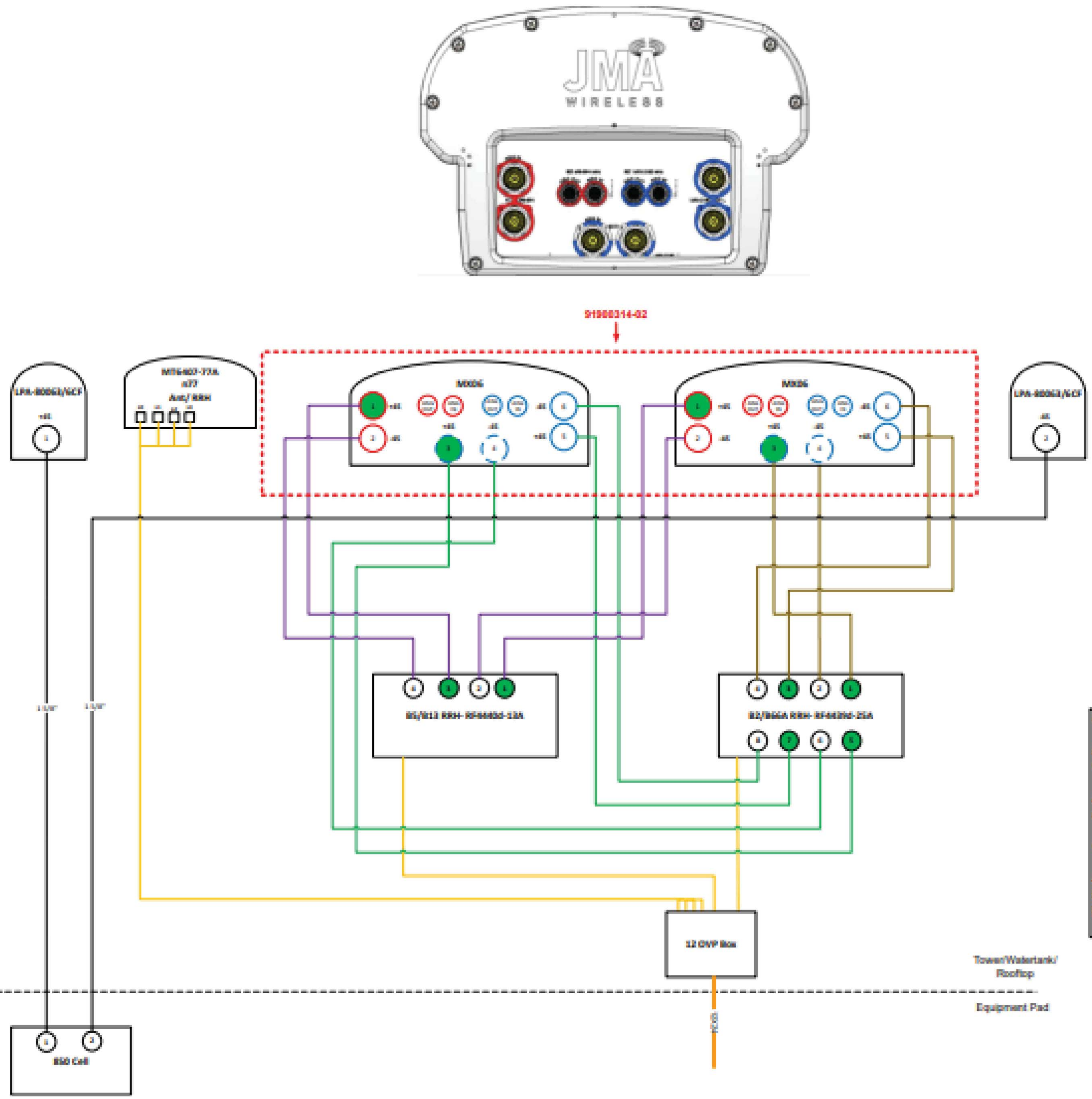
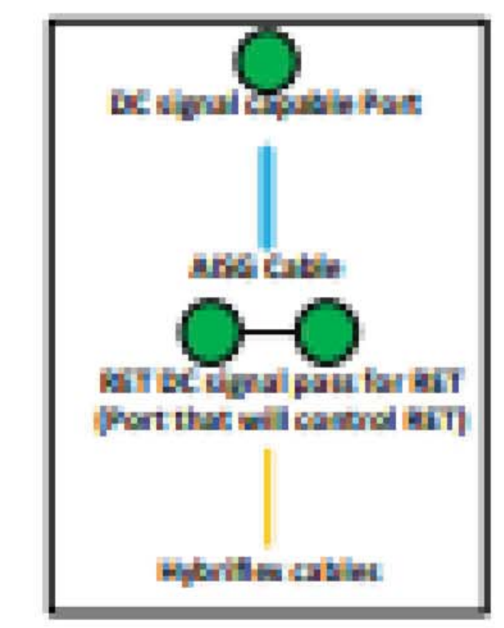
SHEET NUMBER: C-5
REVISION: 3



- Port 1 & 2 are for low band (698-896 MHz).
- Port 3,4,5, & 6 are for high band (1695-2360 MHz).
- Smart Bias Tee (SBT) is through port 1 & 3 for low band and port 1 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enough to control all RET motors.
- Not all SBT ports are needed to control RET, only green port connection to green port will control RET.



Comments:

Diagram shows antenna port configuration as viewed from below antennas.

Antenna positions are indicated as viewed from IN FRONT of antennas.

Cap and weatherproof unused antenna ports.

All plumbing diagram colors are irrelevant except for AISG & Hybriflex cable. (For the coax colors follow Coax Colors guide above)

1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

2/9/23

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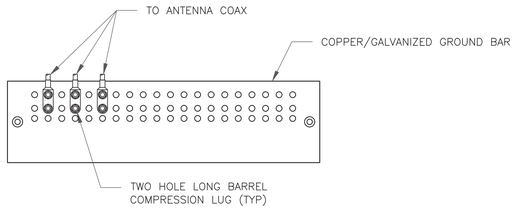
Expires 3/31/23

SHEET NUMBER: **C-6**

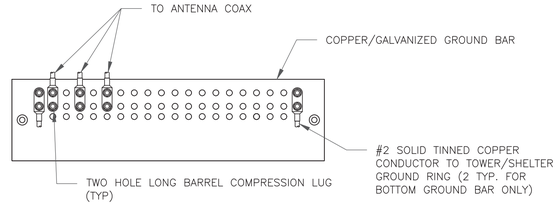
REVISION: **3**



NOTES:

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

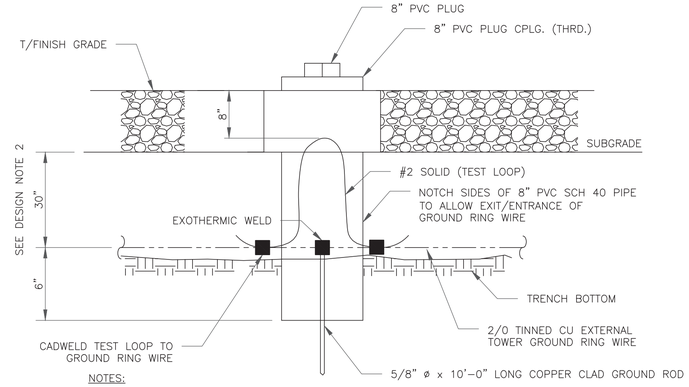
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

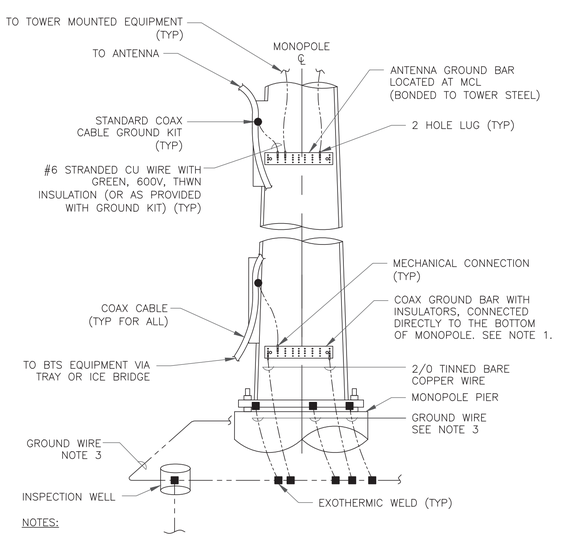
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

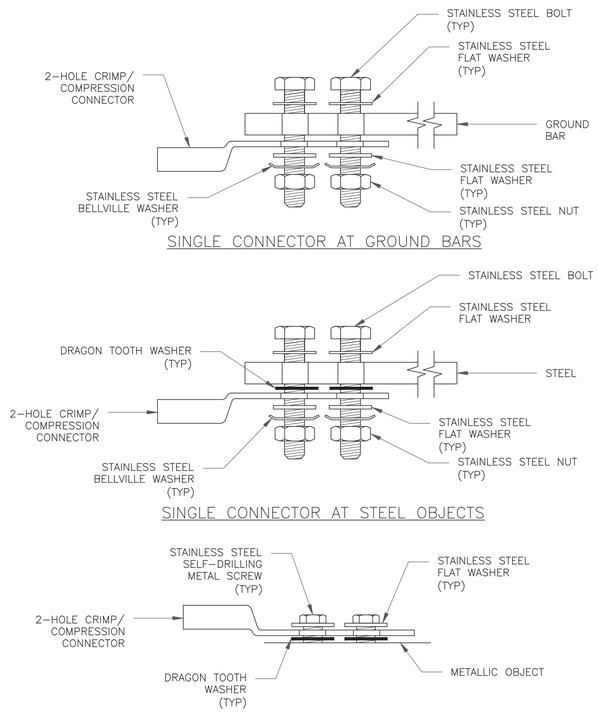
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



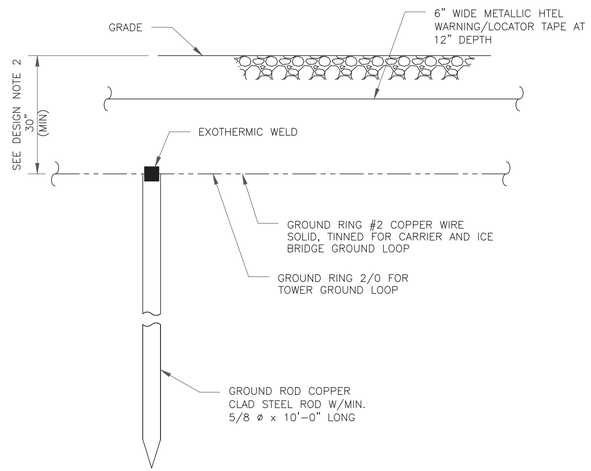
NOTES:

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

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

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VERIZON SITE NUMBER:
467316

BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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1	10/3/22	TDG	CONSTRUCTION	MTJ
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

MTS ENGINEERING P.L.L.C.
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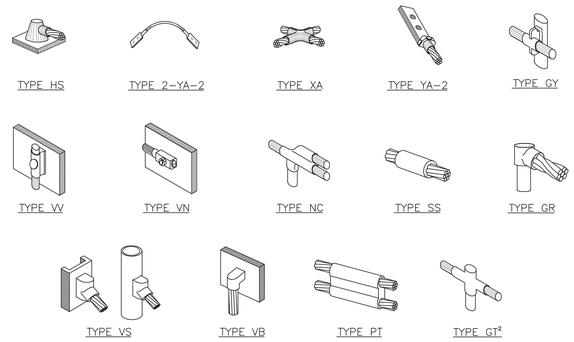
Expires 3/31/23

SHEET NUMBER: G-1

REVISION: 3

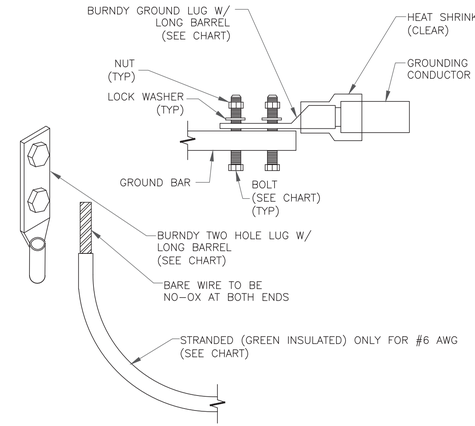


NOTE:

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

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

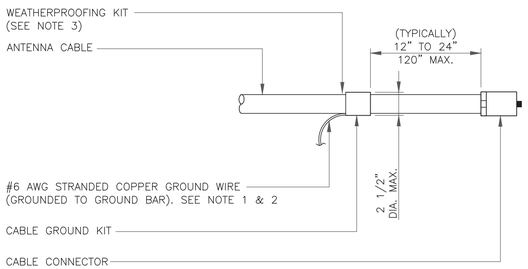
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

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

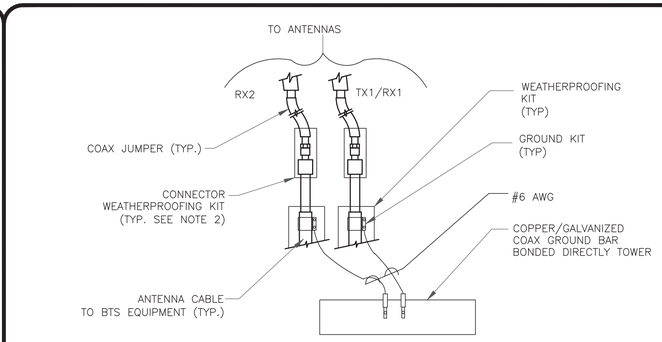
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

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

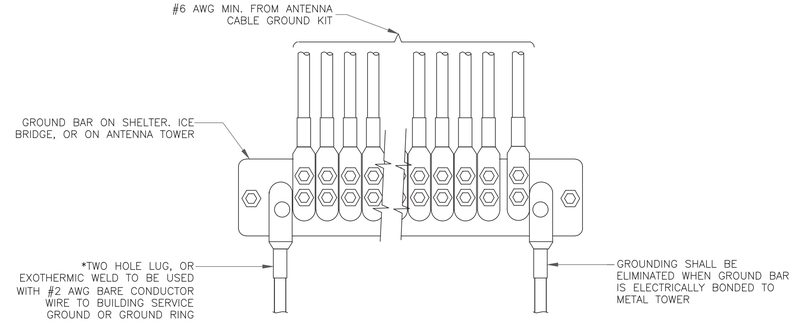
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



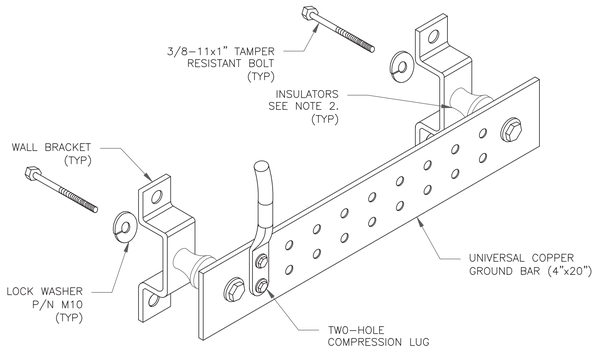
NOTES:

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

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



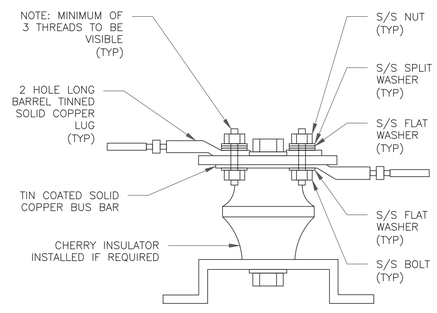
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



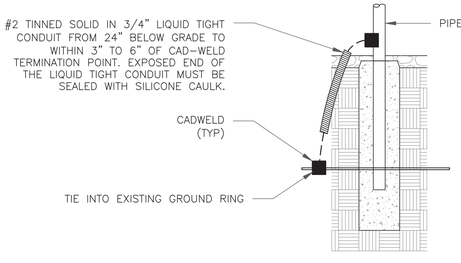
NOTES:

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

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

verizon
180 WASHINGTON VALLEY ROAD
BEDMINSTER, NJ 07921

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

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

VERIZON SITE NUMBER:
467316

BU #: **806361**
NHV 102 943127

131 MANOR RD
GULFORD CT, 06437

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/26/22	DAS	CONSTRUCTION	MTJ
1	10/3/22	TDG	CONSTRUCTION	MTJ
2	11/3/22	TDG	CONSTRUCTION	MTJ
3	2/9/23	TDG	CONSTRUCTION	LR

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

SHEET NUMBER: G-2

REVISION: 3

Exhibit D

Structural Analysis Report

Date: **October 07, 2022**

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Site Number:	467316
	Site Name:	GUILFORD CT
Crown Castle Designation:	**BU Number:**	806361
	Site Name:	NHV 102 943127
	JDE Job Number:	732112
	Work Order Number:	2166810
	Order Number:	634513 Rev. 0
Engineering Firm Designation:	**Crown Castle Project Number:**	2166810
Site Data:	**131 Manor Rd, GUILFORD, NEW HAVEN County, CT** **Latitude *41° 19' 48.09"*, Longitude *-72° 43' 18.51"*** **150 Foot - Monopole Tower**	

Crown Castle is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

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

LC7: Proposed Equipment Configuration **Sufficient Capacity – 94.1%**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Michael Lopienski

Respectfully submitted by:

Maham Barimani, P.E.
Senior Project Engineer

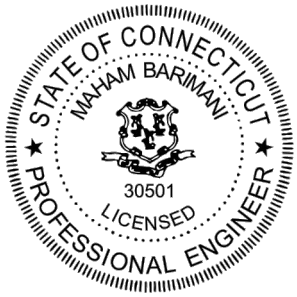


TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 150 ft Monopole tower designed by VALMONT. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150.0	150.0	6	antel	LPA-80063/6CFX5 w/ Mount Pipe	1 11 2	1/2 7/8 1-5/8
		6	jma wireless	MX06FRO660-03 w/ Mount Pipe		
		1	raycap	RVZDC-6627-PF-48_CCIV2		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4440D-13A		
		1	tower mounts	Mount Reinforcements		
		1	tower mounts	Platform Mount (LP 101-1_KCKR)		
	147.0	1	lucent	KS24019-L112A w/ Mount Pipe		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
140.0	142.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe	3 4 3 12	3/8 3/4 7/8 1-5/8
		3	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 8843 B2/B66A		
		2	raycap	DC6-48-60-18-8F		
	140.0	1	tower mounts	Platform Mount (LP 101-1)		
	139.0	3	ericsson	AIR 6419 B77G_CCIV3 w/ Mount Pipe		
	137.0	1	raycap	DC9-48-60-24-8C-EV		
	135.0	3	ericsson	AIR 6449 B77D_CCVI2 w/		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
				Mount Pipe		
128.0	128.0	3	ericsson	RADIO 4449 B71 B85A_T-MOBILE	3	1-5/8
		3		RRUS 4415 B25_CCIV2		
		3	ericsson	AIR 32 B2A B66AA_T-MOBILE		
		3	ericsson	AIR6449 B41_T-MOBILE		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO		
		1	tower mounts	Platform Mount [LP 301-1_KCKR]		
110.0	110.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	780506	CCISITES
4-POST-MODIFICATION INSPECTION	2045675	CCISITES
4-POST-MODIFICATION INSPECTION	3099221	CCISITES
4-POST-MODIFICATION INSPECTION	3335575	CCISITES
4-POST-MODIFICATION INSPECTION	4037923	CCISITES
4-POST-MODIFICATION INSPECTION	5823375	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	217669	CCISITES
4-TOWER MANUFACTURER DRAWINGS	217668	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	1249600	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3002793	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3255562	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3840597	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5605781	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	8611850	CCISITES
4-POST-MODIFICATION INSPECTION	9726127	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	1883636	CCISITES

3.1) Analysis Method

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

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
150 - 145	Pole	TP16.937x16x0.1875	Pole	18.3%	Pass
145 - 140	Pole	TP17.875x16.937x0.1875	Pole	33.4%	Pass
140 - 135	Pole	TP18.812x17.875x0.1875	Pole	60.4%	Pass
135 - 133	Pole	TP19.187x18.812x0.1875	Pole	69.3%	Pass
133 - 132.75	Pole + Reinf.	TP19.234x19.187x0.45	Reinf. 20 Tension Rupture	48.3%	Pass
132.75 - 127.75	Pole + Reinf.	TP20.171x19.234x0.4375	Reinf. 20 Tension Rupture	63.5%	Pass
127.75 - 123.75	Pole + Reinf.	TP20.921x20.171x0.425	Reinf. 20 Tension Rupture	77.5%	Pass
123.75 - 123.5	Pole + Reinf.	TP20.968x20.921x0.425	Reinf. 20 Tension Rupture	78.4%	Pass
123.5 - 118.75	Pole + Reinf.	TP21.859x20.968x0.7625	Reinf. 20 Tension Rupture	53.1%	Pass
118.75 - 118.5	Pole + Reinf.	TP21.906x21.859x1.0375	Reinf. 19 Tension Rupture	41.2%	Pass
118.5 - 117	Pole + Reinf.	TP22.187x21.906x1.0125	Reinf. 19 Tension Rupture	43.3%	Pass
117 - 116.75	Pole + Reinf.	TP22.234x22.187x0.75	Reinf. 18 Tension Rupture	56.7%	Pass
116.75 - 111.75	Pole + Reinf.	TP23.171x22.234x0.7125	Reinf. 18 Tension Rupture	65.2%	Pass
111.75 - 106.75	Pole + Reinf.	TP24.108x23.171x0.6875	Reinf. 18 Tension Rupture	74.3%	Pass
106.75 - 101.75	Pole + Reinf.	TP25.046x24.108x0.6625	Reinf. 18 Tension Rupture	83.0%	Pass
101.75 - 99.5	Pole + Reinf.	TP26.28x25.046x0.6625	Reinf. 18 Tension Rupture	86.7%	Pass
99.5 - 94.5	Pole + Reinf.	TP26.031x25.093x0.7875	Reinf. 18 Tension Rupture	80.4%	Pass
94.5 - 93.75	Pole + Reinf.	TP26.171x26.031x0.7875	Reinf. 18 Tension Rupture	81.3%	Pass
93.75 - 93.5	Pole + Reinf.	TP26.218x26.171x0.9125	Reinf. 9 Tension Rupture	73.4%	Pass
93.5 - 92.75	Pole + Reinf.	TP26.359x26.218x0.9125	Reinf. 9 Tension Rupture	74.3%	Pass
92.75 - 92.5	Pole + Reinf.	TP26.406x26.359x1.1375	Reinf. 9 Tension Rupture	61.8%	Pass

92.5 - 91.25	Pole + Reinf.	TP26.64x26.406x1.1125	Reinf. 9 Tension Rupture	63.0%	Pass
91.25 - 91	Pole + Reinf.	TP26.687x26.64x1.1125	Reinf. 9 Tension Rupture	63.2%	Pass
91 - 89.25	Pole + Reinf.	TP27.016x26.687x1.1125	Reinf. 9 Tension Rupture	64.8%	Pass
89.25 - 89	Pole + Reinf.	TP27.063x27.016x1.2125	Reinf. 3 Connection	61.5%	Pass
89 - 85.75	Pole + Reinf.	TP27.672x27.063x1.1875	Reinf. 9 Tension Rupture	61.7%	Pass
85.75 - 85.5	Pole + Reinf.	TP27.719x27.672x0.8625	Reinf. 17 Tension Rupture	79.6%	Pass
85.5 - 80.5	Pole + Reinf.	TP28.657x27.719x0.8375	Reinf. 17 Tension Rupture	84.2%	Pass
80.5 - 75.5	Pole + Reinf.	TP29.595x28.657x0.8125	Reinf. 17 Tension Rupture	88.4%	Pass
75.5 - 70.5	Pole + Reinf.	TP30.533x29.595x0.7875	Reinf. 17 Tension Rupture	92.3%	Pass
70.5 - 68.08	Pole + Reinf.	TP30.987x30.533x0.7875	Reinf. 17 Tension Rupture	94.1%	Pass
68.08 - 67.83	Pole + Reinf.	TP31.034x30.987x0.8375	Reinf. 16 Tension Rupture	80.7%	Pass
67.83 - 67	Pole + Reinf.	TP31.19x31.034x0.8375	Reinf. 16 Tension Rupture	81.2%	Pass
67 - 66.75	Pole + Reinf.	TP31.237x31.19x1.0625	Reinf. 6 Tension Rupture	65.4%	Pass
66.75 - 63.25	Pole + Reinf.	TP31.894x31.237x1.0375	Reinf. 6 Tension Rupture	67.3%	Pass
63.25 - 63	Pole + Reinf.	TP31.941x31.894x1.2125	Reinf. 8 Tension Rupture	64.4%	Pass
63 - 59.5	Pole + Reinf.	TP32.597x31.941x1.1875	Reinf. 8 Tension Rupture	66.2%	Pass
59.5 - 59.25	Pole + Reinf.	TP32.644x32.597x1.2375	Reinf. 8 Tension Rupture	64.0%	Pass
59.25 - 56.25	Pole + Reinf.	TP33.207x32.644x1.2125	Reinf. 8 Tension Rupture	65.4%	Pass
56.25 - 56	Pole + Reinf.	TP33.254x33.207x1.0625	Reinf. 6 Tension Rupture	68.0%	Pass
56 - 55.75	Pole + Reinf.	TP33.301x33.254x0.8375	Reinf. 16 Tension Rupture	83.5%	Pass
55.75 - 50.75	Pole + Reinf.	TP34.239x33.301x0.825	Reinf. 16 Tension Rupture	86.0%	Pass
50.75 - 50	Pole + Reinf.	TP35.38x34.239x0.8125	Reinf. 16 Tension Rupture	86.4%	Pass
50 - 43.67	Pole + Reinf.	TP34.942x33.754x0.875	Reinf. 16 Tension Rupture	85.0%	Pass
43.67 - 38.67	Pole + Reinf.	TP35.88x34.942x0.8625	Reinf. 16 Tension Rupture	87.0%	Pass
38.67 - 34.5	Pole + Reinf.	TP36.661x35.88x0.85	Reinf. 16 Tension Rupture	88.5%	Pass
34.5 - 34.25	Pole + Reinf.	TP36.708x36.661x1.1	Reinf. 16 Tension Rupture	69.5%	Pass
34.25 - 33	Pole + Reinf.	TP36.942x36.708x1.1	Reinf. 16 Tension Rupture	69.9%	Pass
33 - 32.75	Pole + Reinf.	TP36.989x36.942x1.1	Reinf. 15 Tension Rupture	70.0%	Pass
32.75 - 29.75	Pole + Reinf.	TP37.552x36.989x1.075	Reinf. 15 Tension Rupture	70.9%	Pass
29.75 - 29.5	Pole + Reinf.	TP37.598x37.552x1.125	Reinf. 15 Tension Rupture	68.6%	Pass
29.5 - 25	Pole + Reinf.	TP38.442x37.598x1.1	Reinf. 15 Tension Rupture	69.9%	Pass
25 - 24.75	Pole + Reinf.	TP38.489x38.442x0.8625	Reinf. 15 Tension Rupture	88.0%	Pass
24.75 - 19.75	Pole + Reinf.	TP39.427x38.489x0.85	Reinf. 15 Tension Rupture	89.5%	Pass
19.75 - 14.75	Pole + Reinf.	TP40.364x39.427x0.825	Reinf. 15 Tension Rupture	90.9%	Pass
14.75 - 14.5	Pole + Reinf.	TP40.411x40.364x0.825	Reinf. 15 Tension Rupture	90.9%	Pass
14.5 - 14.25	Pole + Reinf.	TP40.458x40.411x0.825	Reinf. 15 Tension Rupture	91.0%	Pass
14.25 - 12.25	Pole + Reinf.	TP40.833x40.458x0.825	Reinf. 15 Tension Rupture	91.5%	Pass
12.25 - 12	Pole + Reinf.	TP40.88x40.833x0.7875	Reinf. 14 Tension Rupture	92.5%	Pass
12 - 11.5	Pole + Reinf.	TP40.974x40.88x0.7875	Reinf. 14 Tension Rupture	92.6%	Pass
11.5 - 11.25	Pole + Reinf.	TP41.021x40.974x0.9	Reinf. 14 Tension Rupture	87.7%	Pass

11.25 - 9.25	Pole + Reinf.	TP41.396x41.021x0.8875	Reinf. 14 Tension Rupture	88.2%	Pass
9.25 - 9	Pole + Reinf.	TP41.442x41.396x0.85	Reinf. 13 Tension Rupture	89.0%	Pass
9 - 4.5	Pole + Reinf.	TP42.286x41.442x0.825	Reinf. 13 Tension Rupture	90.0%	Pass
4.5 - 4.25	Pole + Reinf.	TP42.333x42.286x0.85	Reinf. 1 Tension Rupture	83.4%	Pass
4.25 - 3	Pole + Reinf.	TP42.567x42.333x0.85	Reinf. 1 Tension Rupture	83.7%	Pass
3 - 2.75	Pole + Reinf.	TP42.614x42.567x0.8375	Reinf. 1 Tension Rupture	83.8%	Pass
2.75 - 0	Pole + Reinf.	TP43.13x42.614x0.825	Reinf. 1 Tension Rupture	84.4%	Pass
				Summary	
			Pole	69.9%	Pass
			Reinforcement	94.1%	Pass
			Overall	94.1%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	91.2	Pass
1	Base Plate	0	88.6	Pass
1	Base Foundation (Structure)	0	71.6	Pass
1	Base Foundation (Soil Interaction)	0	23.4	Pass

Structure Rating (max from all components) =	**94.1%**

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

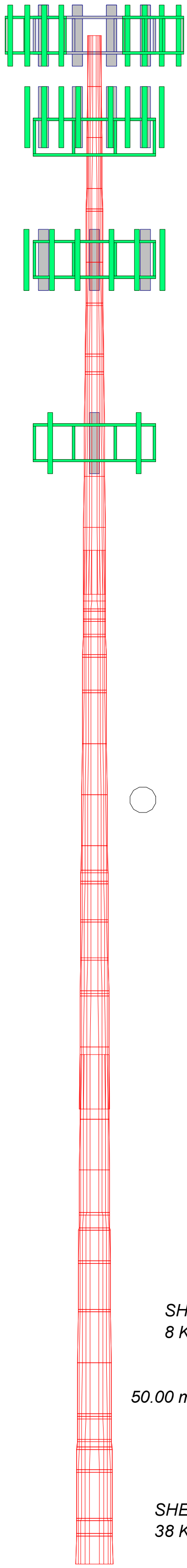
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.0000	12	0.1875		16.0000	16.9374		0.2
2	5.0000	12	0.1875		16.9374	17.8748		0.2
3	5.0000	12	0.1875		17.8748	18.8122		0.2
4–13	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
14	5.0000	12	0.6875		23.1710	24.1084		0.8
15	5.0000	12	0.6625		24.1084	25.0458		0.8
16	[illegible]	12	0.6625	4.3330	25.0458	26.2800		1.1
17–28	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
29	5.0000	12	0.8125		28.6573	29.5954		1.2
30	5.0000	12	0.7875		29.5954	30.5334	A572-65	1.2
31–42	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
43	[illegible]	12	0.8125	5.3330	[illegible]	35.3800		1.7
44	[illegible]	12	[illegible]		[illegible]	[illegible]		1.9
45	5.0000	12	0.8625		[illegible]	[illegible]		1.5
46–54	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
55	[illegible]	12	[illegible]		[illegible]	[illegible]		1.7
56–68	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
								37.9



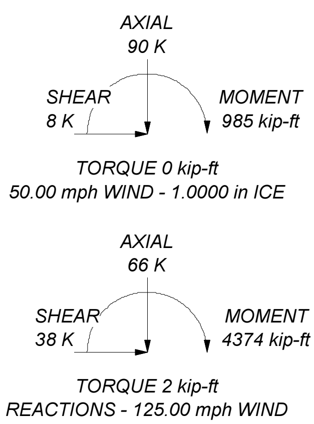
MATERIAL STRENGTH

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 C to the TIA-222-H Standard.
3. Tower designed for a 125.00 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50.00 mph basic wind with 1.00 in ice. Ice is considered to i ncrease in thickness with height.
5. Deflections are based upon a 60.00 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.0000 ft
8. TOWER RATING: 94.1%

ALL REACTIONS ARE FACTORED



CROWN CASTLE The Pathway to Possible	Crown Castle 2000 Corporate Drive Canonsburg, PA 15317 Phone: (724) 416-2000 FAX:	Job: BU 806361 Project: Client: Crown Castle — Drawn by: MLopienski — App'd: Code: TIA-222-H — Date: 10/07/22 — Scale: NTS Path: C:\Work Area\806361\WO 2166810 - SA\Prod\806361 .eri — Dwg No. E-1

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: 282.0000 ft.
- Basic wind speed of 125.00 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.0000 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.00 pcf.
- A wind speed of 50.00 mph is used in combination with ice.
- Temperature drop of 50.00 °F.
- Deflections calculated using a wind speed of 60.00 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

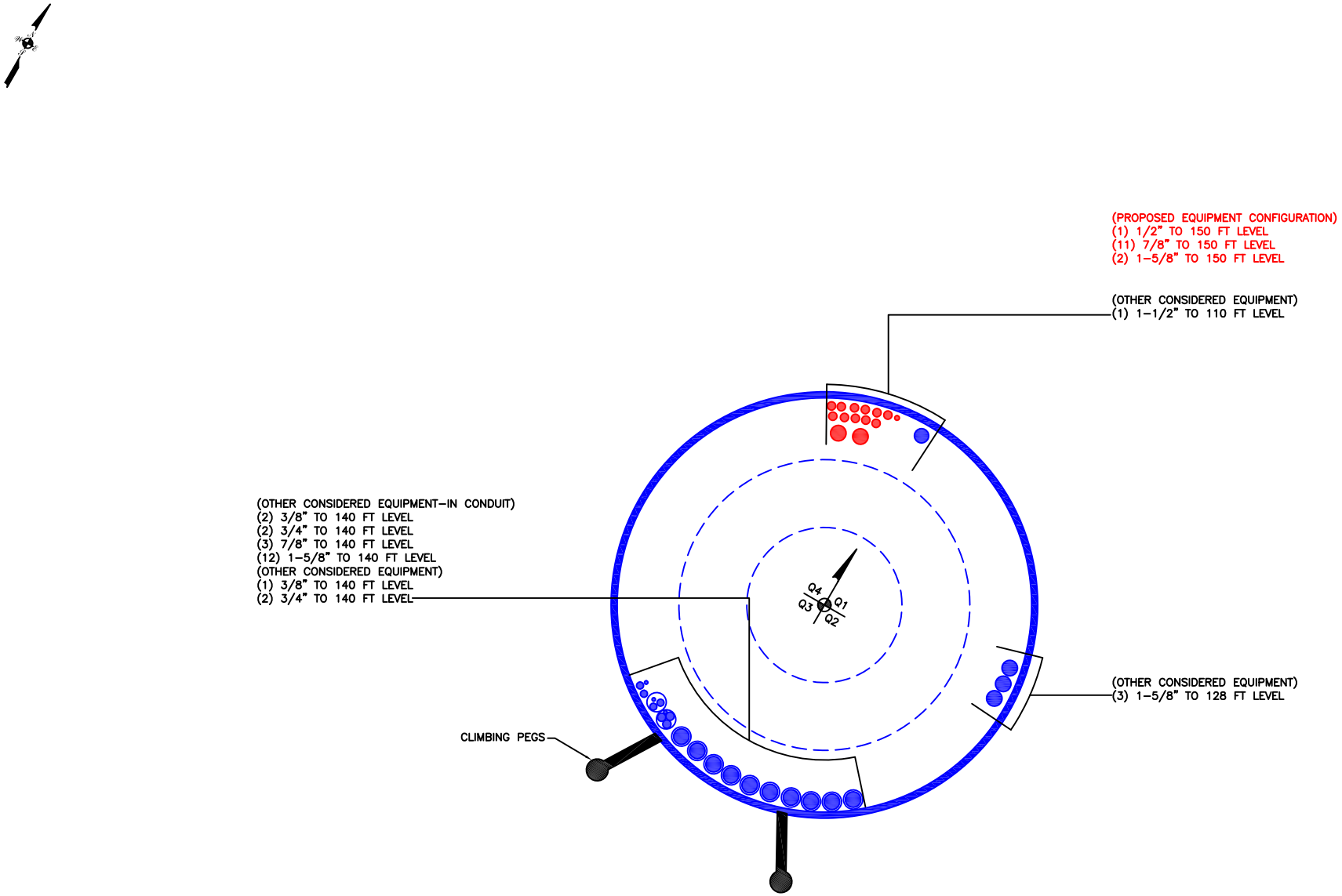
Options

	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

Tapered Pole Section Geometry

APPENDIX B

BASE LEVEL DRAWING


(PROPOSED EQUIPMENT CONFIGURATION)
(1) 1/2" TO 150 FT LEVEL
(11) 7/8" TO 150 FT LEVEL
(2) 1-5/8" TO 150 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 110 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN CONDUIT)
(2) 3/8" TO 140 FT LEVEL
(2) 3/4" TO 140 FT LEVEL
(3) 7/8" TO 140 FT LEVEL
(12) 1-5/8" TO 140 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 140 FT LEVEL
(2) 3/4" TO 140 FT LEVEL
Q4
Q1
Q3
Q2
(OTHER CONSIDERED EQUIPMENT)
(3) 1-5/8" TO 128 FT LEVEL
CLIMBING PEGS

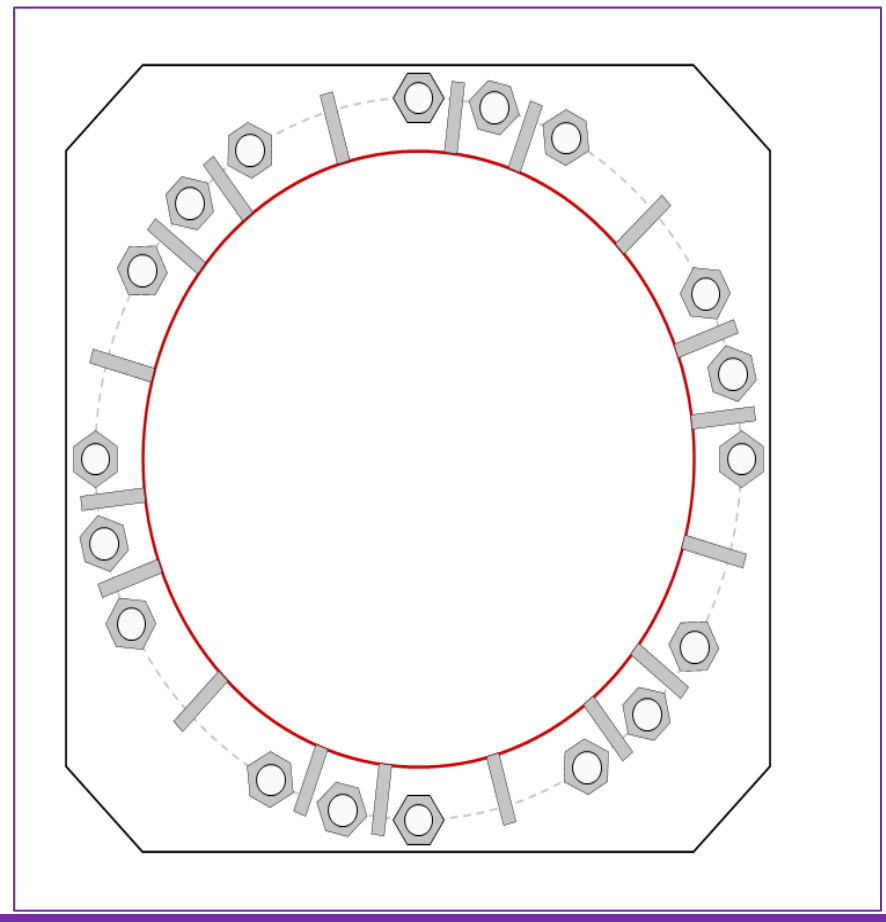
Monopole Base Plate Connection

Site Info	
BU #	806361
Site Name	NHV 102 943127
Order #	634513 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
I_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	4374.22
Axial Force (kips)	66.32
Shear Force (kips)	38.00

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 50.6" BC
pos. (deg): 62.8, 90, 121.4, 148.6, 242.8, 270, 301.4, 328.6, 0, 27.2,

GROUP 2: (6) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 50.6" BC
pos. (deg): 76.4, 135, 256.4, 315, 13.6, 193.6

Base Plate Data

55.1" W x 2.5" Plate (A572-60; Fy=60 ksi, Fu=75 ksi); Clip: 6 in

Stiffener Data

(18) 18"H x 5"W x 1"T, Notch: 0.75"
plate: Fy= 50 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.5" groove, 45° dbl bevel, 0.5" fillet
vert. weld: 0.5" fillet

Pole Data

43.13" x 0.375" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:		
Pu_t = 229.86	ϕPn_t = 243.75	**Stress Rating**
Vu = 3.17	ϕVn = 149.1	**89.8%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 233.32	ϕPn_t = 243.75	**Stress Rating**
Vu = 0	ϕVn = 149.1	**91.2%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	33.37	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**58.9%**	**Pass**

Stiffener Summary

Horizontal Weld:	**87.8%**	**Pass**
Vertical Weld:	**43.8%**	**Pass**
Plate Flexure+Shear:	**18.2%**	**Pass**
Plate Tension+Shear:	**88.6%**	**Pass**
Plate Compression:	**77.9%**	**Pass**

Pole Summary

Punching Shear:	**13.9%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	No	No	
2	No	No	Yes	No	No	

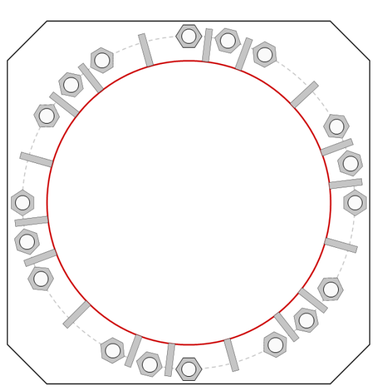
Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	62.7600454	2.25	A615-75	50.6	0.5	0	N-Included		No
2	2	76.3800227	2.25	A615-75	50.6	0.5	0	N-Included		No
3	1	90	2.25	A615-75	50.6	0.5	0	N-Included		No
4	1	121.380023	2.25	A615-75	50.6	0.5	0	N-Included		No
5	2	135	2.25	A615-75	50.6	0.5	0	N-Included		No
6	1	148.619977	2.25	A615-75	50.6	0.5	0	N-Included		No
7	1	242.760045	2.25	A615-75	50.6	0.5	0	N-Included		No
8	2	256.380023	2.25	A615-75	50.6	0.5	0	N-Included		No
9	1	270	2.25	A615-75	50.6	0.5	0	N-Included		No
10	1	301.380023	2.25	A615-75	50.6	0.5	0	N-Included		No
11	2	315	2.25	A615-75	50.6	0.5	0	N-Included		No
12	1	328.619977	2.25	A615-75	50.6	0.5	0	N-Included		No
13	1	0	2.25	A615-75	50.6	0.5	0	N-Included		No
14	2	13.6199773	2.25	A615-75	50.6	0.5	0	N-Included		No
15	1	27.2399546	2.25	A615-75	50.6	0.5	0	N-Included		No
16	1	180	2.25	A615-75	50.6	0.5	0	N-Included		No
17	2	193.619977	2.25	A615-75	50.6	0.5	0	N-Included		No
18	1	207.239955	2.25	A615-75	50.6	0.5	0	N-Included		No

Custom Stiffener Connection

Stiffener	Stiffener Group ID	Location (deg.)	Width (in)	Height (in)	Thickness (in)	H. Notch (in)	V. Notch (in)	Grade (ksi)	Weld Type	Groove Depth (in)	Groove Angle (deg.)	H. Fillet Weld Size (in)	V. Fillet Weld Size (in)	Weld Strength (ksi)
1	1	6.809989	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
2	1	20.427767	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
3	1	69.5678344	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
4	1	83.1878124	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
5	1	105.690012	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
6	1	128.190011	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
7	1	141.809989	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
8	1	164.309989	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
9	1	186.807789	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
10	1	200.427767	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
11	1	225	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
12	1	249.570033	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
13	1	263.190011	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
14	1	308.190011	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
15	1	321.809989	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
16	1	344.309989	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
17	1	285.690012	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70
18	1	42.9299661	5	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.5	70

Plot Graphic



Drilled Pier Foundation

BU # :	806361
Site Name:	NHV 102 943127
Order Number:	634513 Rev. 0
TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	4374.22	
Axial Force (kips)	66.34	
Shear Force (kips)	37.96	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

Pier Design Data		
Depth	33	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 23' below grade		
Pier Diameter	6	ft
Rebar Quantity	32	
Rebar Size	11	
Rebar Cage Diameter	61	in
Tie Size	4	
Tie Spacing		in

Rebar & Pier Options
Embedded Pole Inputs
Belled Pier Inputs

Pier Section 2		
From 23' below grade to 33' below grade		
Pier Diameter	6	ft
Rebar Quantity	16	
Rebar Size	11	
Rebar Cage Diameter	61	in
Tie Size	4	
Tie Spacing		in

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	7.69	-
Soil Safety Factor	5.42	-
Max Moment (kip-ft)	4603.95	-
Rating*	*23.4%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	418.46	-
End Bearing (kips)	783.03	-
Weight of Concrete (kips)	121.77	-
Total Capacity (kips)	1201.49	-
Axial (kips)	188.11	-
Rating*	*14.9%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	7.52	-
Critical Moment (kip-ft)	4603.76	-
Critical Moment Capacity	6122.16	-
Rating*	*71.6%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	28.71	-
Critical Shear (kip)	191.77	-
Critical Shear Capacity	544.17	-
Rating*	*33.6%*	-

Shear-Friction Methodology is Applied

Structural Foundation Rating*	**71.6%**
Soil Interaction Rating*	**23.4%**

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☑
Override Critical Depth:	☐

Go to Soil Calculations

Soil Profile

Groundwater Depth	10

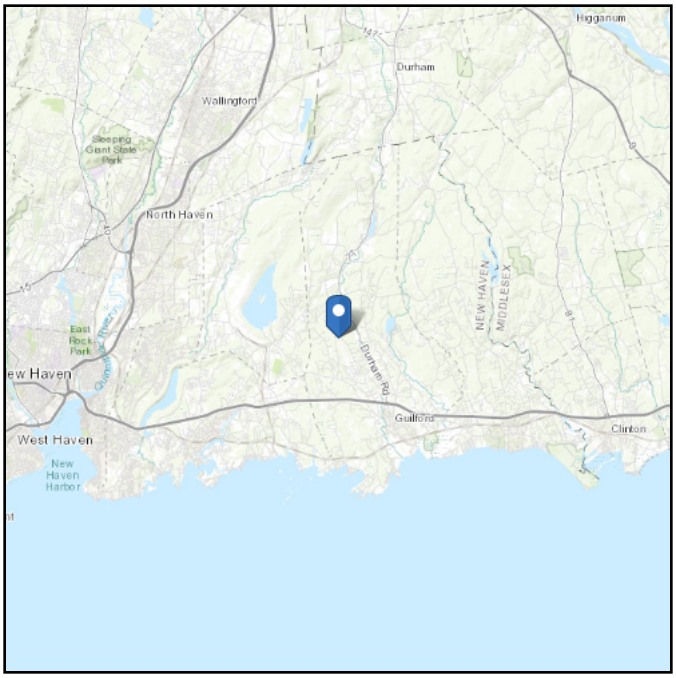
# of Layers	5

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.33	3.33	135	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.33	5	1.67	135	150	0	38	0.000	0.000	0.00	0.00			Cohesionless
3	5	10	5	135	150	0	38	0.000	0.000	0.80	0.80			Cohesionless
4	10	15	5	75	87.6	0	38	0.000	0.000	0.80	0.80			Cohesionless
5	15	33	18	75	87.6	0	38	0.000	0.000	1.20	1.20	36.92541		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	281.72 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.330025
Soil Class:	D - Default (see Section 11.4.3)	**Longitude:**	-72.721808



Wind

Results:

Wind Speed:	122 Vmph Wind Speed Rounded Up to 125 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 Vmph
Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4
Date Accessed:	Fri Jan 29 2021

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

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

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

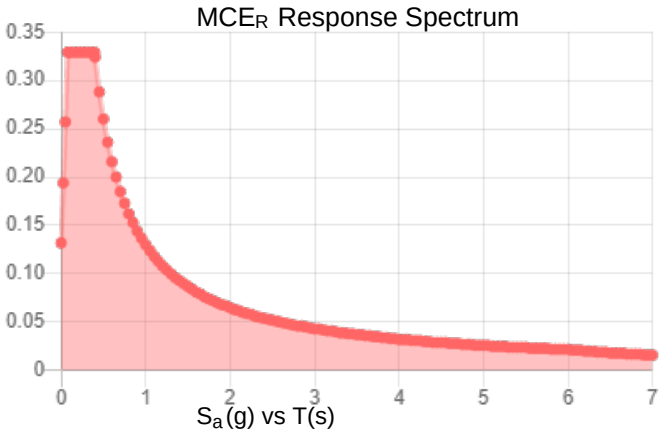
Seismic

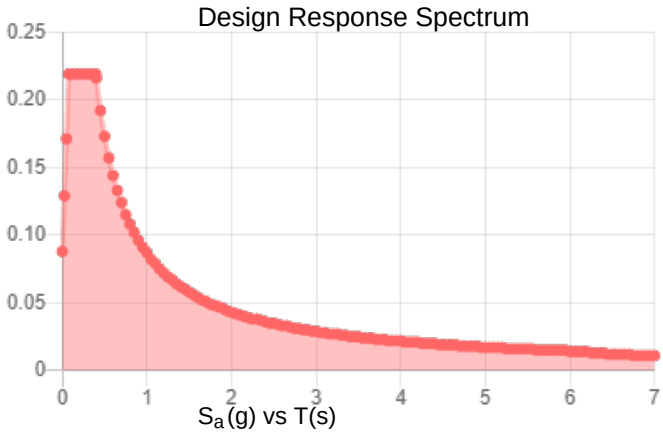
Site Soil Class: D - Default (see Section 11.4.3)

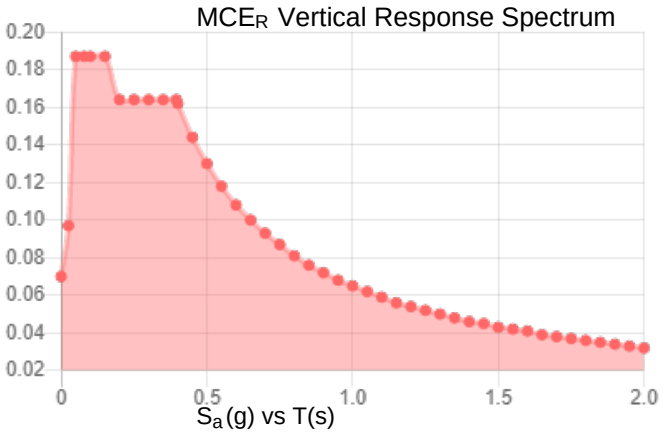
Results:

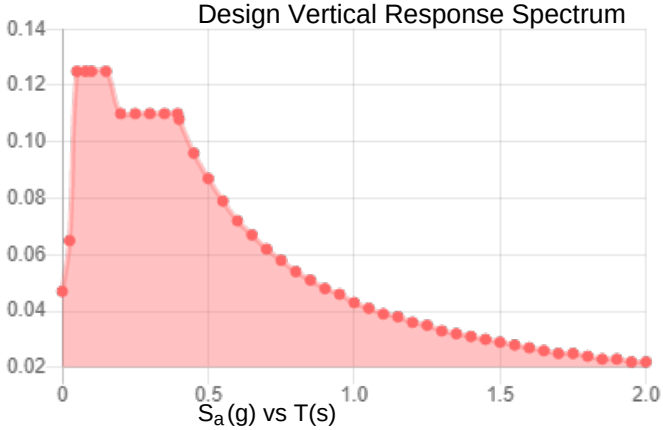
S_S :	0.206	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.115
F_v :	2.4	PGA_M :	0.181
S_{MS} :	0.329	F_{PGA} :	1.57
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.219	C_v :	0.711

Seismic Design Category B









Data Accessed: Fri Jan 29 2021

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Jan 29 2021

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

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

Exhibit E

Mount Analysis

Maser Consulting Connecticut
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@colliersengineering.com

Antenna Mount Analysis Report and PMI Requirements

Mount Analysis

SMART Tool Project #: 10141846
Maser Consulting Connecticut Project #: 22777024A

June 7, 2022

Site Information	*Site ID:*	*467316-VZW / GUILFORD CT*
	Site Name:	*GUILFORD CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*131 Manor Rd.* *Guilford, Connecticut 06437* *New Haven County*
	Latitude:	*41.330097°*
	Longitude:	*-72.721763°*
Structure Information	*Tower Type:*	*152-Ft Monopole*
	Mount Type:	*13.50-Ft Platform*

FUZE ID # 16092594

Analysis Results

Platform: **81.9% Pass***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements***:
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com

For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Maria Lopez

Executive Summary:

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS Site ID: 324008, dated May 16, 2022*
Drone Mount Mapping Report	*TTS Wireless/Amdocs., Site ID: 806361, dated April 29, 2022*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	122 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.990
Seismic Parameters:	S_S:	0.206 g
	S_1:	0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Live Load, Lv:	250 lbs.
	Maintenance Live Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

The following equipment has been considered for the analysis of the mount:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
149.50	151.90	6	JMA Wireless	MX06FRO660-03	Added
		3	Samsung	MT6407-77A	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4440d-13A	
		1	Raycap	RVZDC-6627-PF-48	
		6	Amphenol Antel	LPA-80063/6CF 5	Retained

The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Maser Consulting and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Maser Consulting to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Maser Consulting is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A325

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Maser Consulting.

Analysis Results:

Component	Utilization %	Pass/Fail
Brace Angle	*36.9%*	*Pass*
Kicker	*11.8%*	*Pass*
Mount Pipe	*22.7%*	*Pass*
Pipe Vertical	*81.2%*	*Pass*
Crossbrace Angle	*8.5%*	*Pass*
Crossbrace Channel	*17.8%*	*Pass*
Support Rail	*81.9%*	*Pass*
Face Angle	*66.6%*	*Pass*
Standoff	*20.5%*	*Pass*
Corner Plate	*47.7%*	*Pass*
Face Horizontal	*59.8%*	*Pass*
Mount Connection	*39.9 %*	*Pass*

Structure Rating – *(Controlling Utilization of all Components)*	**81.9%**

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	72.5	70.3	86.9	84.7
0.5	85.5	88.2	108.6	105.9
1	100.1	103.3	129.8	126.6

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mount is **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

Contractor to install proposed OVP pipe on mount pipe in position 3 36" from the top of the pipe. Attach the proposed OVP pipe to the standoff with crossover plate Site Pro 1 SCP10K pipe-to-pipe clamp.

If required, ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other. Separate review fees will apply.

Attachments:

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Photos
4. Mount Mapping Report (for reference only)
5. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Passing Mount Analysis

Passing Mount Analysis requires a PMI due to a modification in loading.

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com.

For additional questions and support, please reach out to pmisupport@colliersengineering.com

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PSLC #: 467316 SMART Project #: 10141846 Fuze Project ID: 16092594

Purpose – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

Base Requirements:

- If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built mount drawings" showing contractor's name, contact information, preparer's signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: ***https://pmi.vzwsmart.com***

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation.
  - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to installation.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.
  - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.

Antenna & equipment placement and Geometry Confirmation:

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:

Issue:

Contractor to install proposed OVP pipe on mount pipe in position 3 36” from the top of the pipe. Attach the proposed OVP pipe to the standoff with crossover plate Site Pro 1 SCP10K pipe-to-pipe clamp.

Response:

Special Instruction Confirmation:

☐ The contractor has read and acknowledges the above special instructions.

☐ All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

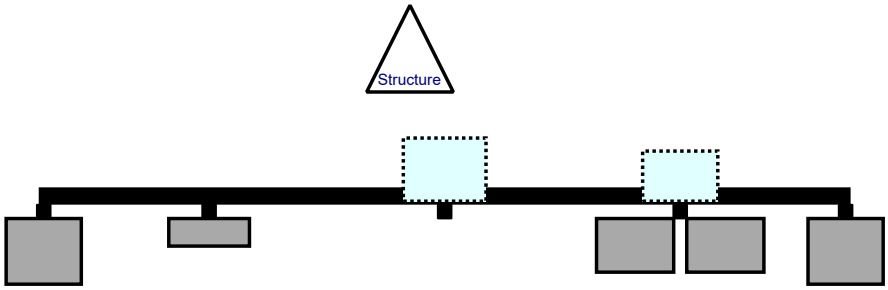
Structure: 46 16-VZW - GUILFORD CT

Sector: **A** 6/6/2022

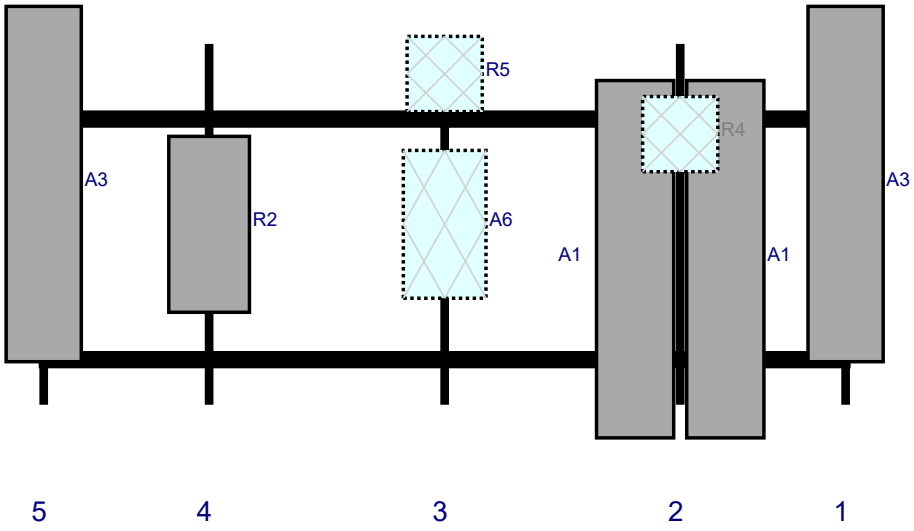
Structure Type: Monopole 10141846

Mount Elev: 149.50 Page: 1

Plan View

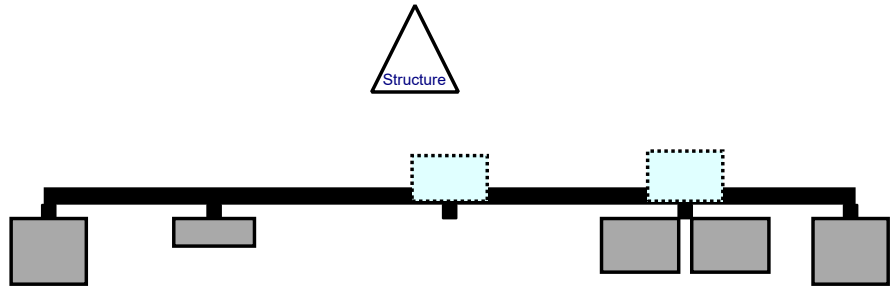


Front View - Looking at Structure

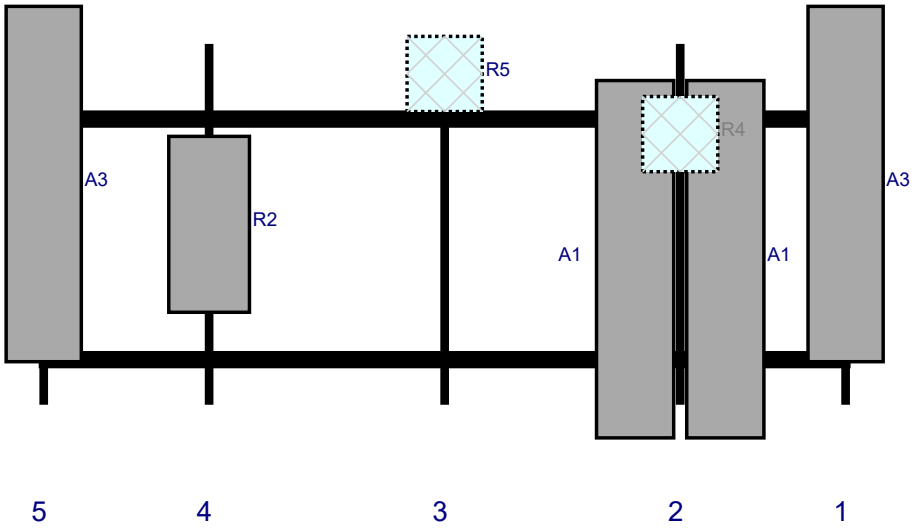


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A3	LPA-80063/6CF 5	70.9	15	161	1	a	Front	27.96	0	Retained	04/29/2022
A1	MX06FRO660-03	71.3	15.4	128	2	a	Front	42.96	-9	Added	
A1	MX06FRO660-03	71.3	15.4	128	2	b	Front	42.96	9	Added	
R4	RF4439d-25A	15	15	128	2	a	Behind	18	0	Added	
R5	RF4440d-13A	15	15	81	3	a	Behind	6	0	Added	
A6	RVZDC-6627-PF-48	29.5	16.5	81	3	a	Behind	36	0	Added	
R2	MT6407-77A	35.1	16.1	34	4	a	Front	36	0	Added	
A3	LPA-80063/6CF 5	70.9	15	1	5	a	Front	27.96	0	Retained	04/29/2022

Plan View

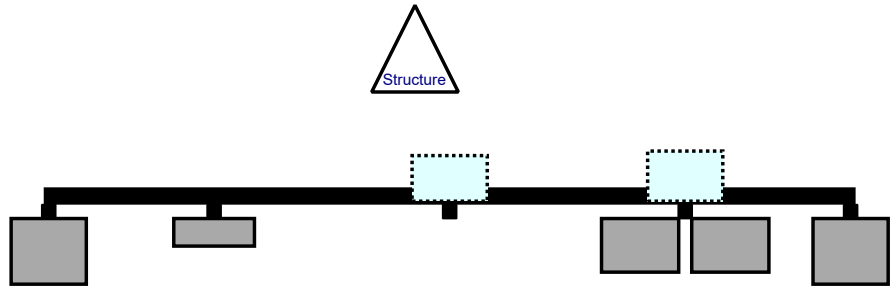


Front View - Looking at Structure

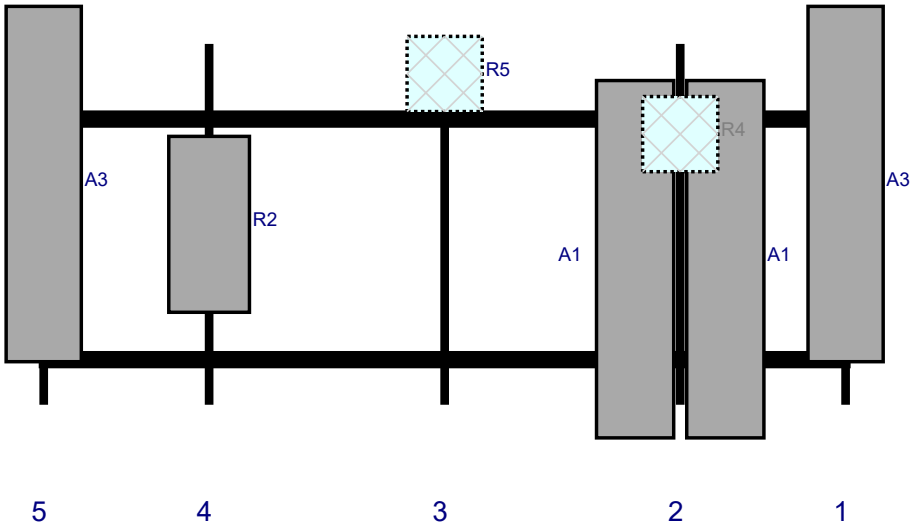


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A3	LPA-80063/6CF 5	70.9	15	161	1	a	Front	27.96	0	Retained	04/29/2022
A1	MX06FRO660-03	71.3	15.4	128	2	a	Front	42.96	-9	Added	
A1	MX06FRO660-03	71.3	15.4	128	2	b	Front	42.96	9	Added	
R4	RF4439d-25A	15	15	128	2	a	Behind	18	0	Added	
R5	RF4440d-13A	15	15	81	3	a	Behind	6	0	Added	
R2	MT6407-77A	35.1	16.1	34	4	a	Front	36	0	Added	
A3	LPA-80063/6CF 5	70.9	15	1	5	a	Front	27.96	0	Retained	04/29/2022

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A3	LPA-80063/6CF 5	70.9	15	161	1	a	Front	27.96	0	Retained	04/29/2022
A1	MX06FRO660-03	71.3	15.4	128	2	a	Front	42.96	-9	Added	
A1	MX06FRO660-03	71.3	15.4	128	2	b	Front	42.96	9	Added	
R4	RF4439d-25A	15	15	128	2	a	Behind	18	0	Added	
R5	RF4440d-13A	15	15	81	3	a	Behind	6	0	Added	
R2	MT6407-77A	35.1	16.1	34	4	a	Front	36	0	Added	
A3	LPA-80063/6CF 5	70.9	15	1	5	a	Front	27.96	0	Retained	04/29/2022

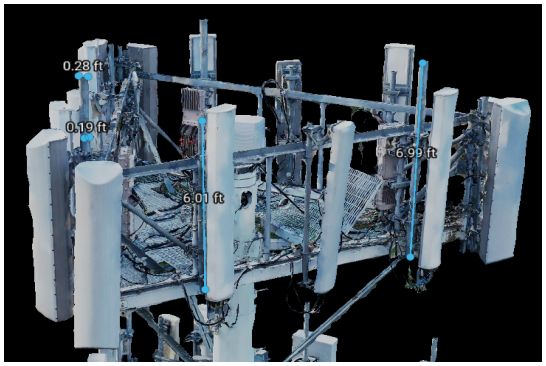
V4.1 Updated on 12-17-2021

Antenna Mount Mapping Form (PATENT PENDING)

Colliers Engineering & Design

FCC #
N/A

Tower Owner:	CROWN CASTLE	**Mapping Date:**	4/29/2022
Site Name:	GUILLFORD CT	**Tower Type:**	Monopole
Site Number or ID:	806361	**Tower Height (Ft.):**	152
Mapping Contractor:	TTS Wireless / Amdocs	**Mount Elevation (Ft.):**	149



Mount Pipe Configuration and Geometries [Unit = Inches]

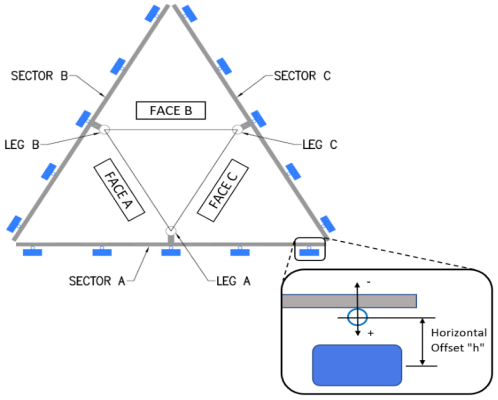
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	2 3/8"Øx 72" +/- 0.5"	61.00	0.00	C1	2 3/8"Øx 72" +/- 0.5"	61.00	0.00
A2	3 3/8"Øx 84" +/- 0.5"	81.00	34.50	C2	3 3/8"Øx 84" +/- 0.5"	81.00	34.50
A3	2 3/8"Øx 72" +/- 0.5"	61.00	80.00	C3	2 3/8"Øx 72" +/- 0.5"	61.00	80.00
A4	2 3/8"Øx 72" +/- 0.5"	70.00	124.50	C4	2 3/8"Øx 72" +/- 0.5"	70.00	124.50
A5	2 3/8"Øx 72" +/- 0.5"	61.00	161.00	C5	2 3/8"Øx 72" +/- 0.5"	61.00	161.00
A6				C6			
B1	2 3/8"Øx 72" +/- 0.5"	61.00	0.00	D1			
B2	3 3/8"Øx 84" +/- 0.5"	81.00	34.50	D2			
B3	2 3/8"Øx 72" +/- 0.5"	61.00	80.00	D3			
B4	2 3/8"Øx 72" +/- 0.5"	70.00	124.50	D4			
B5	2 3/8"Øx 72" +/- 0.5"	61.00	161.00	D5			
B6				D6			

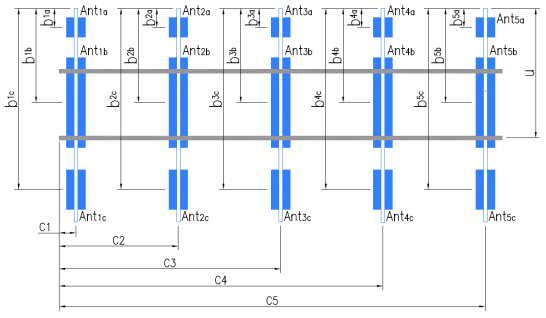
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	0
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	5

Please enter additional infomation or comments below.

Tolerances for measurements: Dimensions= +/- 0.5"; Degrees= +/- 1 degree

Tower Face Width at Mount Elev. (ft.):		Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	16



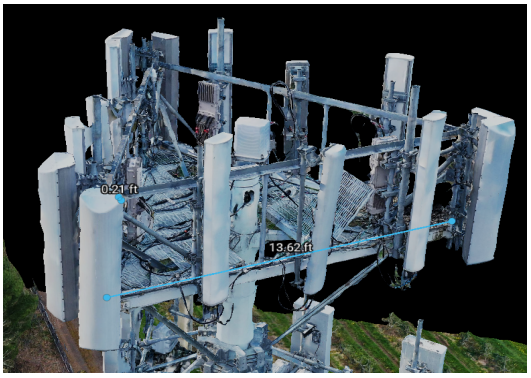


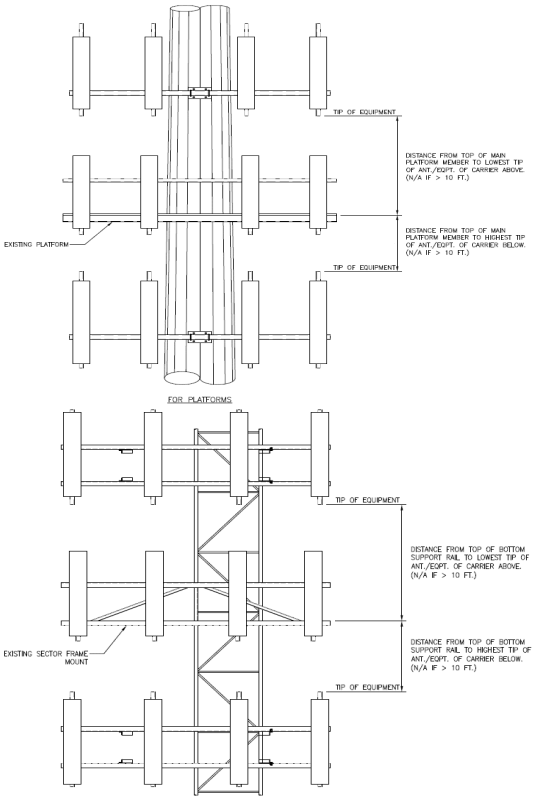
Antenna Layout (Looking Out From Tower)

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	ANTEL LPA-80063/6C	14.96	13.07	70.87		151	32.00	13.00	298.00	1.1
Ant_{1c}										
Ant_{2a}	ALU RRH 2X60 AWS	10.63	5.75	36.61			45.50	-13.00		1.2
Ant_{2b}	ANDREW HBXX-6517I	12.01	6.54	75.04		151	46.50	10.00	265.00	1.1
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	ANTEL BXA-70063-6C	11.30	6.00	71.00		151	32.00	14.00	265.00	1.1
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	ANDREW HBXX-6517I	12.01	6.54	75.04		151	31.00	9.00	288.00	1.1
Ant_{4c}										
Ant_{5a}										
Ant_{5b}	ANTEL LPA-80063/6C	14.96	13.07	70.87		151	32.00	13.00	317.00	1.1
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	350.00	Deg	Leg A:		Deg
Sector B:	120.00	Deg	Leg B:		Deg
Sector C:	240.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information			
Location:	150.00	Deg	Sector B
Climbing Facility	Corrosion Type:		Moderate corrosion observed.
	Access:		Climbing path was obstructed.
	Condition:		Missing safety cable.





Sector B										
Ant_{1a}										
Ant_{1b}	ANTEL LPA-80063/6C	14.96	13.07	70.87		151	32.00	13.00	48.00	2.1
Ant_{1c}										
Ant_{2a}	ALU RRH 2X60 AWS	10.63	5.75	36.61			45.50	-13.00		2.2
Ant_{2b}	ANDREW HBXX-6517I	12.01	6.54	75.04		151	46.50	10.00	33.00	2.1
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	ANTEL BXA-70063-6C	11.30	6.00	71.00		151	32.00	14.00	33.00	2.1
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	ANDREW HBXX-6517I	12.01	6.54	75.04		151	31.00	9.00	33.00	2.1
Ant_{4c}										
Ant_{5a}										
Ant_{5b}	ANTEL LPA-80063/6C	14.96	13.07	70.87		151	32.00	13.00	87.00	2.1
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	ANTEL LPA-80063/6C	14.96	13.07	70.87		151	32.00	13.00	166.00	3.1
Ant_{1c}										
Ant_{2a}	ALU RRH 2X60 AWS	10.63	5.75	36.61			45.50	-13.00		3.2
Ant_{2b}	ANDREW HBXX-6517I	12.01	6.54	75.04		151	46.50	10.00	157.00	3.1
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	ANTEL BXA-70063-6C	11.30	6.00	71.00		151	32.00	14.00	140.00	3.1
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	ANDREW HBXX-6517I	12.01	6.54	75.04		151	31.00	9.00	175.00	3.1
Ant_{4c}										
Ant_{5a}										
Ant_{5b}	ANTEL LPA-80063/6C	14.96	13.07	70.87		151	32.00	13.00	195.00	3.1
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	Informational- Mount Pipes ISO view. Sector (A, B,C)	4.1-4.3
2	Informational- Mount centerlines between sectors (A,B,C)	5.1-5.3
3	Informational- Sector mount connection- Tower connection	6.1-6.3
4	Informational- Gate	7
5	Informational- Coax	8
6	Informational- 5' below mount pictures	9.1-9.3
7	Safety climb cable appears to be missing.	10
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

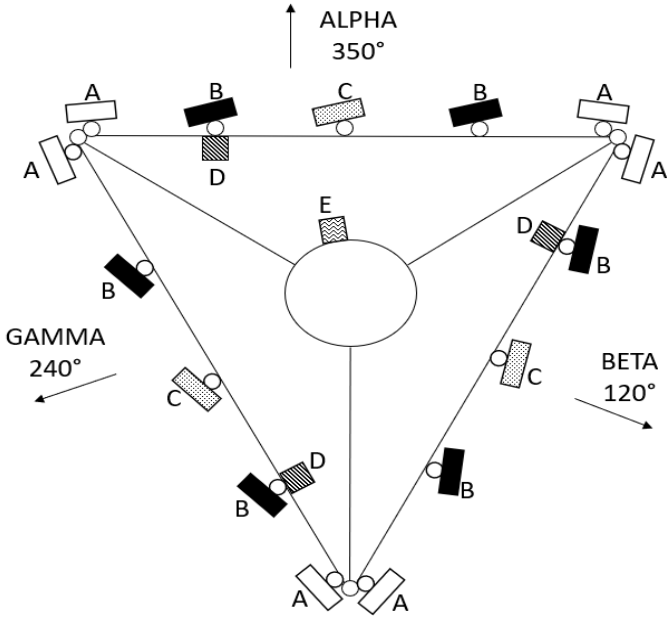
Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

V4.1 Updated on 12-17-2021

	Antenna Mount Mapping Form (PATENT PENDING)			FCC #
				N/A
	Tower Owner:	CROWN CASTLE	**Mapping Date:**	4/29/2022
	Site Name:	GUILLFORD CT	**Tower Type:**	Monopole
	Site Number or ID:	806361	**Tower Height (Ft.):**	152
	Mapping Contractor:	TTS Wireless / Amdocs	**Mount Elevation (Ft.):**	149

Please Insert Sketches of the Antenna Mount

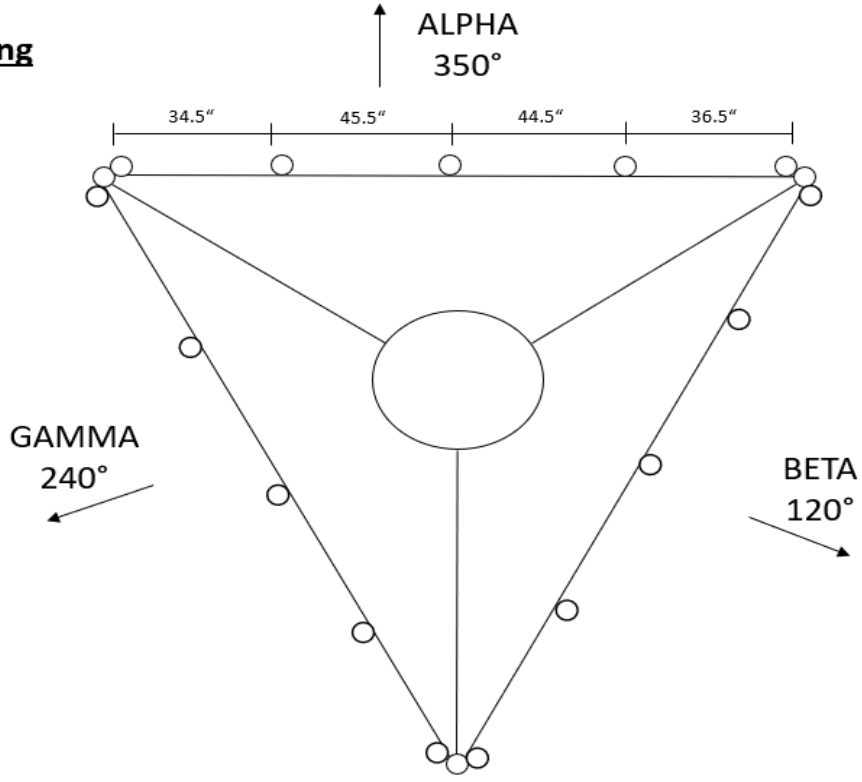
PLAN VIEW- Loading



LOADING:

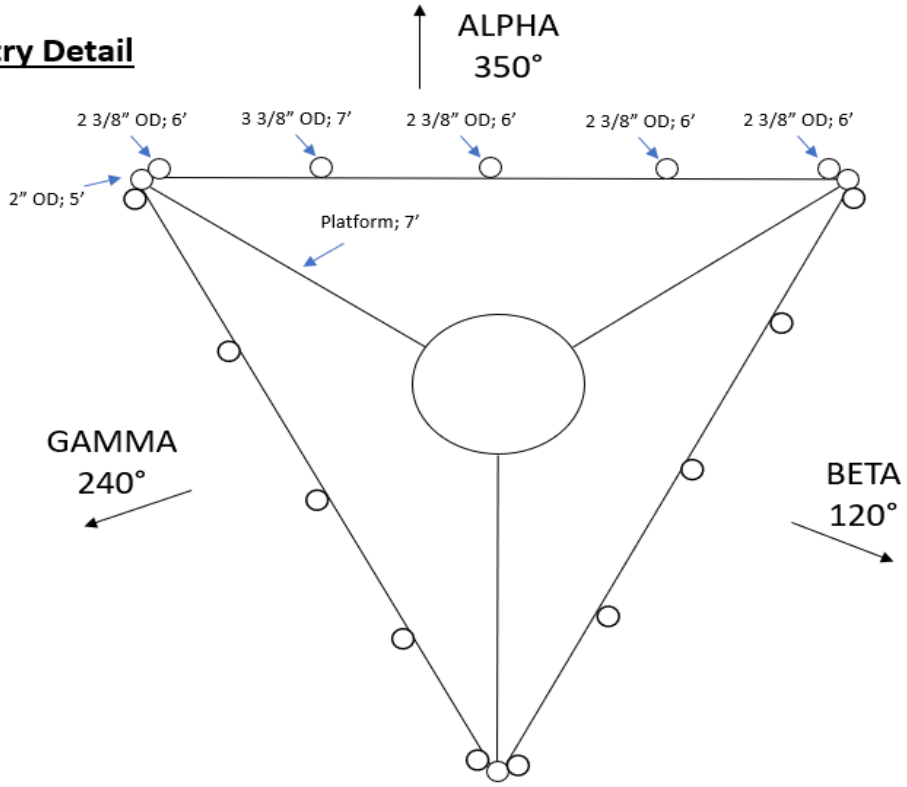
A. ANTEL LPA-80063/6CF: 14.96" x 13.07" x 70.87"
B. ANDREW HBXX-6517DSA2M: 12.01" x 6.54" x 75.04"
C. ANTEL BXA-70063-6CF-2: 11.3" x 6" x 71"
D. ALU RRH 2X60 AWS: 10.63" x 5.75" x 36.61"
E. RAYCAP RRFDC-3315-PF-48: 15.73" x 10.3" x 28.93"

PLAN VIEW- Pipe spacing

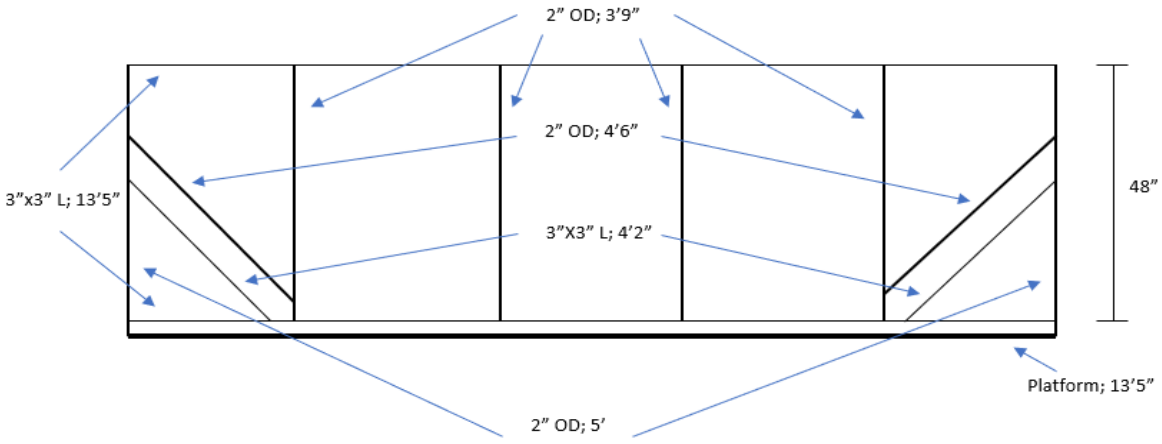


Please Insert Sketches of the Antenna Mount, cont'd

PLAN VIEW- Geometry Detail

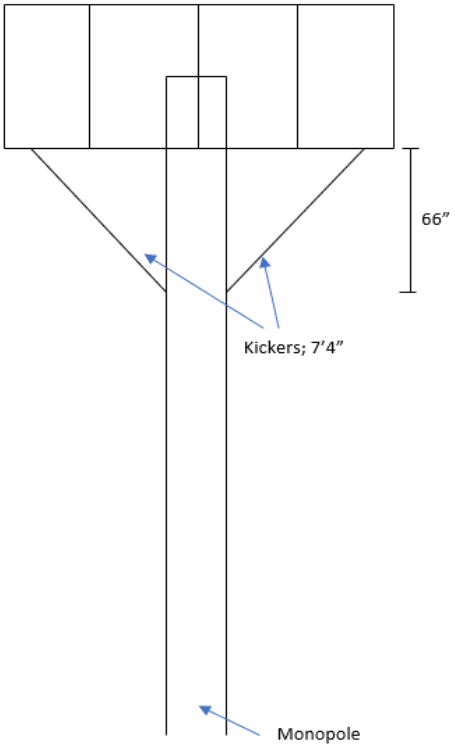


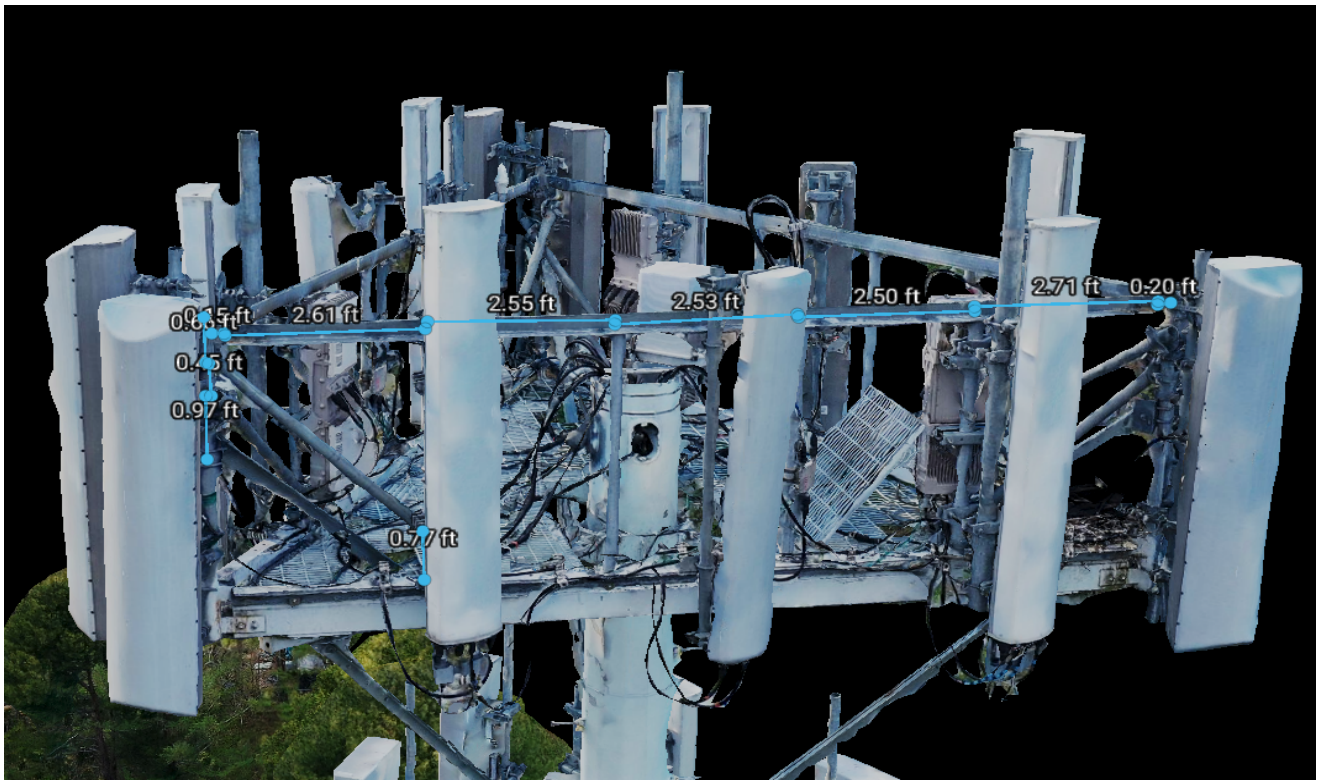
DETAILED VIEW- Mount Elevation



Please Insert Sketches of the Antenna Mount, cont'd

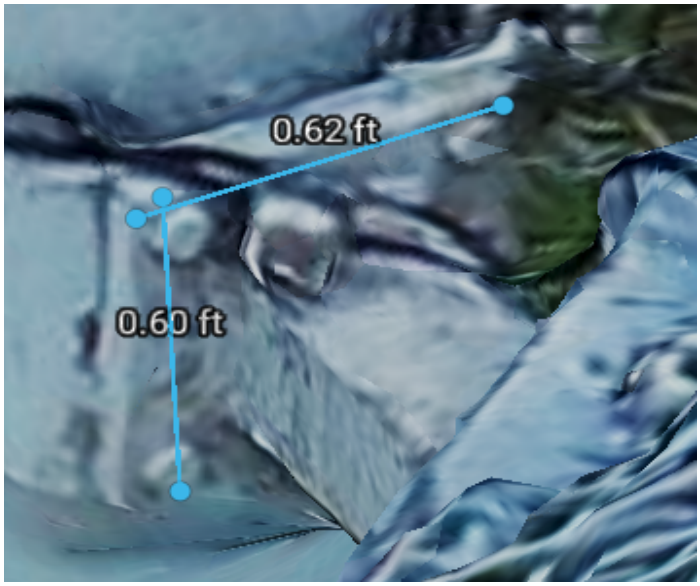
DETAILED VIEW- Kicker (Elevation)





Picture #11 - Connection Details

Please Insert Sketches of the Antenna Mount, cont'd



Picture #12 - Flange Plate Dimensions

VzW SMART Tool© Vendor

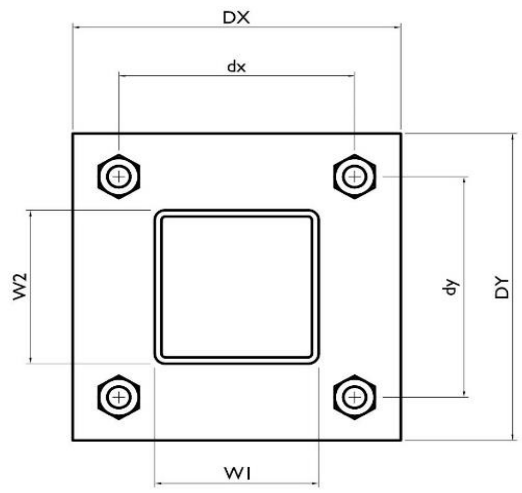
Client:	Verizon Wireless	Date:	6/6/2022
Site Name:	Guilford CT		
PSLC #:	467316		
Fuze ID #:	16092594	Page:	1

Version 1.0

I. Mount-to-Tower Connection Check

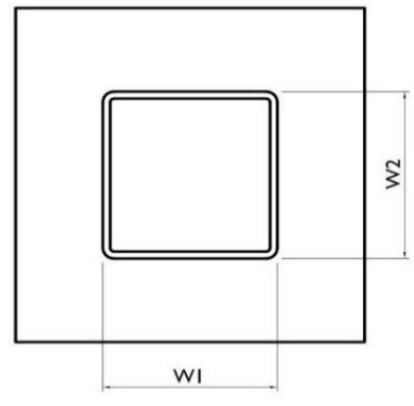
Custom Orientation Required	No
Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel

Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	6
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	6
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	2.9
Required Shear Strength / bolt (kips):	0.3
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	**13.9%**



Tower Connection Baseplate Checks	Yes

Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	8
Plate Height, D_y (in):	8
W1(in):	4
W2 (in):	4
Member Thickness (in):	0.25
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.5
Length of Yield Line, L_y (in):	5.85
Bolt Eccentricity, e (in):	1.65
M_u (kip-in):	4.73
Phi*M_n (kip-in):	11.85
Plate Bending Utilization:	**39.9%**



Client:	Verizon Wireless	Date:	6/6/2022
Site Name:	Guilford CT		
PSLC #:	467316		
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Version 1.0

Tower Connection Weld Checks	Yes
Weld Shape:	Rectangle
Weld Stiffener Configuration:	None
Stiffner Notch Length, n (in):	
Weld Size (1/16 in):	4
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	16.00
Z_x (in^3/in):	21.33
Z_y (in^3/in):	21.33
J_p (in^4/in):	85.33
c_x (in)	2.25
c_y (in)	2.25
Required combined strength (kip/in):	0.81
Weld Capacity (kip/in):	5.57
Weld Utilization:	**14.5%**

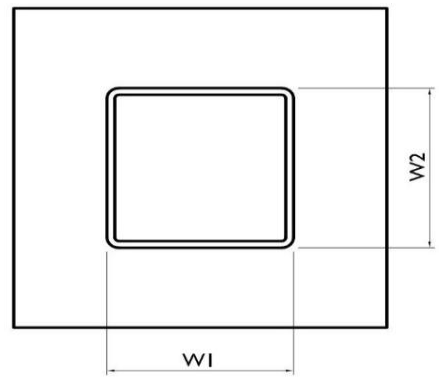
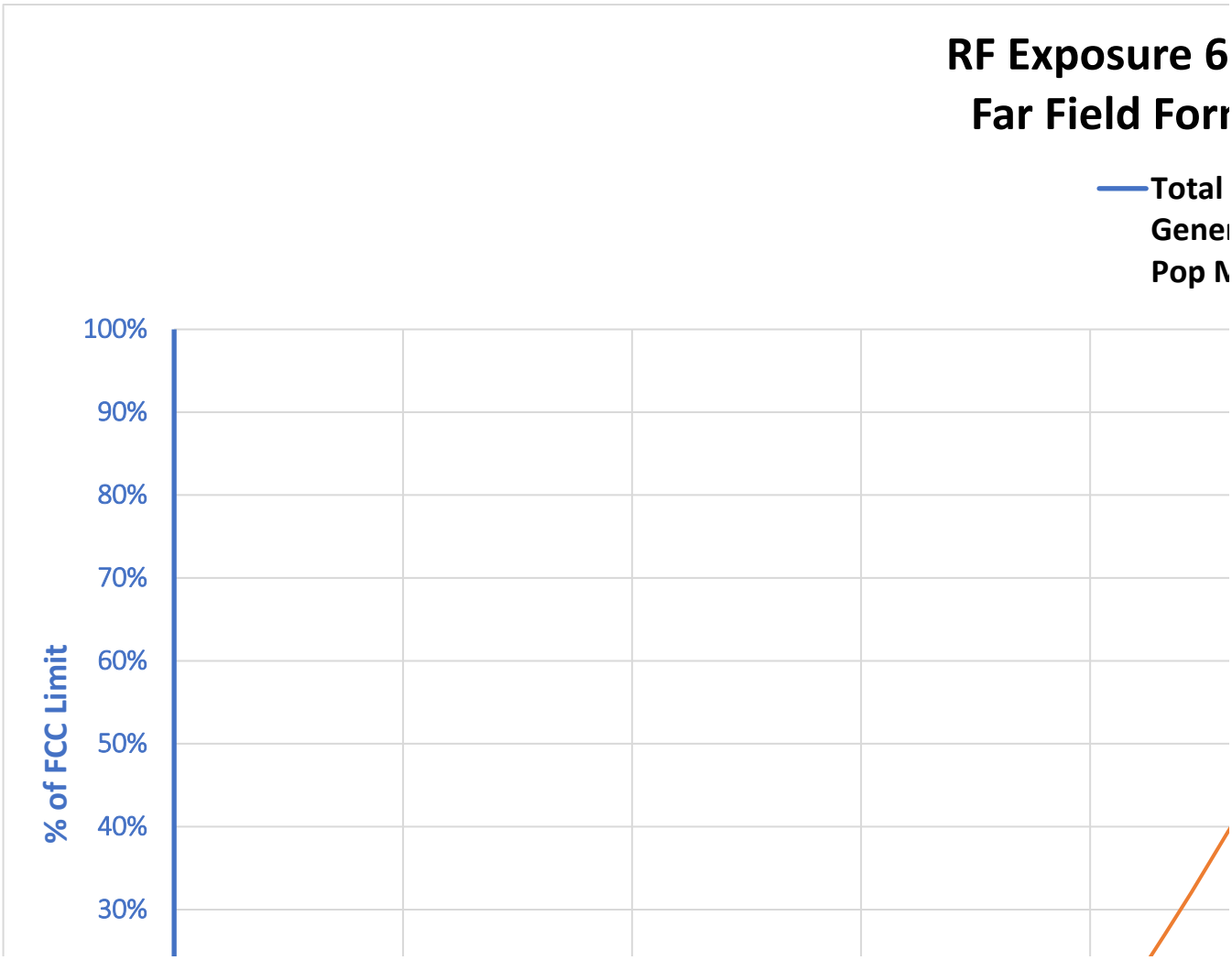
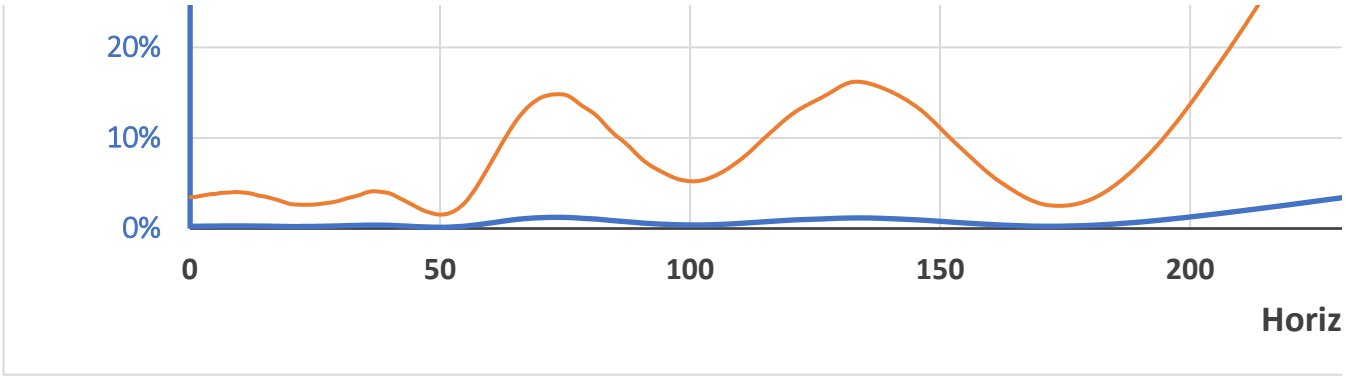


Exhibit F

Power Density/RF Emissions Report

Location	Guilford CT			
Date	1/9/2023			
Band	C-Band	AWS	PCS	Cellular
Operating Frequency (MHz)	3,700	2,145	1,970	880
General Population MPE (mW/cm^2)	1	1	1	0.586666667
ERP Per Transmitter (Watts)	13,335	1,660	1,460	631
Number of Transmitters	2	4	4	4
Antenna Centerline (feet)	150	150	150	150
Total ERP (Watts)	26,670	6,638	5,838	2,524
Total ERP (dBm)	74	68	68	64
Maximum % of General Population Limit	6.7%			





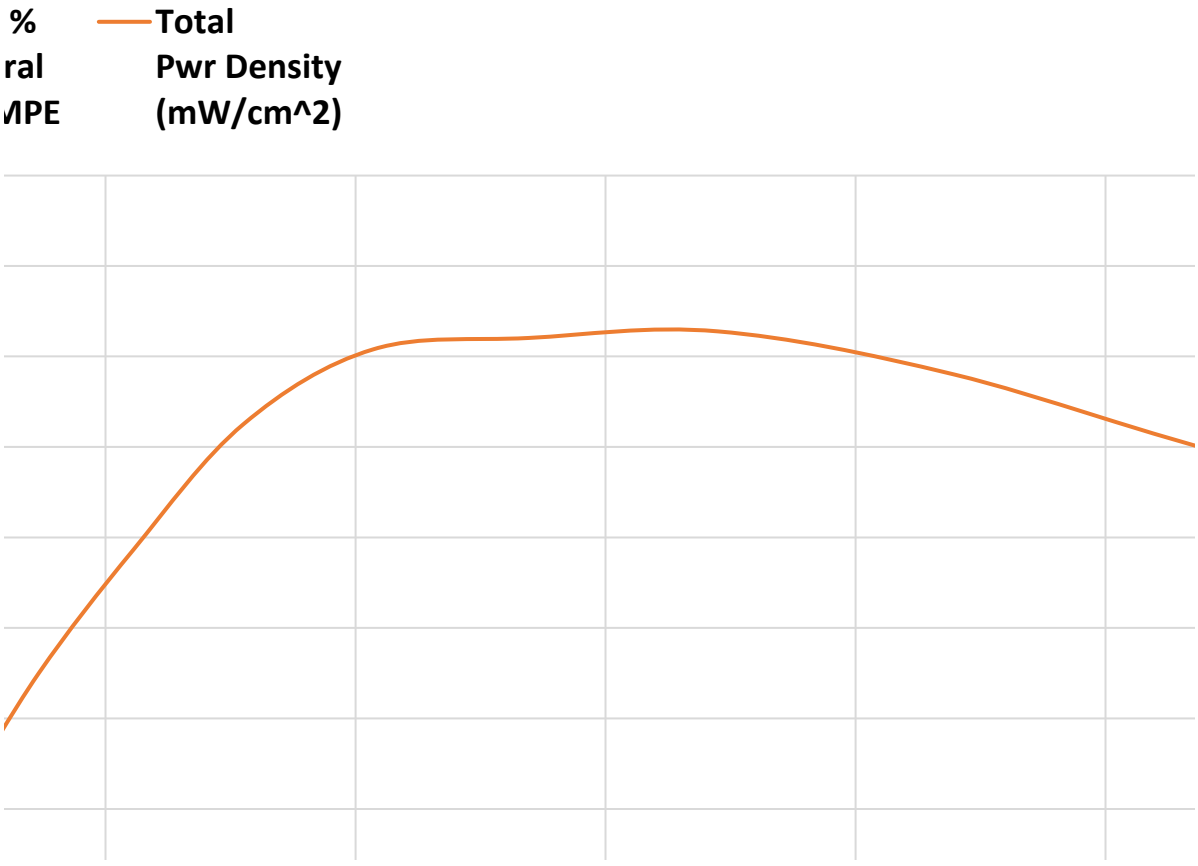
Angle Below Horizon	Power Density (mW/cm^2)			
	C-Band	AWS	PCS	850-LTE
90	0.002286346	7.09871E-07	9.89466E-05	1.82465E-05
89	0.002286229	3.81204E-07	0.0001136	1.62614E-05
88	0.002339123	1.20529E-07	0.000133448	1.51737E-05
87	0.002371055	3.4752E-07	0.000156747	1.51698E-05
86	0.002425412	6.77366E-07	0.000171808	1.62489E-05
85	0.002424288	6.6164E-07	0.000188297	1.78083E-05
84	0.002479347	4.47069E-07	0.000201649	1.8637E-05
83	0.002477674	5.24906E-07	0.000215925	1.95022E-05
82	0.002475735	1.47823E-06	0.000236572	1.99408E-05
81	0.002473528	3.70984E-06	0.000253265	1.9923E-05
80	0.002414799	7.56691E-06	0.000258905	1.99031E-05
79	0.002357197	1.44024E-05	0.00026464	2.03439E-05
78	0.002248332	2.55799E-05	0.000264313	2.12765E-05
77	0.00209543	4.23946E-05	0.000263956	2.27673E-05
76	0.001998173	6.55648E-05	0.000251705	2.38052E-05
75	0.001861825	0.000101386	0.000229191	2.5467E-05
74	0.001695073	0.000153188	0.000199272	2.78758E-05
73	0.001507926	0.000226161	0.000161674	3.34518E-05
72	0.001280892	0.000311566	0.000119611	4.401E-05
71	0.001075432	0.000400517	8.44971E-05	6.20328E-05
70	0.00091325	0.000503069	6.24955E-05	8.94599E-05
69	0.000757757	0.000589614	5.68576E-05	0.000123188
68	0.000628639	0.00065984	6.21813E-05	0.000165745
67	0.000542251	0.000658019	6.64446E-05	0.000222966
66	0.000553255	0.00062656	6.47417E-05	0.000286394
65	0.00061883	0.000544013	5.24603E-05	0.000359427
64	0.000708168	0.000450997	3.2991E-05	0.000450998
63	0.00088637	0.000325576	1.57353E-05	0.000540324
62	0.001086437	0.000195453	9.02118E-06	0.000647207

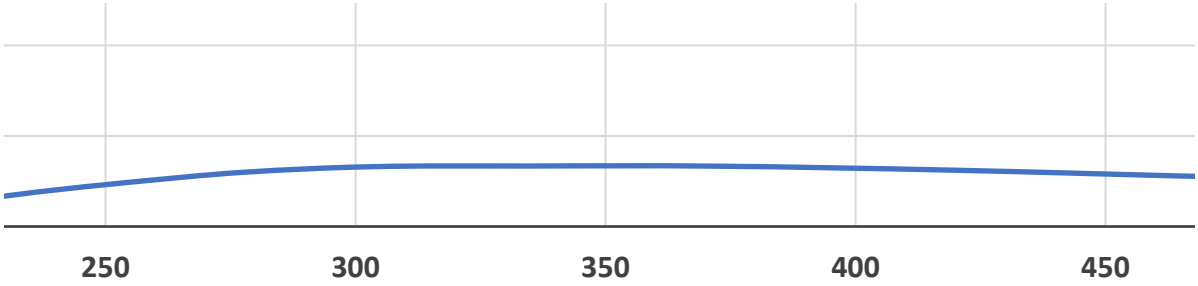
61	0.001242509	9.1062E-05	1.83467E-05	0.000740182
60	0.001391539	2.61537E-05	3.81728E-05	0.000808229
59	0.001590696	1.88636E-06	5.49346E-05	0.000862236
58	0.001657941	2.36378E-06	5.85906E-05	0.000898686
57	0.001646019	1.0034E-05	4.96242E-05	0.00089428
56	0.001637488	1.31588E-05	3.92136E-05	0.000849605
55	0.001485223	9.48046E-06	3.8111E-05	0.000770603
54	0.001294995	5.42383E-06	5.4768E-05	0.000652089
53	0.00107053	7.61442E-06	9.45927E-05	0.000514799
52	0.00079942	1.54459E-05	0.0001596	0.000362088
51	0.000549271	2.2173E-05	0.000251215	0.000221731
50	0.000328567	1.96183E-05	0.000368878	0.000100615
49	0.000205719	1.14634E-05	0.000529094	2.28725E-05
48	0.000190426	2.60474E-05	0.000741284	2.16653E-06
47	0.000292392	0.000115346	0.001014435	4.80844E-05
46	0.000521168	0.000329621	0.001355927	0.000161442
45	0.000856538	0.000682	0.001690462	0.00034181
44	0.001303932	0.001146285	0.001877214	0.000587887
43	0.001864162	0.001716016	0.001899952	0.000860047
42	0.002537533	0.002287965	0.001673673	0.001173412
41	0.003228614	0.002780059	0.001253935	0.001458999
40	0.00392891	0.003008222	0.000763011	0.001731055
39	0.004604178	0.002898611	0.000336056	0.001915098
38	0.005136011	0.002486931	7.76041E-05	0.002068544
37	0.005292495	0.001814255	7.12721E-07	0.002035632
36	0.005485538	0.001074625	3.05829E-05	0.001910988
35	0.005108131	0.000516773	6.72235E-05	0.001672249
34	0.004750556	0.000237018	5.87494E-05	0.001363902
33	0.003950183	0.000211668	3.31037E-05	0.000990048
32	0.00336377	0.000292324	6.31081E-05	0.000639536
31	0.002820402	0.000320147	0.000203972	0.000359211
30	0.002747924	0.000242127	0.000424877	0.000163698
29	0.00326462	0.000152009	0.000670026	7.27564E-05
28	0.004262965	0.000137642	0.000837473	7.22355E-05
27	0.005695728	0.000192569	0.000974559	0.00012723
26	0.00708339	0.000274966	0.001105351	0.000199196
25	0.00791901	0.000419478	0.001279175	0.000247007
24	0.008703769	0.000732395	0.001409179	0.000248168
23	0.007766094	0.001216859	0.001443649	0.000197352
22	0.00613747	0.001599658	0.001225316	0.000118585
21	0.003671788	0.001625232	0.000901855	5.25916E-05
20	0.001505396	0.001136812	0.000616467	6.84999E-05
19	0.000130937	0.00047654	0.000459537	0.0002334

18	0.000429362	0.00014056	0.000382017	0.000613568
17	0.002948548	0.000248111	0.000268452	0.001215198
16	0.007762996	0.000487604	0.000120862	0.002032676
15	0.01457588	0.000454645	8.95146E-05	0.003003818
14	0.02311462	0.000187467	0.000279992	0.00400798
13	0.030841756	4.39721E-06	0.000572003	0.004933759
12	0.039228715	7.37296E-05	0.000663534	0.005592975
11	0.044699742	0.000192905	0.000406971	0.005825642
10	0.046026292	0.000192772	7.92985E-05	0.005821633
9	0.047109041	0.00034288	0.000223544	0.005310594
8	0.043396877	0.001157434	0.001142135	0.004607839
7	0.035571395	0.002612996	0.002519764	0.003606947
6	0.02855784	0.003906278	0.003597363	0.002640974
5	0.019938963	0.004175806	0.003758041	0.001781318
4	0.012358932	0.003258508	0.00286576	0.001030433
3	0.006514878	0.001769881	0.001592815	0.00051044
2	0.002478489	0.000615495	0.000580024	0.000190207
1	0.000506079	9.31657E-05	9.62669E-05	3.7954E-05

700
746
0.497333333
631
4
150
2,524
64

ft Above Ground Level
mula (per FCC OET65)

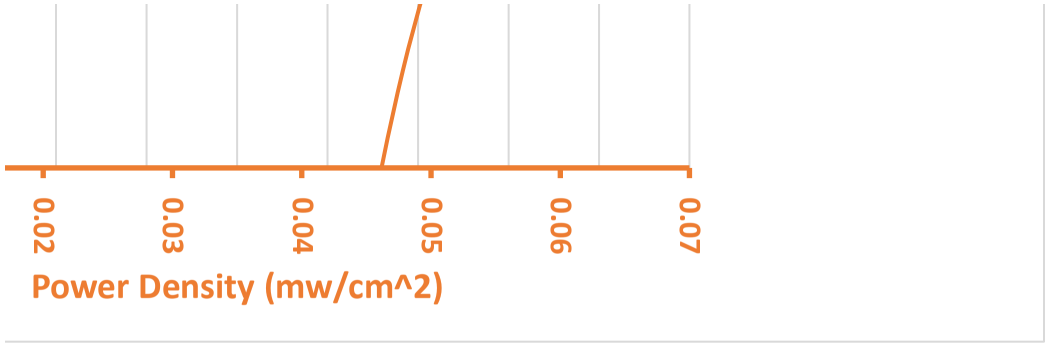


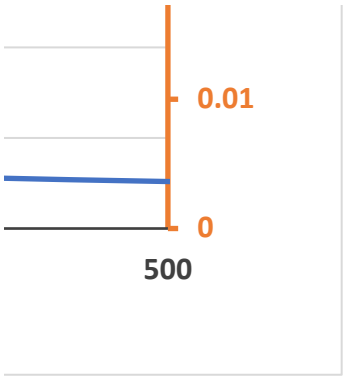


700 MHz	39GHz	28GHz	C-Band	CBRS	AWS
					Percent of General Popul
2.51872E-05	0.00%	0.00%	0.23%	0.00%	0.00%
2.95909E-05	0.00%	0.00%	0.23%	0.00%	0.00%
3.39697E-05	0.00%	0.00%	0.23%	0.00%	0.00%
3.89924E-05	0.00%	0.00%	0.24%	0.00%	0.00%
4.47532E-05	0.00%	0.00%	0.24%	0.00%	0.00%
4.90482E-05	0.00%	0.00%	0.24%	0.00%	0.00%
5.37497E-05	0.00%	0.00%	0.25%	0.00%	0.00%
5.88956E-05	0.00%	0.00%	0.25%	0.00%	0.00%
6.45272E-05	0.00%	0.00%	0.25%	0.00%	0.00%
7.23362E-05	0.00%	0.00%	0.25%	0.00%	0.00%
8.10811E-05	0.00%	0.00%	0.24%	0.00%	0.00%
9.29897E-05	0.00%	0.00%	0.24%	0.00%	0.00%
0.000109119	0.00%	0.00%	0.22%	0.00%	0.00%
0.00012803	0.00%	0.00%	0.21%	0.00%	0.00%
0.000146782	0.00%	0.00%	0.20%	0.00%	0.01%
0.000168259	0.00%	0.00%	0.19%	0.00%	0.01%
0.000188463	0.00%	0.00%	0.17%	0.00%	0.02%
0.000211066	0.00%	0.00%	0.15%	0.00%	0.02%
0.000230968	0.00%	0.00%	0.13%	0.00%	0.03%
0.00025271	0.00%	0.00%	0.11%	0.00%	0.04%
0.000282897	0.00%	0.00%	0.09%	0.00%	0.05%
0.000309434	0.00%	0.00%	0.08%	0.00%	0.06%
0.000330704	0.00%	0.00%	0.06%	0.00%	0.07%
0.000361609	0.00%	0.00%	0.05%	0.00%	0.07%
0.000386335	0.00%	0.00%	0.06%	0.00%	0.06%
0.000403283	0.00%	0.00%	0.06%	0.00%	0.05%
0.000411315	0.00%	0.00%	0.07%	0.00%	0.05%
0.000409877	0.00%	0.00%	0.09%	0.00%	0.03%
0.000399065	0.00%	0.00%	0.11%	0.00%	0.02%

0.00037097	0.00%	0.00%	0.12%	0.00%	0.01%
0.000344774	0.00%	0.00%	0.14%	0.00%	0.00%
0.000305933	0.00%	0.00%	0.16%	0.00%	0.00%
0.000265221	0.00%	0.00%	0.17%	0.00%	0.00%
0.000224633	0.00%	0.00%	0.16%	0.00%	0.00%
0.000190203	0.00%	0.00%	0.16%	0.00%	0.00%
0.000161002	0.00%	0.00%	0.15%	0.00%	0.00%
0.000142662	0.00%	0.00%	0.13%	0.00%	0.00%
0.000141787	0.00%	0.00%	0.11%	0.00%	0.00%
0.000158057	0.00%	0.00%	0.08%	0.00%	0.00%
0.000202221	0.00%	0.00%	0.05%	0.00%	0.00%
0.000270809	0.00%	0.00%	0.03%	0.00%	0.00%
0.000354252	0.00%	0.00%	0.02%	0.00%	0.00%
0.000463196	0.00%	0.00%	0.02%	0.00%	0.00%
0.000564942	0.00%	0.00%	0.03%	0.00%	0.01%
0.000673002	0.00%	0.00%	0.05%	0.00%	0.03%
0.0007478	0.00%	0.00%	0.09%	0.00%	0.07%
0.00081151	0.00%	0.00%	0.13%	0.00%	0.11%
0.00084047	0.00%	0.00%	0.19%	0.00%	0.17%
0.000830712	0.00%	0.00%	0.25%	0.00%	0.23%
0.000783529	0.00%	0.00%	0.32%	0.00%	0.28%
0.000721624	0.00%	0.00%	0.39%	0.00%	0.30%
0.000619713	0.00%	0.00%	0.46%	0.00%	0.29%
0.000507767	0.00%	0.00%	0.51%	0.00%	0.25%
0.000379052	0.00%	0.00%	0.53%	0.00%	0.18%
0.000251917	0.00%	0.00%	0.55%	0.00%	0.11%
0.000139092	0.00%	0.00%	0.51%	0.00%	0.05%
5.3062E-05	0.00%	0.00%	0.48%	0.00%	0.02%
7.68522E-06	0.00%	0.00%	0.40%	0.00%	0.02%
8.82806E-06	0.00%	0.00%	0.34%	0.00%	0.03%
5.31312E-05	0.00%	0.00%	0.28%	0.00%	0.03%
0.00013003	0.00%	0.00%	0.27%	0.00%	0.02%
0.000214719	0.00%	0.00%	0.33%	0.00%	0.02%
0.000294273	0.00%	0.00%	0.43%	0.00%	0.01%
0.000342443	0.00%	0.00%	0.57%	0.00%	0.02%
0.000346162	0.00%	0.00%	0.71%	0.00%	0.03%
0.000303885	0.00%	0.00%	0.79%	0.00%	0.04%
0.000236999	0.00%	0.00%	0.87%	0.00%	0.07%
0.000160414	0.00%	0.00%	0.78%	0.00%	0.12%
0.00010815	0.00%	0.00%	0.61%	0.00%	0.16%
0.000123287	0.00%	0.00%	0.37%	0.00%	0.16%
0.000248708	0.00%	0.00%	0.15%	0.00%	0.11%
0.000522517	0.00%	0.00%	0.01%	0.00%	0.05%

0.000950304	0.00%	0.00%	0.04%	0.00%	0.01%
0.001565478	0.00%	0.00%	0.29%	0.00%	0.02%
0.002333824	0.00%	0.00%	0.78%	0.00%	0.05%
0.003145383	0.00%	0.00%	1.46%	0.00%	0.05%
0.003916747	0.00%	0.00%	2.31%	0.00%	0.02%
0.004711703	0.00%	0.00%	3.08%	0.00%	0.00%
0.005219668	0.00%	0.00%	3.92%	0.00%	0.01%
0.005436806	0.00%	0.00%	4.47%	0.00%	0.02%
0.005309392	0.00%	0.00%	4.60%	0.00%	0.02%
0.004956134	0.00%	0.00%	4.71%	0.00%	0.03%
0.004300285	0.00%	0.00%	4.34%	0.00%	0.12%
0.003524842	0.00%	0.00%	3.56%	0.00%	0.26%
0.00270249	0.00%	0.00%	2.86%	0.00%	0.39%
0.001865269	0.00%	0.00%	1.99%	0.00%	0.42%
0.001156165	0.00%	0.00%	1.24%	0.00%	0.33%
0.000599715	0.00%	0.00%	0.65%	0.00%	0.18%
0.000239456	0.00%	0.00%	0.25%	0.00%	0.06%
5.2391E-05	0.00%	0.00%	0.05%	0.00%	0.01%


0.02
0.03
0.04
0.05
0.06
0.07
Power Density (mw/cm^2)



lation MPE					
PCS	Cellular	CDMA	700 MHz	Distance	Total Pwr Density (mW/cm^2)
0.01%	0.00%	0.00%	0.01%	0	0.002429436
0.01%	0.00%	0.00%	0.01%	1.029848831	0.002446062
0.01%	0.00%	0.00%	0.01%	2.0603254	0.002521834
0.02%	0.00%	0.00%	0.01%	3.092058978	0.002582313
0.02%	0.00%	0.00%	0.01%	4.125681905	0.0026589
0.02%	0.00%	0.00%	0.01%	5.161831148	0.002680103
0.02%	0.00%	0.00%	0.01%	6.201149881	0.002753829
0.02%	0.00%	0.00%	0.01%	7.244289093	0.002772522
0.02%	0.00%	0.00%	0.01%	8.291909247	0.002798254
0.03%	0.00%	0.00%	0.01%	9.344681979	0.002822762
0.03%	0.00%	0.00%	0.02%	10.40329186	0.002782255
0.03%	0.00%	0.00%	0.02%	11.46843824	0.002749573
0.03%	0.00%	0.00%	0.02%	12.54083714	0.00266862
0.03%	0.00%	0.00%	0.03%	13.62122328	0.002552579
0.03%	0.00%	0.00%	0.03%	14.71035217	0.00248603
0.02%	0.00%	0.00%	0.03%	15.80900235	0.002386127
0.02%	0.00%	0.00%	0.04%	16.91797776	0.002263873
0.02%	0.01%	0.00%	0.04%	18.03811021	0.002140279
0.01%	0.01%	0.00%	0.05%	19.17026208	0.001987046
0.01%	0.01%	0.00%	0.05%	20.31532918	0.001875188
0.01%	0.02%	0.00%	0.06%	21.47424382	0.001851171
0.01%	0.02%	0.00%	0.06%	22.64797807	0.00183685
0.01%	0.03%	0.00%	0.07%	23.83754732	0.001847109
0.01%	0.04%	0.00%	0.07%	25.04401416	0.00185129
0.01%	0.05%	0.00%	0.08%	26.26849243	0.001917285
0.01%	0.06%	0.00%	0.08%	27.51215183	0.001978013
0.00%	0.08%	0.00%	0.08%	28.77622273	0.00205447
0.00%	0.09%	0.00%	0.08%	30.06200152	0.002177883
0.00%	0.11%	0.00%	0.08%	31.37085647	0.002337182

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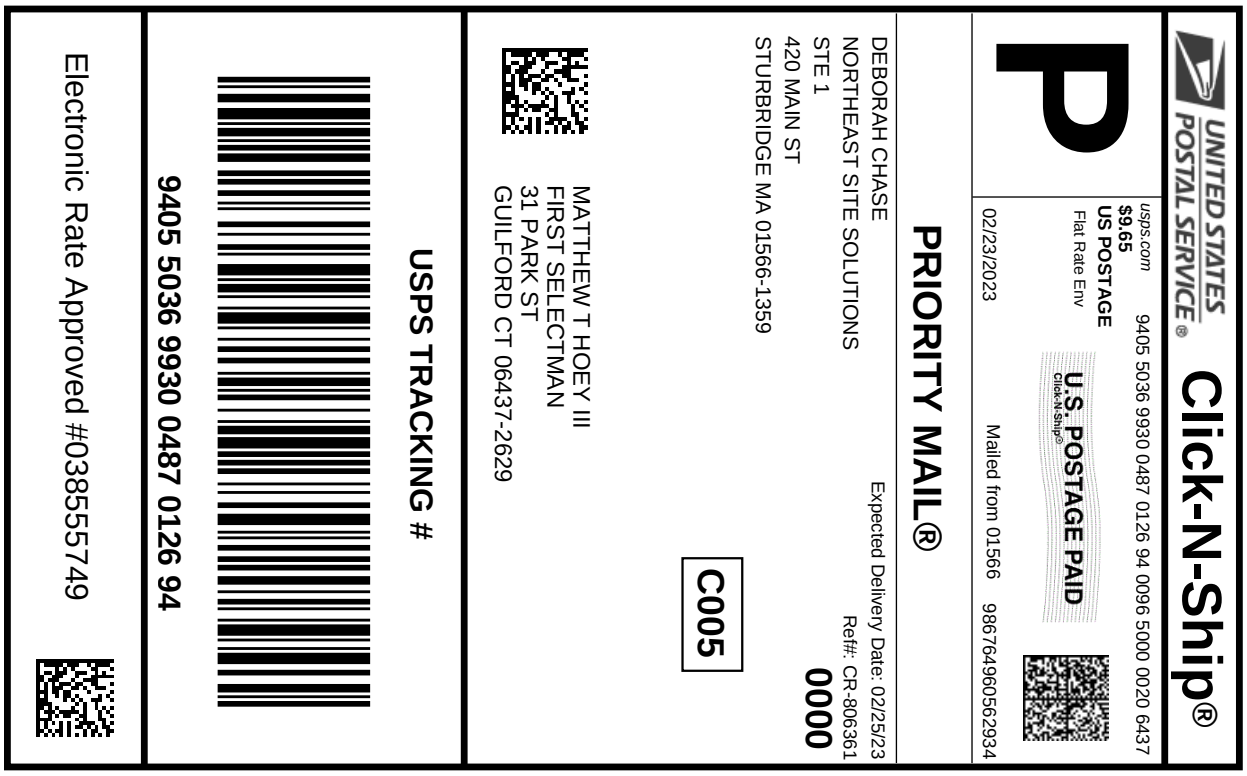
Exhibit G

Recipient Mailings



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0487 0126 94

Trans. #:	583245501
Print Date:	02/23/2023
Ship Date:	02/23/2023
Expected Delivery Date:	02/25/2023

Priority Mail® Postage:	**$9.65**
Total:	**$9.65**

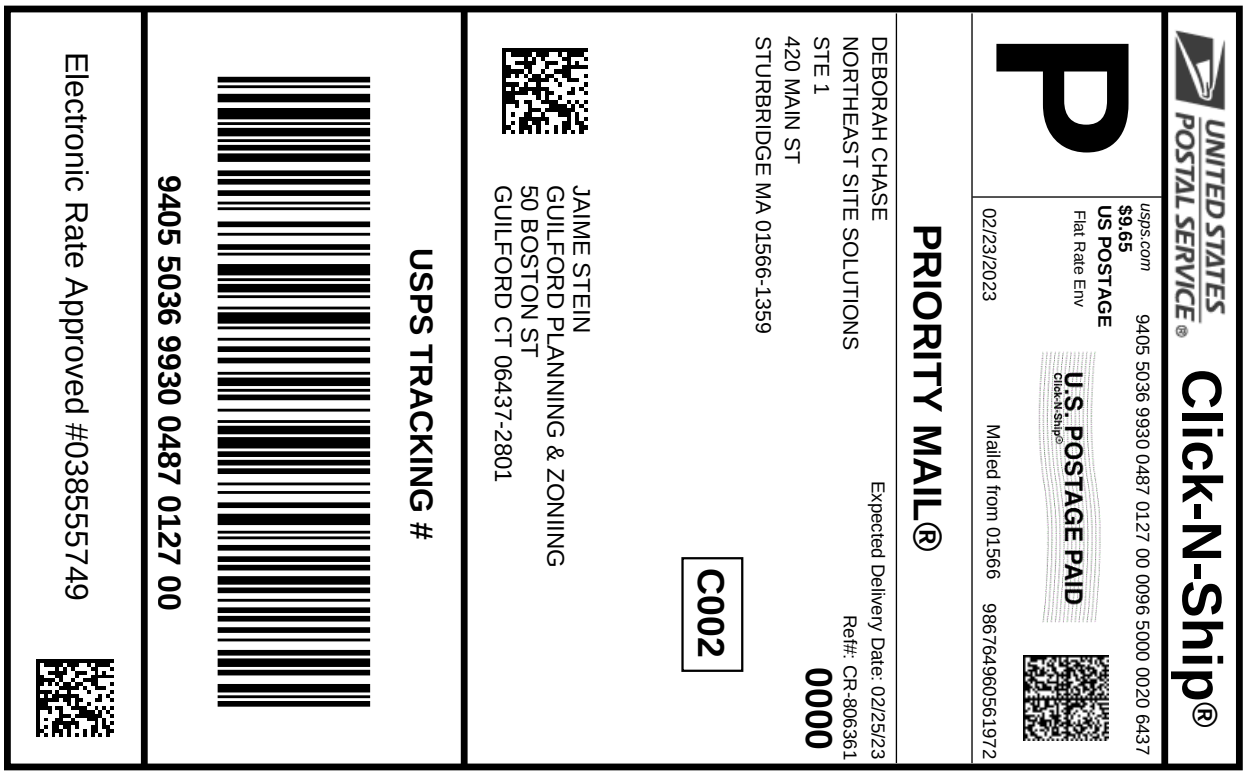
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CR-806361

To: MATTHEW T HOEY III
FIRST SELECTMAN
31 PARK ST
GUILFORD CT 06437-2629

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0487 0127 00

Trans. #:	583245501
Print Date:	02/23/2023
Ship Date:	02/23/2023
Expected Delivery Date:	02/25/2023

Priority Mail® Postage:	**$9.65**
Total:	**$9.65**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CR-806361

To: JAIME STEIN
GUILFORD PLANNING & ZONIING
50 BOSTON ST
GUILFORD CT 06437-2801

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0487 0127 24 0096 5000 0010 1581

usps.com
$9.65
US POSTAGE
Flat Rate Env

U.S. POSTAGE PAID
Click-N-Ship®

02/23/2023 Mailed from 01566 9867649605611O5

PRIORITY MAIL®

Expected Delivery Date: 02/24/23

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CR-806361

0000

C006

CROWN CASTLE
1800 W PARK DR
WESTBOROUGH MA 01581-3926

USPS TRACKING #

9405 5036 9930 0487 0127 24

Electronic Rate Approved #038555749

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Instructions

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4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0487 0127 24

Trans. #:	583245501
Print Date:	02/23/2023
Ship Date:	02/23/2023
Expected Delivery Date:	02/24/2023

Priority Mail® Postage:	**$9.65**
Total:	**$9.65**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

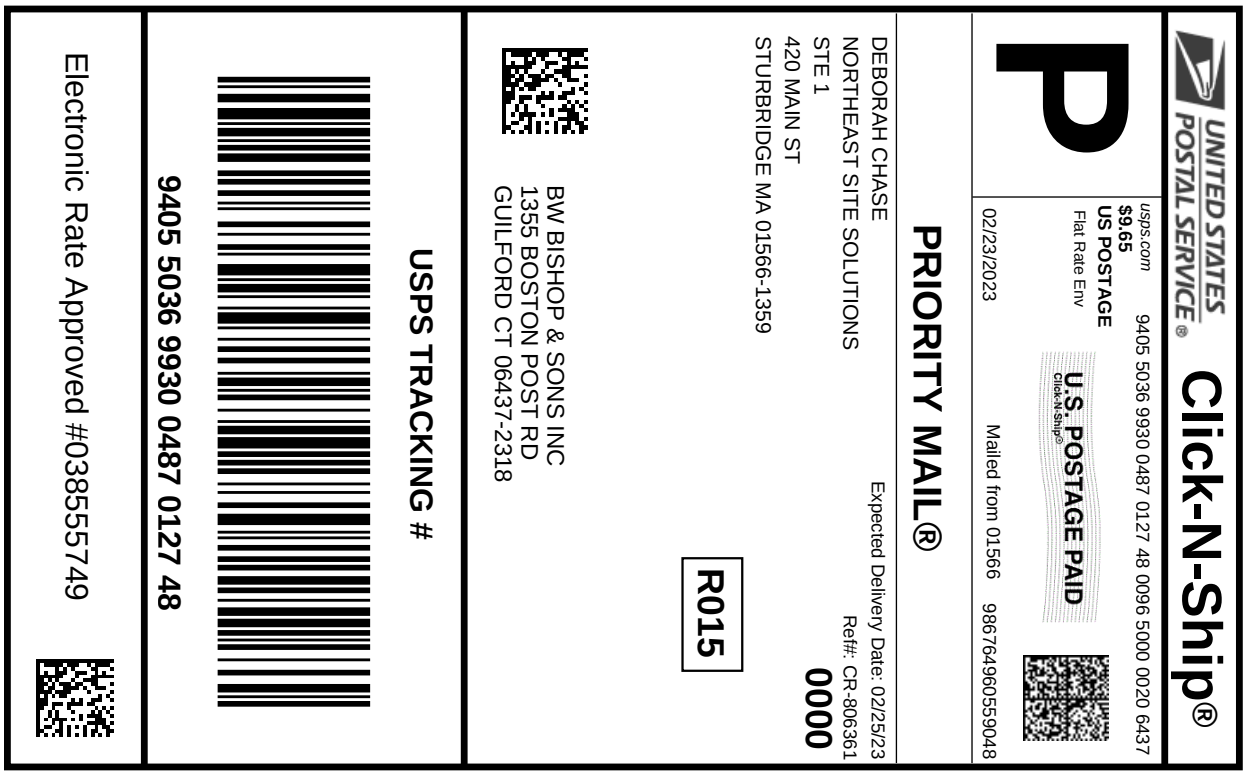
Ref#: CR-806361

To: CROWN CASTLE
1800 W PARK DR
WESTBOROUGH MA 01581-3926

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0487 0127 48

Trans. #:	583245501
Print Date:	02/23/2023
Ship Date:	02/23/2023
Expected Delivery Date:	02/25/2023

Priority Mail® Postage:	**$9.65**
Total:	**$9.65**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CR-806361

To: BW BISHOP & SONS INC
1355 BOSTON POST RD
GUILFORD CT 06437-2318

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

804361 – CROWN VERIZON

UNITED STATES POSTAL SERVICE.

LINCOLN MALL
560 LINCOLN ST STE 8
WORCESTER, MA 01605-1925
(800)275-8777

02/23/2023 03:41 PM

Product	Qty	Unit Price	Price
Prepaid Mail Guilford, CT 06437 Weight: 0 lb 14.60 oz Acceptance Date: Thu 02/23/2023 Tracking #: 9405 5036 9930 0487 0127 48	1		$0.00
Prepaid Mail Guilford, CT 06437 Weight: 0 lb 14.60 oz Acceptance Date: Thu 02/23/2023 Tracking #: 9405 5036 9930 0487 0126 94	1		$0.00
Prepaid Mail Guilford, CT 06437 Weight: 0 lb 14.60 oz Acceptance Date: Thu 02/23/2023 Tracking #: 9405 5036 9930 0487 0127 00	1		$0.00
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Thu 02/23/2023 Tracking #: 9405 5036 9930 0487 0127 24	1		$0.00

Grand Total: