

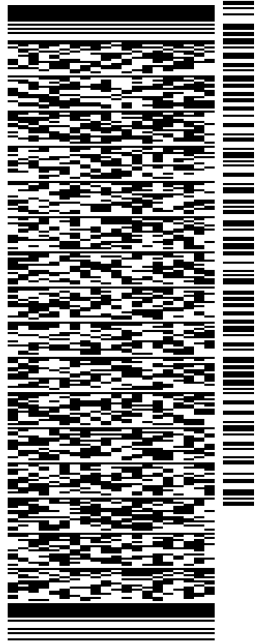
ORIGIN ID:FOXA (781) 392-7547  
KATIE ADAMS  
NB+C  
100 APOLLO DRIVE  
SUITE 303  
CHELMSFORD, MA 01824  
UNITED STATES US

SHIP DATE: 26AUG22  
ACTWG/T: 3.00 LB  
CAD: 256217876/INET4530  
BILL SENDER

TO **MELANIE A. BACHMAN**  
**CONNECTICUT SITING COUNCIL**  
**10 FRANKLIN SQUARE**

**NEW BRITAIN CT 06051**

(860) 827-2935 REF: 100788 - CSC  
INV: DEPT:  
PO:

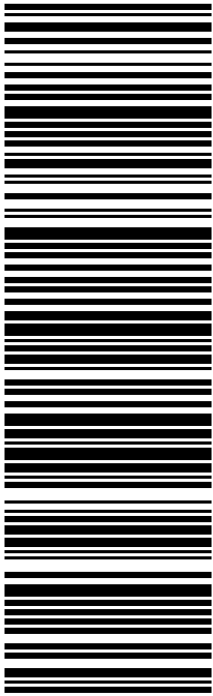


581J2F39D/FE2D

TRK# 7777 7553 6491  
0201

MON - 29 AUG 4:30P  
STANDARD OVERNIGHT

**XE BDLA**  
06051  
CT-US BDL



**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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



1 Cityplace Dr, Suite 490  
Creve Coeur, MO 63141

Phone: (314) 513-0147  
www.crowncastle.com

August 25<sup>th</sup>, 2022

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

RE: **Notice of Exempt Modification for Verizon Wireless  
Crown Site ID #876335; Verizon Site ID #467249  
130A Birdseye Road, Farmington, CT 06030  
Latitude: 41° 42' 56.94"/ Longitude: -72° 48' 37.42"**

Dear Ms. Bachman:

Verizon currently maintains (9) antennas at the 110-foot mounts on the existing 139-foot Monopole Tower located at **130A Birdseye Road**. The property is owned by GOIS Holdings of Connecticut LLC and the Tower by Crown Castle. Verizon now intends to relocate three (3) antennas and add (3) antennas. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

**Planned Modifications:**

**Tower:**

**RELOCATE**

(3) Samsung XXDWMM- 12.5-65-8T-CBRS Antenna

**INSTALL**

(3) Samsung MT6407-77A Antennas

**REMOVE**

(6) 1-5/8" Coax

**Ground:**

**N/A**

A zoning permit was issued by Farmington Planning & Zoning Commission on November 26, 1997. The approval was with conditions which this exempt modification complies with.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72(b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to C.J. Thomas, Town of Farmington Town Council Chair, Russell M. Arnold, Jr., Town of Farmington Director of Public Works/Town Engineer, and GOIS Holdings of Connecticut LLC as the recorded property owner.

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**The Foundation for a Wireless World.**

CrownCastle.com



1 Cityplace Dr, Suite 490  
Creve Coeur, MO 63141

Phone: (314) 513-0147  
[www.crowncastle.com](http://www.crowncastle.com)

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Verizon respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b)(2).

Sincerely,

*Katie Adams*

Katie Adams  
Crown Castle, Agent for Verizon Wireless  
[kadams@nbcllc.com](mailto:kadams@nbcllc.com)  
(781) 392-7547



1 Cityplace Dr, Suite 490  
Creve Coeur, MO 63141

Phone: (314) 513-0147  
[www.crowncastle.com](http://www.crowncastle.com)

cc:

C.J. Thomas, Town Council Chair  
18 Hobart Street  
Farmington, CT 06032  
(860) 675-2300  
(Via FedEx)

Russell M. Arnold, Jr., Director of Public Works/Town Engineer  
1 Monteith Drive  
Farmington, CT 06032  
(860) 675-2325  
(Via FedEx)

GOIS Holdings of Connecticut LLC, Owner  
125 Brookside Drive  
Uxbridge, MA 01569 (Via FedEx)



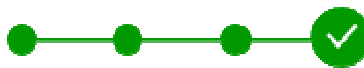
**Katie Adams**

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**From:** TrackingUpdates@fedex.com  
**Sent:** Friday, August 26, 2022 10:21 AM  
**To:** Katie Adams  
**Subject:** FedEx Shipment 777766359643: Your package has been delivered  
**Attachments:** DeliveryPicture.jpeg



Hi. Your package was delivered Fri, 08/26/2022 at 10:14am.



Delivered to 18 HOBART ST, FARMINGTON, CT 06032

**OBTAIN PROOF OF DELIVERY**



Delivery picture not showing? [View](#) in browser.

<b>TRACKING NUMBER</b>	<a href="#">777766359643</a>
<b>FROM</b>	NB+C 100 Apollo Drive Suite 303 CHELMSFORD, MA, US, 01824
<b>TO</b>	C.J. Thomas, Town Council Chair 18 Hobart Street FARMINGTON, CT, US, 06032
<b>REFERENCE</b>	100788 - CSC
<b>SHIPPER REFERENCE</b>	100788 - CSC
<b>SHIP DATE</b>	Thu 8/25/2022 06:42 PM
<b>DELIVERED TO</b>	Residence
<b>PACKAGING TYPE</b>	FedEx Pak
<b>ORIGIN</b>	CHELMSFORD, MA, US, 01824
<b>DESTINATION</b>	FARMINGTON, CT, US, 06032
<b>SPECIAL HANDLING</b>	Deliver Weekday Residential Delivery
<b>NUMBER OF PIECES</b>	1
<b>TOTAL SHIPMENT WEIGHT</b>	1.00 LB
<b>SERVICE TYPE</b>	FedEx Priority Overnight

**Katie Adams**

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**From:** TrackingUpdates@fedex.com  
**Sent:** Friday, August 26, 2022 10:36 AM  
**To:** Katie Adams  
**Subject:** FedEx Shipment 777766381862: Your package has been delivered



Hi. Your package was  
delivered Fri, 08/26/2022 at  
10:29am.



Delivered to 1 MONTIETH DR, FARMINGTON, CT 06032  
Received by N.PRIMICH

**OBTAIN PROOF OF DELIVERY**

<b>TRACKING NUMBER</b>	<a href="#">777766381862</a>
<b>FROM</b>	NB+C 100 Apollo Drive Suite 303 CHELMSFORD, MA, US, 01824
<b>TO</b>	Russell M. Arnold, Jr. 1 Monteith Drive FARMINGTON, CT, US, 06032
<b>REFERENCE</b>	100788 - CSC

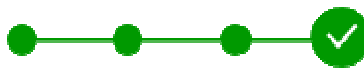
**Katie Adams**

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**From:** TrackingUpdates@fedex.com  
**Sent:** Friday, August 26, 2022 11:55 AM  
**To:** Katie Adams  
**Subject:** FedEx Shipment 777766399279: Your package has been delivered  
**Attachments:** DeliveryPicture.jpeg



Hi. Your package was delivered Fri, 08/26/2022 at 11:49am.



Delivered to 125 BROOKSIDE DR, UXBRIDGE, MA 01569

**OBTAIN PROOF OF DELIVERY**



Delivery picture not showing? [View](#) in browser.

# Exhibit A

## **Original Facility Approval**

## Mark Roberts

---

**From:** Sandra Michaud <michauds@farmington-ct.org>  
**Sent:** Monday, February 27, 2017 4:16 PM  
**To:** Mark Roberts  
**Subject:** 130 Birdseye Road

Hi Mark

I was able to go through documents for this address and it appears on November 4, 1997 a federal judge ordered the Town (within 20 days) to issue a zoning permit so that Sprint Spectrum could install a 140 foot high communications tower. I do not have an approval letter from the Plan & Zoning Commission as it appears they did not formally make a decision in support of the Court's Order but a zoning permit was issued on November 26, 1997.

The Town did appeal this Order but did later withdraw in March 1998.

Sandy

*Sandra Michaud  
Land Use Coordinator  
Town of Farmington  
Planning Division  
Department of Public Works  
1 Monteith Drive  
Farmington, CT 06032  
860.675.2325 Office  
860.675.2319 Fax*

# Exhibit B

## Property Card



# Town of Farmington, CT

## Property Listing Report

Map Block Lot **119 3A**

Building #

Unique Identifier

**01358040**

### Property Information

Property Location	<b>8040 BIRDSEYE RD</b>
Mailing Address	<b>125 BROOKSIDE DR UXBRIDGE MA 01569</b>
Land Use	<b>Use Vacant w OB</b>
Zoning Code	<b>R80</b>
Neighborhood	<b>99</b>

Owner	<b>GOIS HOLDINGS OF CONNECTICUT</b>
Co-Owner	<b>LLC</b>
Book / Page	<b>0928/0470</b>
Land Class	<b>Commercial</b>
Census Tract	<b>4602</b>
Acreage	<b>13.53</b>

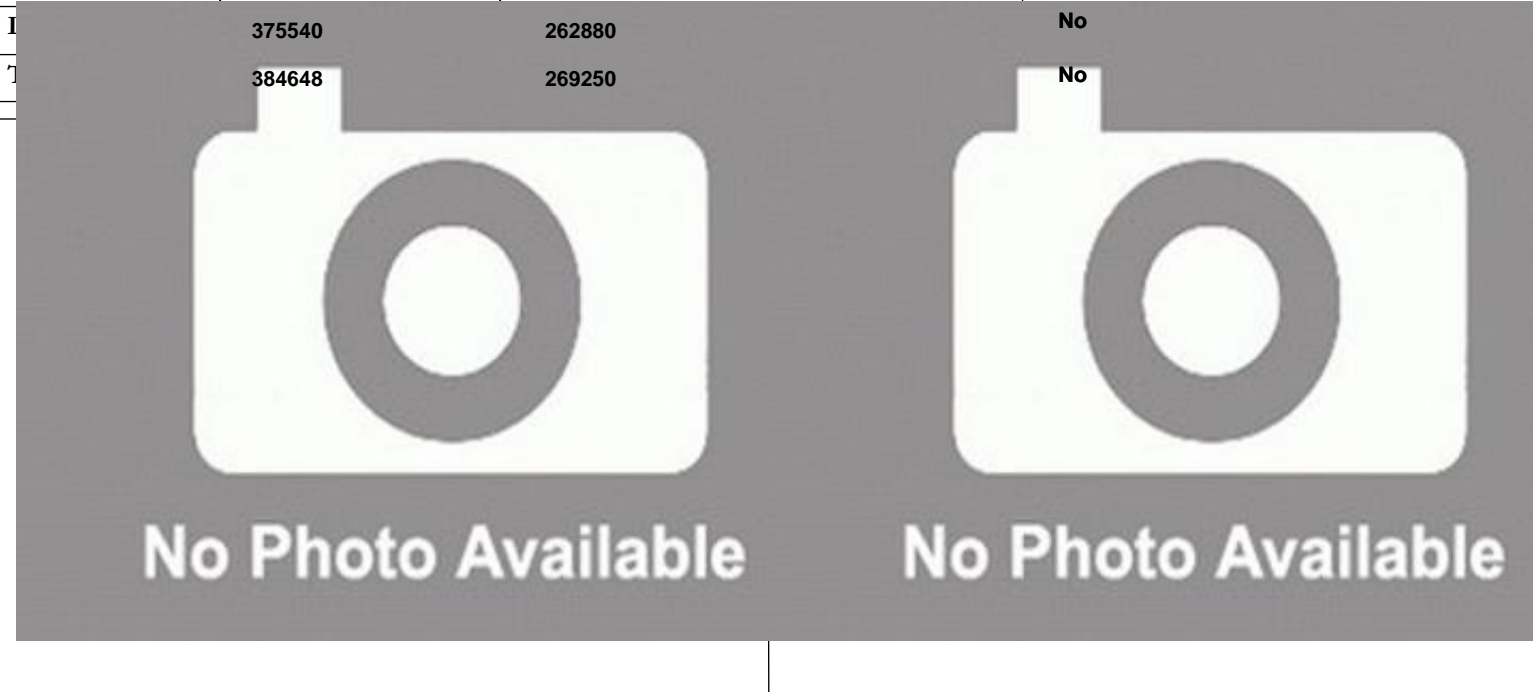
### Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	<b>0</b>	<b>0</b>
Outbuildings	<b>9108</b>	<b>6370</b>
	<b>375540</b>	<b>262880</b>
	<b>384648</b>	<b>269250</b>

### Utility Information

Electric	<b>No</b>
Gas	<b>No</b>
Sewer	<b>No</b>



### Primary Construction Details

Year Built	
Building Desc.	
Building Style	
Stories	
Exterior Walls	
Exterior Walls 2	
Interior Walls	
Interior Walls 2	
Interior Floors 1	
Interior Floors 2	

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	
Full Bathrooms	
Half Bathrooms	
Extra Fixtures	
Total Rooms	
Bath Style	
Kitchen Style	
Occupancy	

Building Use	
Building Condition	
Frame Type	
Fireplaces	
Bsmt Gar	
Fin Bsmt Area	
Fin Bsmt Quality	
Building Grade	
Roof Style	
Roof Cover	

Report Created On

**7/18/2022**





# Town of Farmington, CT

Property Listing Report

Map Block Lot

119 3A

Building #

Unique Identifier

01358040

## Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
Utility	Building	220	Average	1996
Utility	Building	200	Average	1996
Utility	Building	100	Average	1996
Utility	Building	360	Average	1996
Other	Tower	200	Average	0

## Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built

## Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
GOIS HOLDINGS OF CONNECTICUT	0928_0470	4/9/2008	518000
UNISON SITE MANAGEMENT LLC	0862_0062	12/7/2005	385000
CELL TOWER LEASE	0862_0083	12/7/2005	0
FREEDON COMMUNICATIONS OF	0809_0324	6/15/2004	280000
MEGA BROADCASTING	0530_0225	12/17/1996	75000
AMERICAN RADIO SYSTEMS INC	0484_0674	1/1/1900	0
MEGA COMMUNICATIONS OC NB LL	0585_0272	1/1/1900	0

# Exhibit C

## **Construction Drawings**

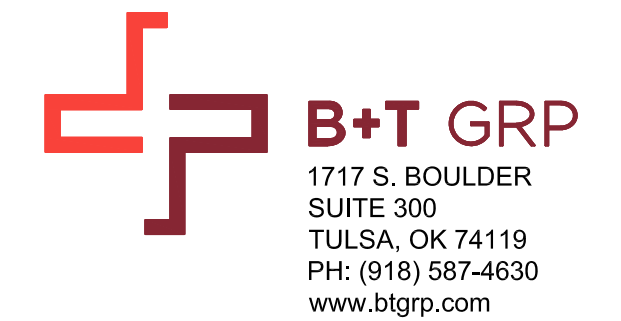




**VERIZON SITE NUMBER:** 467249  
**VERIZON SITE NAME:** NEW BRITAIN 5 CT  
**SITE TYPE:** MONOPOLE  
**TOWER HEIGHT:** 140'-0"

**BUSINESS UNIT #:** 876335  
**SITE ADDRESS:** 3 A BIRDSEYE ROAD  
 FARMINGTON, CT 06030  
**COUNTY:** HARTFORD  
**JURISDICTION:** CONNECTICUT  
**SITING COUNCIL**

**VERIZON 5G L-SUB6 - CARRIER ADD**



**VERIZON SITE NUMBER:**  
467249  
  
**BU #:** 876335  
**EAST FARMINGTON**  
  
 3 A BIRDSEYE ROAD  
 FARMINGTON, CT 06030  
  
 EXISTING 140'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/7/22	ANP	CONSTRUCTION	LR

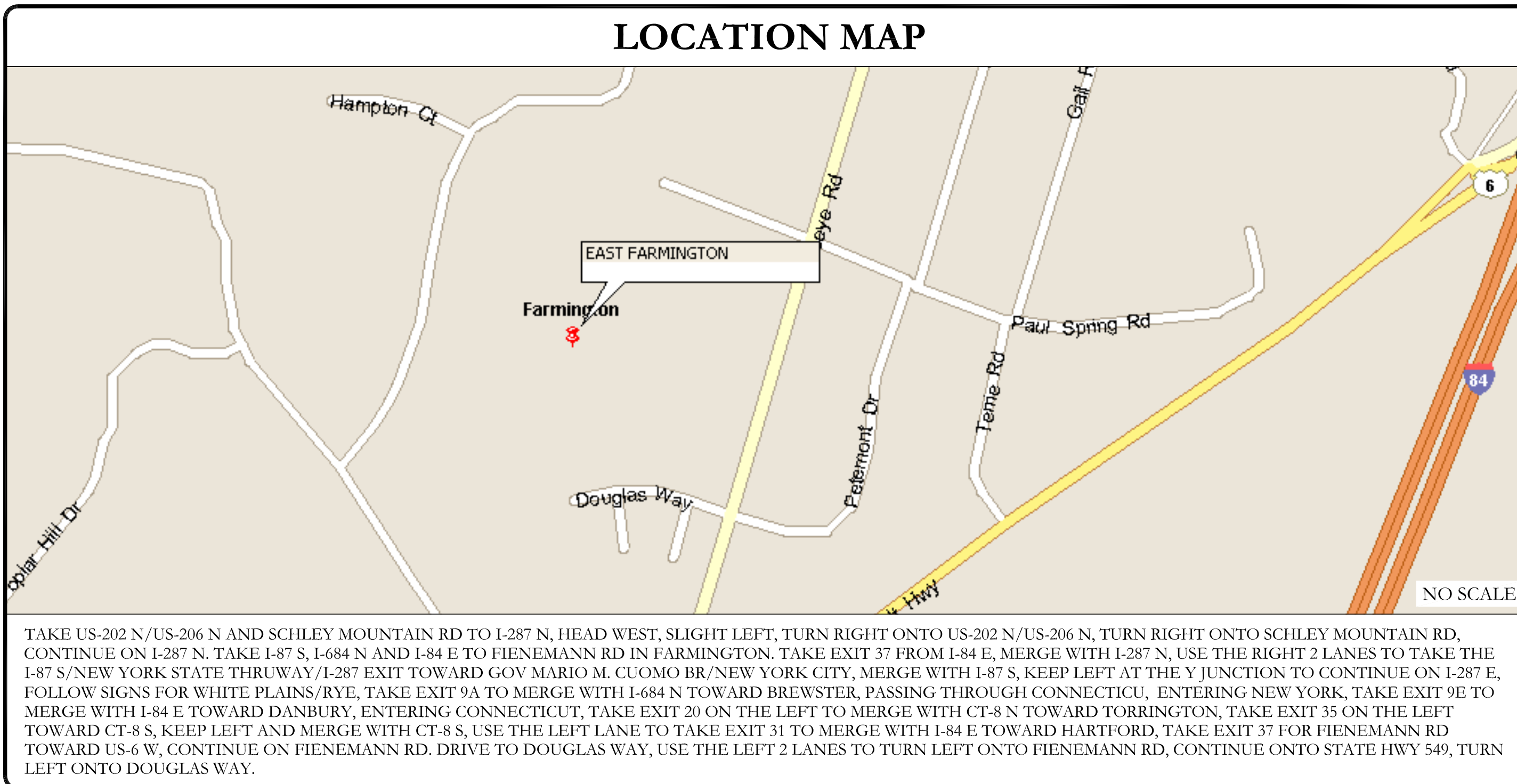
**SITE INFORMATION**

CROWN CASTLE USA INC. SITE NAME:	EAST FARMINGTON
SITE ADDRESS:	3 A BIRDSEYE ROAD FARMINGTON, CT 06030
COUNTY:	HARTFORD
MAP/PARCEL #:	09003052-01358040
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.715817°
LONGITUDE:	-72.810394°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	427'
CURRENT ZONING:	R80
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:	GOIS HOLDINGS OF CONNECTICUT LLC 125 BROOKSIDE DR UXBRIDGE, MA 01569
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 20 ALEXANDER DRIVE, 2ND FLOOR WALLINGFORD, CT 06492
ELECTRIC PROVIDER:	NORTHEAST UTILITIES (800) 286-5000
TELCO PROVIDER:	LIGHTTOWER (855) 913-4237

**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
ATTACHED	MODIFICATION DRAWINGS

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



**APPROVALS**

SIGNATURE	DATE
_____	_____
_____	_____
_____	_____
_____	_____

**CONTRACTOR PMI REQUIREMENTS**

PMI ACCESSED AT	<a href="https://pmi.vxwsmart.com">https://pmi.vxwsmart.com</a>
SMART TOOL VENDOR	
PROJECT NUMBER	10149043
VzW LOCATION CODE (PSLC)	467249

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

<b>MOUNT MODIFICATION REQUIRED</b>	<b>Y</b>
<b>VzW APPROVED SMART KIT VENDORS</b>	
REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VzW SMART KIT APPROVED VENDORS	

**APPLICABLE CODES/REFERENCE DOCUMENTS**

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

CODE TYPE	CODE
BUILDING	2018 CONNECTICUT SBC/2015 IBC
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC

**REFERENCE DOCUMENTS:**

STRUCTURAL ANALYSIS:	MORRISON HERSHFIELD
DATED:	6/6/22
MOUNT ANALYSIS:	MASER CONSULTING CONNECTICUT
DATED:	5/25/22
RFDS REVISION:	-
DATED:	4/21/22
ORDER ID:	618287
REVISION:	0

**PROJECT DESCRIPTION**

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

**TOWER SCOPE OF WORK:**

- REMOVE (6) COAX CABLES
- RELOCATE (3) ANTENNAS DOWN ON ITS OWN PIPE TO INSTALL NEW ANTENNAS
- INSTALL (3) ANTENNAS
- INSTALL MOUNT MODIFICATION REQUIRED PER MOUNT MODIFICATION DRAWINGS BY MASER CONSULTING CONNECTICUT DATED MAY 24, 2022.

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

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

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

<b>SHEET NUMBER:</b> <b>T-1</b>	<b>REVISION:</b> <b>0</b>
------------------------------------	------------------------------

77969.023.01\_EAST\_FARMINGTON.dwg - SheetT-1 - User: lisa.rider - Jul 07, 2022 - 3:52pm



CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- 1. NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR...

GREENFIELD GROUNDING NOTES:

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

GENERAL NOTES:

- 1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION CARRIER: 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. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
13. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET NEW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECIMATE 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. 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.
24. 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.
25. 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.
26. 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.
27. 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.
28. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON".
29. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

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

\* 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
LTE GLOBAL SYSTEM FOR MOBILE 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
RETS 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

verizon logo and address: 180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921

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

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

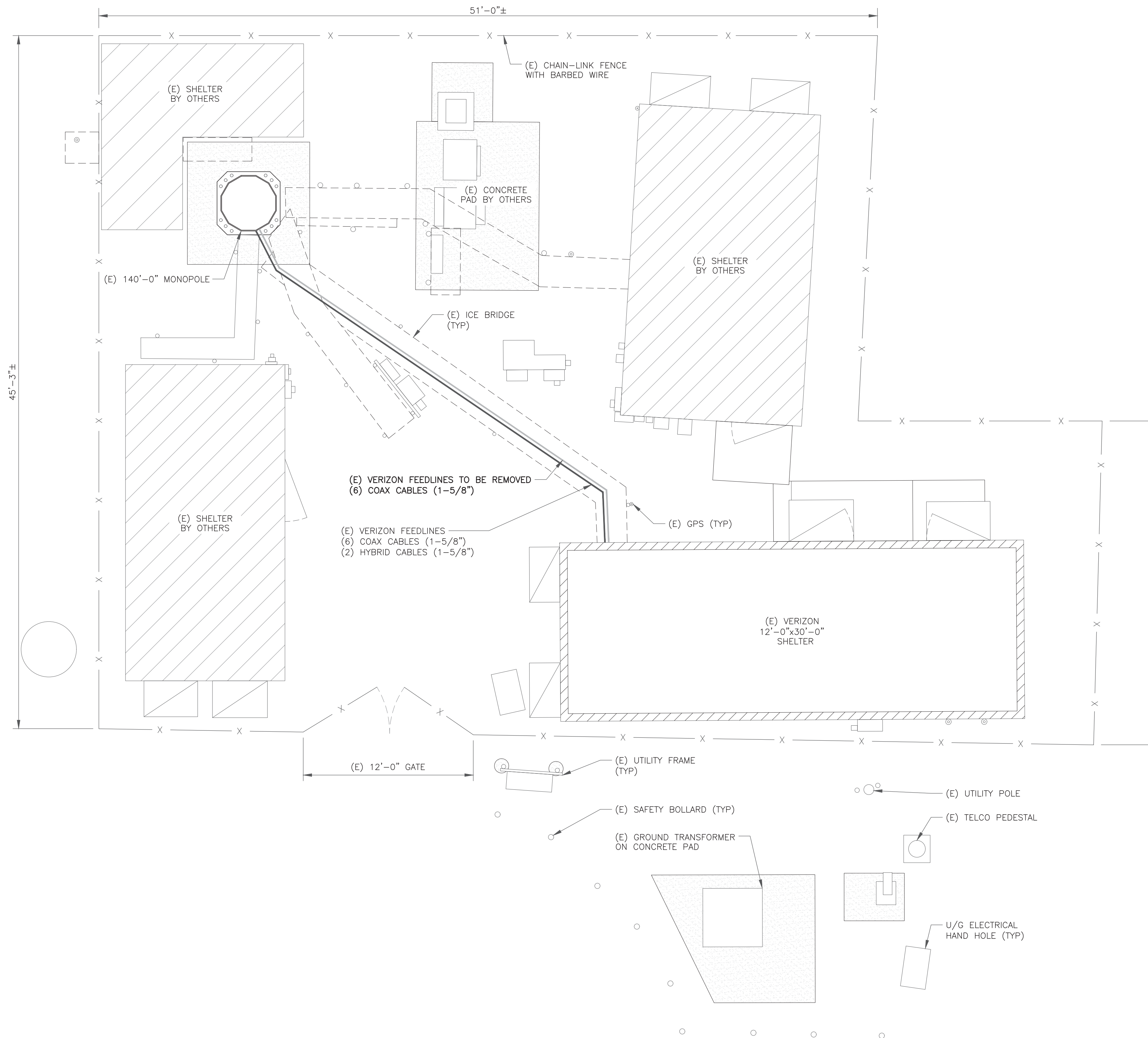
VERIZON SITE NUMBER: 467249 BU #: 876335 EAST FARMINGTON 3 A BIRDSEYE ROAD FARMINGTON, CT 06030 EXISTING 140'-0" MONOPOLE

ISSUED FOR: table with columns REV, DATE, DRWN, DESCRIPTION, DES./QA. Row 0: 7/7/22, ANP, CONSTRUCTION, LR.

Professional Engineer seal for MTS ENGINEERING P.L.L.C. BER:2386985 Expires 3/31/23. Text: IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-2 REVISION: 0





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

**verizon**

180 WASHINGTON VALLEY ROAD  
 BEDMINSTER, NJ 07921

**CROWN CASTLE**

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

**B+T GRP**

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 SUITE 300  
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EXISTING 140'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/7/22	ANP	CONSTRUCTION	LR



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

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

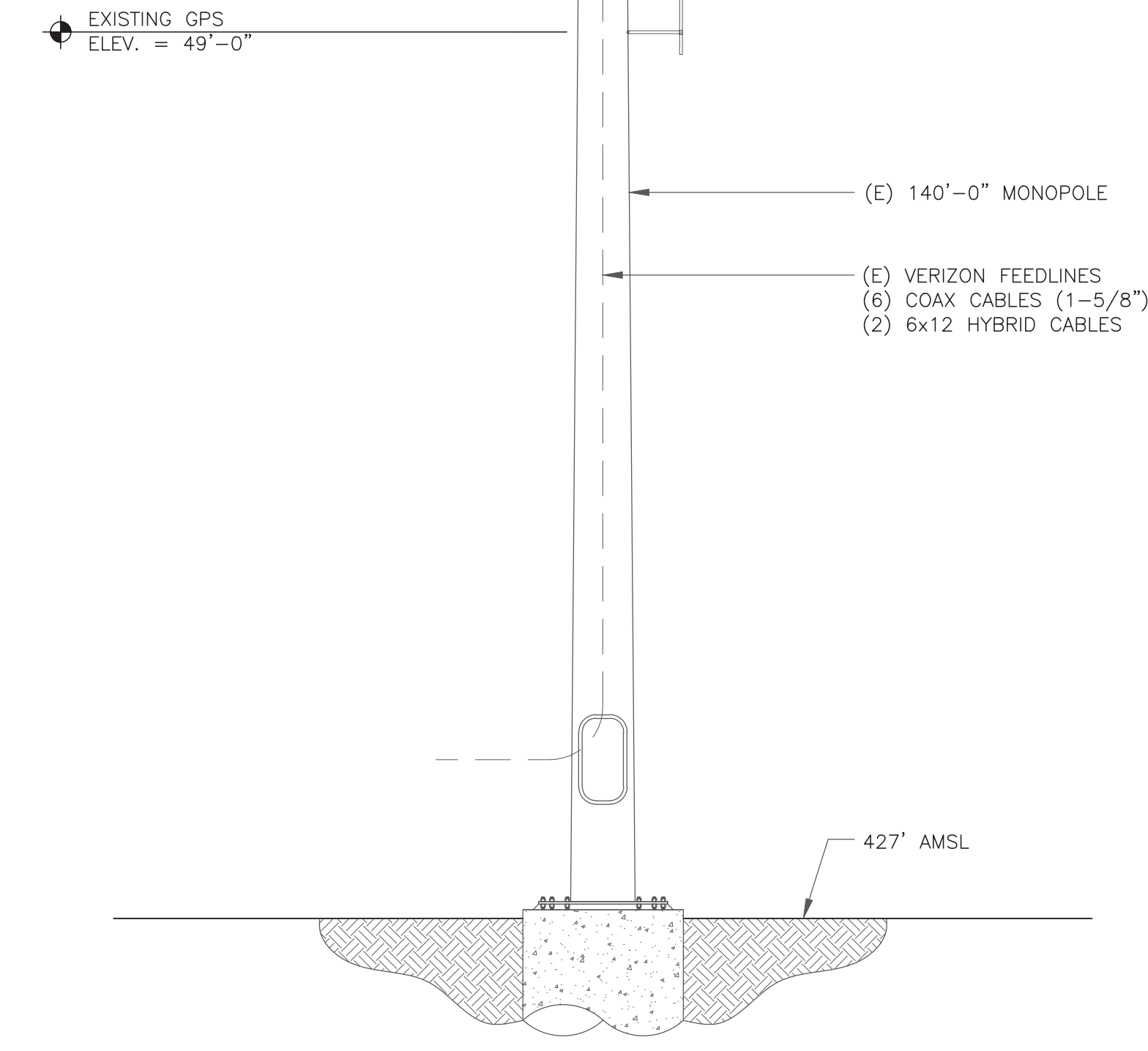


- TIP OF EQUIPMENT  
ELEV. = 143'-0"
- TOP OF TOWER  
ELEV. = 140'-0"
- EXISTING ANTENNAS  
ELEV. = 139'-0"
- EXISTING ANTENNAS  
ELEV. = 137'-0"
- EXISTING ANTENNAS  
ELEV. = 130'-0"
- EXISTING ANTENNAS  
ELEV. = 128'-0"

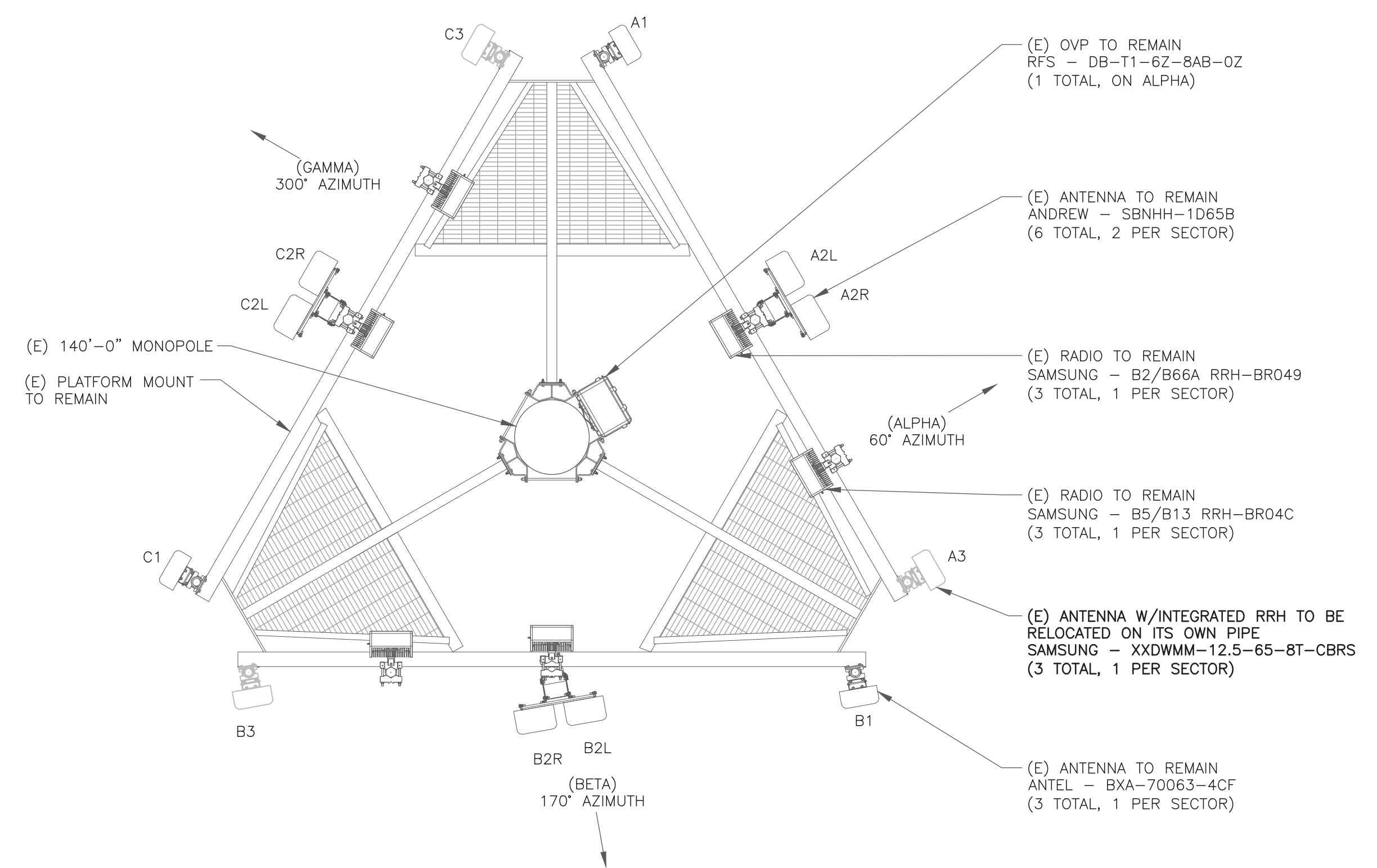
- NEW VERIZON ANTENNAS  
RAD CENTER = 111'-6"
  - EXISTING VERIZON ANTENNAS  
RAD CENTER = 110'-0"
  - RELOCATED VERIZON ANTENNAS  
RAD CENTER = 108'-6"
- (E) VERIZON EQUIPMENT TO REMAIN  
(3) ANTEL - BXA-70063-4CF ANTENNAS  
(6) ANDREW - SBNHH-1D65B ANTENNAS  
(3) SAMSUNG - XXDWM-12.5-65-8T-CBRS ANTENNA W/ INTEGRATED RRHS  
(3) SAMSUNG - B2/B66A RRH-BR049 RRHS  
(3) SAMSUNG - B5/B13 RRH-BR04C RRHS  
(1) RFS - DB-T1-6Z-8AB-0Z OVP INSTALLED ON EXISTING MOUNTS  
INSTALL MOUNT MODIFICATIONS REQUIRED PER MOUNT MODIFICATION DRAWINGS BY MASER CONSULTING CONNECTICUT DATED MAY 24, 2022.
- NEW VERIZON EQUIPMENT  
(3) SAMSUNG - MT6407-77A ANTENNAS INSTALLED ON EXISTING MOUNTS

- EXISTING ANTENNAS  
ELEV. = 100'-0"

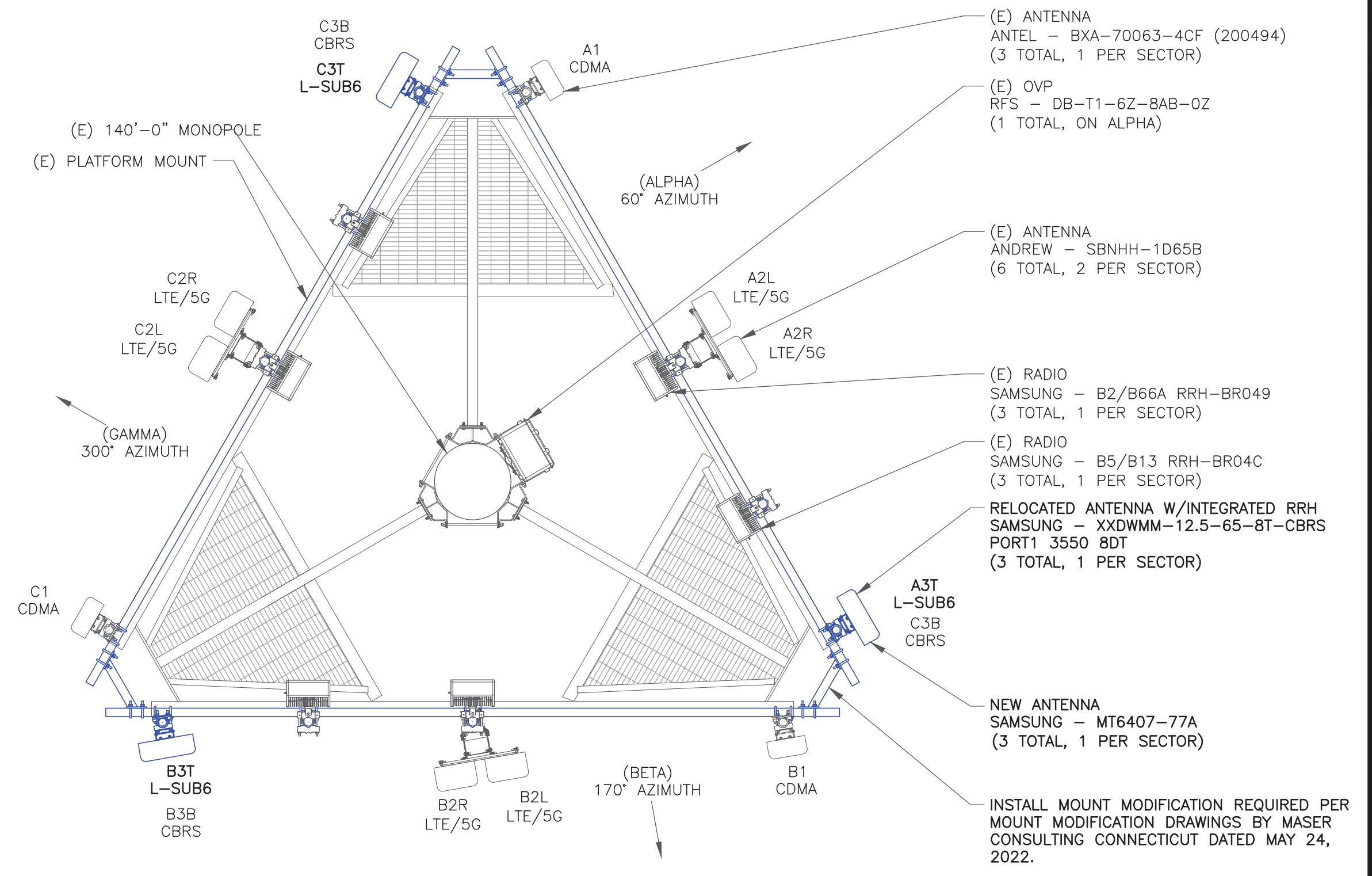
**VERIZON EQUIPMENT**  
ANTENNA CL: 110'-0"  
MOUNT CL: 108'-0"



1 TOWER ELEVATION  
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN  
SCALE: NOT TO SCALE



3 NEW ANTENNA PLAN  
SCALE: NOT TO SCALE

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VERIZON SITE NUMBER:  
**467249**

BU #: **876335**  
**EAST FARMINGTON**

3 A BIRDSEYE ROAD  
FARMINGTON, CT 06030

EXISTING 140'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/7/22	ANP	CONSTRUCTION	LR

*(Professional Engineer Seal)*  
7/7/22

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

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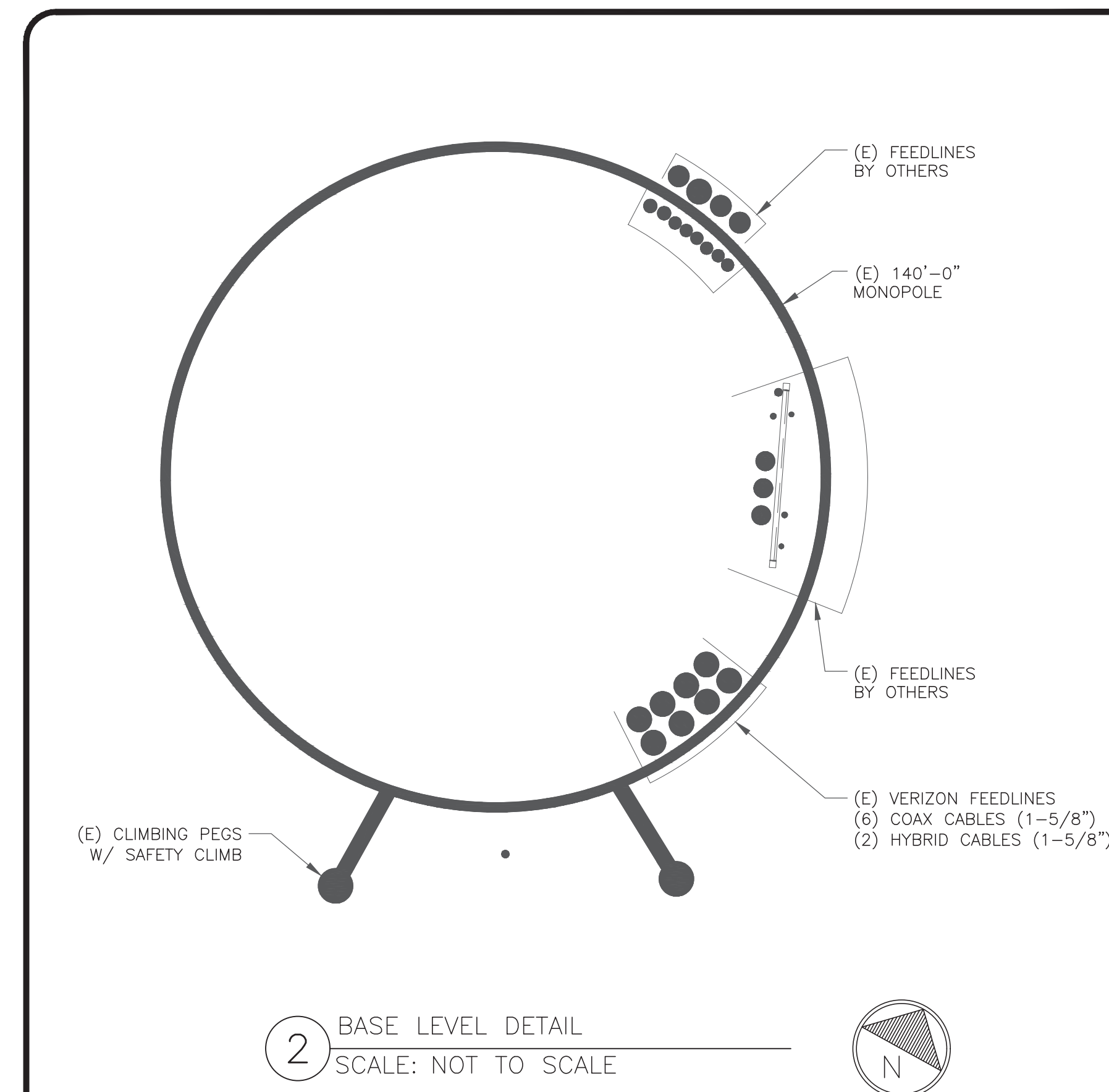
ANTENNA/RRH SCHEDULE

SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	EXISTING	ANTEL	BXA-70063-4CF	110'-0"	60°	4'	2'	RFS	(1) DB-T1-6Z-8AB-0Z
A2L	EXISTING	ANDREW	SBNHH-1D65B	110'-0"	60°	0'	9'/9'/9' / 4'/4'	SAMSUNG	(1) B2/B66A RRH-BR049
A2R	EXISTING	ANDREW	SBNHH-1D65B	110'-0"	60°	0'	9'/9'/9' / 4'/4'		
-	-	-	-	-	-	-	-	SAMSUNG	(1) B5/B13 RRH-BR04C
A3T	NEW	SAMSUNG	MT6407-77A	111'-6"	60°	0'	6'	-	INTEGRATED WITHIN
A3B	EXISTING	SAMSUNG	XXDWMM-12.5-65-8T-CBRS	108'-6"	60°	0'	8'	-	INTEGRATED
B1	EXISTING	ANTEL	BXA-70063-4CF (200494)	110'-0"	170°	0'	2'	-	-
B2L	EXISTING	ANDREW	SBNHH-1D65B	110'-0"	170°	0'	5'/5'/5' / 4'/4'	SAMSUNG	(1) B2/B66A RRH-BR049
B2R	EXISTING	ANDREW	SBNHH-1D65B	110'-0"	170°	0'	5'/5'/5' / 4'/4'		
-	-	-	-	-	-	-	-	SAMSUNG	(1) B5/B13 RRH-BR04C
B3T	NEW	SAMSUNG	MT6407-77A	111'-6"	170°	0'	6'	-	INTEGRATED WITHIN
B3B	EXISTING	SAMSUNG	XXDWMM-12.5-65-8T-CBRS	108'-6"	170°	0'	8'	-	INTEGRATED
C1	EXISTING	ANTEL	BXA-70063-4CF (200494)	110'-0"	300°	4'	2'	-	-
C2L	EXISTING	ANDREW	SBNHH-1D65B	110'-0"	300°	0'	8'/8'/8' / 5'/5'	SAMSUNG	(1) B2/B66A RRH-BR049
C2R	EXISTING	ANDREW	SBNHH-1D65B	110'-0"	300°	0'	8'/8'/8' / 5'/5'		
-	-	-	-	-	-	-	-	SAMSUNG	(1) B5/B13 RRH-BR04C
C3T	NEW	SAMSUNG	MT6407-77A	111'-6"	300°	0'	6'	-	INTEGRATED WITHIN
C3B	EXISTING	SAMSUNG	XXDWMM-12.5-65-8T-CBRS	108'-6"	300°	0'	8'	-	INTEGRATED

1 VERIZON TOWER EQUIPMENT SCHEDULE  
SCALE: NOT TO SCALE

CABLE SCHEDULE

STATUS	CABLE TYPE	SIZE	LENGTH	QTY
EXISTING	COAX	1-5/8"	160'-0"±	6
EXISTING	HYBRID	6x12	160'-0"±	2
TOTAL CABLE QTY:				8



2 BASE LEVEL DETAIL  
SCALE: NOT TO SCALE

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ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/7/22	ANP	CONSTRUCTION	LR



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BER:2386985  
Expires 3/31/23

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SHEET NUMBER:

**C-3**

REVISION:

**0**

**verizon**<sup>v</sup>

180 WASHINGTON VALLEY ROAD  
BEDMINSTER, NJ 07921

**CROWN  
CASTLE**

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

**B+T GRP**

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

VERIZON SITE NUMBER:  
**467249**

BU #: **876335**  
**EAST FARMINGTON**

3 A BIRDSEYE ROAD  
FARMINGTON, CT 06030

EXISTING 140'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	7/7/22	ANP	CONSTRUCTION	LR



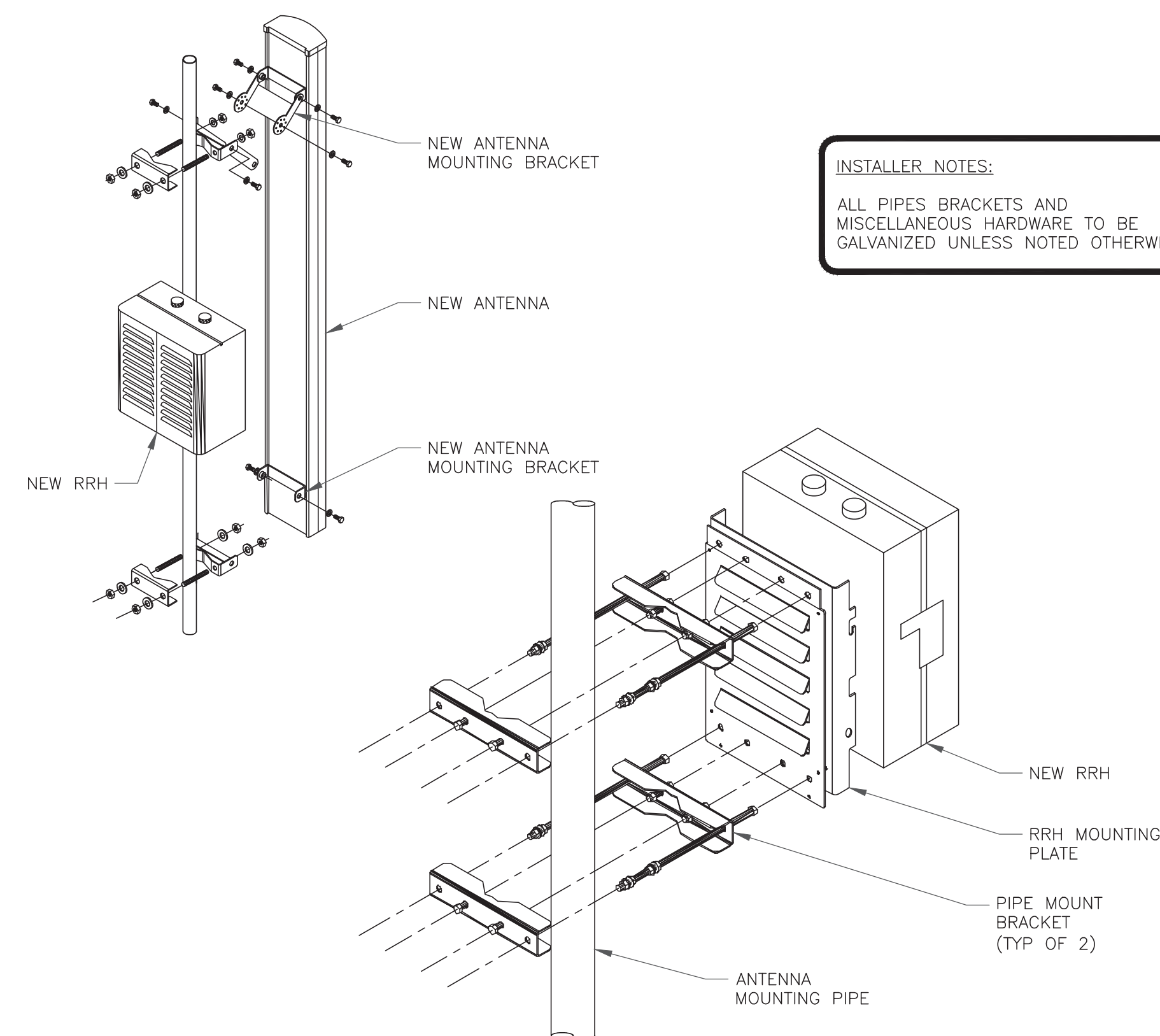
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SHEET NUMBER: **C-4** REVISION: **0**

1 NOT USED  
SCALE: NOT TO SCALE

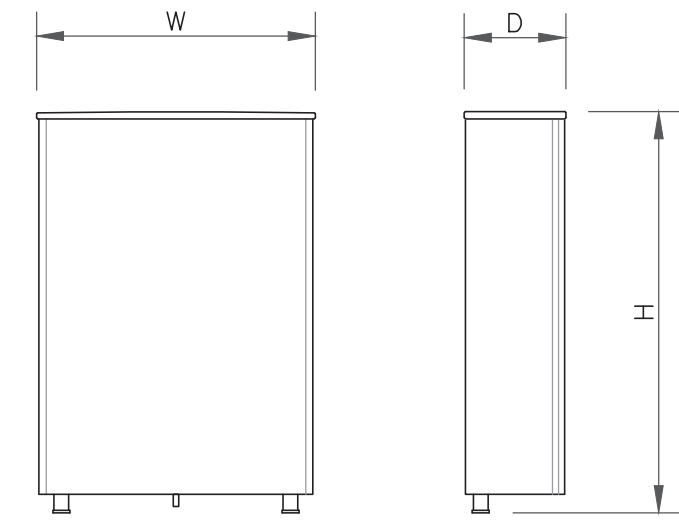
2 NOT USED  
SCALE: NOT TO SCALE



3 NOT USED  
SCALE: NOT TO SCALE

4 ANTENNA & RRH MOUNTING DETAIL  
SCALE: NOT TO SCALE





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

1 ANTENNA SPECS  
SCALE: NOT TO SCALE

2 NOT USED  
SCALE: NOT TO SCALE

3 NOT USED  
SCALE: NOT TO SCALE

4 NOT USED  
SCALE: NOT TO SCALE

5 NOT USED  
SCALE: NOT TO SCALE

6 NOT USED  
SCALE: NOT TO SCALE

**verizon**<sup>v</sup>  
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BEDMINSTER, NJ 07921

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VERIZON SITE NUMBER:  
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**EAST FARMINGTON**

3 A BIRDSEYE ROAD  
FARMINGTON, CT 06030

EXISTING 140'-0" MONOPOLE

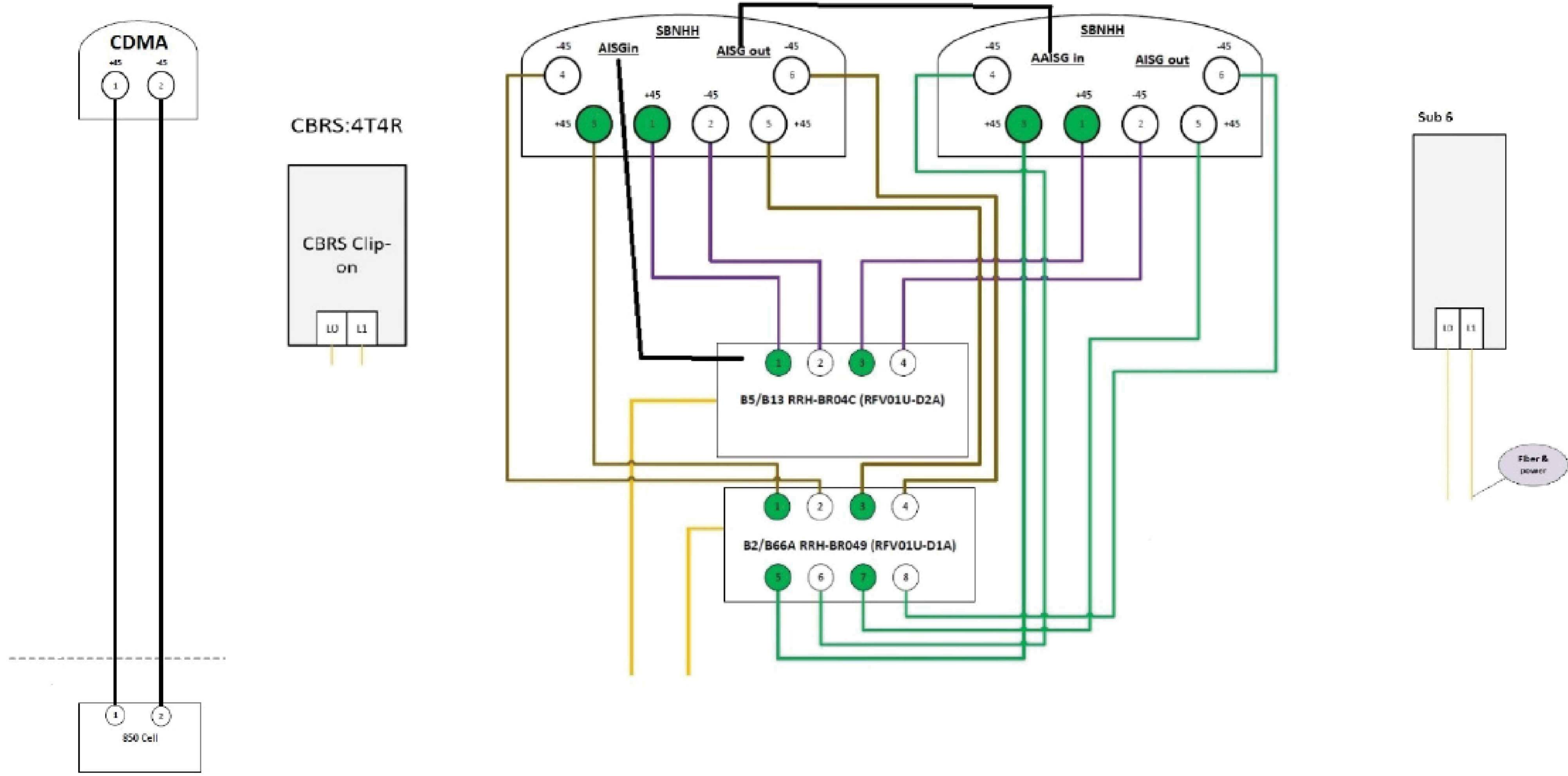
**ISSUED FOR:**

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<b>SHEET NUMBER:</b> <b>C-5</b>	<b>REVISION:</b> <b>0</b>
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 BEDMINSTER, NJ 07921

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

**B+T GRP**  
 1717 S. BOULDER  
 SUITE 300  
 TULSA, OK 74119  
 PH: (918) 587-4630  
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VERIZON SITE NUMBER:  
 467249

BU #: 876335  
 EAST FARMINGTON

3 A BIRDSEYE ROAD  
 FARMINGTON, CT 06030

EXISTING 140'-0" MONOPOLE

ISSUED FOR:

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0	7/7/22	ANP	CONSTRUCTION	LR

*(Professional Engineer Seal: State of Connecticut, No. 23824, MTS ENGINEERING P.L.L.C., dated 7/7/22)*

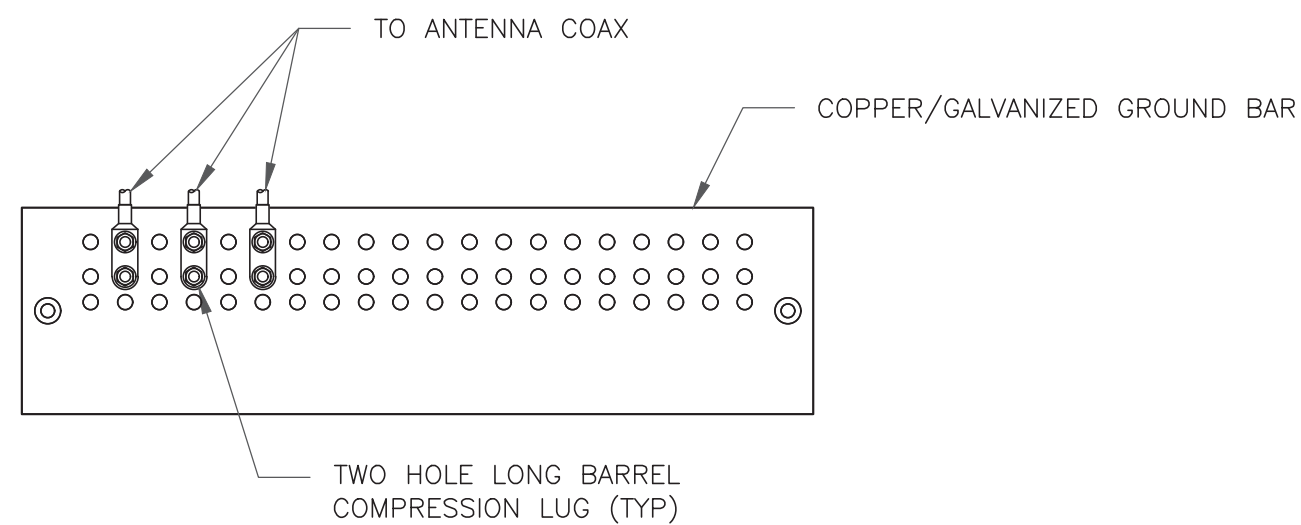
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SHEET NUMBER: **C-6** REVISION: **0**

1 PLUMBING DIAGRAM  
 SCALE: NOT TO SCALE

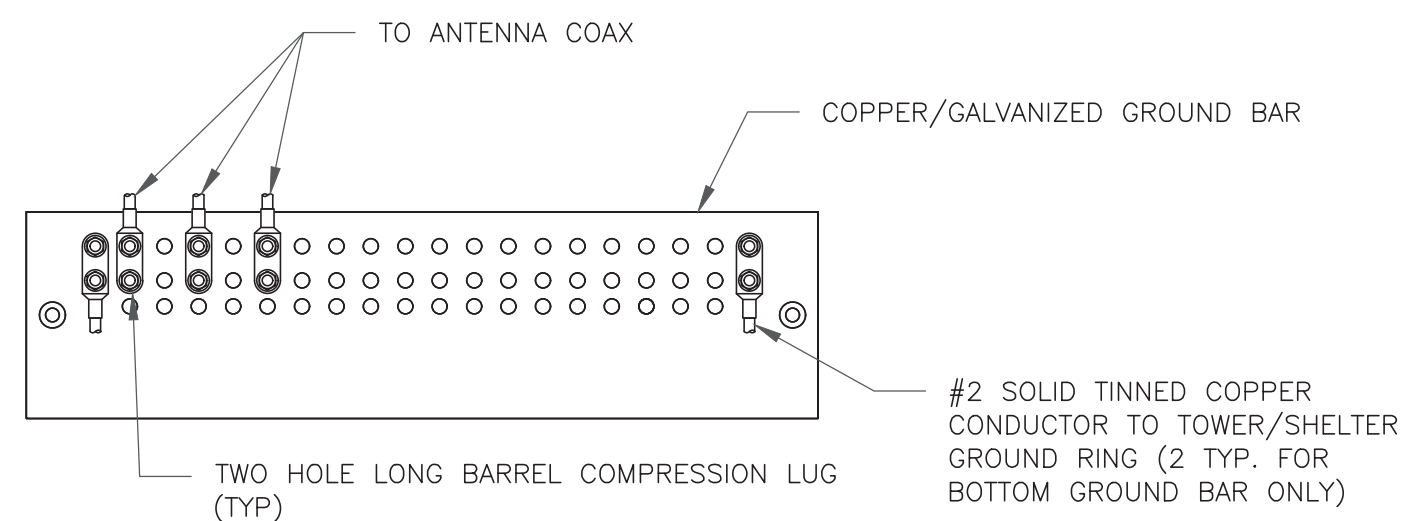




NOTES:

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

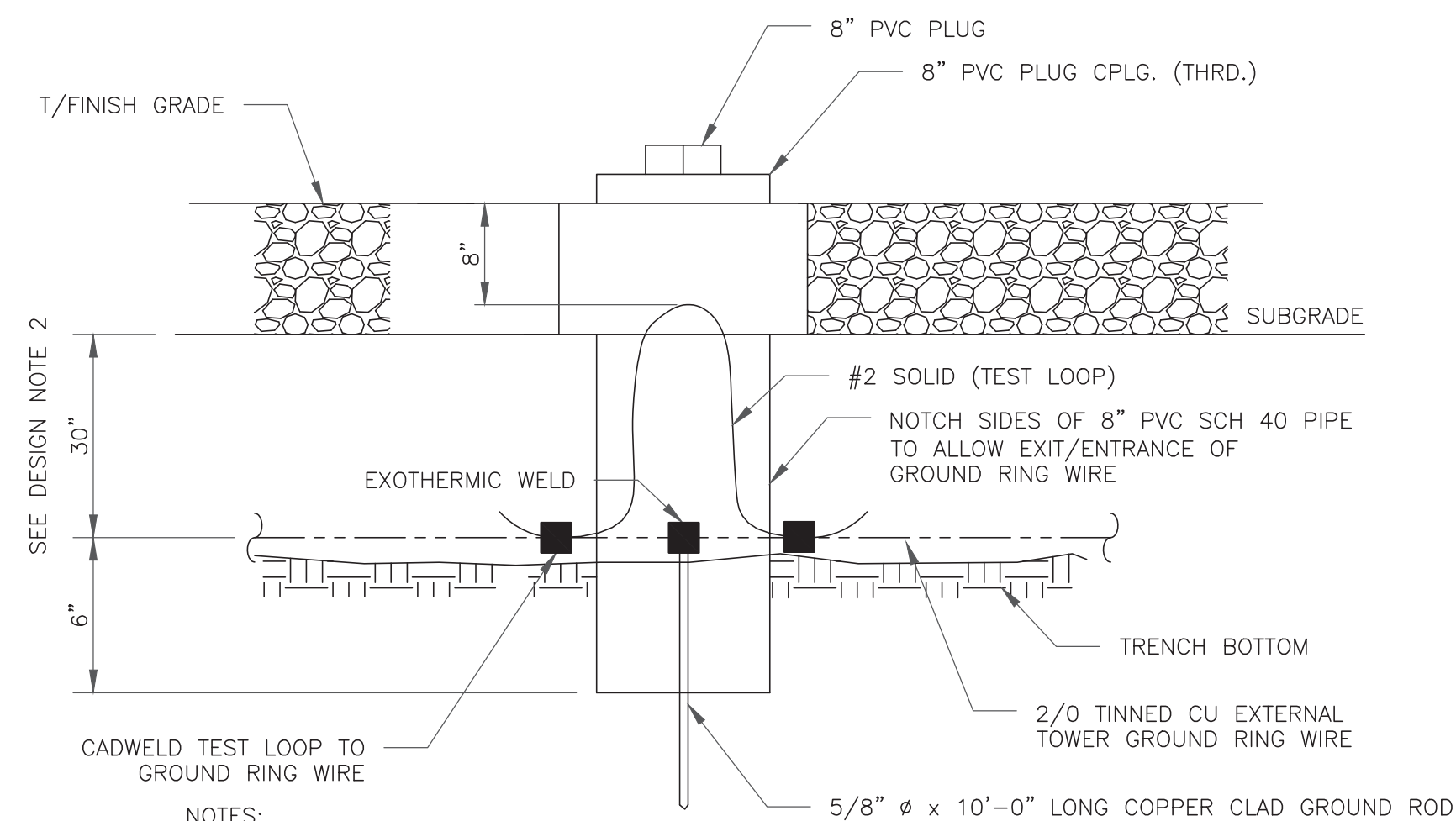
1 ANTENNA SECTOR GROUND BAR DETAIL  
SCALE: NOT TO SCALE



NOTES:

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

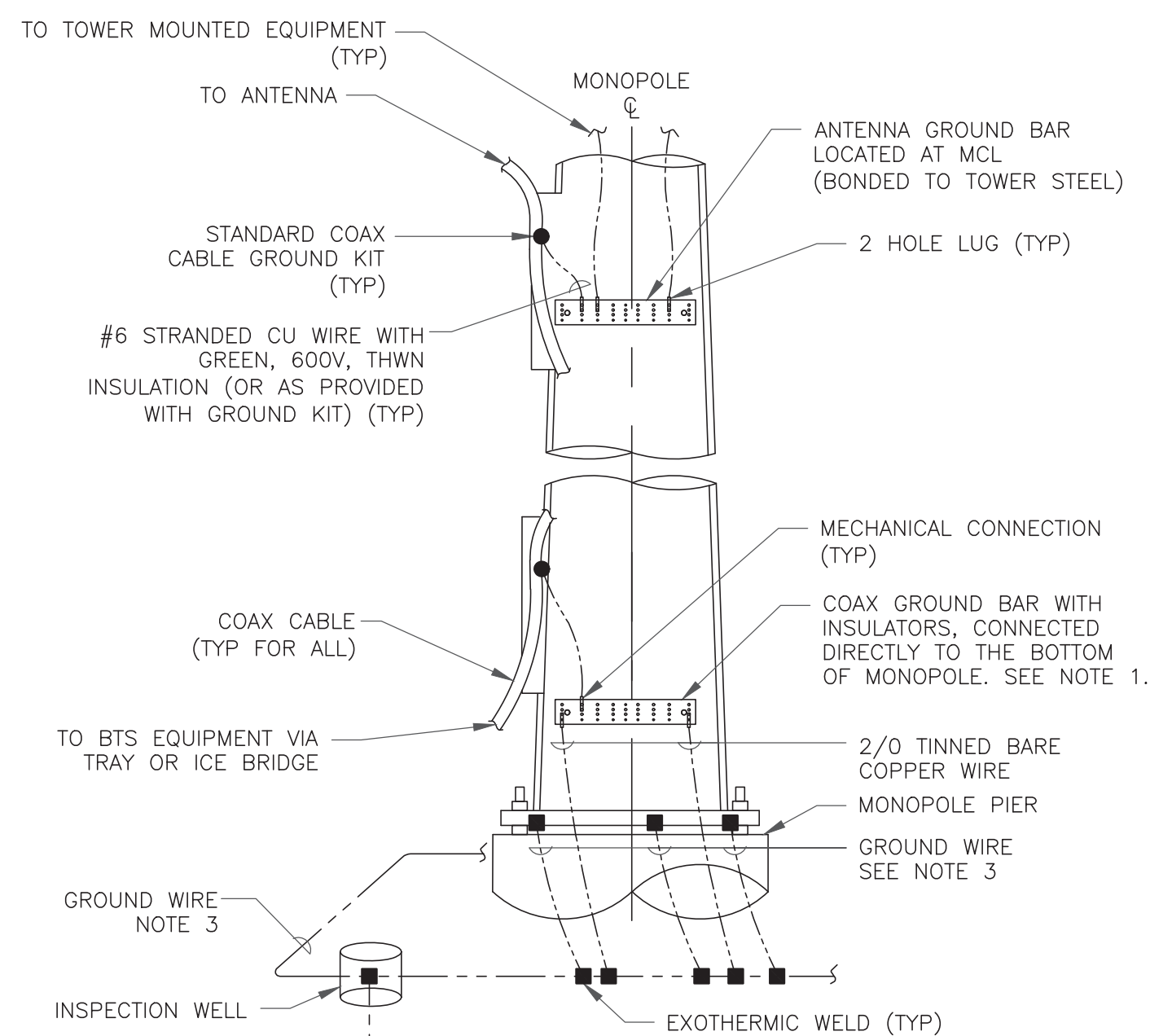
2 TOWER/SHELTER GROUND BAR DETAIL  
SCALE: NOT TO SCALE



NOTES:

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

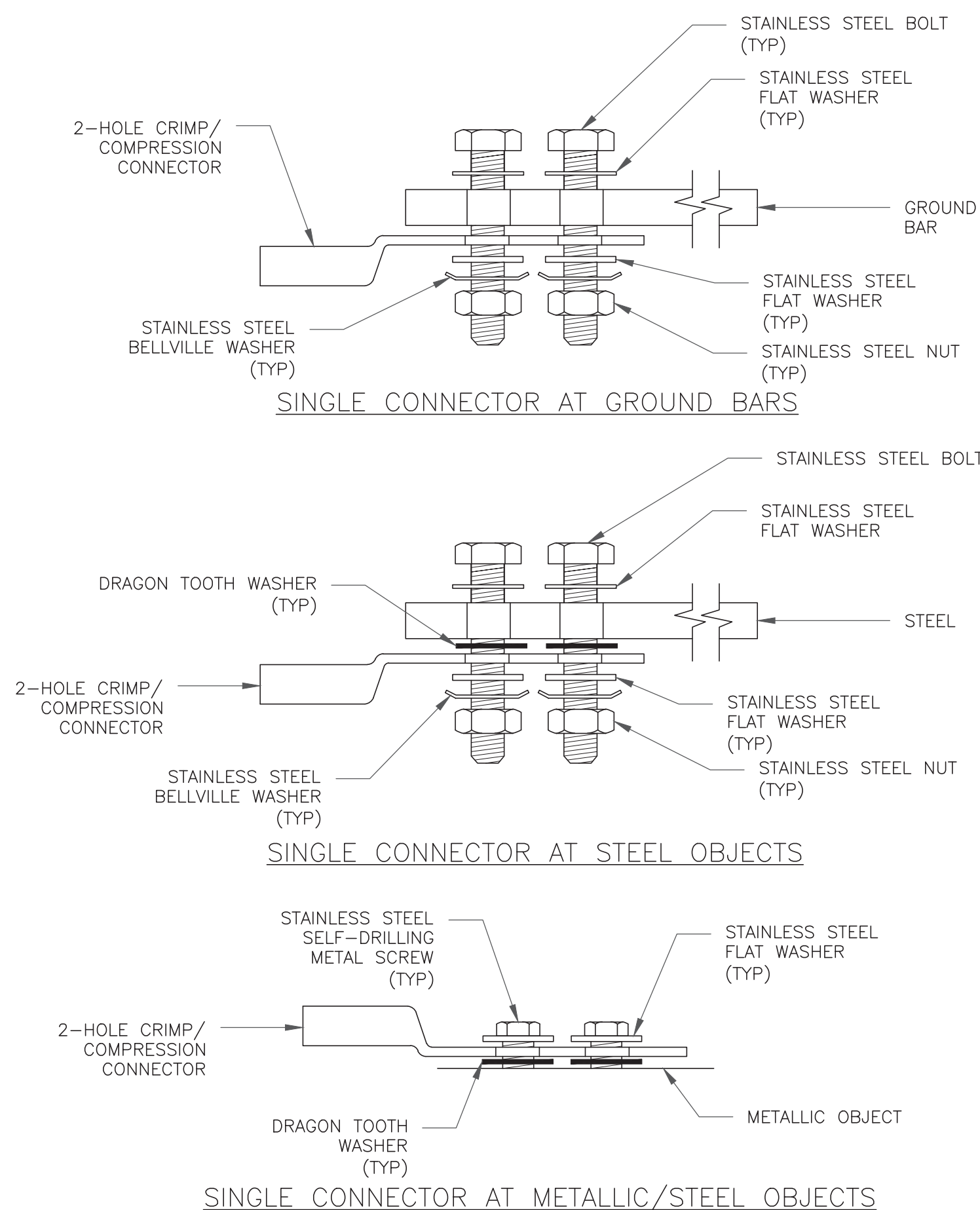
3 INSPECTION WELL DETAIL  
SCALE: NOT TO SCALE



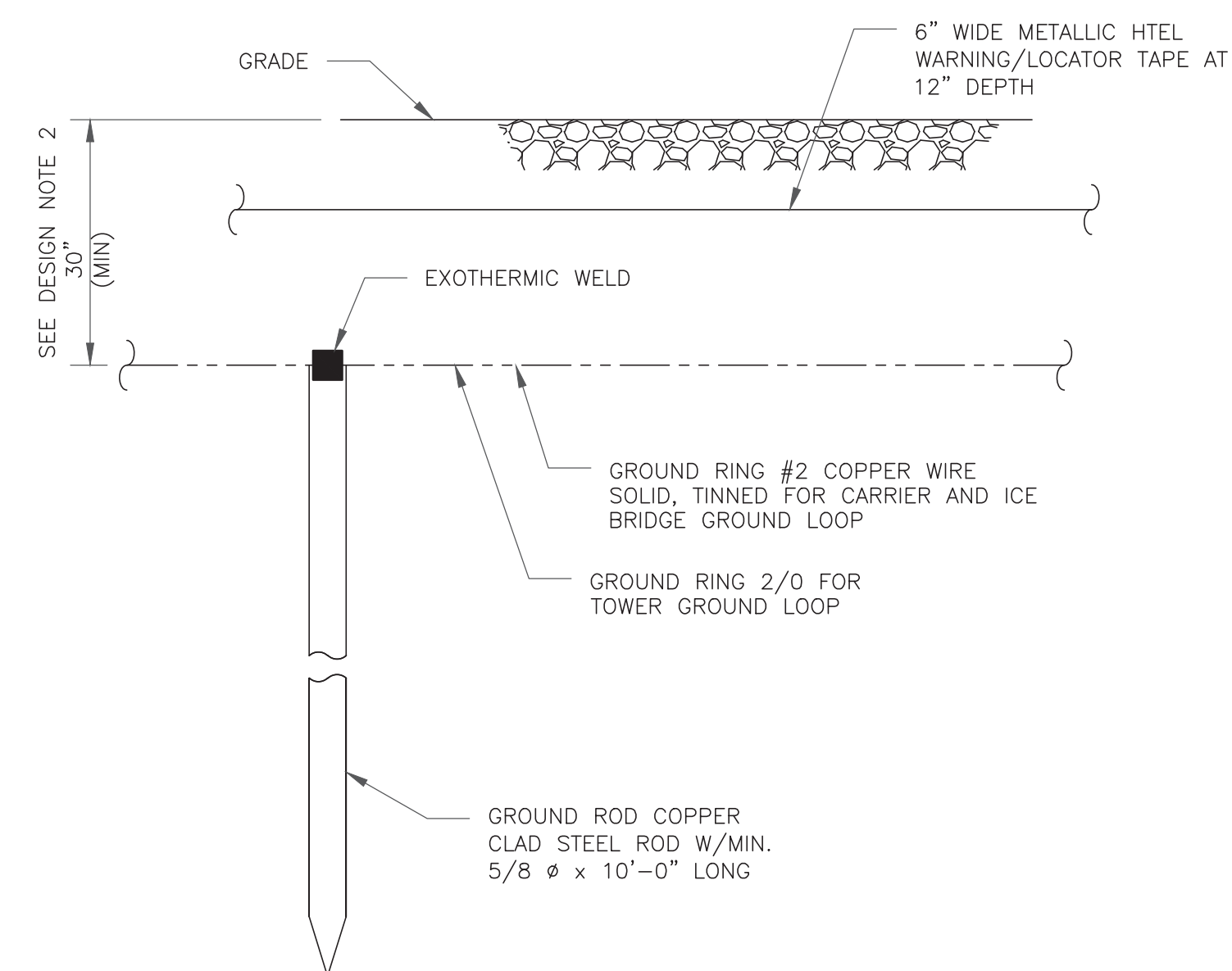
NOTES:

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

4 TYPICAL ANTENNA CABLE GROUNDING  
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS  
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL  
SCALE: NOT TO SCALE

**verizon**

180 WASHINGTON VALLEY ROAD  
BEDMINSTER, NJ 07921

**CROWN CASTLE**

3 CORPORATE PARK DRIVE, SUITE 101  
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1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4630  
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VERIZON SITE NUMBER:  
467249

BU #: 876335  
EAST FARMINGTON

3 A BIRDSEYE ROAD  
FARMINGTON, CT 06030

EXISTING 140'-0" MONOPOLE

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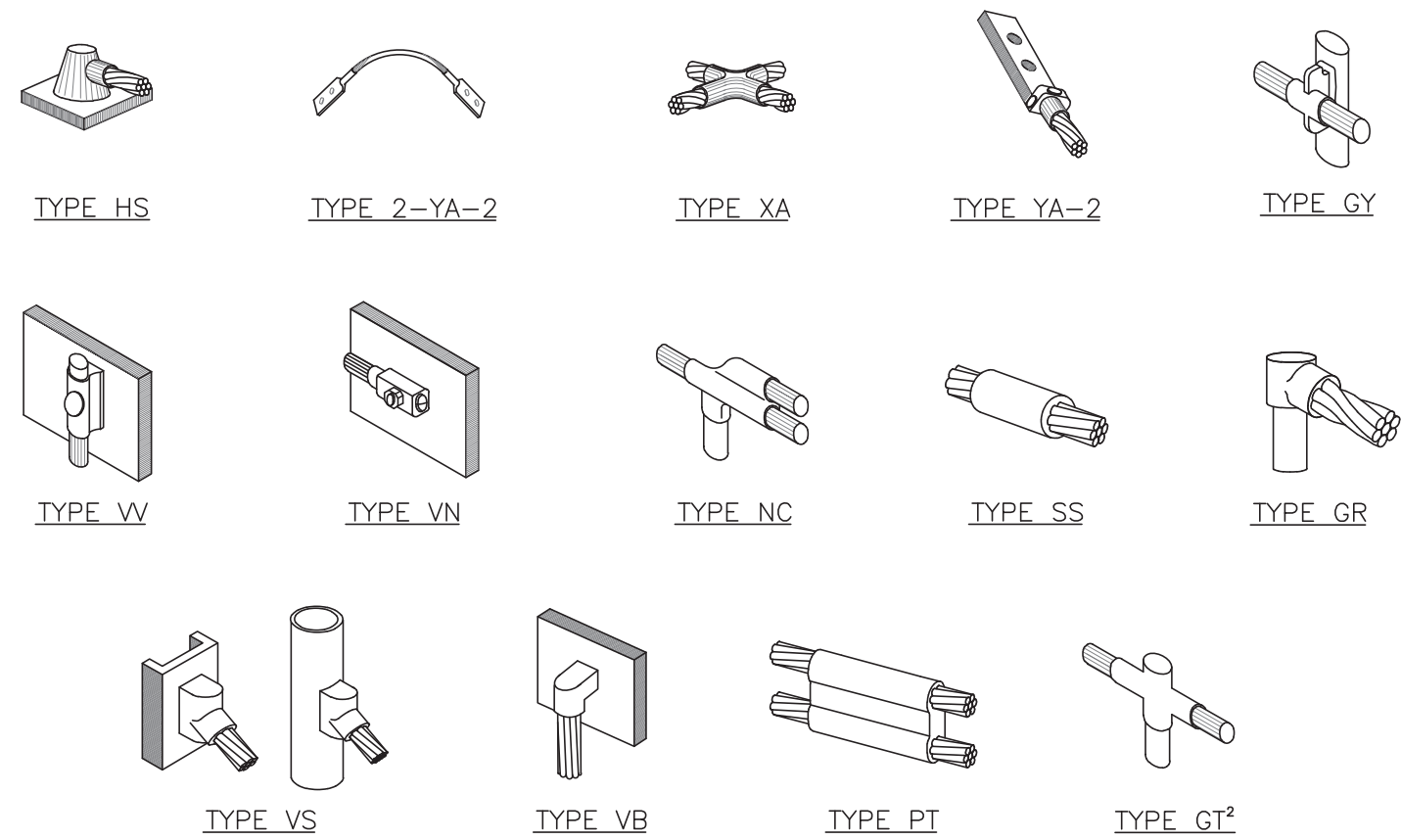


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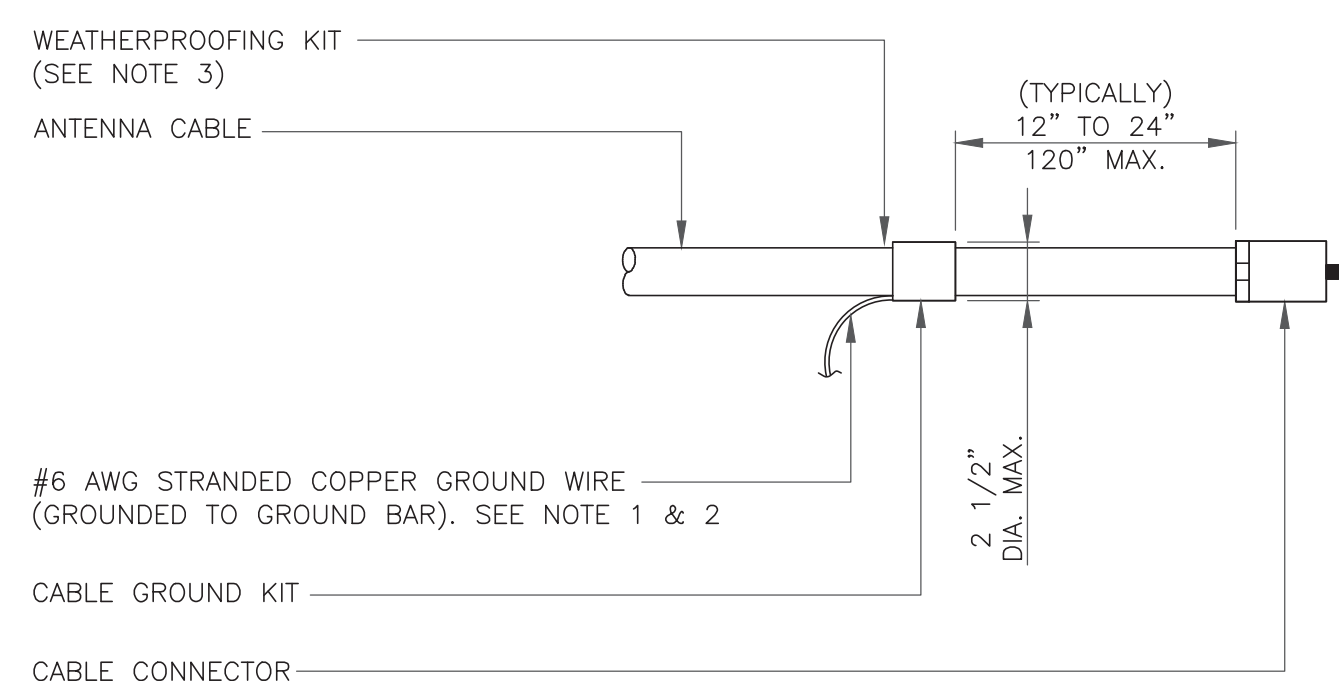




**NOTE:**

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

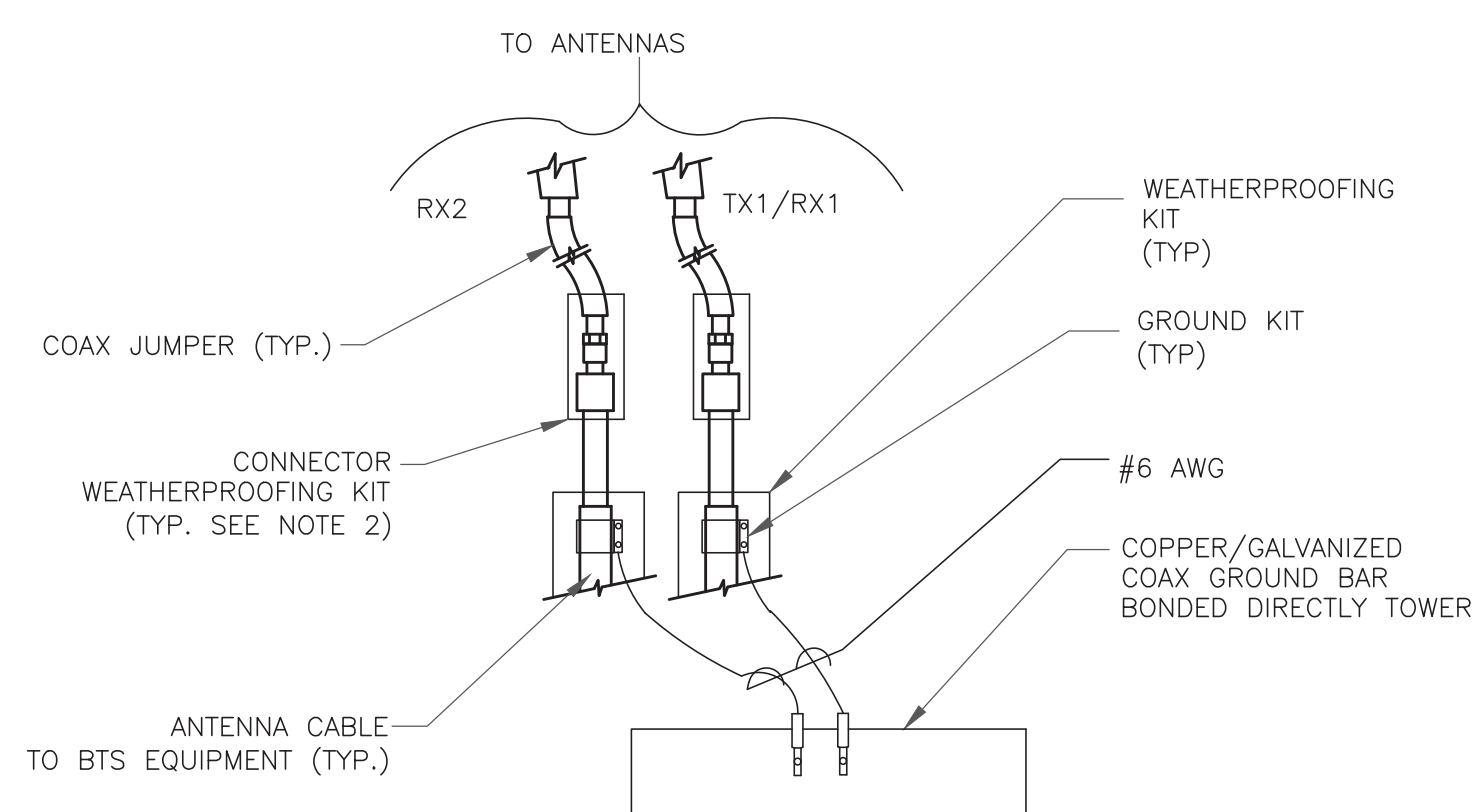
**1 CADWELD GROUNDING CONNECTIONS**  
SCALE: NOT TO SCALE



**NOTES:**

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

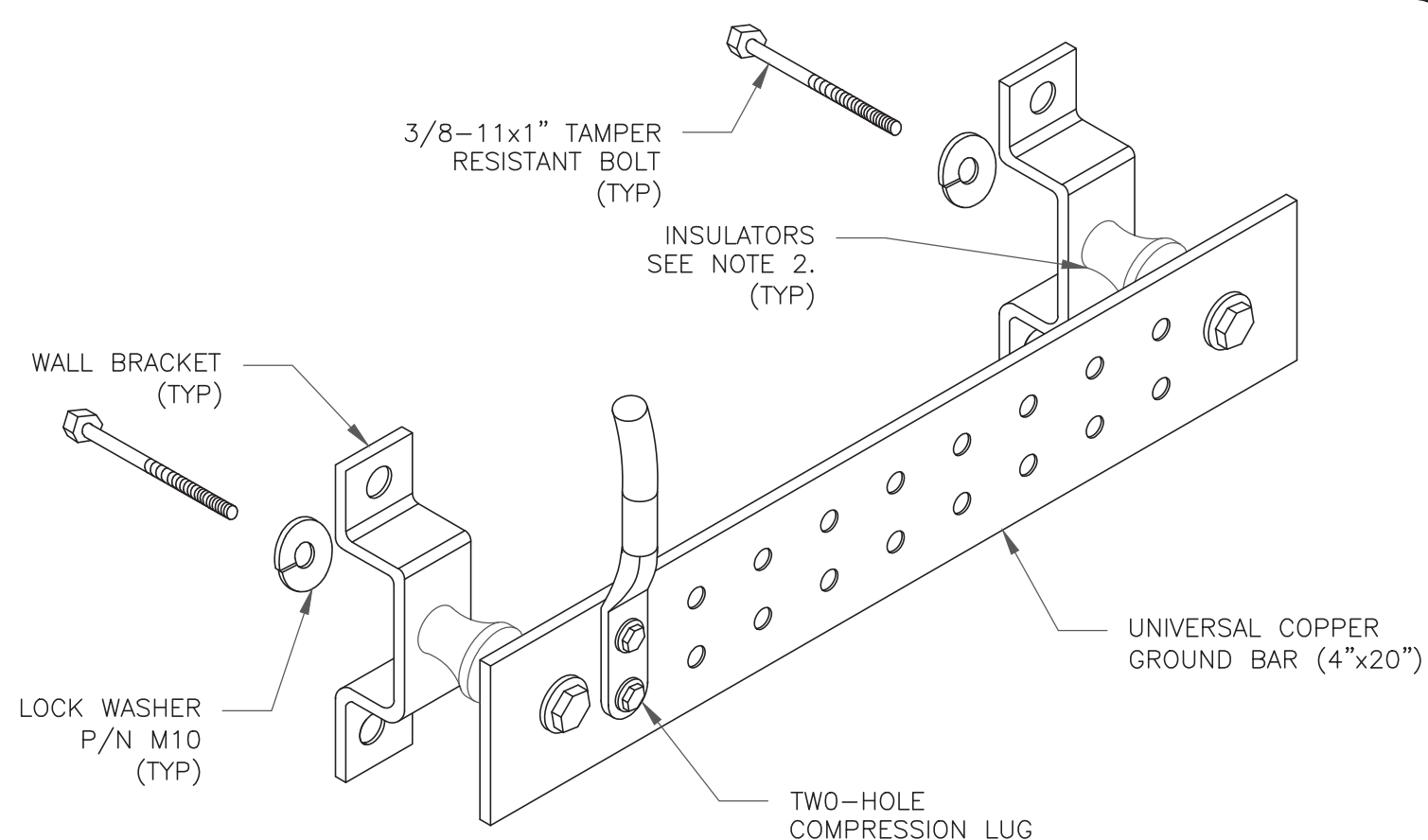
**3 CABLE GROUND KIT CONNECTION**  
SCALE: NOT TO SCALE



**NOTES:**

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

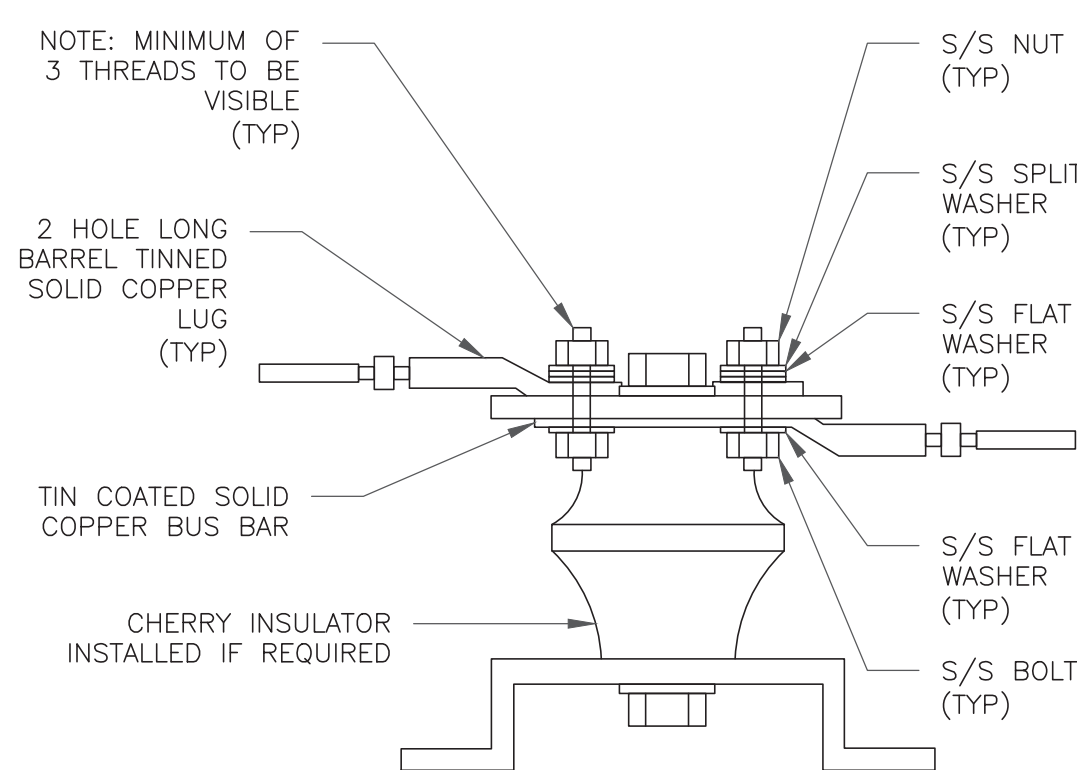
**4 GROUND CABLE CONNECTION**  
SCALE: NOT TO SCALE



**NOTES:**

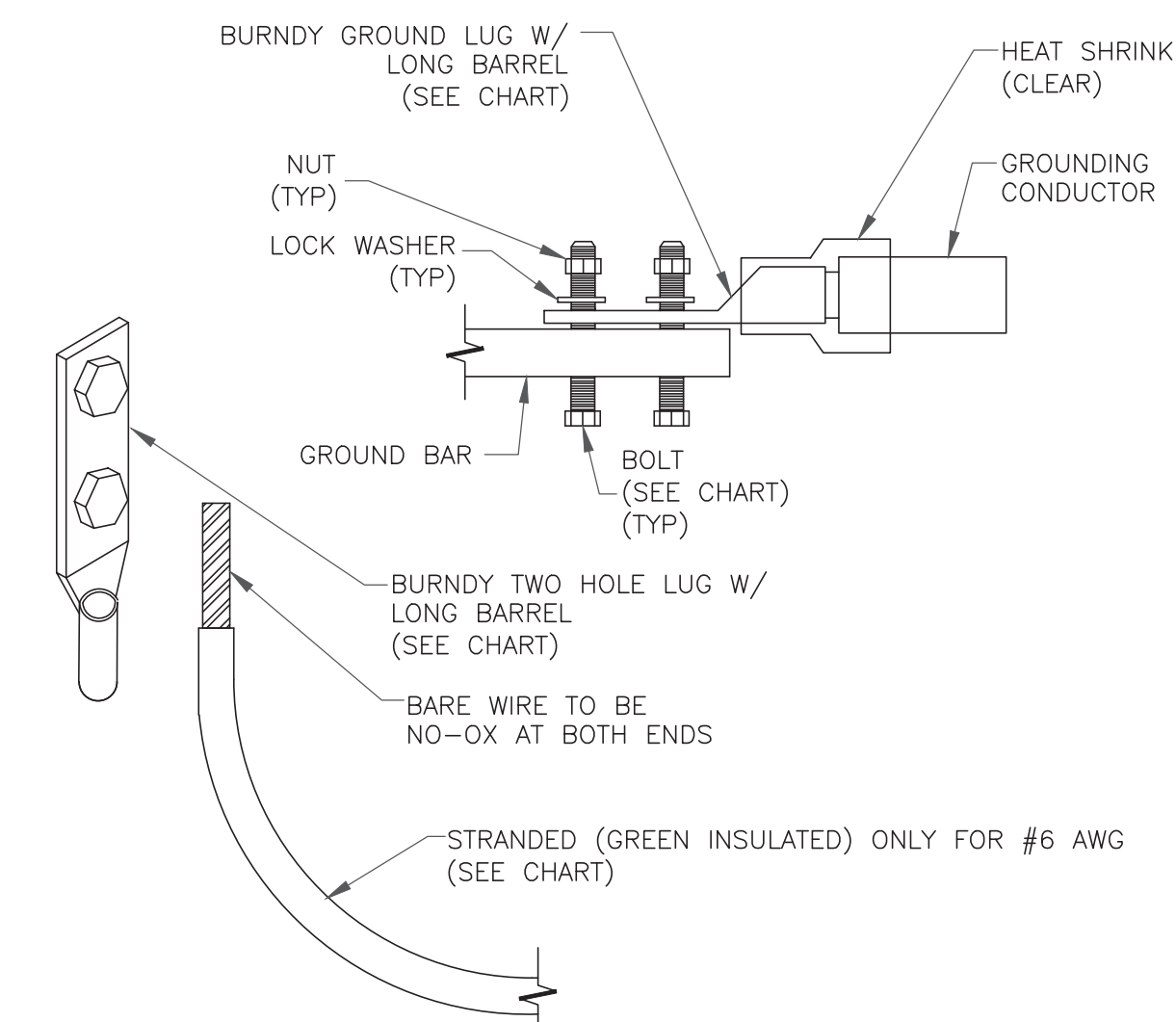
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR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

**6 GROUND BAR DETAIL**  
SCALE: NOT TO SCALE



**7 LUG DETAIL**  
SCALE: NOT TO SCALE

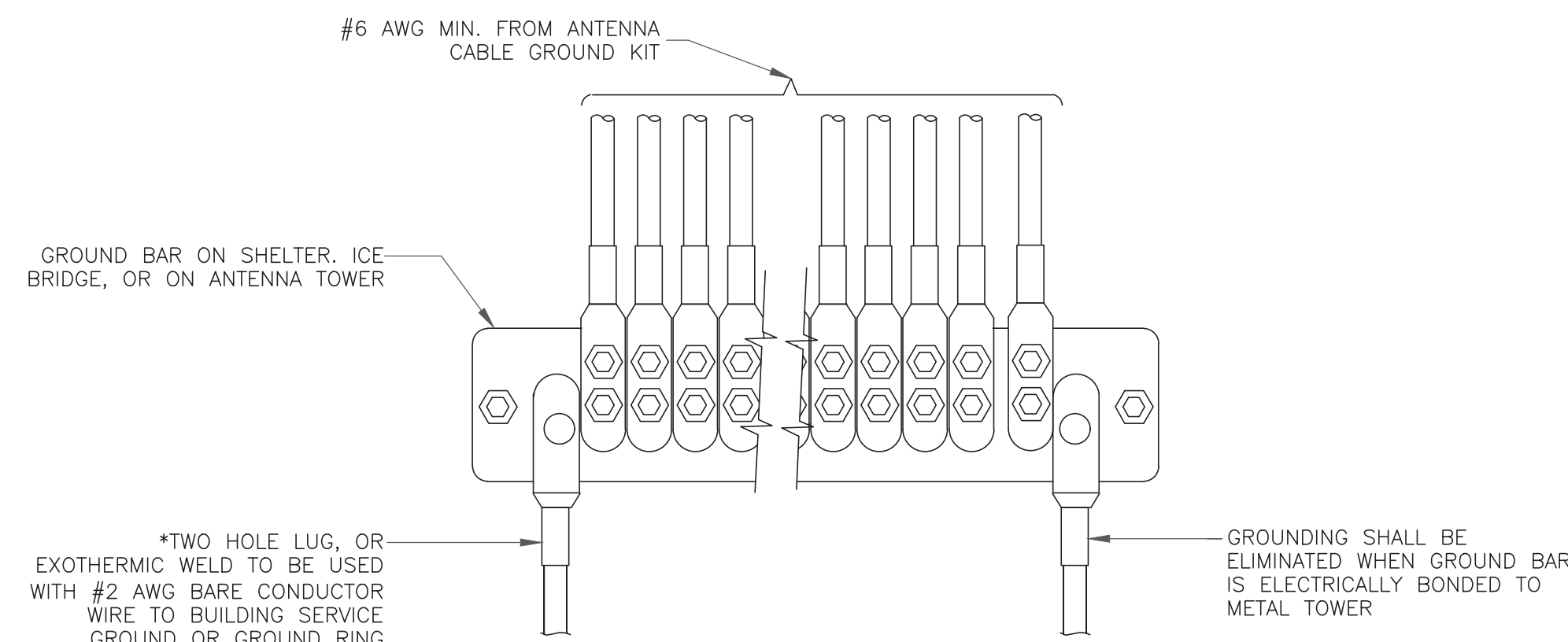
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



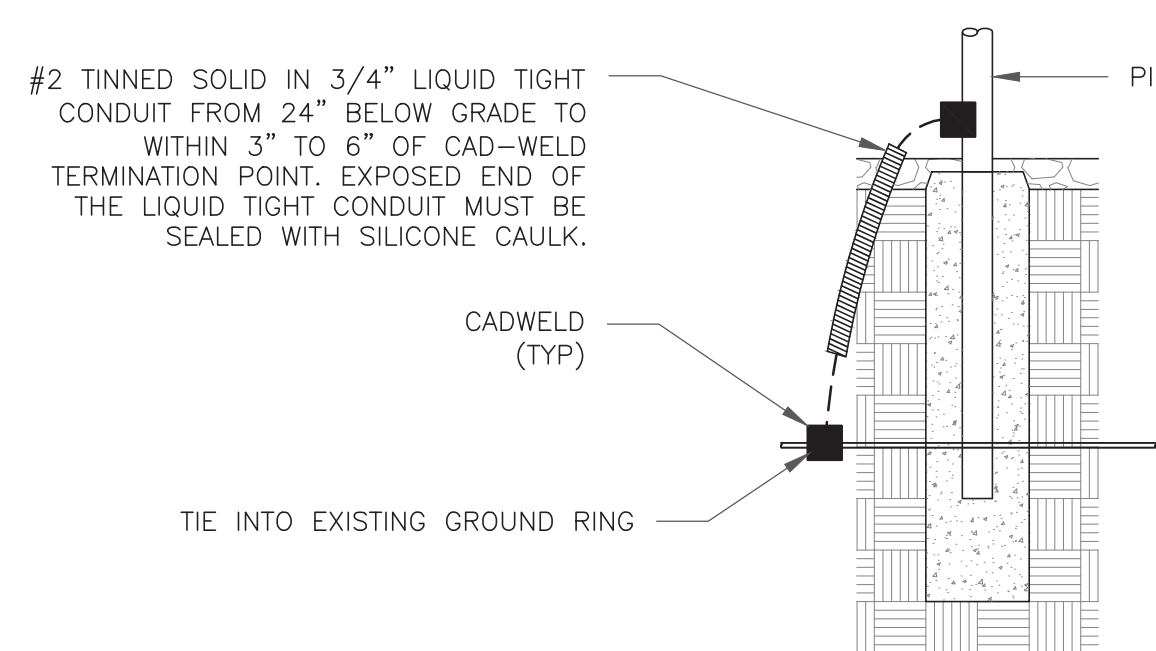
**NOTES:**

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

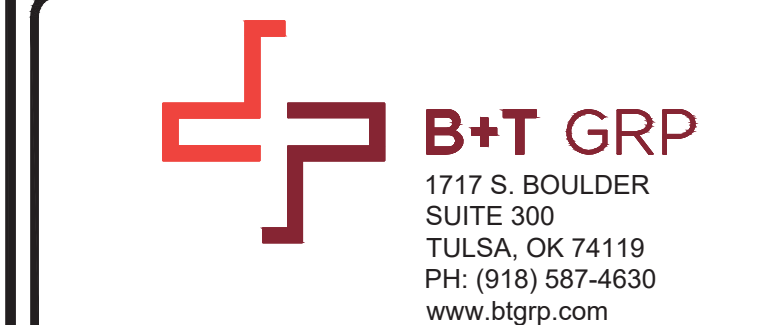
**2 MECHANICAL LUG CONNECTION**  
SCALE: NOT TO SCALE



**5 GROUNDWIRE INSTALLATION**  
SCALE: NOT TO SCALE



**8 TRANSITIONING GROUND DETAIL**  
SCALE: NOT TO SCALE



VERIZON SITE NUMBER:  
467249

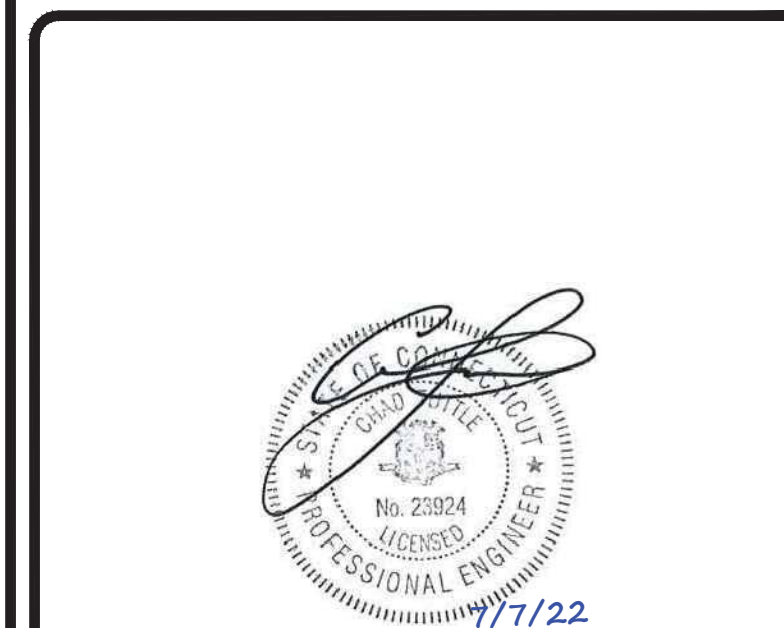
BU #: 876335  
EAST FARMINGTON

3 A BIRDSEYE ROAD  
FARMINGTON, CT 06030

EXISTING 140'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DWG./QA
0	7/7/22	ANP	CONSTRUCTION	LR



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Expires 3/31/23  
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SHEET NUMBER: <b>G-2</b>	REVISION: <b>0</b>
-----------------------------	-----------------------



# MOUNT MODIFICATION DRAWINGS EXISTING 15.50' PLATFORM

TOWER OWNER: CROWN CASTLE  
TOWER OWNER SITE NUMBER: 876335

CARRIER SITE NAME: NEW BRITAIN 5 CT  
CARRIER SITE NUMBER: 467249  
FUZE ID: 16244128

130 BIRDSEYE ROAD  
FARMINGTON, CT 06032  
HARTFORD COUNTY

LATITUDE: 41.71581666° N  
LONGITUDE: 72.81039444° W



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Doing Business as MASER CONSULTING



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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE: AS SHOWN JOB NUMBER: 22777029A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	05/24/22	ISSUED FOR CONSTRUCTION	SC	DRH

COLLIERS ENGINEERING & DESIGN CT, P.C.  
C.T. JPC-0000131

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### SITE NAME:

NEW BRITAIN 5 CT  
467249  
130 BIRDSEYE ROAD  
FARMINGTON, CT 06032  
HARTFORD COUNTY

STAMFORD  
1055 Washington Boulevard  
Stamford, CT 06901  
Phone: 203.324.0800  
COLLIERS ENGINEERING & DESIGN CT, P.C.  
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET

SHEET NUMBER: ST-1

DESIGN CRITERIA
<b>WIND LOADS</b> BASIC WIND SPEED (3 SECOND GUST), V = 117 MPH EXPOSURE CATEGORY B TOPOGRAPHIC METHOD II TOPOGRAPHIC CONSIDERED N/A MEAN BASE ELEVATION (AMSL) = 413.61'
<b>ICE LOADS</b> ICE WIND SPEED (3 SECOND GUST), V = 50 MPH ICE THICKNESS = 1.50 IN
<b>SEISMIC LOADS</b> SEISMIC DESIGN CATEGORY B SHORT TERM MCER GROUND MOTION, S <sub>s</sub> = .189 LONG TERM MCER GROUND MOTION, S <sub>s</sub> = .055

PROJECT INFORMATION
<b>APPLICANT/LESSEE</b> COMPANY: VERIZON WIRELESS <b>CLIENT REPRESENTATIVE</b> COMPANY: VERIZON WIRELESS <b>PROJECT MANAGER</b> COMPANY: COLLIERS ENGINEERING & DESIGN CONTACT: PETER ALBANO PHONE: 856.797.0412 E-MAIL: PETER.ALBANO@COLLIERSENGINEERING.COM
<b>CONTRACTOR PMI REQUIREMENTS</b> PMI LOCATION: HTTPS://PMI.VZWSMART.COM SMART TOOL PROJECT #: 10149043 VZW LOCATION CODE (PSLC): 467249 ANALYSIS DATE: 5/24/2022 PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX
SHEET DESCRIPTION
ST-1 TITLE SHEET
SBOM-1 BILL OF MATERIALS
SGN-1 GENERAL NOTES
SCF-1 CLIMBING FACILITY DETAIL
SS-1 MODIFICATION DETAILS
SS-2 GEOMETRY VERIFICATION SKETCHES
SS-3 MOUNT PHOTOS
SPECIFICATION SHEETS

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### BILL OF MATERIALS

#### SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)	
3	VZWSMART	VZWSMART-PLK3	SUPPORT RAIL CORNER BRACKET		30	90	
3		VZWSMART-P40-238X072	72" LONG, PIPE 2 STD (2.375"OD X 0.154" THK)		22	66	
9		VZWSMART-MSK1	CROSSOVER PLATE		14	126	

#### SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	186" LONG, P2 1/2 STD	GALVANIZED	90	270
3	-	-	36" LONG, L3X3X1/4	GALVANIZED	15	45
3	SITE PRO I	SP2I9	CROSSOVER PLATE	OR EOR APPROVED EQUAL, CONTACT MASER CONSULTING FOR APPROVAL OF SUBSTITUTION.	13	39
<b>TOTAL:</b>						<b>636</b>

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SCALE:	AS SHOWN	JOB NUMBER:	22777029A
REV	DATE	DESCRIPTION	DRAWN BY / CHECKED BY
	05/24/22	ISSUED FOR CONSTRUCTION	SC / DRH

- NOTES:**
- THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
  - ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS	
<b>COMMSCOPE</b>	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
<b>METROSITE FABRICATORS, LLC</b>	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM
<b>PERFECTVISION</b>	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSALES@PERFECT-VISION.COM
<b>SABRE INDUSTRIES, INC.</b>	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM
<b>SITE PRO 1</b>	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

VZWSMART KITS - APPROVED VENDORS	
<b>NEWAVE</b>	
CONTACT	NEWAVE SALES TEAM
PHONE	(971) 239-4762
EMAIL	SALES@NEWAVETC.COM
WEBSITE	WWW.NEWAVETC.COM
<b>BETTER METAL, LLC</b>	
CONTACT	DAVID STANSBERRY
PHONE	(615) 535-0990 (O), (615) 631-2520 (M)
EMAIL	DLS@BETTERMETAL.COM
WEBSITE	WWW.BETTERMETAL.COM

**SITE NAME:**  
**NEW BRITAIN 5 CT**  
**467249**  
 130 BIRDSEYE ROAD  
 FARMINGTON, CT 06032  
 HARTFORD COUNTY



**PROJECT NOTES**

- SEE MODIFICATION NOTES
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
- NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

**GENERAL NOTES**

- THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
- CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- 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 ANSITIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSITIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE

CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.

- ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSITIA-322.
- CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
- CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

**STRUCTURAL STEEL**

- DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
  - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
  - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
  - AISC CODE OF STANDARD PRACTICE
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:
 

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
  - SUBMIT SHOP DRAWINGS TO  
PETER.ALBANO@COLLIERSENGINEERING.COM
  - PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- CONTRACTOR SHALL PROTECT CUT ENDS OF ALL FIELD-CUT STEEL WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC COTE).
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
- WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.

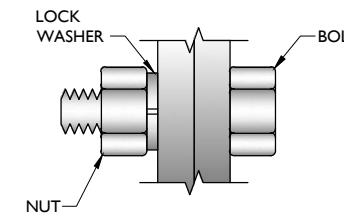
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

**WELDING NOTES**

- ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.0 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELD INSPECTION (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE, DURING, AND POST INSTALLATION, USING THE ACCEPTANCE CRITERIA OF AWS D1.1.
- CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
- THE CERTIFIED WELD INSPECTOR SHALL INDICATE, IN A WRITTEN CWI REPORT, THAT ALL WELDING OPERATIONS PRE, DURING, AND POST INSTALLATION WERE CONDUCTED IN ACCORDANCE WITH AWS D1.1 WITH PHOTOGRAPHS AND DOCUMENTATION SUPPORTING THE ACCEPTANCE OR REJECTION OF ALL WELDING. ALL CWI WELD INSPECTION DOCUMENTATION AND PHOTOS SHALL BE SUBMITTED DURING THE PMI.
- IN CASES WHERE A WELD IS SPECIFIED BETWEEN TWO MEMBERS IN WHICH THERE IS A GAP IN BETWEEN, THE WELD IS TO BE BUILT-UP SUCH THAT THE SIZE OF WELD ON THE MEMBER IS EQUAL TO THAT SHOWN IN THE DRAWINGS.
- OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
- CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING A GALVANIZED SURFACE.
- CONTRACTOR SHALL HAVE A FIRE PROTECTION PLAN IN PLACE THAT CONFORMS WITH ALL OSHA, ANSII/ASSP A10.48, ANSII Z49.1, AND LOCAL JURISDICTIONAL REQUIREMENTS.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

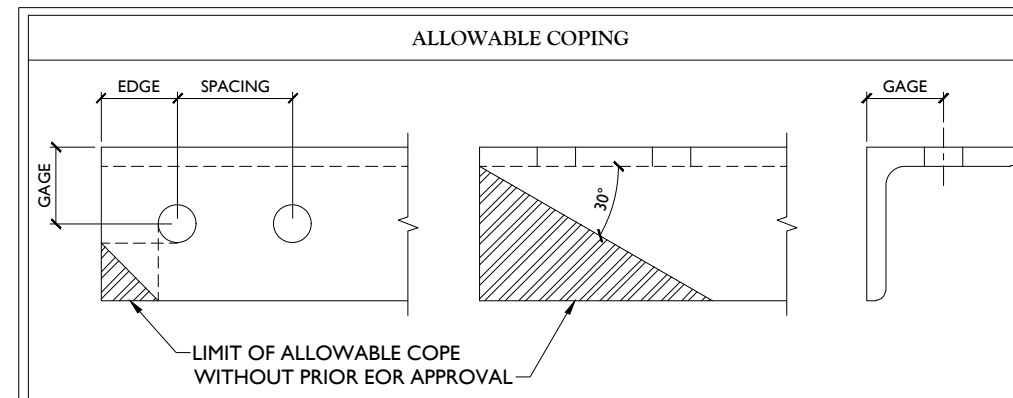
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



**TYP. BOLT ASSEMBLY**

**NOTES:**

- ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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SCALE:	AS SHOWN	JOB NUMBER:	22777029A
REV	DATE	DESCRIPTION	DRAWN BY / CHECKED BY
0	05/24/22	ISSUED FOR CONSTRUCTION	SC / DRH

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

**SITE NAME:**

**NEW BRITAIN 5 CT  
467249**  
130 BIRDSEYE ROAD  
FARMINGTON, CT 06032  
HARTFORD COUNTY

**MODIFICATION NOTES**



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0	05/24/22	ISSUED FOR CONSTRUCTION	SC	DRH

**NOTE:**  
A DESKTOP MAPPING WAS COMPLETED AND THERE IS INSUFFICIENT INFORMATION ON THE CLIMBING FACILITY

**CLIMBING FACILITY LOCATION**

SCALE : N.T.S.

**NOTE:**  
A DESKTOP MAPPING WAS COMPLETED AND THERE IS INSUFFICIENT INFORMATION ON THE CLIMBING FACILITY

**CLIMBING FACILITY PHOTO**

**STRUCTURAL NOTES:**

- CONTRACTOR TO INSPECT CLIMBING FACILITIES AT SITE AND ENSURE THAT THE SAFETY CLIMB IS IN GOOD CONDITION AND THAT THE WIRE ROPE DOES NOT OR WILL NOT INTERFERE WITH THE EXISTING OR PROPOSED MOUNT CONNECTIONS. CONTRACTOR SHALL INSTALL SAFETY CLIMB WIRE ROPE GUIDED AROUND MOUNT CONNECTIONS AS NEEDED.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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C.T. JPC-0000131

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HARTFORD COUNTY



Engineering & Design

STAMFORD  
1055 Washington Boulevard  
Stamford, CT 06901  
Phone: 203.324.0800  
COLLIERS ENGINEERING & DESIGN CT, P.C.  
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:  
**CLIMBING FACILITY DETAIL**

SHEET NUMBER:  
**SCF-1**

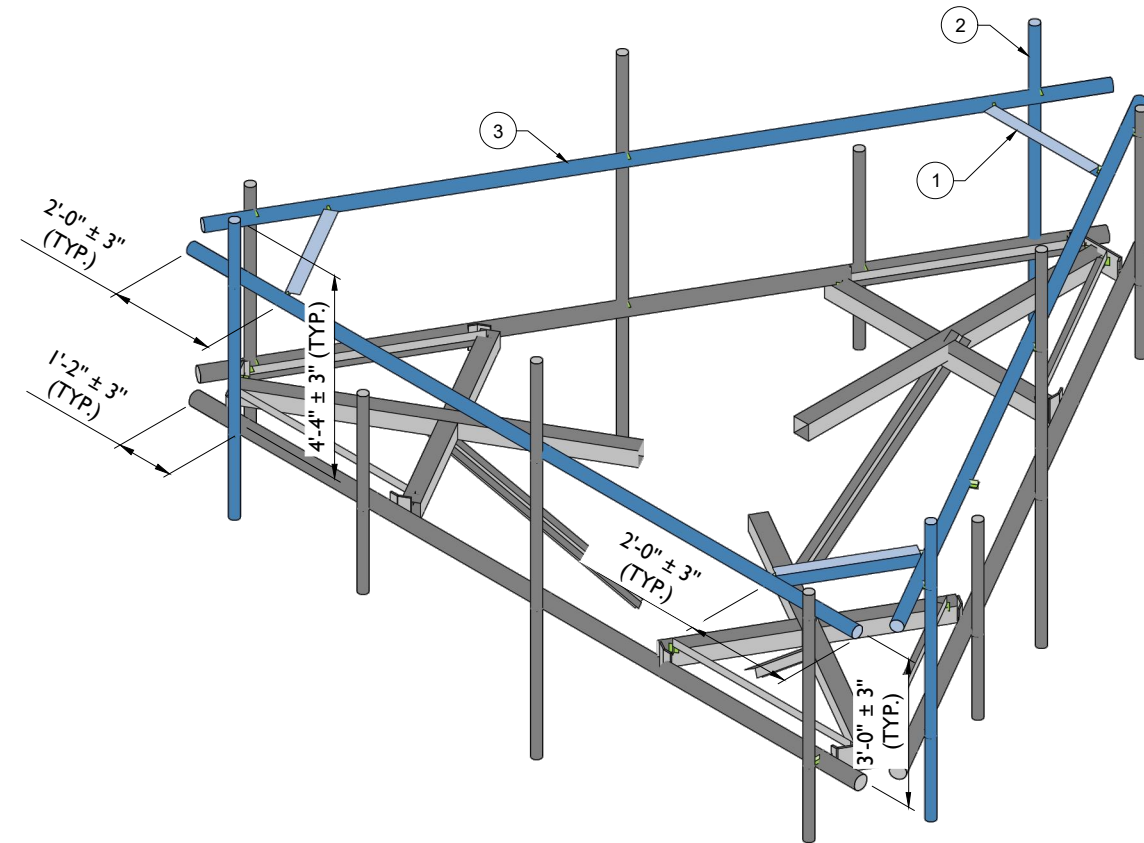


**LEGEND:**

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		3	PROPOSED SUPPORT RAIL CORNER BRACKET (PART #: VZWSMART-PLK3) WITH 36" LONG L3X3X1/4	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN- I. CONTRACTOR SHALL CONNECT PROPOSED L3X3X1/4 ANGLES TO CORNER BRACKETS USING THE PROVIDED (8) 5/8" DIA. BOLTS, (4) BOLTS PER CONNECTION.
2	108'-0"	3	PROPOSED 72" LONG, P2 STD (PART #: VZWSMART-P40-238X072)	CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (SITE PRO I PART #: SP219, OR EOR APPROVED EQUAL).
3		3	PROPOSED 186" LONG, P2 1/2 STD SUPPORT RAIL	RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. CONNECT NEW HORIZONTAL TO ALL EXISTING AND PROPOSED VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).

**NOTES:**  
MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1

**PROPOSED ISOMETRIC VIEW**

SCALE : N.T.S.

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**SITE NAME:**  
  
NEW BRITAIN 5 CT  
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130 BIRDSEYE ROAD  
FARMINGTON, CT 06032  
HARTFORD COUNTY

**Colliers** Engineering & Design  
STAMFORD  
1055 Washington Boulevard  
Stamford, CT 06901  
Phone: 203.324.0800  
COLLIERS ENGINEERING & DESIGN CT, P.C.  
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:  
**MODIFICATION DETAILS**

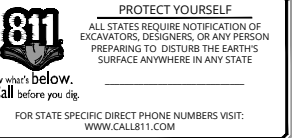
SHEET NUMBER:  
**SS-1**

EXISTING MEMBERS			
NO.	DESCRIPTION	SHAPE & LENGTH	NOTES
1.	MOUNT PIPE		TYP. OF 6, 2 PER SECTOR
2.	MOUNT PIPE		TYP. OF 3, 1 PER SECTOR
3.	MOUNT PIPE		TYP. OF 3, 1 PER SECTOR
4.	FACE HORIZONTAL		TYP. OF 3, 1 PER SECTOR
5.	STANDOFF HORIZONTAL		TYP. OF 3, 1 PER SECTOR
6.	CROSSMEMBER		TYP. OF 6, 2 PER SECTOR
7.	CORNER PLATE		TYP. OF 3, 1 PER SECTOR
8.	KICKER		TYP. OF 3, 1 PER SECTOR
9.	POLE DIAMETER @ MOUNT CENTERLINE		

LIST ALL SHAPES:  
 ANGLE (LEG1xLEG2xTH.): EX. L2x2x1/4  
 CHANNEL (DEPTHxFLANGE WIDTH): EX. CH6"x1-7/8"  
 PIPE (ODxTH.): EX. PIPE 2-4"x0.12"  
 PLATE (TH.xDEPTH): EX. PLATE 1/2"x2"

**NOTE:**

**CONTRACTOR SHALL RECORD ALL DIMENSIONS AND MEMBER SIZES SHOWN IN THIS SKETCH. DOCUMENT VIA PHOTOS AND SKETCHES AND PROVIDE TO THE EOR FOR EVALUATION.**

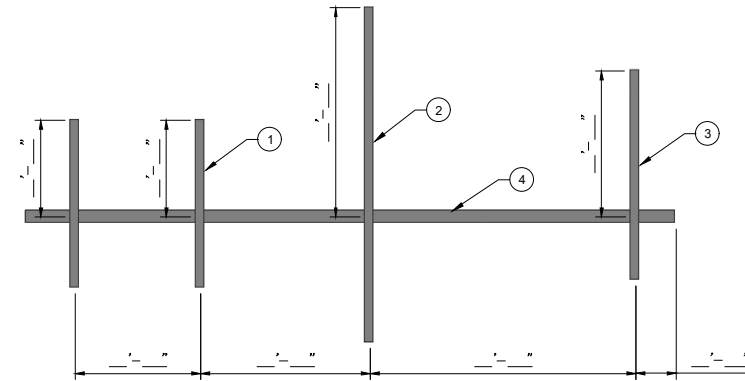


SCALE:	AS SHOWN	JOB NUMBER:	22777029A
REV	DATE	DESCRIPTION	DRAWN BY / CHECKED BY
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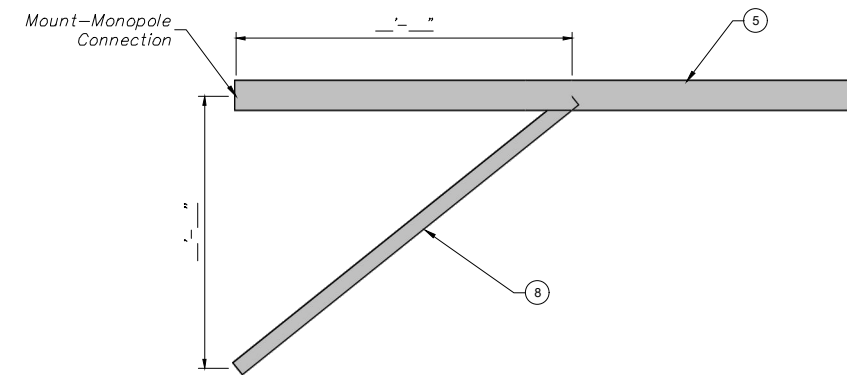
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**SITE NAME:**

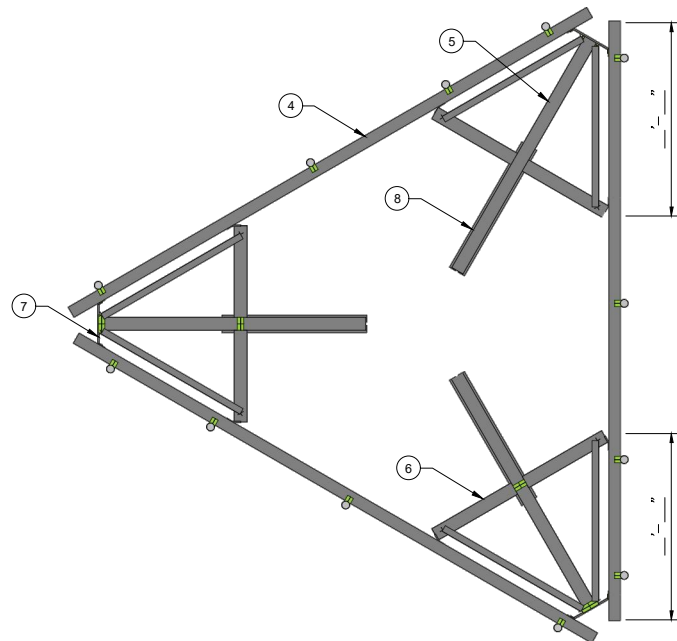
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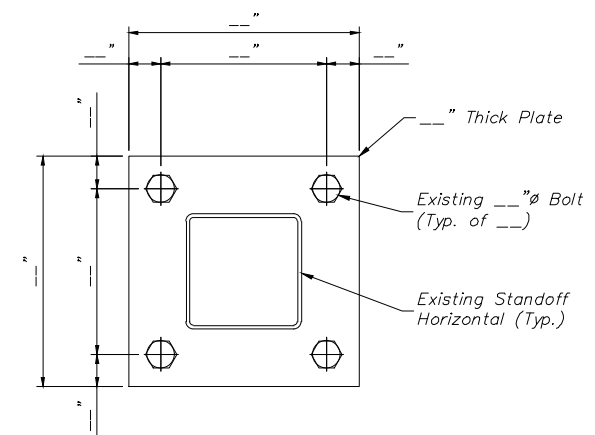
**2** EXISTING MOUNT GEOMETRY VERIFICATION FRONT ELEVATION VIEW  
SCALE : N.T.S.



**2** EXISTING MOUNT GEOMETRY VERIFICATION SIDE ELEVATION VIEW  
SCALE : N.T.S.

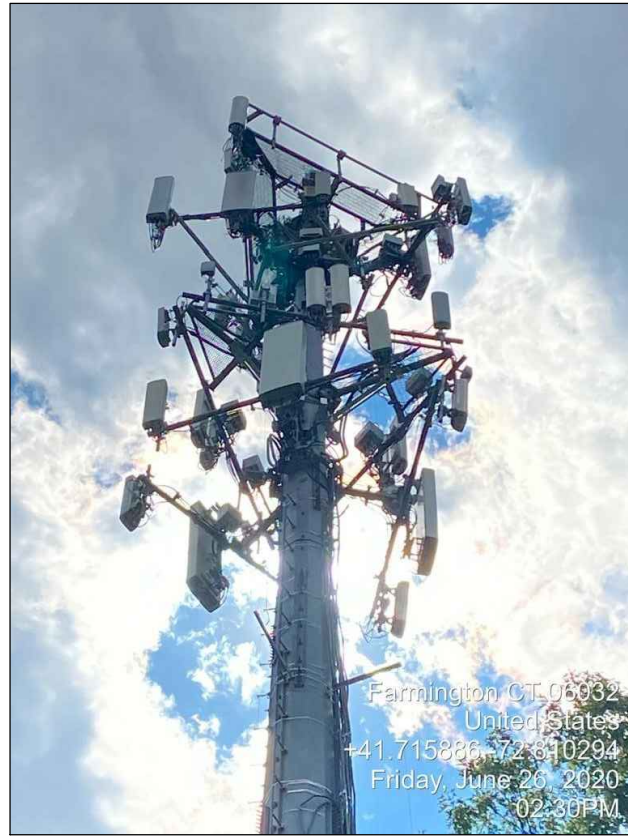


**1** EXISTING MOUNT GEOMETRY VERIFICATION PLAN VIEW  
SCALE : N.T.S.



**3** MOUNT CONNECTION DETAIL  
SCALE : N.T.S.





MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3

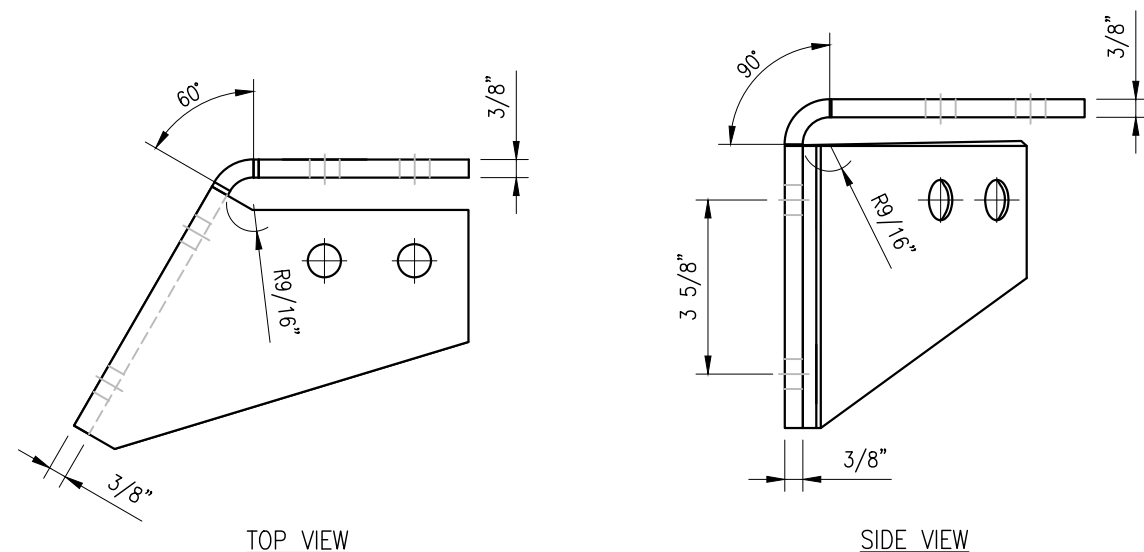


MOUNT PHOTO 4

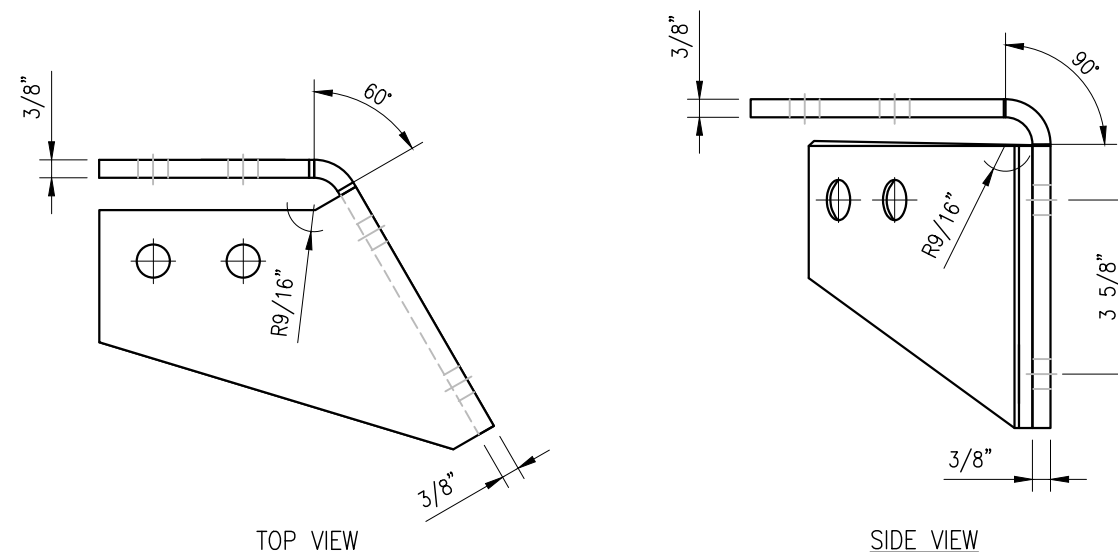
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0	05/24/22	ISSUED FOR CONSTRUCTION	SC	DRH

**SITE NAME:**

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130 BIRDSEYE ROAD  
FARMINGTON, CT 06032  
HARTFORD COUNTY



CBP-L



CBP-R

**NOTES:**

1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZSMART-PLK3 (SUPPORT RAIL CORNER BRACKET)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	CBP-L	CORNER BENT PLATE BRACKET	PLK3-F1	9
2	1	CBP-R	CORNER BENT PLATE BRACKET	PLK3-F1	9
3	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
4	8	---	BOLT 5/8" X 2" A325	---	3
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	16	NUT-625	5/8" HDG HEX NUT	---	2
GALVANIZED WT					30

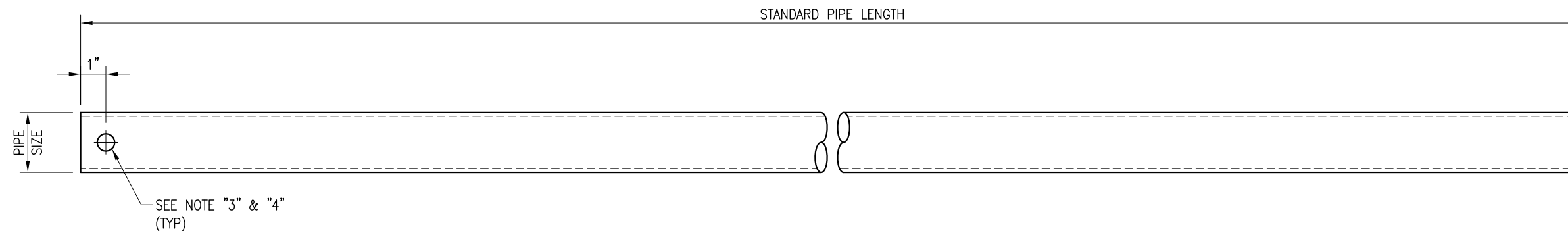
DRAWN BY: H.R. CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	H.R.	05/08/20
△	_____	_____	_____
△	_____	_____	_____
△	_____	_____	_____

SHEET TITLE:  
 VZSMART-PLK3  
 SUPPORT RAIL CORNER  
 BRACKET

SHEET NUMBER: VZSMART-PLK3  
 REV #: 0





VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

**NOTE:**  
 APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION  
 PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.  
 SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:**
1. ALL PIPE GRADE A53-B OR BETTER.
  2. HOT-DIPPED GALVANIZED PER ASTM A123.
  3. ALL HOLES ARE 11/16" DIA. U.N.O
  4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
  5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

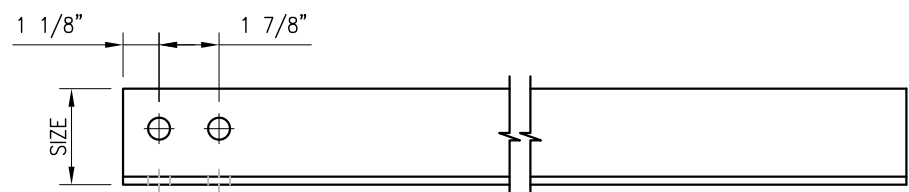
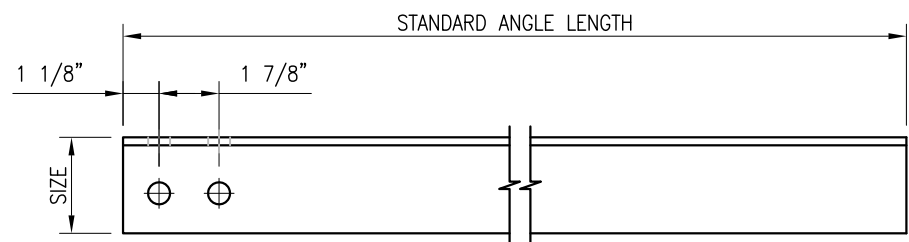
DRAWN BY: BT      CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	BT	08/04/21
△			
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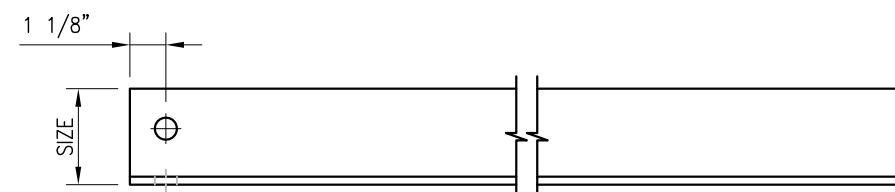
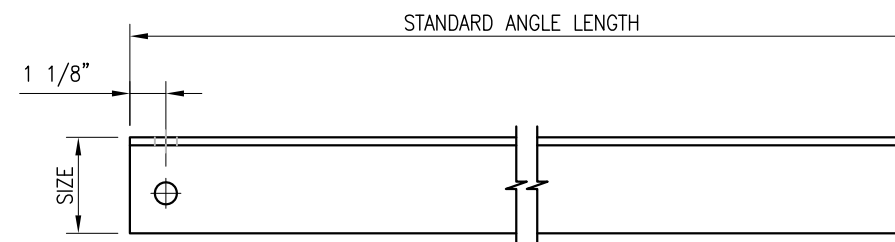
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VZWSMART  
 STANDARD PIPE

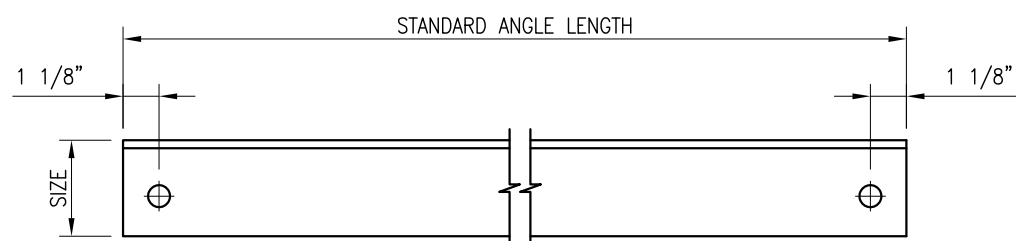
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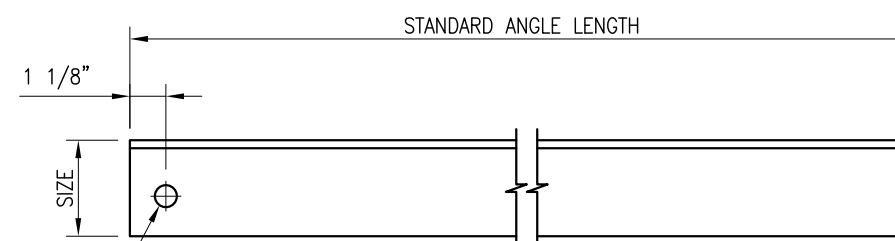
HOLE STYLE "A"



HOLE STYLE "B"



HOLE STYLE "C"



HOLE STYLE "D"

**NOTE:**  
 APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION ANGLES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:**
1. ALL ANGLE GRADE A36 OR BETTER.
  2. HOT-DIPPED GALVANIZED PER ASTM A123.
  3. ALL HOLES ARE 11/16" DIA. U.N.O
  4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
  5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VZWSMART Standard Angle					
VZWSMART Number	Size	Length	Hole Style	Hole Gage	Also Used In:
A-PLK2-01	L 3" X 3" X 1/4"	96"	A	1-3/4"	VZWSMART-PLK2
A-PLK5-01	L 3" X 3" X 3/16"	96"	B	1-3/4"	VZWSMART-PLK5
A-SFK3-01	L 2-1/2" X 2-1/2" X 1/4"	96"	C	1-3/8"	VZWSMART-SFK3,-SFK3-SL, -PLK6, & -PLK8
A-L25X25X4X120	L 2-1/2" X 2-1/2" X 1/4"	120"	D	1-5/16"	
A-L25X25X4X240	L 2-1/2" X 2-1/2" X 1/4"	240"	D	1-5/16"	
A-L30X30X4X120	L 3" X 3" X 1/4"	120"	D	1-1/2"	
A-L30X30X4X240	L 3" X 3" X 1/4"	240"	D	1-1/2"	
A-L40X40X4X120	L 4" X 4" X 1/4"	120"	D	2"	
A-L40X40X4X240	L 4" X 4" X 1/4"	240"	D	2"	
A-L50X30X6X120	L 5" X 3" X 3/8"	120"	D	2-1/2"	
A-L50X50X6X120	L 5" X 5" X 3/8"	120"	D	2-1/2"	

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

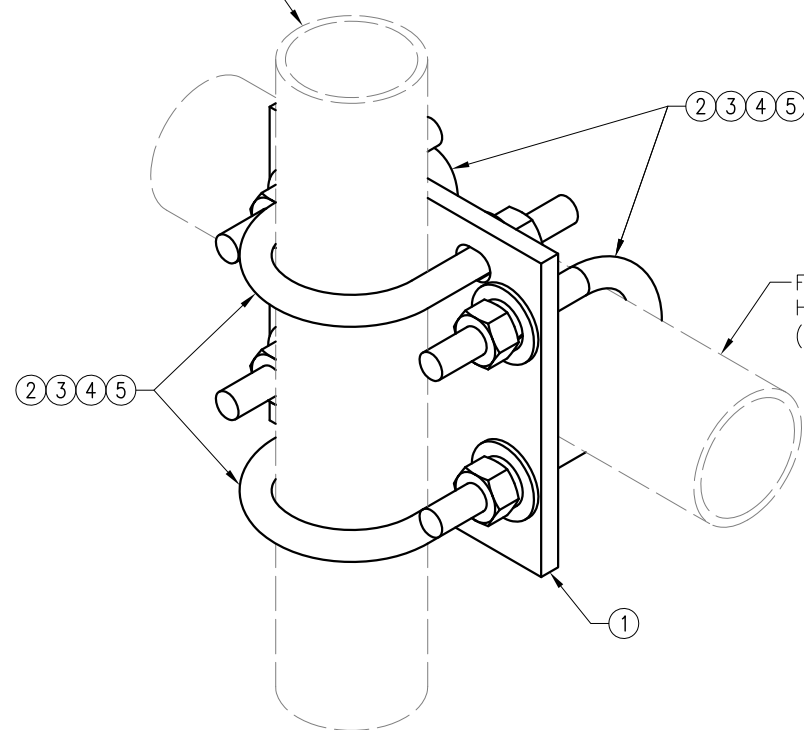
SHEET TITLE:

VZWSMART  
 STANDARD ANGLE

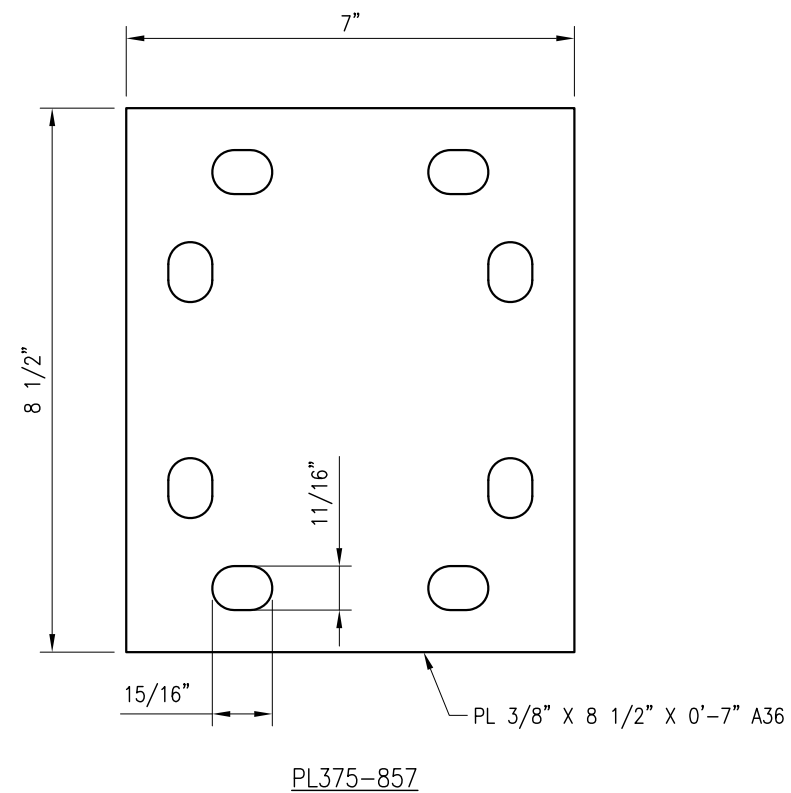
SHEET NUMBER: VZWSMART-ANGLE REV #: 0



FITS 2.375" O.D. AND 2.875" O.D.  
 VERTICAL PIPE.  
 (NOT INCLUDED IN THIS KIT)



FITS 2.375" O.D. AND 2.875" O.D.  
 HORIZONTAL PIPE.  
 (NOT INCLUDED IN THIS KIT)



PL375-857

DRAWN BY: H.R. CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	H.R.	05/08/20

SHEET TITLE:

VZSMART-MSK1  
 CROSSOVER PLATE

SHEET NUMBER: REV #:

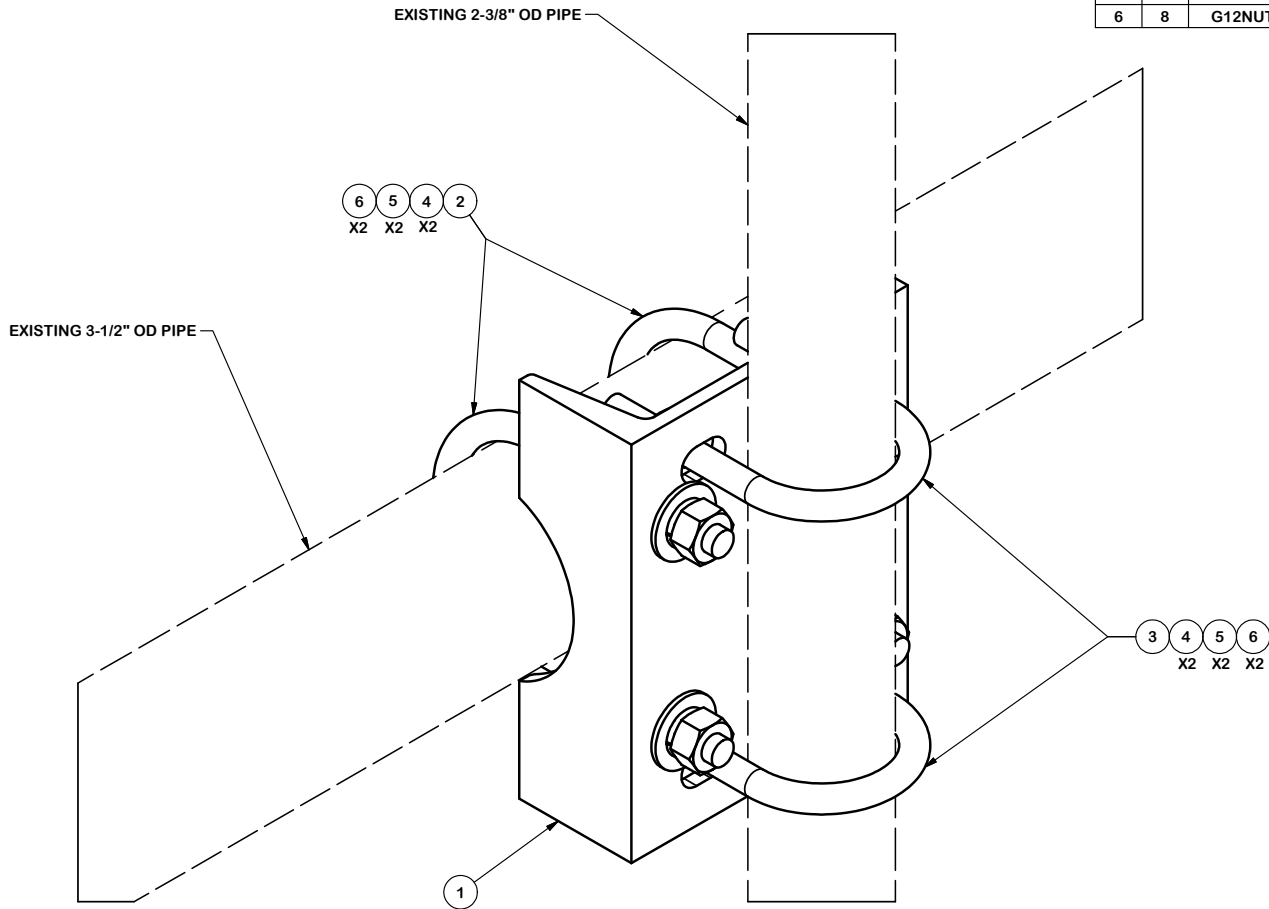
VZSMART-MSK1 0

VZSMART-MSK1 (CROSSOVER PLATE)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-857	PL 3/8" X 8 1/2" X 0'-7" A36	MSK1-F1	6
2	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
3	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	8	LW-625	5/8" HDG LOCK WASHER	---	0
5	8	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					14

NOTES:  
 1. HOT-DIPPED GALVANIZED PER ASTM A123.

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	1.66
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.47



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030"$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030"$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010"$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030"$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060"$ )

PROPRIETARY NOTE:  
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION  
**PIPE MOUNT KIT**

CPD NO. 4518	DRAWN BY KC8 6/26/2012	ENG. APPROVAL
CLASS 81	SUB 01	DRAWING USAGE CUSTOMER
		CHECKED BY CEK 1/23/2013

**SITE PRO 1**  
 A valmont COMPANY

Engineering Support Team:  
 1-888-753-7446

Locations:  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX

PART NO. <b>SP219</b>	PAGE 1 OF 1
DWG. NO. <b>SP219</b>	



# Exhibit D

## Structural Analysis Report



MORRISON HERSHFIELD

Date: **June 06, 2022**

Morrison Hershfield  
1455 Lincoln Parkway, Suite 500  
Atlanta, GA 30346  
(770) 379-8500

**Subject:** **Structural Analysis Report**

**Carrier Designation:** **Verizon Wireless Co-Locate**  
**Site Number:** 467249  
**Site Name:** New Britain 5 CT

**Crown Castle Designation:** **BU Number:** 876335  
**Site Name:** East Farmington  
**JDE Job Number:** 718012  
**Work Order Number:** 2116534  
**Order Number:** 618287 Rev. 0

**Engineering Firm Designation:** **Morrison Hershfield Project Number:** CN11-655 / 2200039

**Site Data:** **3 A Birdseye Road, Farmington, Hartford County, CT 06030**  
**Latitude 41° 42' 56.94", Longitude -72° 48' 37.42"**  
**140 Foot – Summit Monopole Tower**

Morrison Hershfield 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 – 87.5%**

This analysis utilizes an ultimate 3-second gust wind speed of 117 mph as required by the 2018 Connecticut State Building Code Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (CT License No. PEN.0028133)  
Senior Engineer



Digitally signed by  
G. Lance Cooke  
Date: 2022.06.06  
10:25:54-07'00'

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tnxTower Output

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Additional Calculations

## 1) INTRODUCTION

This tower is a 140 ft monopole tower designed by Summit Manufacturing, Inc.

The tower has been modified Multiple times in the past to accommodate additional loading. Per the post modification inspections these modifications were properly installed and have been considered in this analysis.

## 2) ANALYSIS CRITERIA

<b>TIA-222 Revision:</b>	TIA-222-H
<b>Risk Category:</b>	II
<b>Wind Speed:</b>	117 mph
<b>Exposure Category:</b>	B
<b>Topographic Factor:</b>	1
<b>Ice Thickness:</b>	1.5 in
<b>Wind Speed with Ice:</b>	50 mph
<b>Service Wind Speed:</b>	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)
108.0	110.0	3	antel	BXA-70063-4CF-EDIN-X w/ Mount Pipe	8	1-5/8
		6	andrew	SBNHH-1D65B		
		3	samsung telecommunications	CBRS w/ Mount Pipe		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		3	samsung telecommunications	20W CBRS		
	1	rfs/celwave	DB-T1-6Z-8AB-0Z			
108.0	108.0	1	Site Pro 1	Kicker Kit [#PRK-1245]		
		1	-	Platform Mount [LP 304-1_HR-1]		

**Table 2 - Other Considered Equipment**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
139.0	140.0	3	rfs/celwave	APXV9ERR18-C-A20 w/ Mount Pipe	3	1-1/4
		3	rfs/celwave	APXVTM14-C-120 w/ Mount Pipe		
		3	alcatel lucent	TD-RRH8X20-25		
	139.0	1	-	Platform Mount [LP 1201-1_HR-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
137.0	140.0	3	alcatel lucent	TME-800MHz 2X50W RRH W/FILTER	-	-
	137.0	3	alcatel lucent	TME-PCS 1900MHz 4x45W-65MHz		
		1	-	Pipe Mount [PM 601-3]		
130.0	132.0	3	ericsson	RRUS 11	-	-
	130.0	3	ericsson	RRUS 32 B2		
		1	-	Pipe Mount [PM 601-3]		
128.0	132.0	3	ericsson	AIR 6419 B77G_CCIV3 w/ Mount Pipe	6 3 2	13/16 3/8 7/8
	130.0	3	cci antennas	DMP65R-BU8D w/ Mount Pipe		
		3	kmw communications	EPBQ-654L8H8-L2 w/ Mount Pipe		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 4415 B25_CCIV2		
		3	ericsson	RRUS 4426 B66		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		1	raycap	DC6-48-60-0-8C-EV		
	128.0	2	raycap	DC6-48-60-18-8C		
		3	ericsson	AIR 6449 B77D_CCIV2 w/ Mount Pipe		
		1	raycap	DC6-48-60-18-8F		
		1	Site Pro 1	Support Kicker Kit [#PRK-SFS-L]		
		1	-	T-Arm Mount [TA 601-3]		
1		-	-			
118.0	118.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-1/2
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
		1	-	Commscope MC-PK8-DSH		
100.0	100.0	3	rfs/celwave	APXVAARR24_43-U-NA20_T-MOBILE w/ Mount Pipe	3 1	1-5/8 1-3/8
		3	commscope	VV-65A-R1_TMO w/ Mount Pipe		
		3	ericsson	AIR 6419 B41_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		1	-	Platform Mount [LP 303-1_HR-1]		
49.0	51.0	1	lucent	KS24019-L112A	1	1/2
	49.0	1	-	Side Arm Mount [SO 701-1]		

### 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1531892	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1440555	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1615361	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4456376	CCISITES
4-POST-MODIFICATION INSPECTION	5400317	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3672042	CCISITES
4-POST-MODIFICATION INSPECTION	4836434	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2397525	CCISITES
4-POST-MODIFICATION INSPECTION	3413367	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3262310	CCISITES
4-POST-MODIFICATION INSPECTION	2397526	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. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

### 4) ANALYSIS RESULTS

**Table 4 - Section Capacity (Summary)**

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	140 - 135	Pole	TP17.025x16x0.25	Pole	5.1	Pass
L2	135 - 130	Pole	TP18.05x17.025x0.25	Pole	9.9	Pass
L3	130 - 125	Pole	TP19.075x18.05x0.25	Pole	20.8	Pass
L4	125 - 120	Pole	TP20.099x19.075x0.25	Pole	29.8	Pass
L5	120 - 115	Pole	TP21.124x20.099x0.25	Pole	39.3	Pass
L6	115 - 110	Pole	TP22.149x21.124x0.25	Pole	48.1	Pass
L7	110 - 105	Pole	TP23.174x22.149x0.25	Pole	59.3	Pass
L8	105 - 102	Pole	TP23.789x23.174x0.25	Pole	65.5	Pass
L9	102 - 101.75	Pole	TP23.84x23.789x0.3875	Reinf. 12 Tension Rupture	58.3	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L10	101.75 - 96.75	Pole	TP24.865x23.84x0.375	Reinf. 12 Tension Rupture	68.0	Pass
L11	96.75 - 91.75	Pole	TP25.89x24.865x0.375	Reinf. 12 Tension Rupture	71.3	Pass
L12	91.75 - 90.75	Pole	TP25.595x24.724x0.3563	Pole	61.7	Pass
L13	90.75 - 85.75	Pole	TP26.62x25.595x0.3563	Pole	67.5	Pass
L14	85.75 - 85.33	Pole	TP26.706x26.62x0.3563	Pole	68.0	Pass
L15	85.33 - 85.08	Pole	TP26.758x26.706x0.5625	Reinf. 11 Tension Rupture	61.2	Pass
L16	85.08 - 82.5	Pole	TP27.287x26.758x0.5625	Reinf. 11 Tension Rupture	63.7	Pass
L17	82.5 - 82.25	Pole	TP27.338x27.287x0.4125	Pole	63.5	Pass
L18	82.25 - 82	Pole	TP27.389x27.338x0.4125	Pole	63.8	Pass
L19	82 - 81.75	Pole	TP27.44x27.389x0.3563	Pole	72.0	Pass
L20	81.75 - 78.83	Pole	TP28.039x27.44x0.3563	Pole	75.0	Pass
L21	78.83 - 78.58	Pole	TP28.09x28.039x0.6125	Reinf. 11 Tension Rupture	63.1	Pass
L22	78.58 - 77.66	Pole	TP28.279x28.09x0.6125	Reinf. 11 Tension Rupture	63.9	Pass
L23	77.66 - 77.41	Pole	TP28.33x28.279x0.55	Reinf. 2 Tension Rupture	68.2	Pass
L24	77.41 - 77.167	Pole	TP28.38x28.33x0.55	Reinf. 2 Tension Rupture	68.4	Pass
L25	77.167 - 72.167	Pole	TP29.406x28.38x0.5375	Reinf. 2 Tension Rupture	72.5	Pass
L26	72.167 - 67.167	Pole	TP30.431x29.406x0.525	Reinf. 2 Tension Rupture	76.2	Pass
L27	67.167 - 66.58	Pole	TP30.551x30.431x0.525	Reinf. 2 Tension Rupture	76.6	Pass
L28	66.58 - 66.33	Pole	TP30.603x30.551x0.625	Reinf. 2 Tension Rupture	65.0	Pass
L29	66.33 - 66.16	Pole	TP30.638x30.603x0.625	Reinf. 2 Tension Rupture	65.1	Pass
L30	66.16 - 65.91	Pole	TP30.689x30.638x0.525	Reinf. 5 Tension Rupture	72.0	Pass
L31	65.91 - 62.66	Pole	TP31.355x30.689x0.5125	Reinf. 5 Tension Rupture	74.1	Pass
L32	62.66 - 62.41	Pole	TP31.407x31.355x0.5125	Reinf. 5 Tension Rupture	78.0	Pass
L33	62.41 - 60	Pole	TP31.901x31.407x0.5063	Reinf. 5 Tension Rupture	79.5	Pass
L34	60 - 59.75	Pole	TP31.952x31.901x0.5	Reinf. 5 Tension Rupture	79.7	Pass
L35	59.75 - 54.75	Pole	TP32.978x31.952x0.5	Reinf. 5 Tension Rupture	82.6	Pass
L36	54.75 - 52.83	Pole	TP33.372x32.978x0.5	Reinf. 5 Tension Rupture	83.6	Pass
L37	52.83 - 52.58	Pole	TP33.423x33.372x0.6875	Reinf. 5 Tension Rupture	61.6	Pass
L38	52.58 - 51.41	Pole	TP33.663x33.423x0.6875	Reinf. 5 Tension Rupture	62.1	Pass
L39	51.41 - 51.16	Pole	TP33.714x33.663x0.5063	Reinf. 1 Tension Rupture	78.0	Pass
L40	51.16 - 46.5	Pole	TP34.67x33.714x0.5063	Reinf. 1 Tension Rupture	78.1	Pass
L41	46.5 - 45.5	Pole	TP34.25x33.122x0.55	Reinf. 1 Tension Rupture	79.9	Pass
L42	45.5 - 44.25	Pole	TP34.506x34.25x0.55	Reinf. 1 Tension Rupture	80.3	Pass
L43	44.25 - 44	Pole	TP34.557x34.506x0.625	Reinf. 1 Tension Rupture	65.9	Pass
L44	44 - 43.08	Pole	TP34.746x34.557x0.625	Reinf. 1 Tension Rupture	66.2	Pass
L45	43.08 - 42.83	Pole	TP34.797x34.746x0.6625	Reinf. 8 Tension Rupture	68.8	Pass
L46	42.83 - 37.83	Pole	TP35.823x34.797x0.6625	Reinf. 8 Tension Rupture	70.5	Pass
L47	37.83 - 32.83	Pole	TP36.848x35.823x0.65	Reinf. 8 Tension Rupture	71.9	Pass
L48	32.83 - 29.25	Pole	TP37.582x36.848x0.6375	Reinf. 8 Tension Rupture	72.9	Pass
L49	29.25 - 29	Pole	TP37.633x37.582x0.6375	Reinf. 7 Tension Rupture	73.0	Pass
L50	29 - 27.75	Pole	TP37.89x37.633x0.6375	Reinf. 7 Tension Rupture	73.3	Pass
L51	27.75 - 27.5	Pole	TP37.941x37.89x0.6375	Reinf. 7 Tension Rupture	73.3	Pass
L52	27.5 - 24.08	Pole	TP38.642x37.941x0.6375	Reinf. 7 Tension Rupture	74.1	Pass
L53	24.08 - 23.83	Pole	TP38.693x38.642x0.7	Reinf. 14 Tension Rupture	71.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L54	23.83 - 23.5	Pole	TP38.761x38.693x0.7	Reinf. 14 Tension Rupture	71.7	Pass
L55	23.5 - 23.25	Pole	TP38.812x38.761x0.4438	Pole	79.0	Pass
L56	23.25 - 18.91	Pole	TP39.702x38.812x0.4438	Pole	80.3	Pass
L57	18.91 - 18.66	Pole	TP39.754x39.702x0.525	Reinf. 7 Tension Rupture	87.4	Pass
L58	18.66 - 18.08	Pole	TP39.873x39.754x0.525	Reinf. 7 Tension Rupture	87.5	Pass
L59	18.08 - 17.83	Pole	TP39.924x39.873x0.6375	Reinf. 3 Compression	76.3	Pass
L60	17.83 - 12.83	Pole	TP40.949x39.924x0.625	Reinf. 3 Compression	77.2	Pass
L61	12.83 - 7.83	Pole	TP41.974x40.949x0.625	Reinf. 3 Compression	78.0	Pass
L62	7.83 - 2.83	Pole	TP43x41.974x0.6125	Reinf. 3 Compression	78.7	Pass
L63	2.83 - 0	Pole	TP43.58x43x0.6125	Reinf. 3 Compression	79.0	Pass
					Summary	
				Pole	80.3	Pass
				Reinforcement	87.5	Pass
				Overall	87.5	Pass

**Table 5 - Tower Component Stresses vs. Capacity – LC7**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	82.7	Pass
1	Base Plate		78.9	Pass
1	Base Foundation (Structure)	0	43.3	Pass
1	Base Foundation (Soil Interaction)		60.7	Pass

<b>Structure Rating (max from all components) =</b>	<b>87.5%*</b>
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Notes:

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

#### 4.1) Recommendations

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



# Exhibit E

## **Mount Analysis**



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## Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10149043  
 Maser Consulting Connecticut Project #: 22777029A

May 25, 2022

### Site Information

Site ID: 467249-VZW / NEW BRITAIN 5 CT  
 Site Name: NEW BRITAIN 5 CT  
 Carrier Name: Verizon Wireless  
 Address: 130 Birdseye Road  
 Farmington, Connecticut 06032  
 Hartford County  
 Latitude: 41.71581666°  
 Longitude: -72.81039444°

### Structure Information

Tower Type: 140-Ft Monopole  
 Mount Type: 15.50-Ft Platform

FUZE ID # 16244128

### Analysis Results

Platform: 44.5% Pass w/ Modifications\*

**\*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](mailto:pmisupport@colliersengineering.com)**

Report Prepared By: Selene Chen



**Executive Summary:**

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

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
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS, Site ID: 674976, dated April 21, 2022</i>
<i>Desktop Mount Mapping</i>	<i>Colliers Engineering &amp; Design, Project #: 22777029, dated March 31, 2022</i>
<i>Previous Mount Analysis</i>	<i>Maser Consulting Connecticut, Project #: 22777029A, dated May 12, 2022</i>
<i>Mount Modification Drawings</i>	<i>Maser Consulting Connecticut, Project #: 22777029A, dated May 24, 2022</i>

**Analysis Criteria:**

Codes and Standards:	ANSI/TIA-222-H
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), $V_{ULT}$ : 117 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.50 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, $K_e$ : 0.985
Seismic Parameters:	$S_s$ : 0.189 g $S_1$ : 0.055 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Live Load, $L_v$ : 250 lbs. Maintenance Live Load, $L_m$ : 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
108.00	110.00	3	Samsung	MT6407-77A	Added
		6	Andrew	SBNHH-1D65B	Retained
		3	Samsung	XXDWMM-12.5-65-8T-CBRS	
		3	Antel	BXA-70063-4CF	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	
		1	Raycap	OVP 12*	

\* Equipment is flush mounted directly to the Monopole. The equipment is not mounted on Platform mount and is not included in this mount analysis.

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 Connecticut 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 Connecticut 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 Connecticut 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:
  - o Channel, Solid Round, Angle, Plate      ASTM A36 (Gr. 36)
  - o HSS (Rectangular)                              ASTM 500 (Gr. B-46)
  - o Pipe    ASTM A53 (Gr. B-35)
  - o Threaded Rod                                      F1554 (Gr. 36)
  - o Bolts    ASTM A325
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

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

**Analysis Results:**

Component	Utilization %	Pass/Fail
<i>Standoff Horizontal</i>	12.0 %	<i>Pass</i>
<i>Platform Crossmember</i>	17.7 %	<i>Pass</i>
<i>Corner Plate</i>	16.5 %	<i>Pass</i>
<i>Grating Support</i>	11.1 %	<i>Pass</i>
<i>Cross Arm Plate</i>	32.9 %	<i>Pass</i>
<i>Face Horizontal</i>	18.4 %	<i>Pass</i>
<i>Mount Pipe</i>	44.5 %	<i>Pass</i>
<i>Kicker</i>	13.0 %	<i>Pass</i>
<i>Mod Support Rail</i>	18.5 %	<i>Pass</i>
<i>Support Rail Corner Angle</i>	35.5 %	<i>Pass</i>
<i>Connection Check</i>	28.4 %	<i>Pass</i>

<b>Structure Rating – (Controlling Utilization of all Components)</b>	<b>44.5%</b>
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**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	32.8	32.8	46.2	46.2
0.5	42.6	42.6	61.8	61.8
1	51.4	51.4	76.3	76.3

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 will be **SUFFICIENT** for the final loading configuration (attachment 2) **after the modifications detailed in attachment 3 are successfully completed.**

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

### **Attachments:**

1. **Contractor Required PMI Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Desktop Mount Mapping Form (for reference only)
6. Analysis Calculations

# Exhibit F

## **Power Density/RF Emissions Report**

Site Name: **New Britain 5 CT**  
 Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )	(%)
VZW 700	751	4	698	2792	110	0.0083	0.5007	1.66%
VZW CDMA	869	2	411	822	110	0.0024	0.5793	0.42%
VZW Cellular	869	4	826	3304	110	0.0098	0.5793	1.70%
VZW PCS	1980	4	1953	7812	110	0.0232	1.0000	2.32%
VZW AWS	2125	4	1581	6324	110	0.0188	1.0000	1.88%
VZW CBAND	3730	4	6531	26124	110	0.0776	1.0000	7.76%
VZW CBRS	3625	4	12	48	110	0.0001	1.0000	0.01%

**Total Percentage of Maximum Permissible Exposure** 15.75%

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

\*\*Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.