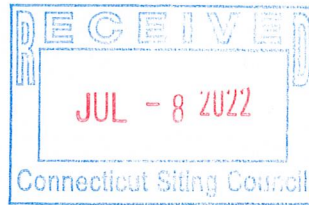




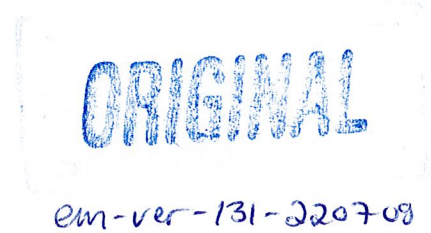
1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

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

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



June 30th, 2022



RE: **Notice of Exempt Modification for Verizon Wireless**
Crown Site ID# 841298; Verizon Wireless Site ID# 468179
250 Meriden Waterbury Turnpike, Southington, CT 06489
Latitude: 41° 33' 24.54" / Longitude: -72° 51' 10.84"

Dear Ms. Bachman:

Verizon Wireless currently maintains (6) antennas at the 60-foot mounts on the existing 120-foot Self Support (Lattice) Tower located at **250 Meriden Waterbury Turnpike, Southington**. The property is owned John Rogus and the Tower is owned by Crown Castle. Verizon now intends to replace (6) antennas and install (3) additional 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:

REMOVE AND REPLACE

- (6) Andrew SBNHH-1D65B antennas (**REMOVE**) (3) Commscope NHH-65B-R2B (**REPLACE**) (3) Commscope NHHSS-65B-R28T4 (**REPLACE**)
- (3) Nokia UHBA B13 RRH (**REMOVE**) (3) Samsung CBRS CBRS RT4401-48A (**REPLACE**)
- (3) Nokia UHIE B66A RRH (**REMOVE**) (3) Samsung RF 44400-13A RRH (**REPLACE**)
- (1) Raycap- 6-OVP (**REMOVE**) (2) Raycap RVZDC-6627-PF-48 12-OVP (**REPLACE**)
- (1) Hybrid Cable 1-1/4" (**REMOVE**) (2) Hybrid Cables 1-5/8" (**REPLACE**)

INSTALL

- (3) Samsung RF 4439D-25A RRH
- (3) Samsung MT6407-77A antennas
- (3) Side-by-side Antenna mounts – Commscope BSAMNT-SBS-R2BT4

Ground:

N/A

In 1999, AT&T received Council approval to replace two (2) existing communications towers at the Site with a single 80-foot lattice tower and install its antennas at the top of the tower (TS-SCLP-131-990317). Subsequently, the Council approved a tower extension in Petition No. 1349 which increased the height of the tower to 120 feet overall.



1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

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

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 Mark J. Sciota, Town Manager, Robert Phillips, MS, MPA, AICP, Director of Planning, and property owner, John Rogus.

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 Wireless 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
Crown Castle, Agent for Verizon Wireless
kadams@nbelle.com
(781) 392-7547



1 Cityplace Dr, Suite 490
Creve Coeur, MO 63141

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

cc:

Mark J. Sciota, Town Manager
Southington Town Hall
75 Main Street
Southington, CT 06489
(Via Fedex)

Robert Phillips, MS, MPA, AICP, Director of Planning
196 North Main Street
Southington, CT 06489
(Via Fedex)

John Rogus
250 Meriden Waterbury Turnpike
Southington, CT 06489
(Via Fedex)

Katie Adams

From: TrackingUpdates@fedex.com
Sent: Wednesday, July 6, 2022 9:42 AM
To: Katie Adams
Subject: FedEx Shipment 777287157672: Your package has been delivered



Hi. Your package was
delivered Wed, 07/06/2022 at
9:40am.



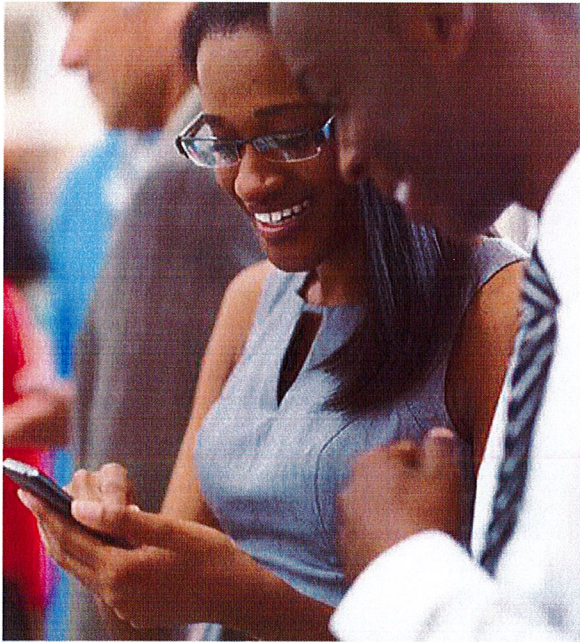
Delivered to 196 N MAIN ST, SOUTHINGTON, CT 06489

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	777287157672
FROM	NB+C 100 Apollo Drive Suite 303 CHELMSFORD, MA, US, 01824
TO	Planning department Robert Phillips

196 North Main Street
SOUTHINGTON, CT, US, 06489

REFERENCE	100788 - CSC
SHIPPER REFERENCE	100788 - CSC
SHIP DATE	Tue 7/05/2022 06:28 PM
PACKAGING TYPE	FedEx Pak
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	SOUTHINGTON, CT, US, 06489
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



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FOLLOW FEDEX

Katie Adams

From: TrackingUpdates@fedex.com
Sent: Wednesday, July 6, 2022 11:43 AM
To: Katie Adams
Subject: FedEx Shipment 777287128404: Your package has been delivered



Hi. Your package was
delivered Wed, 07/06/2022 at
11:42am.



Delivered to 250 MERIDEN WATERBURY TPK, SOUTHINGTON, CT 06489

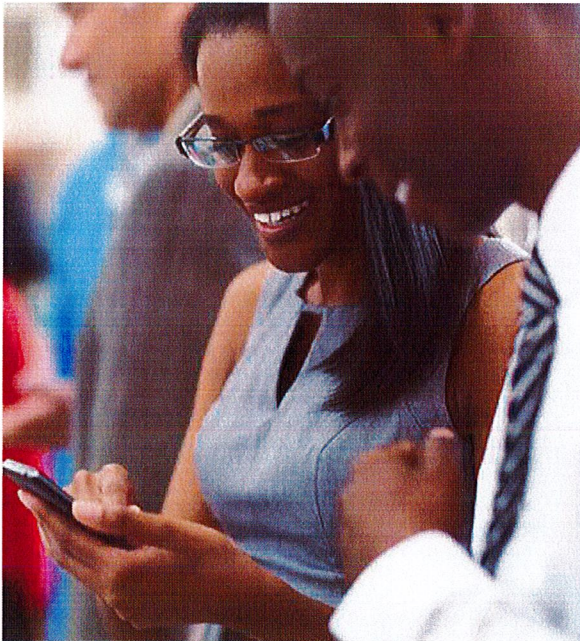
OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777287128404](#)

FROM NB+C
100 Apollo Drive
Suite 303
CHELMSFORD, MA, US, 01824

TO John Rogus
250 Meriden Waterbury Turnpike
SOUTHINGTON, CT, US, 06489

REFERENCE 100788 - CSC
SHIPPER REFERENCE 100788 - CSC
SHIP DATE Tue 7/05/2022 06:28 PM
DELIVERED TO Residence
PACKAGING TYPE FedEx Pak
ORIGIN CHELMSFORD, MA, US, 01824
DESTINATION SOUTHLINGTON, CT, US, 06489
SPECIAL HANDLING Deliver Weekday
Residential Delivery
NUMBER OF PIECES 1
TOTAL SHIPMENT WEIGHT 1.00 LB
SERVICE TYPE FedEx Priority Overnight



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FOLLOW FEDEX

Katie Adams

From: TrackingUpdates@fedex.com
Sent: Wednesday, July 6, 2022 9:56 AM
To: Katie Adams
Subject: FedEx Shipment 777287142923: Your package has been delivered



Hi. Your package was
delivered Wed, 07/06/2022 at
9:55am.



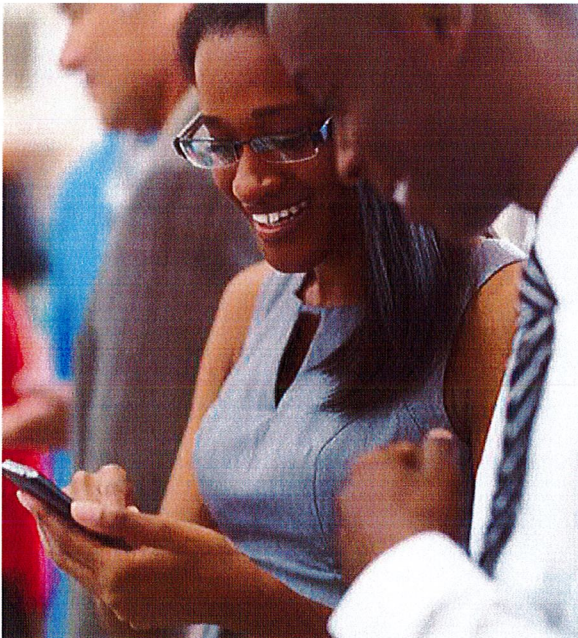
Delivered to 75 MAIN ST, SOUTHLINGTON, CT 06489
Received by [M.KIM](#)

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	777287142923
FROM	NB+C 100 Apollo Drive Suite 303 CHELMSFORD, MA, US, 01824
TO	Southington Town Hall Mark J. Sciota

75 Main Street
SOUTHINGTON, CT, US, 06489

REFERENCE	100788 - CSC
SHIPPER REFERENCE	100788 - CSC
SHIP DATE	Tue 7/05/2022 06:28 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Pak
ORIGIN	CHELMSFORD, MA, US, 01824
DESTINATION	SOUTHINGTON, CT, US, 06489
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



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Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**



Exhibit A

Original Facility Approval



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

CERTIFIED MAIL RETURN RECEIPT REQUESTED

October 26, 2018

Lucia Chiocchio, Esq.
Cuddy & Feder, LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

RE: **PETITION NO. 1349** – New Cingular Wireless PCS, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed extension of an existing wireless telecommunications facility located at 250 Meriden Waterbury Turnpike, Southington, Connecticut.

Dear Attorney Chiocchio:

At a public meeting held on October 25, 2018, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need with the following conditions:

1. Prior to AT&T's antenna installation the tower modification shall be carried out in accordance with the Structural Modification Report and Modification Drawings prepared by Paul J. Ford, dated March 16, 2018 and March 19, 2018 respectively, and stamped and signed by Joseph Pachicarah Jacobs;
2. Within 45 days following completion of proposed modifications, AT&T shall provide documentation that its installation complied with the recommendations of the Tower Modification Schedule;
3. Approval of any minor project changes be delegated to Council staff;
4. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
5. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Town of Southington;
6. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
7. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by the Petitioner shall be removed within 60 days of the date the antenna ceased to function;

8. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;
9. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
10. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition received September 4, 2018 and additional information received on October 5, 2018 and October 11, 2018.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,



Robert Stein
Chairman

RS/IN/lm

Enclosure: Staff Report dated October 25, 2018

- c: The Honorable Christopher Palmieri, Chairman, Town of Southington
Mark J. Sciota, Town Manager, Town of Southington
Robert Phillips, Director of Planning and Community Development, Town of Southington
John Rogus, property owner



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

Petition No. 1349

New Cingular Wireless PCS, LLC

Southington, Connecticut

Staff Report

October 25, 2018

On September 4, 2018, New Cingular Wireless PCS, LLC (AT&T) submitted a petition (Petition) to the Connecticut Siting Council (Council) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the proposed extension of an existing wireless telecommunications facility located at 250 Meriden Waterbury Turnpike, Southington, Connecticut. A field review of the proposed project was conducted on September 25, 2018. Council member Daniel Lynch and Fred Cunliffe and Ifeanyi Nwankwo of the Council staff attended the field review. Kristen Motel Esq., Mark Roberts and Brian Huff attended the field review as representatives of AT&T. At the request of the Council, AT&T attempted to fly a balloon during the field review to simulate the proposed extension of the facility, but it was unsuccessful due to weather conditions. AT&T conducted a second balloon float at the site on October 1, 2018. Two balloons were flown, one red (2-feet in diameter) and one white (3.5-feet in diameter) and flown at elevations of 110-feet and 120-feet above ground level, respectively.

The existing facility is located on a 1.2 acre parcel containing a commercial building, associated outbuildings and a parking area within a Business District Zone. The surrounding area consists of a mix of residential, commercial and retail uses to the north and west and residential uses to the south and east.

The existing facility consists of an 80-foot self-supporting lattice tower owned by Crown Castle. AT&T currently has nine antennas mounted at a center line height of 78-feet above ground level (agl) and Verizon has six antennas mounted at a center line height of 60-feet agl. AT&T and Verizon have associated equipment located at the base of the tower. The equipment shelter is locked and the tower is equipped with an anti-climbing shield.

AT&T proposes to extend the height of the existing self-supporting lattice tower to 120-feet agl. AT&T would remove its existing antennas and install three new 700/850 MHz antennas at the top of the lattice extension. Antennas would be installed at a centerline height of 120-feet agl. The height at the top of AT&T's antennas would be 123-feet agl. AT&T would also install six remote radio head units (RRU's), one surge arrester, nine cables and an 11-foot lightning mast at the same 120-foot level. The proposed equipment is dual technology capable and compatible with 5G. Aside from minor equipment upgrades within AT&T's equipment shelter, there will be no changes to the existing equipment area at ground level. Existing access to the site would continue to be used. Verizon's existing antennas and equipment would not be affected.

AT&T has backup power batteries within its equipment shelter. These batteries can handle periods of commercial power outages of up to eight hours. For extended commercial power outages, AT&T would utilize a mobile diesel generator that would be transported to the site. This method of backup power has been successfully deployed several times during the sites existence.

AT&T states that in the event of a tower failure due to a catastrophic event, the tower's control section (40 – 60 foot along the legs of the tower) would cause it to collapse upon itself keeping it within the subject parcel.

The purpose of the proposed modification is to provide reliable wireless service in this area of Southington. The existing AT&T antennas are currently at or below the height of the surrounding tree canopy and as a result two of the three sectors of antennas are blocked by the tree line. AT&T dropped call data for this site indicates elevated voice and data drops, as well as substandard data service, that drive the need for the proposed height extension. The proposed height is the lowest height AT&T could locate antennas to gain the coverage necessary to provide reliable service, particularly north along State Route 120. Reducing the height to 100-feet would decrease coverage by one-half to the area.

The proposed extension would have a minimal impact on visibility. The proposed extension would be consistent with the existing tower in design, color and material. Views from the closest residential areas on Meriden Waterbury Turnpike and Orchard Lane are not expected to be substantial. The existing facility can be seen from West Peak and Castle Craig (0.5 miles and 0.9 miles northeast respectively, of the AT&T facility) within Hubbard Park in Meriden. The proposed extension would also be visible from these locations.

There are no schools or child day care centers within 1,000-feet of the tower. The nearest school is South End Elementary School located approximately 8,270-feet from the site. There are 72 residences within 1000-feet of the existing site. The closest residence is within approximately 10-feet and is located on the subject parcel. The closest off-site residence is within approximately 200-feet and is located at Orchard Lane.

The site is outside of the 100-year and 500-year flood zones. The nearest wetland is approximately 1,155-feet to the northwest of the site. No aviation marking or lighting is required. The nearest Important Bird Areas to the site (East Rock Park (11 miles away) and Naugatuck State Forest (12 miles away)) would not be adversely impacted by the proposed modification. Furthermore, the proposed modifications would comply with the recommended guidelines of the U.S. Fish and Wildlife Service for minimizing the potential for telecommunication towers to impact bird species.

There will be no ground disturbance or tree removal for the proposed extension.

A Professional Engineer duly licensed in the State of Connecticut has certified that the tower is structurally adequate to support the proposed loading with certain conditions. The maximum worst-case power density would be 25.2% of the applicable limit. AT&T's RF Tier rating for this facility is Tier 1 (level of priority to maintain network continuity) since it provides service to an interstate highway (I-691).

Notice was provided to the Town of Southington, the property owner and abutting property owners on August 29, 2018. No comments have been received to date.

AT&T contends that this proposal will not have a substantial adverse environmental effect. Staff recommends approval with the following conditions:

- Prior to AT&T's antenna installation the tower modification shall be carried out in accordance with the Structural Modification Report and Modification Drawings prepared by Paul J. Ford, dated March 16, 2018 and March 19, 2018 respectively, and stamped and signed by Joseph Pachicarah Jacobs;
- Within 45 days following completion of proposed modifications, AT&T shall provide documentation that its installation complied with the recommendations of the Tower Modification Schedule; and
- Approval of any minor project changes be delegated to Council staff.

View of Balloon float from Commercial district on Meriden Avenue



Photo-simulation showing proposed tower extension from commercial district on Meriden Avenue



View of Balloon float from nearby residential area on Orchard Lane

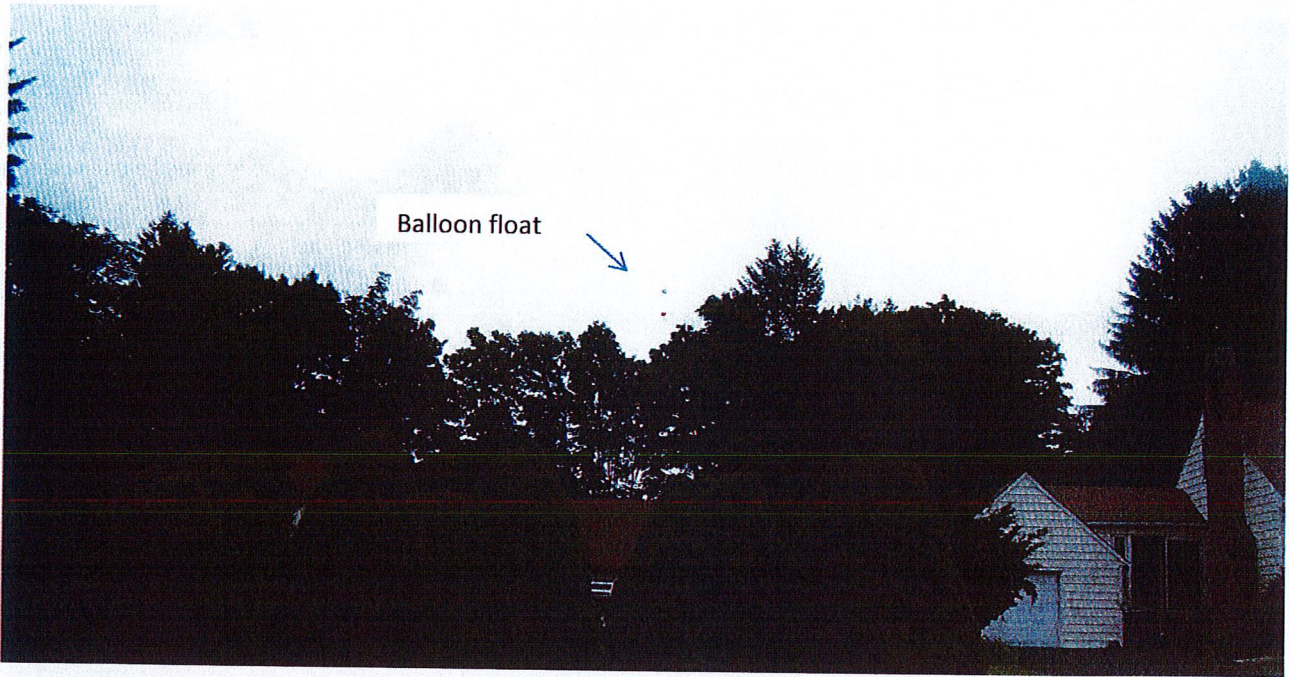
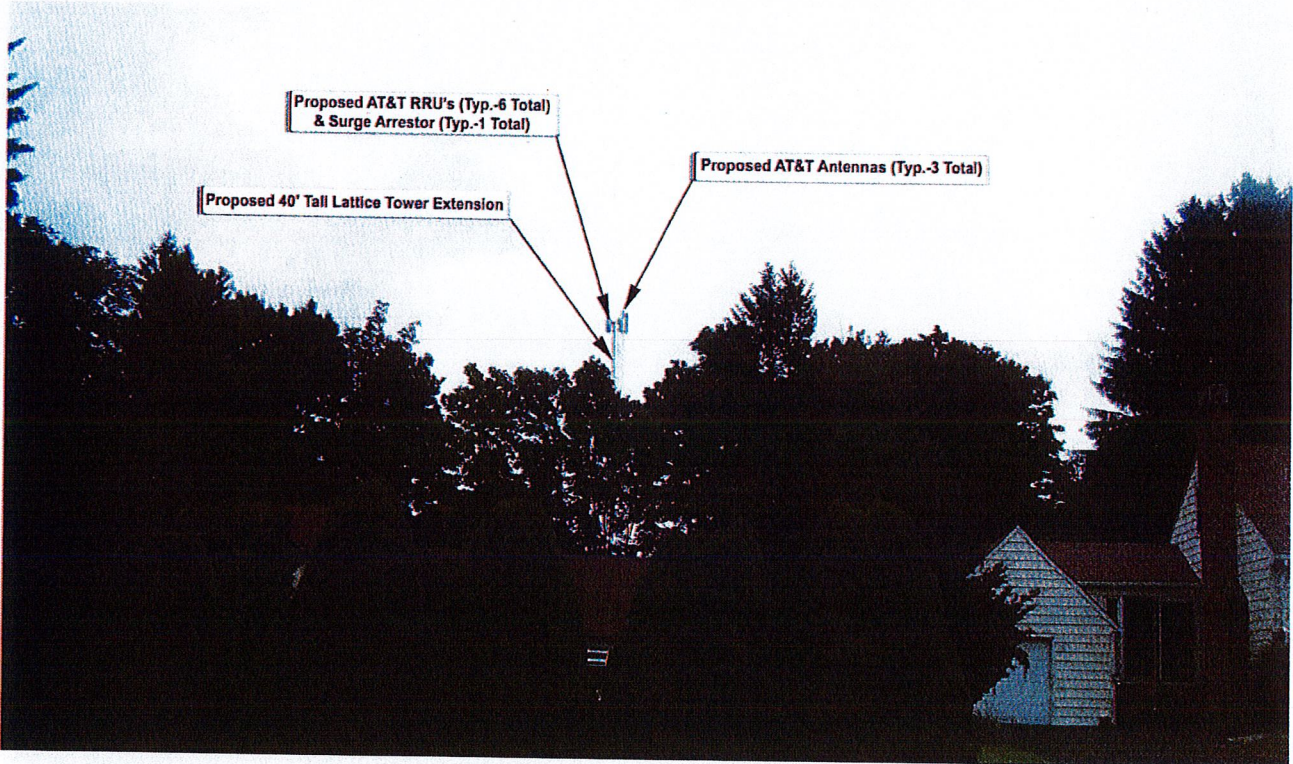


Photo-simulation showing proposed tower extension from nearby residential area on Orchard lane



View of Balloon float from the Tower Farm on West Peak

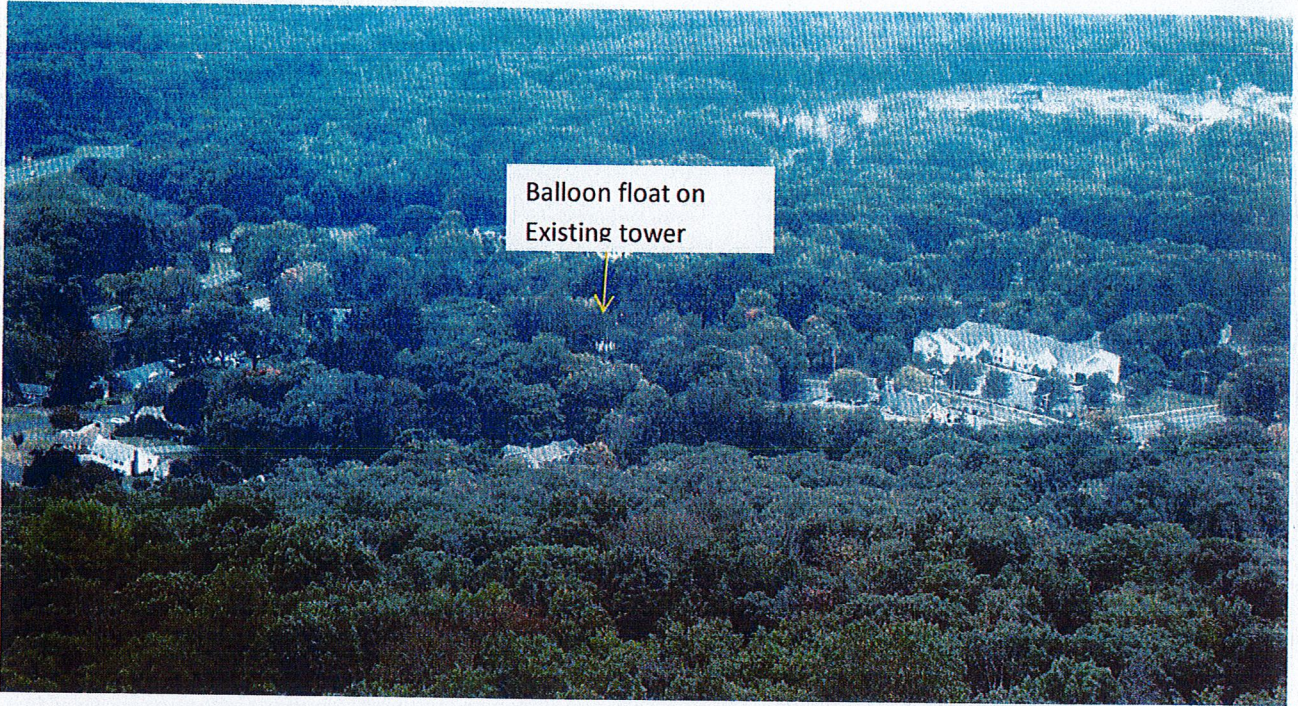


Photo-simulation showing proposed tower extension from the Tower Farm on West Peak

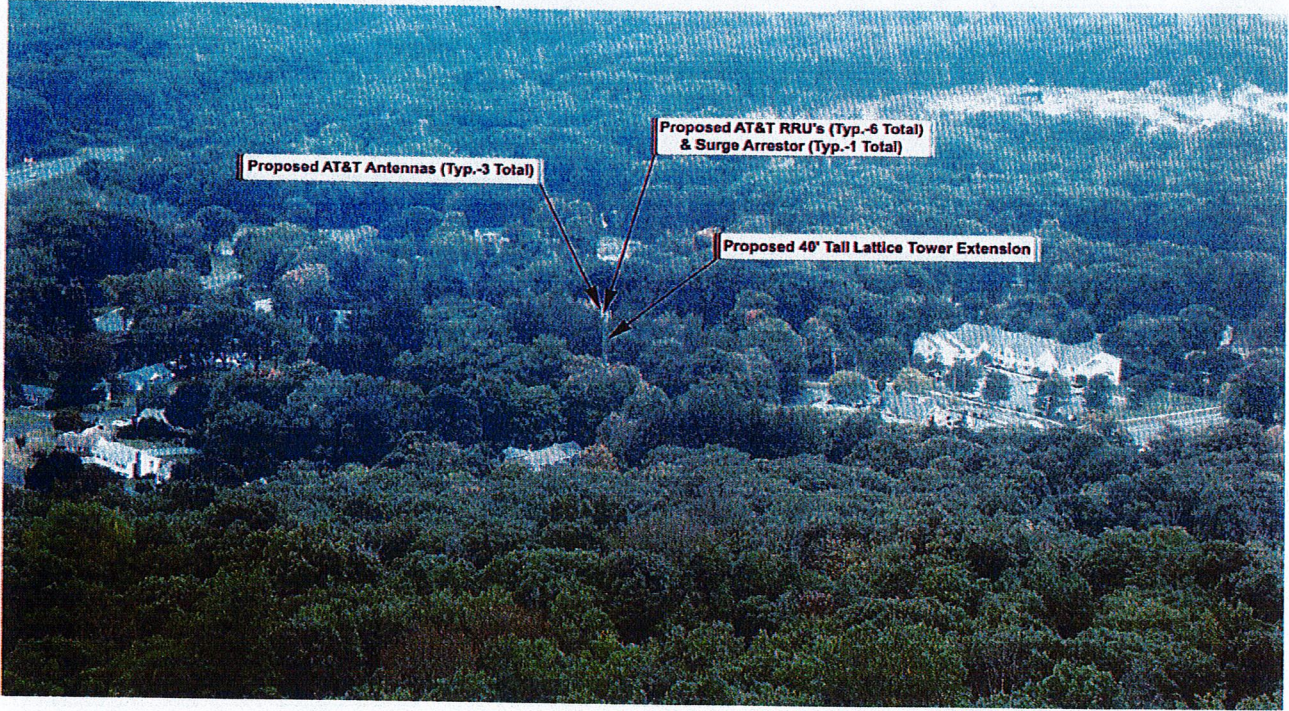


Exhibit B

Property Card

250 MERIDEN WATERBURY TPKE

Location 250 MERIDEN WATERBURY
TPKE

Mblu 015//080//

Acct# 10848

Owner ROGUS JOHN

Assessment \$350,310

Appraisal \$500,450

PID 398

Building Count 2

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$173,720	\$326,730	\$500,450
Assessment			
Valuation Year	Improvements	Land	Total
2020	\$121,600	\$228,710	\$350,310

Owner of Record

Owner	ROGUS JOHN	Sale Price	\$0
Co-Owner		Certificate	
Address	250 MERIDEN WATERBURY TPKE SOUTHINGTON, CT 06489	Book & Page	1267/0806
		Sale Date	12/28/2012
		Instrument	29

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
ROGUS JOHN	\$0		1267/0806	29	12/28/2012
ROGUS JOHN JR & JAN	\$0		0311/0085	29	07/10/1980

Building Information

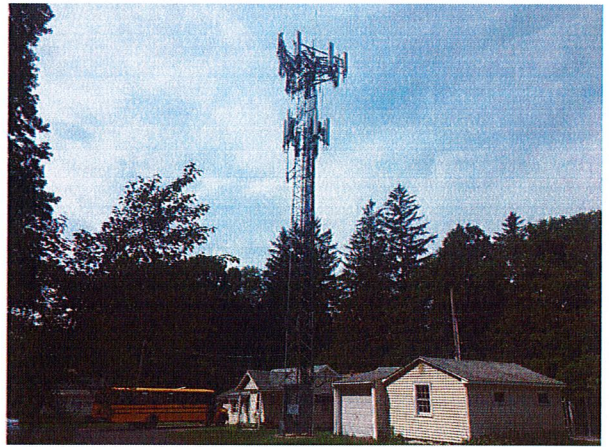
Building 1 : Section 1

Year Built:	1936
Living Area:	1,740
Building Percent Good:	62

Building Attributes

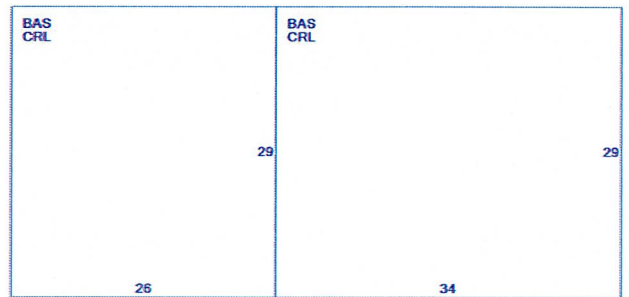
Field	Description
Style:	Retail
Model	Comm/Ind
Grade	C-
Stories:	1
Occupancy	1.00
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt / Arch Shingle
Interior Wall 1	Average
Interior Wall 2	
Interior Floor 1	Average
Interior Floor 2	
Heating Fuel	Typical
Heating Type	Unit Heater
AC Type	None
Struct Class	
Bldg Use	Multi Use - Comm
Total Bedrooms	
Total Baths	
Wet Sprinkler	0
Dry Sprinkler	0
1st Floor Use:	
Heat/AC	Heat Only
Frame Type	Wood Frame
Baths/Plumbing	None
Ceiling/Wall	Typical
Rooms/Prtns	Average
Wall Height	9.00

Building Photo



(<https://images.vgsi.com/photos2/SouthingtonCTPhotos/\00\05\57\30.jpg>)

Building Layout



(ParcelSketch.ashx?pid=398&bid=398)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,740	1,740
CRL	Crawl Space	1,740	0
		3,480	1,740

Building 2 : Section 1

Year Built: 1936
 Living Area: 1,188
 Building Percent Good: 66

Building Attributes : Bldg 2 of 2

Field	Description
Style	Cape
Model	Residential
Grade:	C

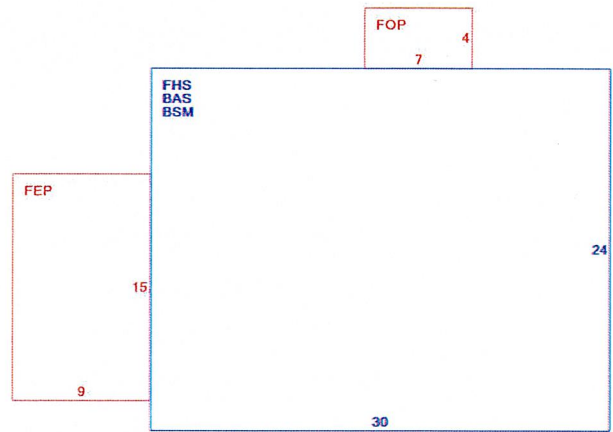
Stories	1.5
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt / Arch Shingle
Interior Wall 1	Average
Interior Wall 2	
Interior Flr 1	Average
Interior Flr 2	
Heat Fuel	Gas
Heat Type:	Forced Hot Air
AC Type:	None
Total Bedrooms:	2
Full Bthrms:	1
Half Baths:	1
Extra Fixtures	0
Total Rooms:	5
Bath Style:	Average
Kitchen Style:	Average
Total Kitchens	1
Fireplaces	1
Whirlpool Tubs	0
Fin Bsmt Area	None
Fin Bsmt Quality	
Bsmt Garages	0
.	
Bsmt Type	Full
Attic Type	None
Cath Ceiling	No
Fndtn Cndtn	
Basement	

Building Photo



(<https://images.vgsi.com/photos2/SouthingtonCTPhotos/\00\01\72\06.JPG>)

Building Layout



(ParcelSketch.ashx?pid=398&bid=20002)

Building Sub-Areas (sq ft)			Legend	
Code	Description	Gross Area	Living Area	
BAS	First Floor	720	720	
FHS	Finished Half Story	720	468	
BSM	Basement	720	0	
FEP	Finished Enclosed Porch	135	0	
FOP	Open Porch	28	0	
		2,323	1,188	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 031
 Description Multi Use - Comm
 Zone B
 Alt Land Appr No
 Category

Land Line Valuation

Size (Acres) 1.22
 Depth

Outbuildings

Outbuildings					Legend
Code	Description	Sub Code	Sub Description	Size	Bldg #
PAV1	Paving	AS	Asphalt	2625.00 S.F.	1
FGR1	Garage			520.00 S.F.	1
SHD1	Shed	FR	Frame	462.00 S.F.	1
SHD1	Shed	FR	Frame	414.00 S.F.	1

Valuation History

Appraisal				
Valuation Year	Improvements	Land	Total	
2021	\$173,720	\$326,730	\$500,450	
2020	\$173,720	\$326,730	\$500,450	
2019	\$165,770	\$136,600	\$302,370	
2018	\$165,770	\$136,600	\$302,370	
2017	\$165,770	\$136,600	\$302,370	

Assessment				
Valuation Year	Improvements	Land	Total	
2021	\$121,600	\$228,710	\$350,310	
2020	\$121,600	\$228,710	\$350,310	
2019	\$116,040	\$95,620	\$211,660	
2018	\$116,040	\$95,620	\$211,660	
2017	\$116,040	\$95,620	\$211,660	

Exhibit C

Construction Drawings



VERIZON SITE NUMBER: 468179 **BUSINESS UNIT #:** 841298
VERIZON SITE NAME: SOUTHINGTON_I691_CT - A **SITE ADDRESS:** 250 MERIDEN WATERBURY TURNPIKE
VERIZON FUZE ID: 16092616 **COUNTY:** HARTFORD
SITE TYPE: SELF-SUPPORT **JURISDICTION:** TOWN OF
TOWER HEIGHT: 120'-0" **SOUTHINGTON**

VERIZON MODIFICATION;4G_850,5G_850,5G_L-SUB6-PREP



VERIZON SITE NUMBER:
468179
BU #: 841298
SOUTHINGTON ROGUS
 250 MERIDEN WATERBURY
 TURNPIKE
 SOUTHINGTON, CT 06489
EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
0	05/27/22	ODS	CONSTRUCTION	RST

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	SOUTHINGTON ROGUS
SITE ADDRESS:	250 MERIDEN WATERBURY TURNPIKE SOUTHINGTON, CT 06489
COUNTY:	HARTFORD
MAP/PARCEL #:	015080
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 33' 24.54"
LONGITUDE:	-72° 51' 10.84"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	340 FT
CURRENT ZONING:	B
JURISDICTION:	TOWN OF SOUTHINGTON
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	ROGUS JOHN 250 MERIDEN WATERBURY TPKE SOUTHINGTON, CT 06489
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	VERIZON WIRELESS 180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO (800)-286-2000
TELCO PROVIDER:	AT&T (866) 744-5494

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
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C-1	SITE PLAN
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C-3	EQUIPMENT SCHEDULES
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C-5	EQUIPMENT DETAILS
C-6	PLUMBING DIAGRAM
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS
APPENDIX	MOUNT MODIFICATION DRAWINGS

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

LOCATION MAP

NO SCALE

DRIVING DIRECTIONS FROM VERIZON LOCAL OFFICE (5140 BERLIN TURNPIKE, NEWINGTON, CT 06111)
 HEAD EAST. TURN RIGHT TOWARD DEMING ST. TURN RIGHT ONTO DEMING ST. USE THE LEFT 2 LANES TO TURN LEFT AT THE 1ST CROSS STREET ONTO US-5 S/BERLIN TURNPIKE. TAKE THE US-5/BROAD STREET EXIT TOWARD I-691/CT-66. CONTINUE ONTO US-5 S/N BROAD ST. TURN RIGHT TO MERGE WITH I-691 W TOWARD WATERBURY/I-84. TAKE EXIT 4 FOR CT-322 TOWARD SOUTHINGTON. TURN RIGHT ONTO CT-322 W.

APPROVALS	
<u>SIGNATURE</u>	<u>DATE</u>
_____	_____
_____	_____
_____	_____

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	2015 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: BY OTHERS
 DATED: _____

MOUNT ANALYSIS: MASER CONSULTING CONNECTICUT
 DATED: 04/15/2022

RFDS REVISION: 1
 DATED: 03/28/2022

ORDER ID: 617730
 REVISION: 0

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

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:

- REMOVE (6) ANTENNAS
- REMOVE (6) RRHs
- REMOVE (1) G-OVP
- REMOVE (1) HYBRID CABLE
- INSTALL T-ARM MOUNT MODIFICATIONS
- INSTALL (9) ANTENNAS
- INSTALL (9) RRHs
- INSTALL (2) 12-OVP
- INSTALL (2) HYBRID CABLE

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

PROJECT TEAM	
A&E FIRM:	TOWER ENGINEERING PROFESSIONALS 326 TRYON ROAD RALEIGH, NC 27603 (919) 661-6351 JOSEPH T. CRESS - PROJECT MANAGER SCOTT C. BRANTLEY - CIVIL ENGINEER
CROWN CASTLE USA INC. DISTRICT CONTACTS:	6525 ARDREY KELL ROAD, SUITE 600 CHARLOTTE, NC 28277 SARA REA LOADHOLDT - A&E SPECIALIST (704) 405-6548

CONTRACTOR PMI REQUIREMENTS	
PMI ACCESSED AT	https://pmi.vxwsmart.com
SMART TOOL VENDOR	
PROJECT NUMBER	10141854
VzW LOCATION CODE (PSLC)	468179

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

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

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:	REVISION:
T-1	0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GREENFIELD GROUNDING NOTES:

- 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.
- 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.
- 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.
- METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- 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.
- 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.
- 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.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- 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.
- 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).
- 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:

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 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.
- 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.
- 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- 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.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- 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.
- 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.
- 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
- 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"
- 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:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
 - ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
 - 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 ADAPTED CODE PER THE GOVERNING JURISDICTION.
- 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.
- 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).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- 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.
- 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.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- 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.
- 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).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREFOLD SPECIMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- 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.
- 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.
- 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.
- 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.
- 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.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON".
- ALL EMPTY SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

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

APWA UNIFORM COLOR CODE:

- PROPOSED EXCAVATION
- TEMPORARY SURVEY MARKINGS
- ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
- GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
- COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
- POTABLE WATER
- RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
- SEWERS AND DRAIN LINES

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

ABBREVIATIONS:


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



20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492



1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430



TOWER
ENGINEERING
PROFESSIONALS

326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351

TEP JOB #: 55617.702034

VERIZON SITE NUMBER:
468179

BU #: 841298
SOUTHINGTON ROGUS

250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489

EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
0	05/27/22	ODS	CONSTRUCTION	RST



05/27/22

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SHEET NUMBER: **T-2** REVISION: **0**

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20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

CROWN CASTLE

1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430



TOWER
ENGINEERING
PROFESSIONALS

326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351

TEP JOB #: 55617.702034

VERIZON SITE NUMBER:
468179

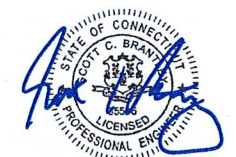
BU #: 841298
SOUTHINGTON ROGUS

250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489

EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
0	05/27/22	ODS	CONSTRUCTION	RST

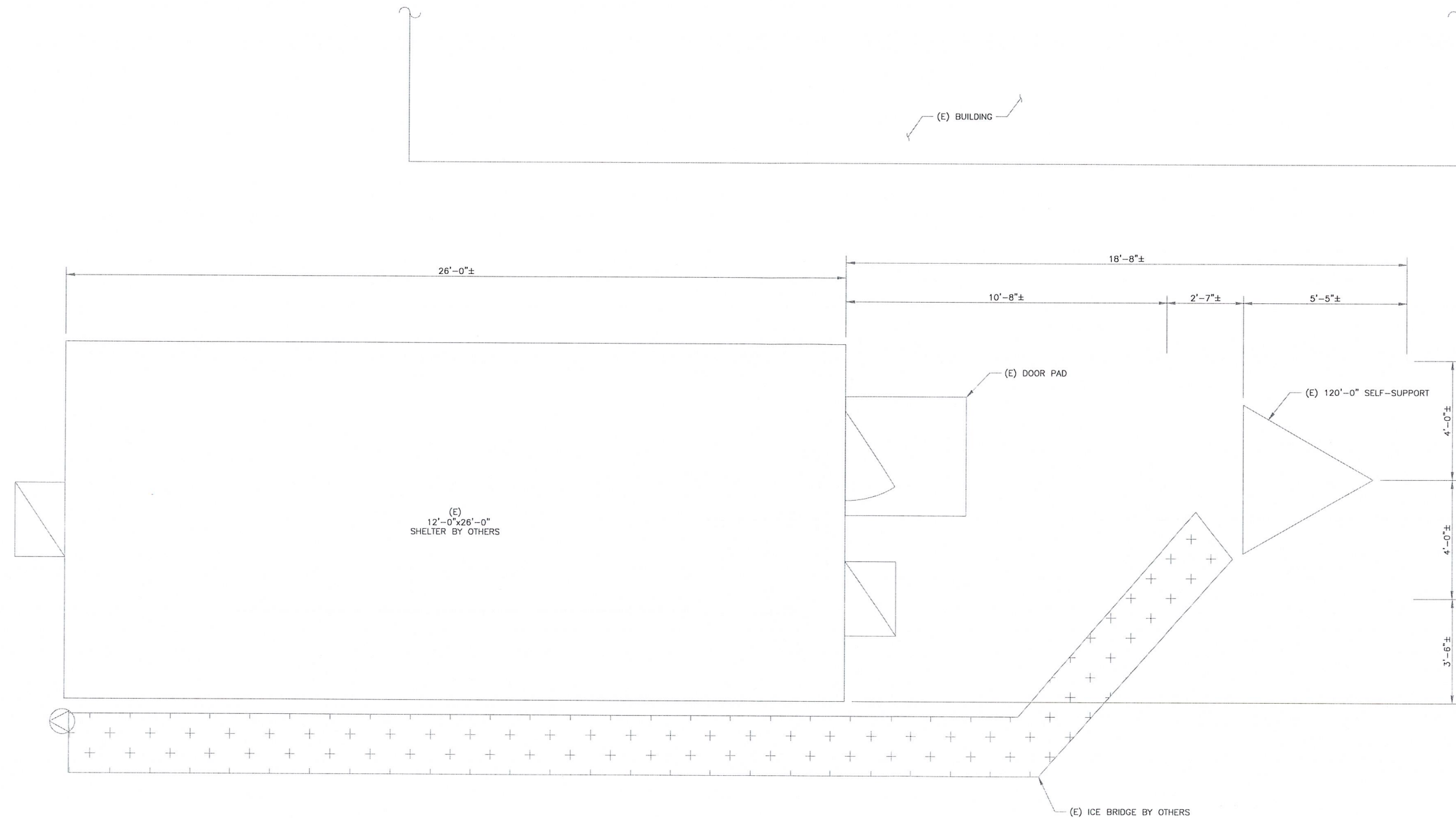


05/27/22

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SHEET NUMBER: REVISION:

C-1 **0**

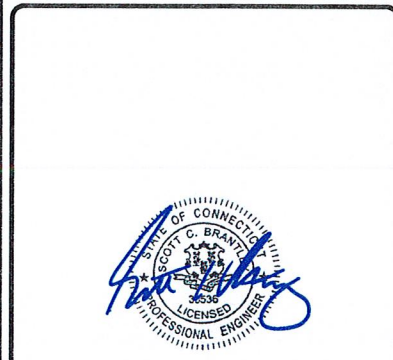


1 SITE PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)

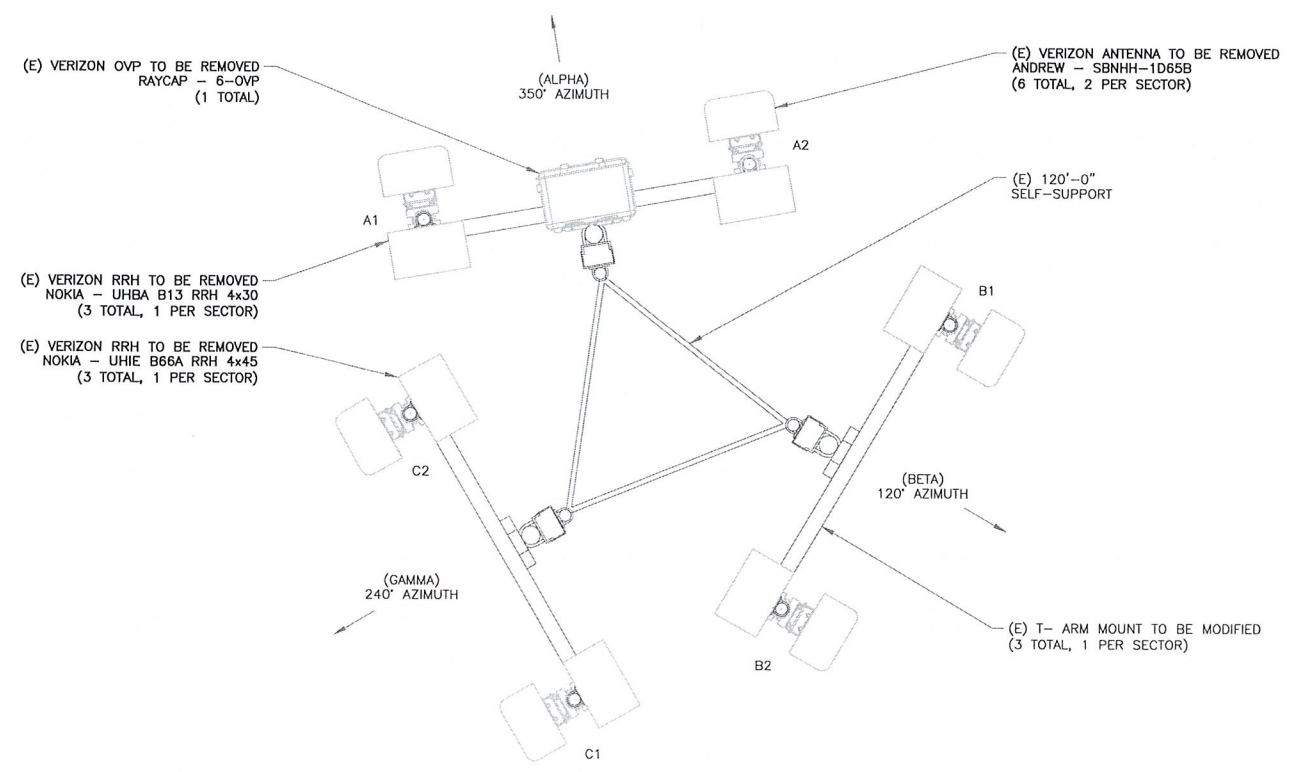


ISSUED FOR:

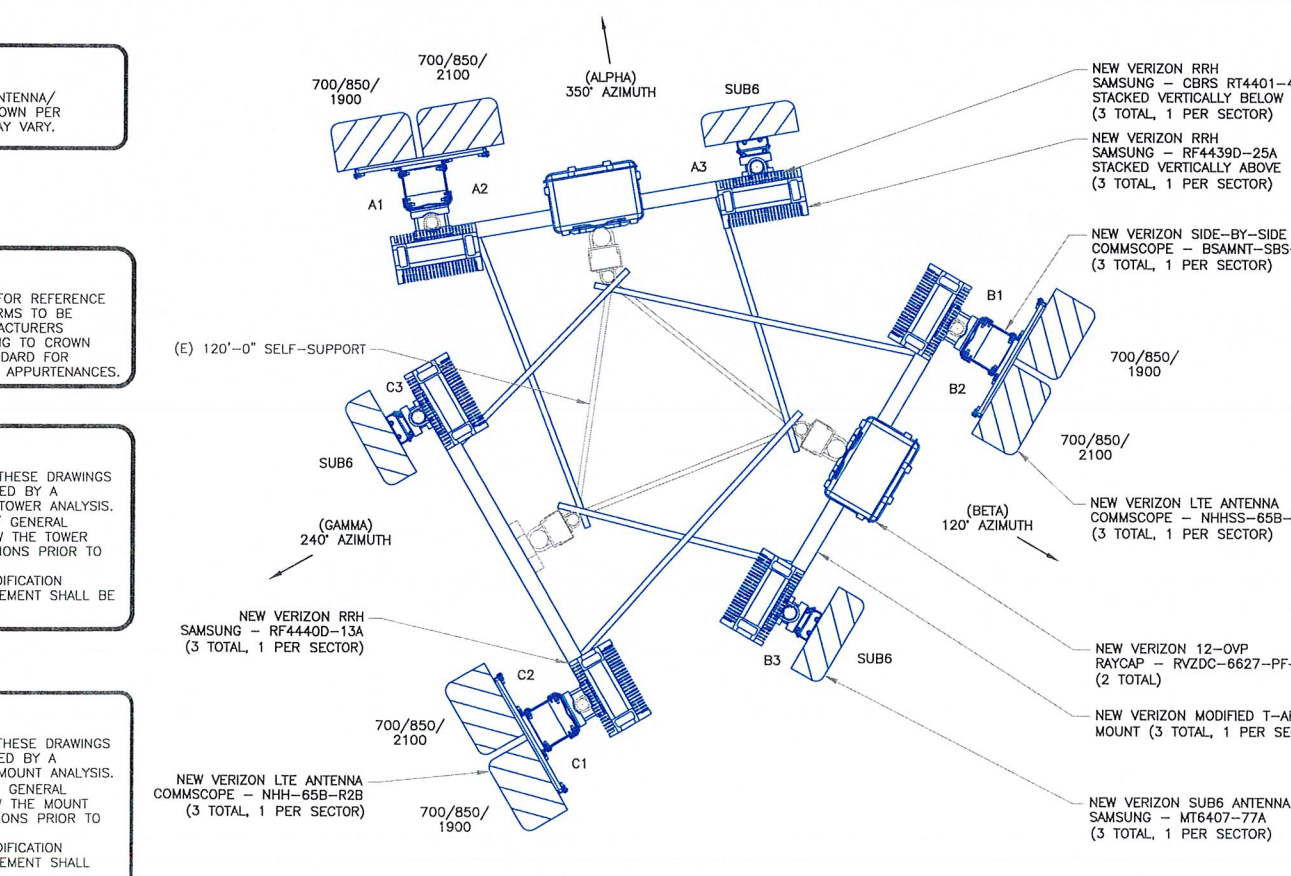
REV	DATE	DRWN	DESCRIPTION	DES/QA
0	05/27/22	ODS	CONSTRUCTION	RST



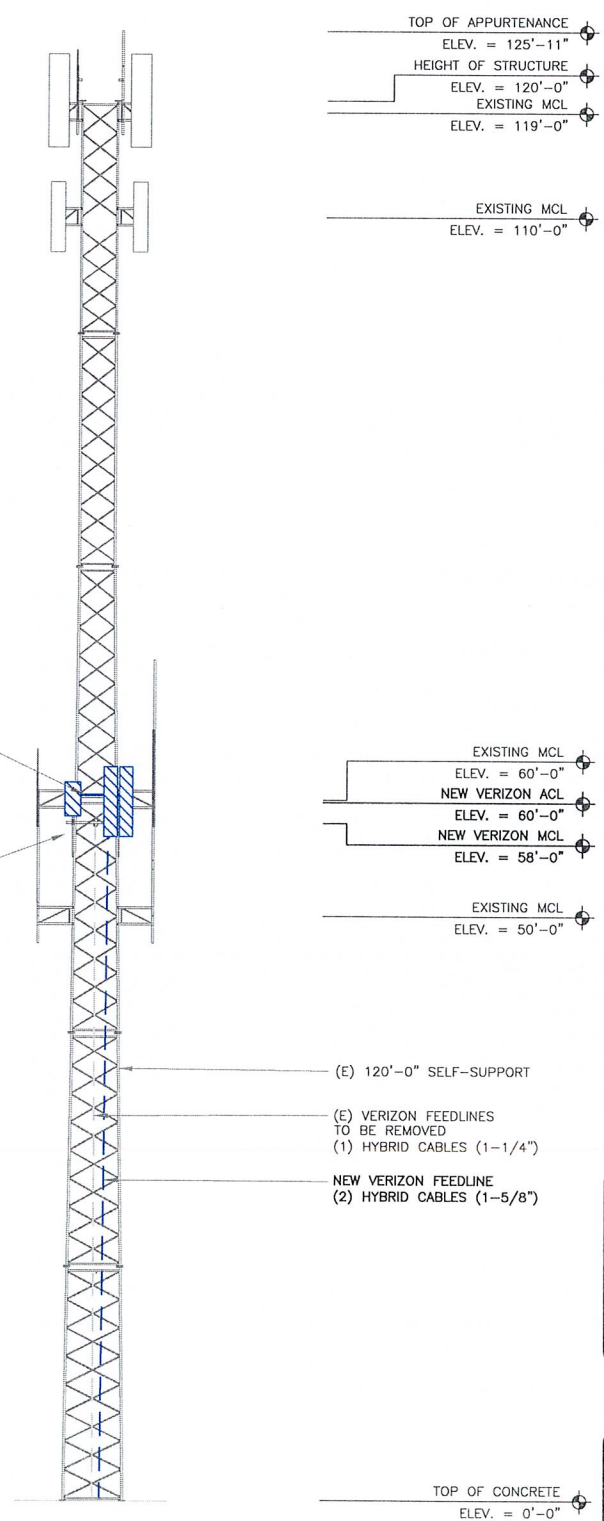
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2 EXISTING ANTENNA PLAN
 SCALE: NOT TO SCALE



3 NEW ANTENNA PLAN
 SCALE: NOT TO SCALE



1 TOWER ELEVATION
 SCALE: NOT TO SCALE

VERIZON EQUIPMENT
 ANTENNA CL: 60'-0"
 MOUNT CL: 58'-0"

INSTALLER NOTE:
 EXISTING AND PROPOSED ANTENNA/EQUIPMENT POSITIONING SHOWN PER RFDS. FIELD CONDITIONS MAY VARY.

TIE-BACK ARM NOTE:
 TIE-BACK ARMS SHOWN ARE FOR REFERENCE PURPOSES ONLY. TIE-BACK ARMS TO BE INSTALLED PER MOUNT MANUFACTURERS SPECIFICATIONS, ALSO ADHERING TO CROWN CASTLE CED-STD-10294 STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES.

TOWER ANALYSIS NOTES:
 1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
 2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE TOWER ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
 3. ANY REQUIRED TOWER MODIFICATION DESIGN OR TOWER REPLACEMENT SHALL BE APPROVED BY EOR.

MOUNT ANALYSIS NOTES:
 1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
 2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
 3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.



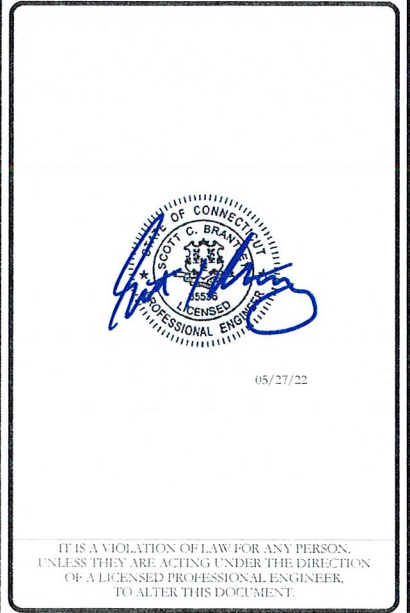
VERIZON SITE NUMBER:
468179

BU #: 841298
SOUTHINGTON ROGUS

250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489

EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:				
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SHEET NUMBER: **C-3** REVISION: **0**

ANTENNA/RRH SCHEDULE

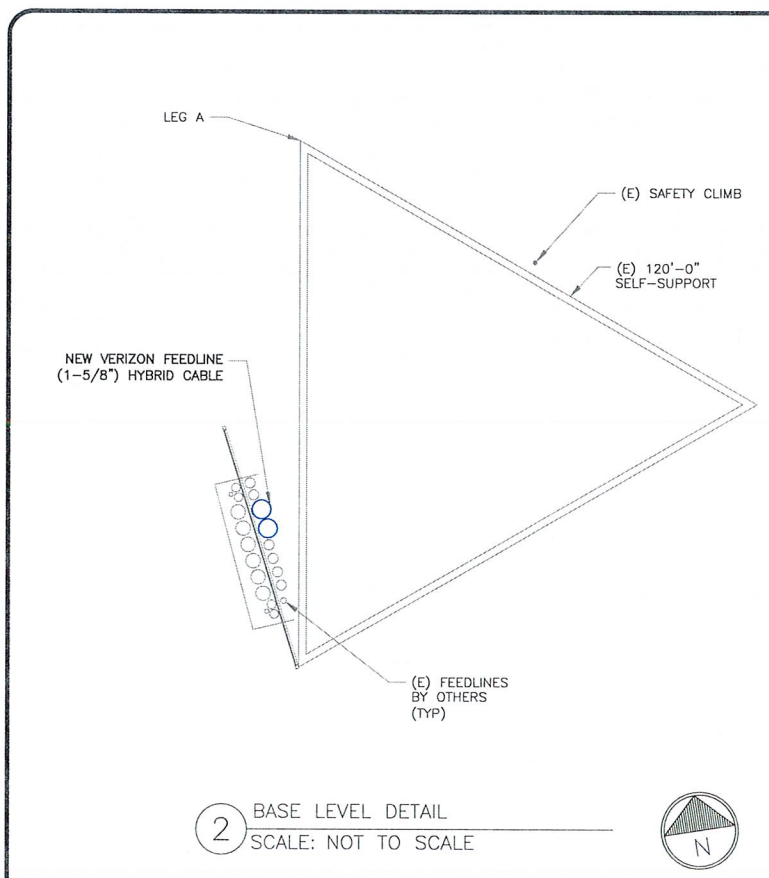
SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	NEW	COMMSCOPE	NHH-65B-R2B	60'-0"	350°	*	*	SAMSUNG	(1) RF4440D-13A RRH
A2	NEW	COMMSCOPE	NHHSS-65B-R2BT4	60'-0"	350°	*	*	RAYCAP	(1) RVZDC-6627-PF-48
A3	NEW	SAMSUNG	MT6407-77A	60'-0"	350°	*	*	SAMSUNG SAMSUNG	(1) RF4439D-25A RRH (1) CBRS RT4401-48A RRH
B1	NEW	COMMSCOPE	NHH-65B-R2B	60'-0"	120°	*	*	SAMSUNG	(1) RF4440D-13A RRH
B2	NEW	COMMSCOPE	NHHSS-65B-R2BT4	60'-0"	120°	*	*	RAYCAP	(1) RVZDC-6627-PF-48 12-OVP
B3	NEW	SAMSUNG	MT6407-77A	60'-0"	120°	*	*	SAMSUNG SAMSUNG	(1) RF4439D-25A RRH (1) CBRS RT4401-48A RRH
C1	NEW	COMMSCOPE	NHH-65B-R2B	60'-0"	240°	*	*	SAMSUNG	(1) RF4440D-13A RRH
C2	NEW	COMMSCOPE	NHHSS-65B-R2BT4	60'-0"	240°	*	*	-	-
C3	NEW	SAMSUNG	MT6407-77A	60'-0"	240°	*	*	SAMSUNG SAMSUNG	(1) RF4439D-25A RRH (1) CBRS RT4401-48A RRH

NOTE -- NEW ANTENNA/EQUIPMENT SHOWN IN BOLD
* -- CONTRACTOR TO REFERENCE MOST RECENT RFDS FOR MECHANICAL AND ELECTRICAL DOWNTILTS

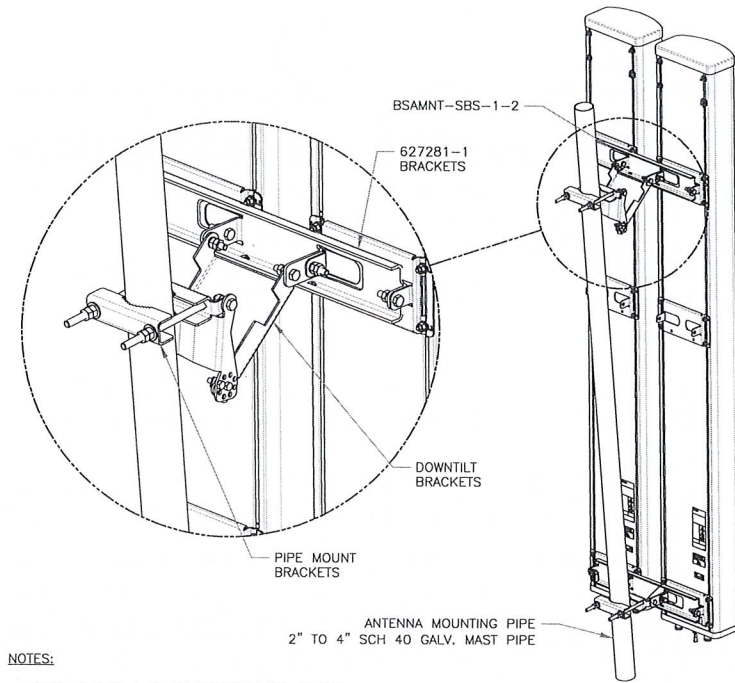
1 VERIZON TOWER EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

CABLE SCHEDULE

STATUS	CABLE TYPE	MANUFACTURER (MODEL #)	SIZE	LENGTH	QTY
NEW	HYBRID	RFS/CELWAVE HB158-21U6S12-XXM-01	1-5/8"	110'-0"±	2
TOTAL CABLE QTY:					2



2 BASE LEVEL DETAIL
SCALE: NOT TO SCALE



NOTES:

- BSAMNT-SBS-1-2 KIT CONTAINS (2) 627281 MOUNTING BRACKETS.
- TORQUE THE M10 BOLT ASSEMBLY TO 37 N.m. PER MANUFACTURE'S RECOMMENDATIONS.

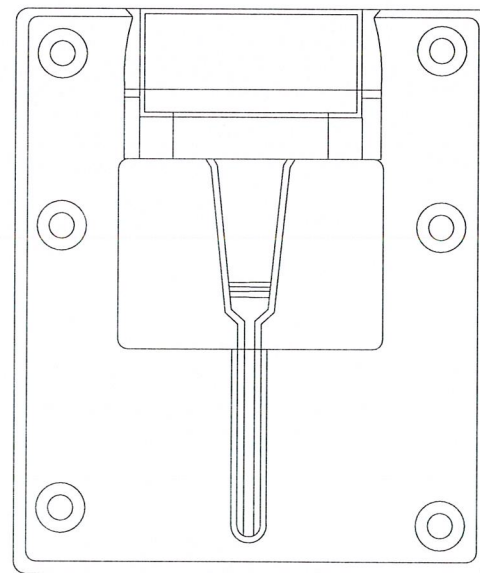
1 COMMSCOPE - BSAMNT-SBS-1-2
SCALE: NOT TO SCALE

FIBER NAMING CONVENTION	
Technology	(Equipment-Sector-OPTI #)
DUPLIX FIBER RUN	
5GmmW L0	5GmmW-A-0
SIMPLEX FIBER RUN	
CBRS L0	CBRS-A-0
CBRS L1	CBRS-A-1
LAA L0	LAA-A-0
High Band Dual Band L0	HB-A-0
High Band Dual Band L1	HB-A-1
Low Band Dual Band L0	LB-A-0
FDMIMO AWS L0	FDM-AWS-A-0
FDMIMO AWS L1	FDM-AWS-A-1
FDMIMO PCS L0	FDM-PCS-A-0
FDMIMO PCS L1	FDM-PCS-A-1

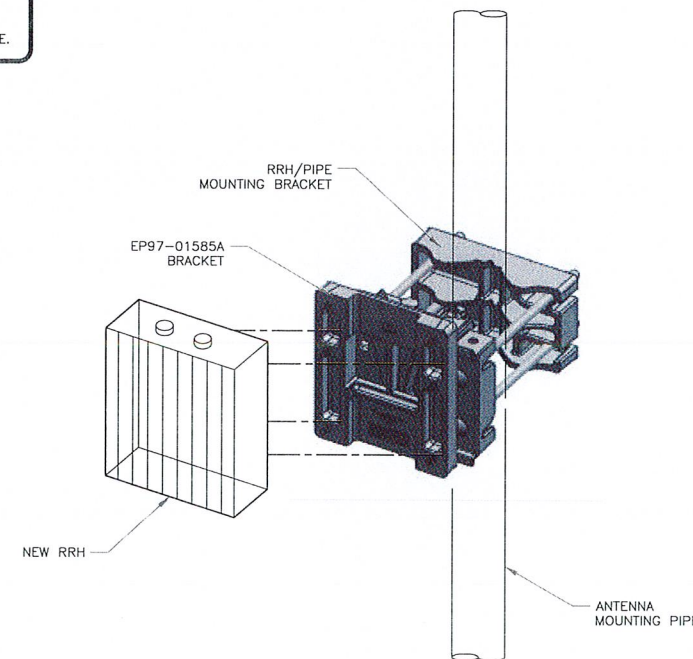
Rev. 2/23/2021

2 FIBER NAMING CONVENTION CHART
SCALE: NOT TO SCALE

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



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



4 ANTENNA & RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 55617.702054

VERIZON SITE NUMBER:
468179
BU #: 841298
SOUTHINGTON ROGUS
250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489

EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:

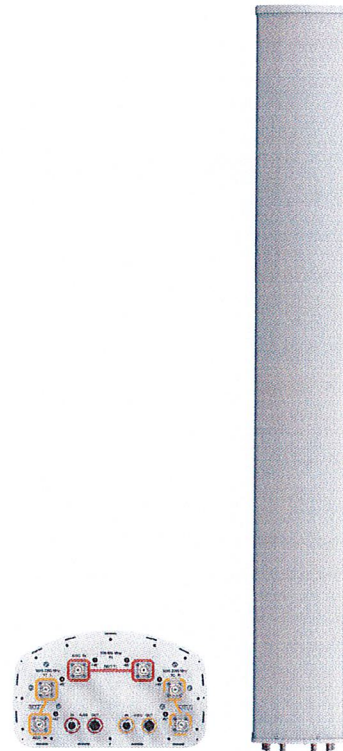
REV	DATE	DRWN	DESCRIPTION	DES/QA
0	05/27/22	ODS	CONSTRUCTION	RST



05/27/22

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



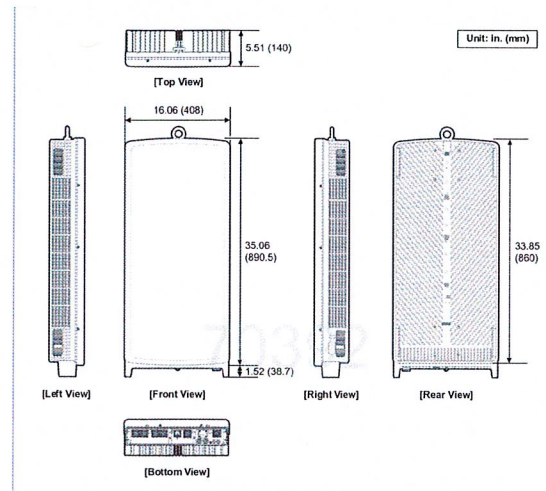
COMMSCOPE - NHH-65C-R2B ANTENNA
WEIGHT: 43.70 LBS
SIZE (HxWxD): 72.0x11.9x7.1 IN.

1 COMMSCOPE - NHH-65B-R2B
SCALE: NOT TO SCALE



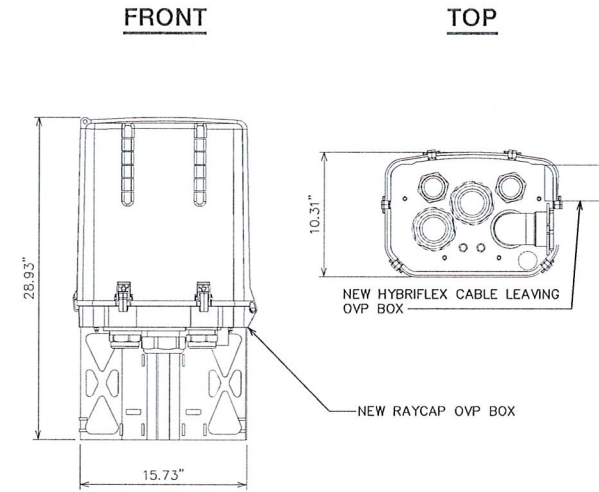
COMMSCOPE - NHHSS-65B-R2BT4 ANTENNA
WEIGHT: 50.93 LBS
SIZE (HxWxD): 71.97x11.85x7.13 IN.

2 COMMSCOPE - NHHSS-65B-R2BT4
SCALE: NOT TO SCALE



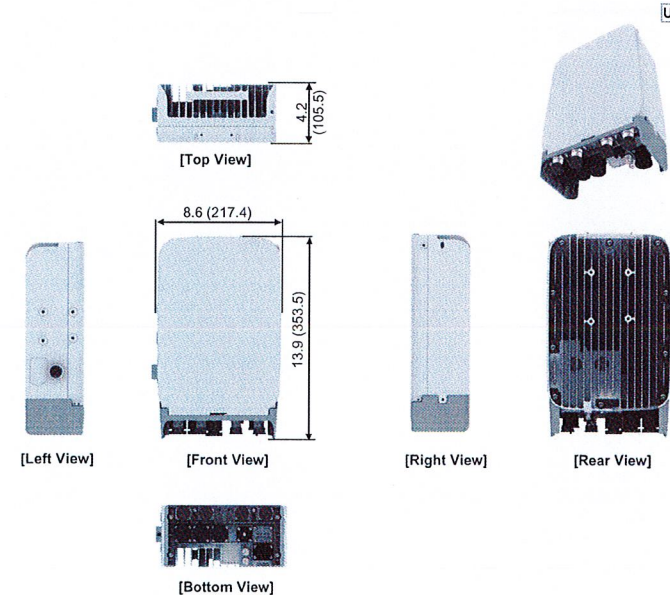
SAMSUNG TELECOMMUNICATIONS - MT6407-77A ANTENNA
WEIGHT: 81.57 LBS
SIZE (HxWxD): 35.06x16.06x5.51 IN.

2 SAMSUNG - MT6407-77A
SCALE: NOT TO SCALE



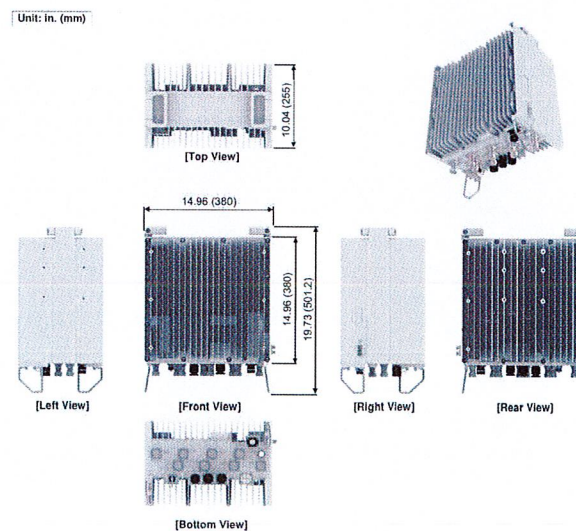
RAYCAP - RVZDC-6627-PF-48
WEIGHT: 32.00 LBS
SIZE (HxWxD): 28.93x15.73x10.31 IN.

4 RAYCAP RVZDC-6627-PF-48
SCALE: NOT TO SCALE



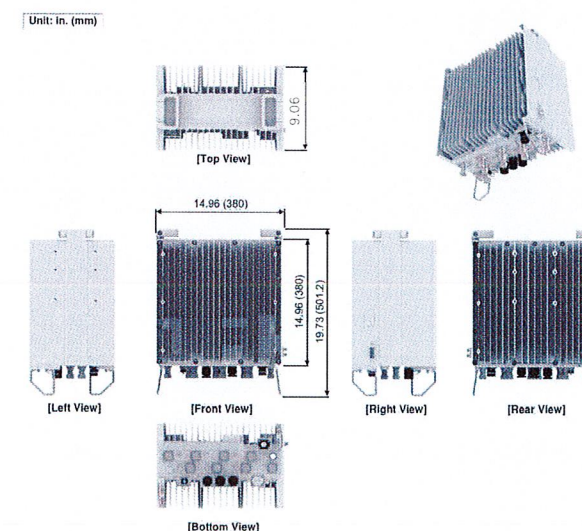
SAMSUNG - CBRS RT4401-48A RRH
WEIGHT: 23.00 LBS
SIZE (HxWxD): 16.16x11.39x5.45 IN.

5 SAMSUNG - CBRS RT4401-48A RRH
SCALE: NOT TO SCALE



SAMSUNG - RF4439D-25A RRH
WEIGHT (WITHOUT MOUNTING HARDWARE): 74.70 LBS
SIZE (HxWxD): 14.96x14.96x10.04 IN.

6 SAMSUNG - RF4439D-25A
SCALE: NOT TO SCALE



SAMSUNG - RF4440D-13A RRH
WEIGHT (WITHOUT MOUNTING HARDWARE): 72.50 LBS
SIZE (HxWxD): 14.96x14.96x9.06 IN.

7 SAMSUNG - RF4440D-13A
SCALE: NOT TO SCALE

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20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

CROWN CASTLE

1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

TOWER ENGINEERING PROFESSIONALS

326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351

TEP JOB #: 55617.702034

VERIZON SITE NUMBER:
468179

BU #: 841298
SOUTHINGTON ROGUS

250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489

EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/27/22	ODS	CONSTRUCTION	RST



05/27/22

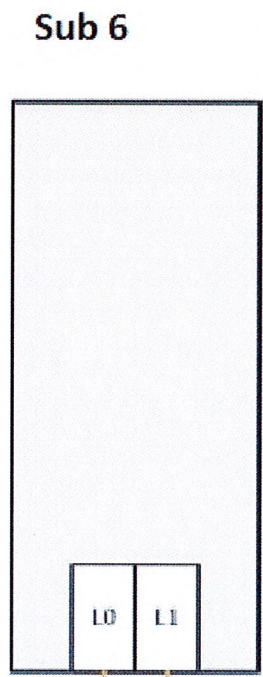
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SHEET NUMBER:

C-5

REVISION:

0



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
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VERIZON SITE NUMBER:
468179
BU #: 841298
SOUTHINGTON ROGUS
250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489
EXISTING 120'-0"
SELF-SUPPORT

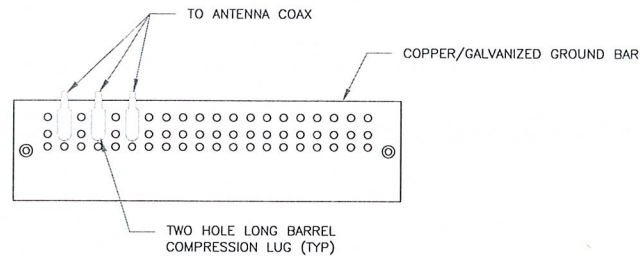
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0	05/27/22	ODS	CONSTRUCTION	RST

(Professional Engineer Seal and Signature)
05/27/22

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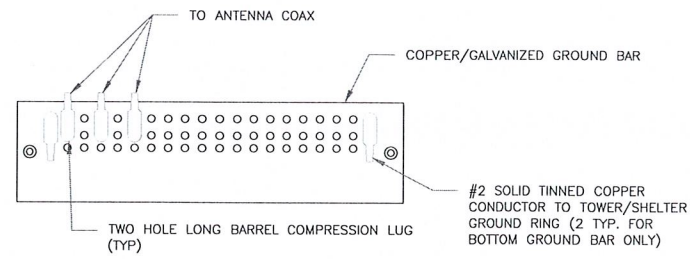
SHEET NUMBER: **C-6** REVISION: **0**



NOTES:

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

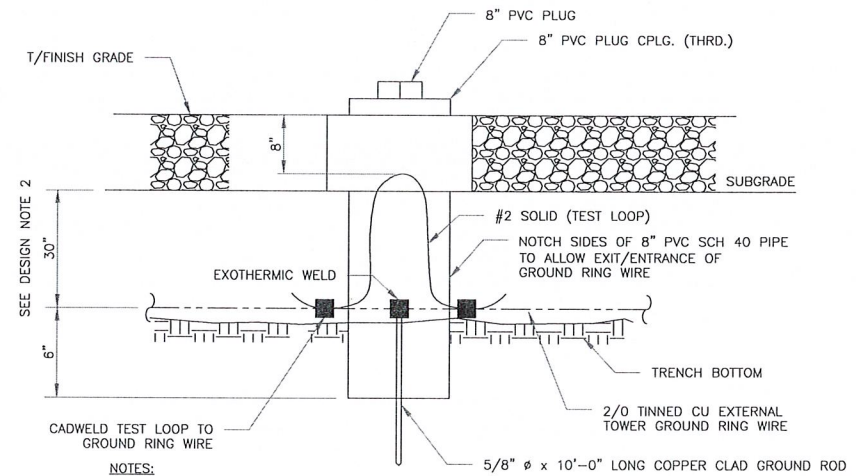
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

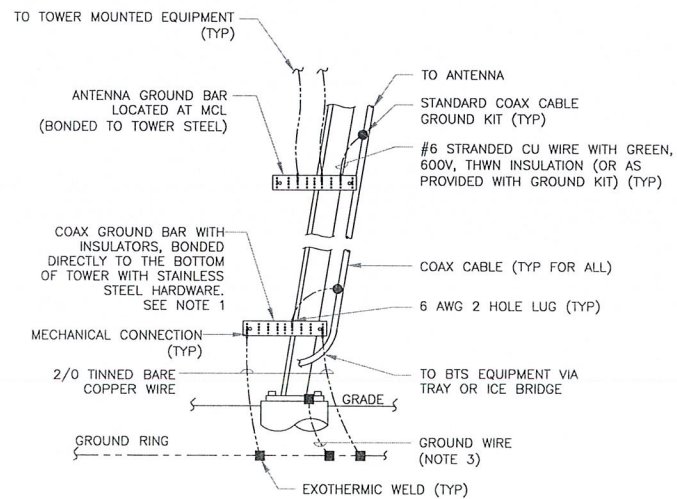
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

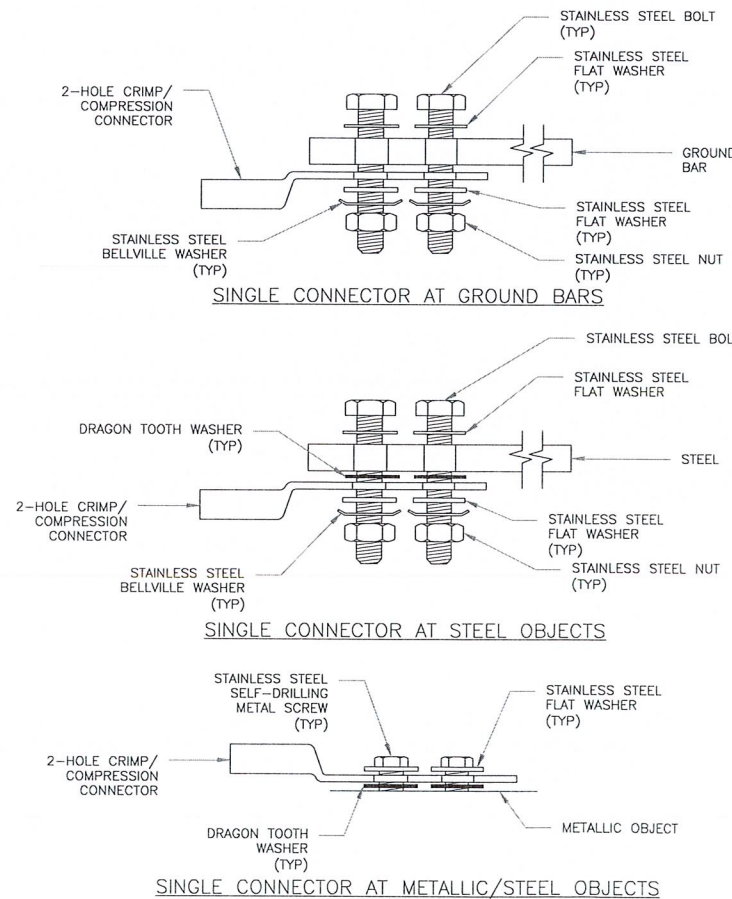
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



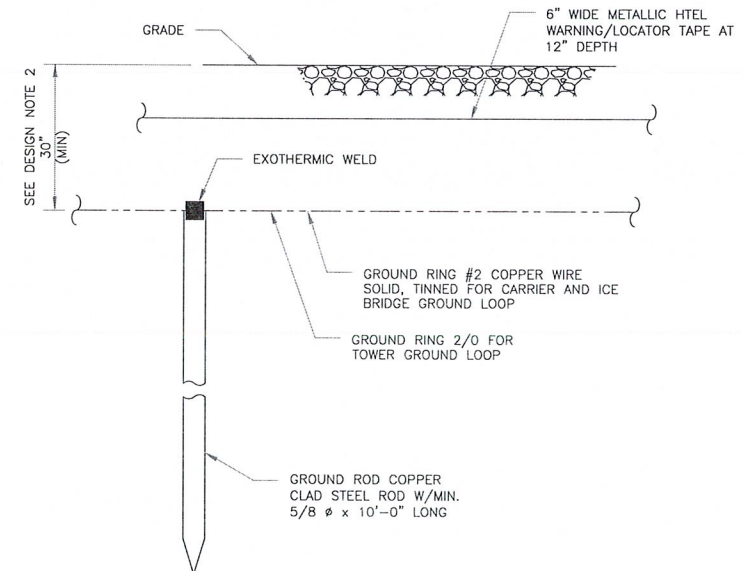
NOTES:

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

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

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

TOWER ENGINEERING PROFESSIONALS
326 TRYON RD
RALEIGH, NC 27603
(919) 661-6351
TEP JOB #: 55617.702054

VERIZON SITE NUMBER:
468179

BU #: 841298
SOUTHINGTON ROGUS

250 MERIDEN WATERBURY
TURNPIKE
SOUTHINGTON, CT 06489

EXISTING 120'-0"
SELF-SUPPORT

ISSUED FOR:

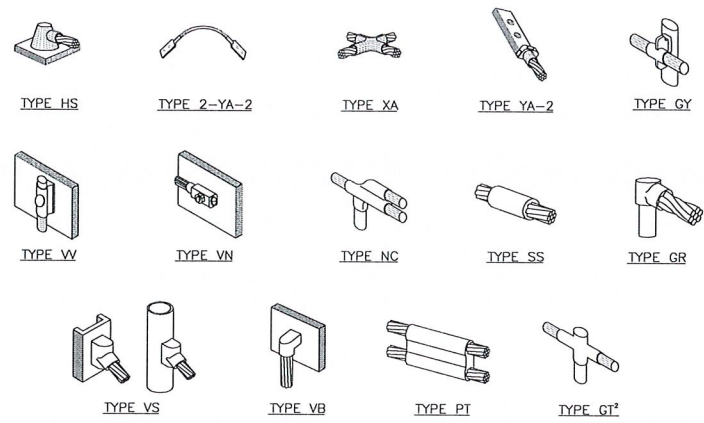
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/27/22	ODS	CONSTRUCTION	RST



05/27/22

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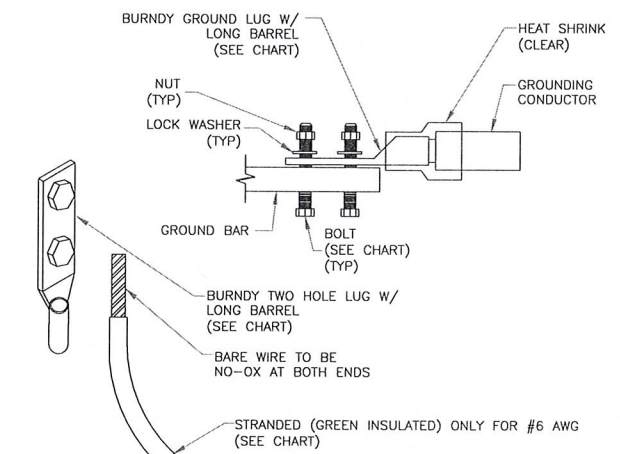
SHEET NUMBER: **G-1** REVISION: **0**



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

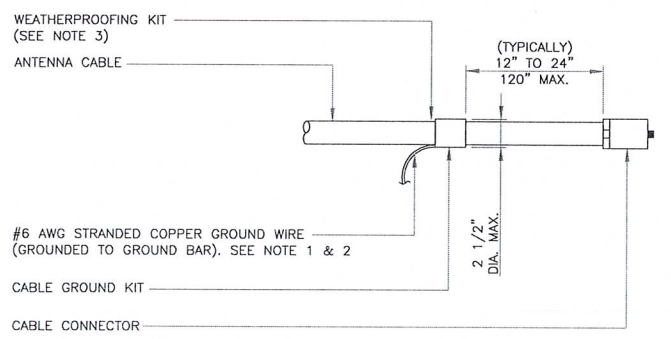
1 CADWELD GROUNDING CONNECTIONS
 SCALE: NOT TO SCALE

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



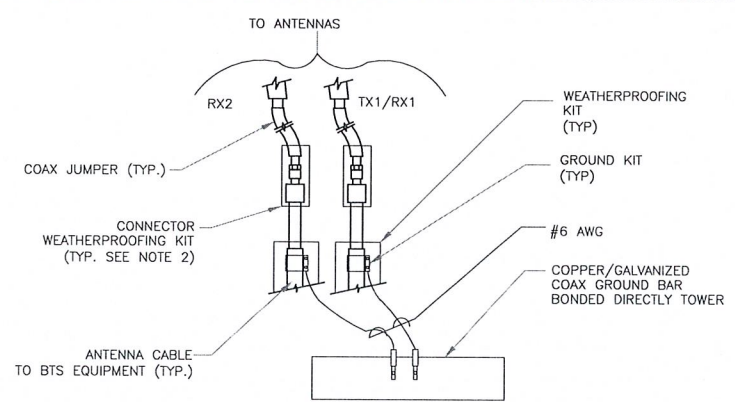
NOTES:
 1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

2 MECHANICAL LUG CONNECTION
 SCALE: NOT TO SCALE



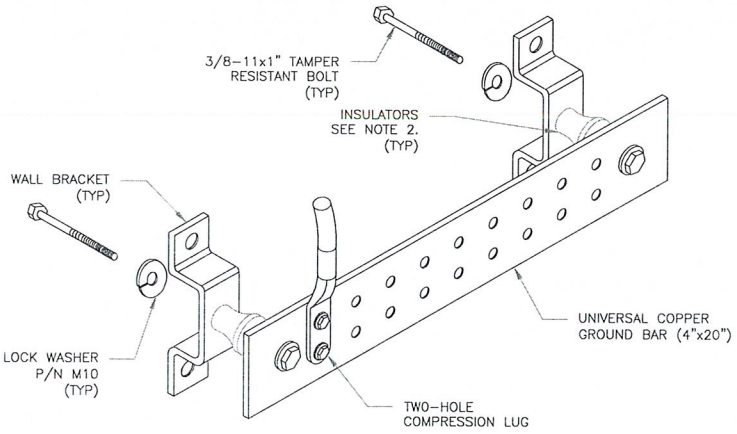
NOTES:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

3 CABLE GROUND KIT CONNECTION
 SCALE: NOT TO SCALE



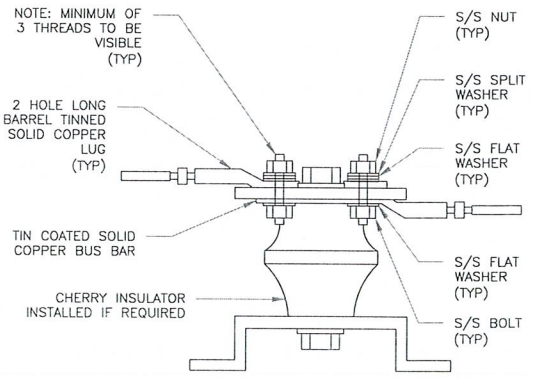
NOTES:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
 2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
 SCALE: NOT TO SCALE



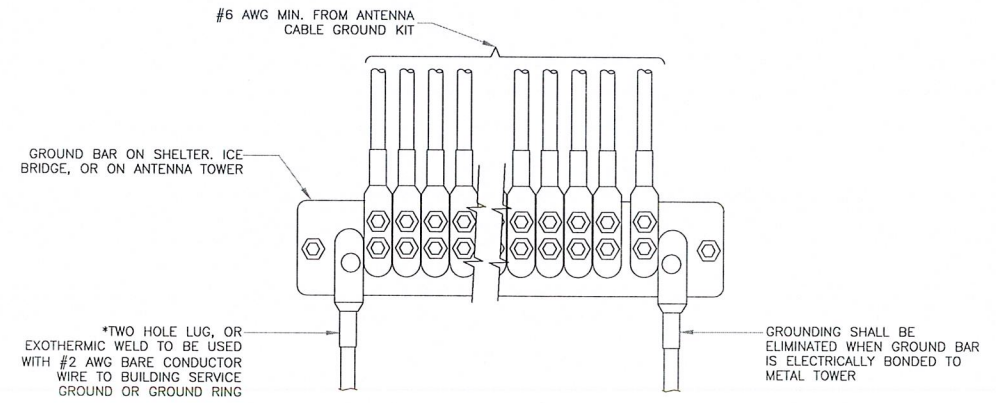
NOTES:
 1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY OAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
 2. OMIT 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



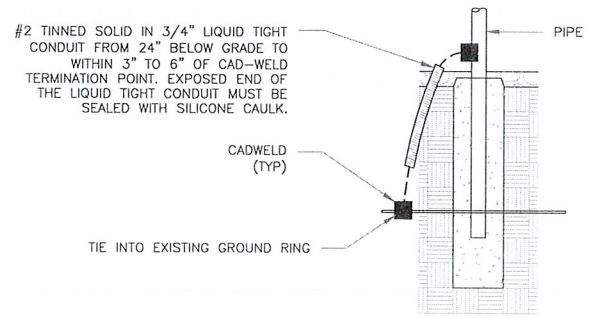
NOTE: MINIMUM OF 3 THREADS TO BE VISIBLE (TYP)
 S/S NUT (TYP)
 S/S SPLIT WASHER (TYP)
 S/S FLAT WASHER (TYP)
 S/S FLAT WASHER (TYP)
 S/S BOLT (TYP)

7 LUG DETAIL
 SCALE: NOT TO SCALE



*TWO HOLE LUG, OR EXOTHERMIC WELD TO BE USED WITH #2 AWG BARE CONDUCTOR WIRE TO BUILDING SERVICE GROUND OR GROUND RING

5 GROUNDWIRE INSTALLATION
 SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
 SCALE: NOT TO SCALE

verizon
 20 ALEXANDER DRIVE, 2ND FLOOR
 WALLINGFORD, CT 06492

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

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 326 TRYON RD
 RALEIGH, NC 27603
 (919) 661-6351
 TEP JOB #: 55617.702034

VERIZON SITE NUMBER:
 468179

BU #: 841298
SOUTHINGTON ROGUS
 250 MERIDEN WATERBURY
 TURNPIKE
 SOUTHINGTON, CT 06489

EXISTING 120'-0"
 SELF-SUPPORT

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/27/22	ODS	CONSTRUCTION	RST



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SHEET NUMBER: **G-2** REVISION: **0**



MOUNT MODIFICATION DRAWINGS
EXISTING 5.00' T-ARM

TOWER OWNER: CROWN CASTLE
TOWER OWNER SITE NUMBER: 841298

CARRIER SITE NAME: SOUTHINGTON_I691_CT - A

CARRIER SITE NUMBER: 468179

FUZE ID: 16092616

250 MERIDEN WATERBURY TPK
SOUTHINGTON, CT 06489
HARTFORD COUNTY

LATITUDE: 41.556831° N
LONGITUDE: 72.853017° W

Colliers Engineering & Design

www.colliersengineering.com

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

SCALE:	AS SHOWN	JOB NUMBER:	22777028A
DATE:	4/29/2022	ISSUED FOR CONSTRUCTION:	FAC DH
PREP:	DATE	DESCRIPTION	DRAWN BY CHECKED BY

Derek R. Hartzell
32710
LICENSED PROFESSIONAL ENGINEER
Digitally signed by Derek R. Hartzell
Date: 2022.04.29 10:37:08-04'00'
COLLIERS ENGINEERING & DESIGN CT, P.C.
CT, C.O.A. #JPC000131

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SITE NAME:
SOUTHINGTON_I691_CT - A
468179
250 MERIDEN WATERBURY TPK
SOUTHINGTON, CT 06489
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 TYPE:
TITLE SHEET
SHEET NUMBER:
ST-1

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DESIGN CRITERIA
<p><u>WIND LOADS</u> BASIC WIND SPEED (3 SECOND GUST), V = 118 MPH EXPOSURE CATEGORY B TOPOGRAPHIC CATEGORY I MEAN BASE ELEVATION (AMSL) = 343.35'</p> <p><u>ICE LOADS</u> ICE WIND SPEED (3 SECOND GUST), V = 50 MPH ICE THICKNESS = 1.00 IN</p> <p><u>SEISMIC LOADS</u> SEISMIC DESIGN CATEGORY B SHORT TERM MCER GROUND MOTION, S_s = .200 LONG TERM MCER GROUND MOTION, S_l = .055</p>

PROJECT INFORMATION
<p><u>APPLICANT/LESSEE</u> COMPANY: VERIZON WIRELESS</p> <p><u>CLIENT REPRESENTATIVE</u> COMPANY: VERIZON WIRELESS</p> <p><u>PROJECT MANAGER</u> COMPANY: COLLIERS ENGINEERING & DESIGN CONTACT: PETER ALBANO PHONE: 856.797.0412 E-MAIL: PETER.ALBANO@COLLIERSENGINEERING.COM</p>

CONTRACTOR PMI REQUIREMENTS
<p>PMI LOCATION: HTTPS://PMI.VZWSMART.COM SMART TOOL PROJECT #: 10145336 VZW LOCATION CODE (PSLC): 468179 ANALYSIS DATE: 4/29/2022</p> <p>PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT</p>

SHEET INDEX																
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	SPECIFICATION SHEETS															

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 ANSII/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSII/TIA-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, ANSII/TIA-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.

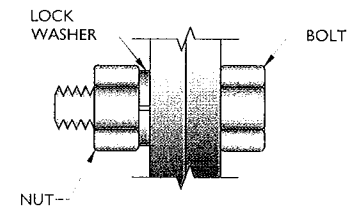
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL EXISTING 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 DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 x 1 1/8	1 1/2	2 5/8
1	1 7/16	1 7/16 x 1 5/16	1 3/4	3

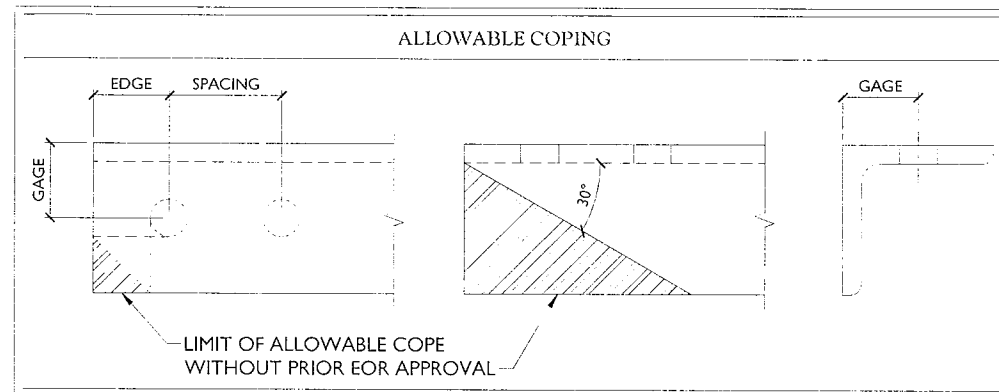
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



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 DISTANCES ARE COMPROMISED



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Derek R. Hartzell
32710
LICENSED PROFESSIONAL ENGINEER

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CT. C.O.A. #JPC-0000131

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1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN, CT. P.C.
CONTRACT NUMBER: AS-MASER-0000131

GENERAL NOTES

SHEET NUMBER: **SGN-1**



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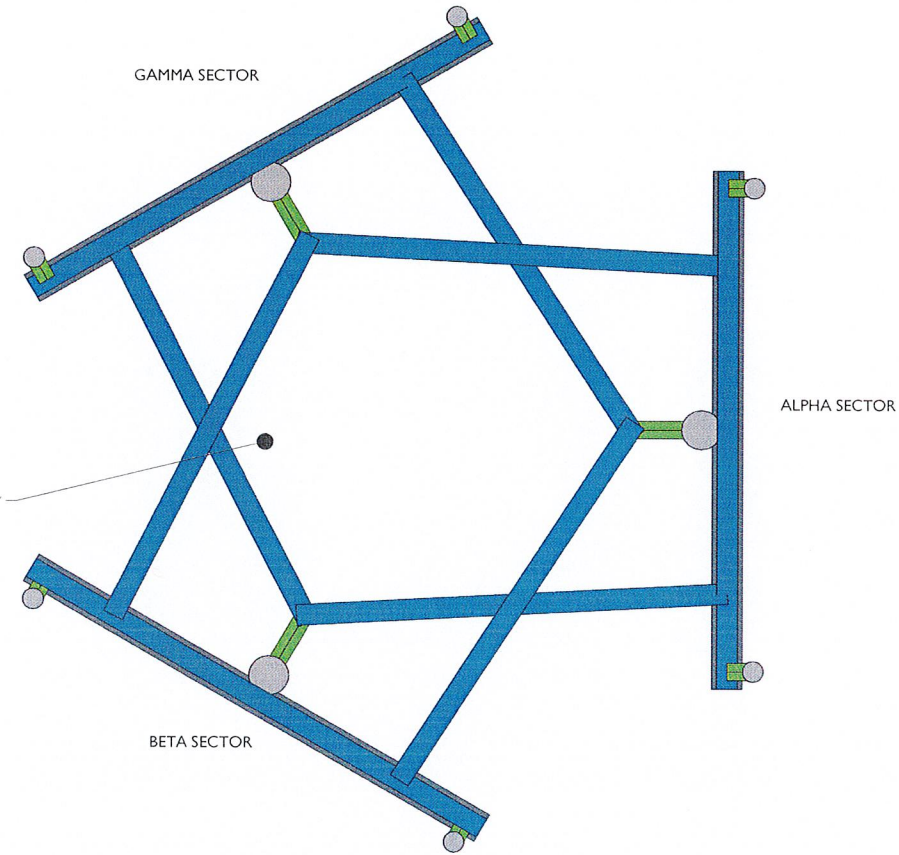
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1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
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SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-I



1 CLIMBING FACILITY LOCATION
SCALE: N.T.S.

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

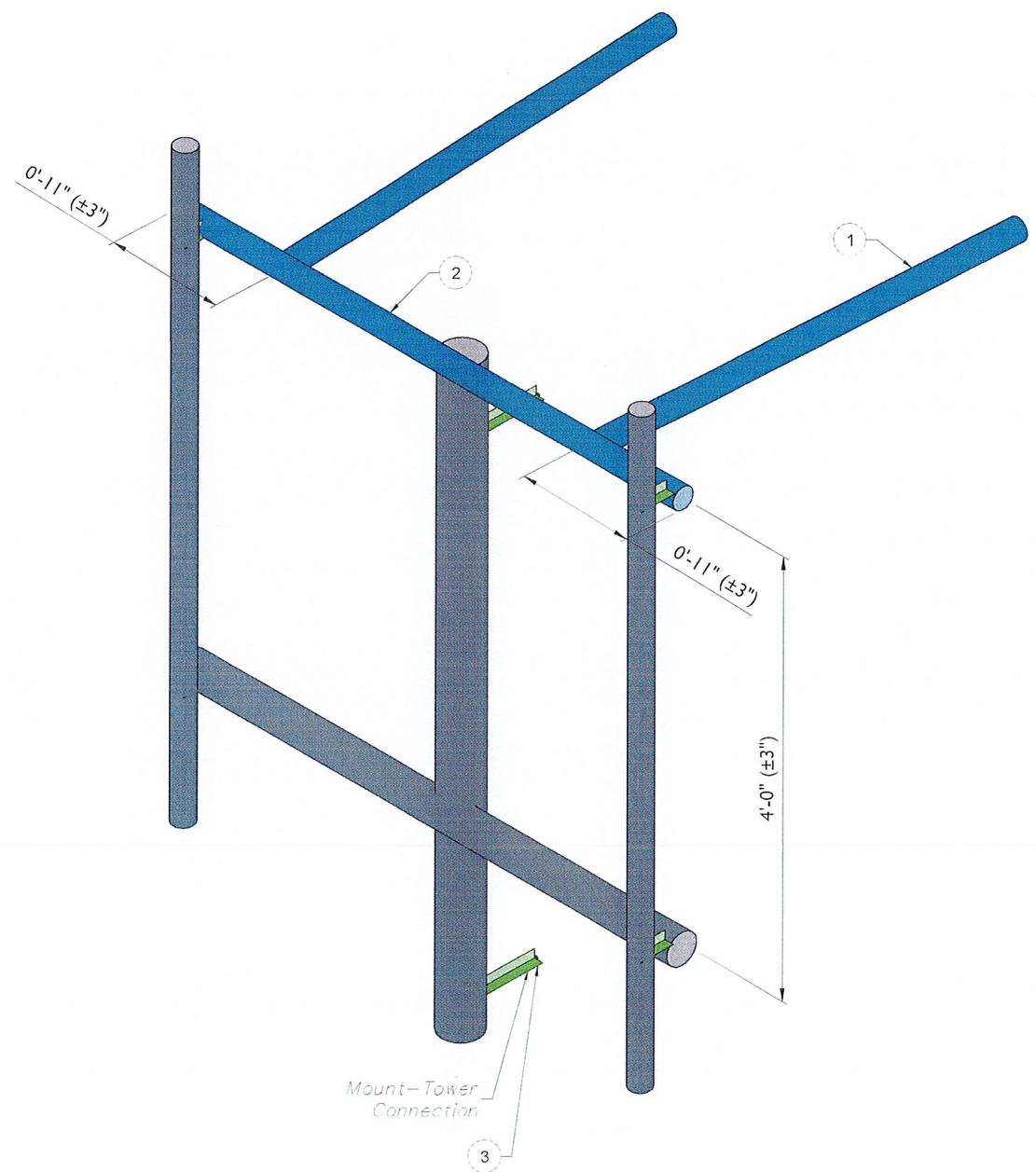
- PER THE MOUNT MAPPING COMPLETED BY ONSIGHT SERVICES LLC. ON 4/10/2022, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (58'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING 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.

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		6	PROPOSED TIEBACK ASSEMBLY (PART #: VZWSMART-SFK 1)	CONNECT OTHER END TO ADJACENT TOWER LEG. PROPOSED TIE-BACK SHALL EXTEND NO MORE THAN 12" BEYOND THE TOWER LEG. CONTRACTOR SHALL TRIM AS REQUIRED AND PROTECT CUT END WITH TWO COATS OF ZINGA OR ZINC COTE.
2	58'-0"	3	60" LONG, P2 1/2 STD PIPE	CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK 1). 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.
3		3	R5 UNIVERSAL PIPE MOUNT REINFORCEMENT KIT	CONTRACTOR SHALL INSTALL R5 REINFORCEMENT KIT ON ALL MOUNT TO TOWER CONNECTIONS

NOTES:
MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE).



1 PROPOSED ISOMETRIC VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.

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DRAWN BY	CHECKED BY

Derek R. Hartzell

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CT, C.O.A. #JPC.0000131

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SOUTHINGTON, CT 06489
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE:
MODIFICATION DETAILS

SHEET NUMBER:
SS-1



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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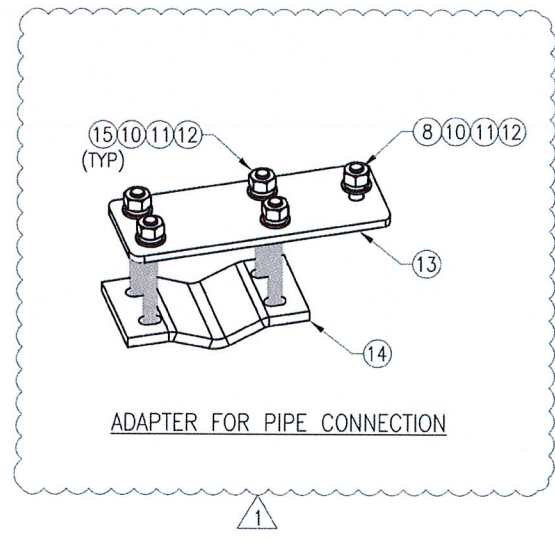
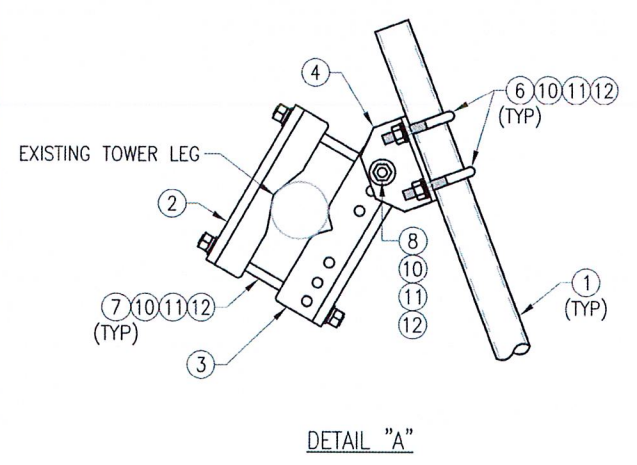
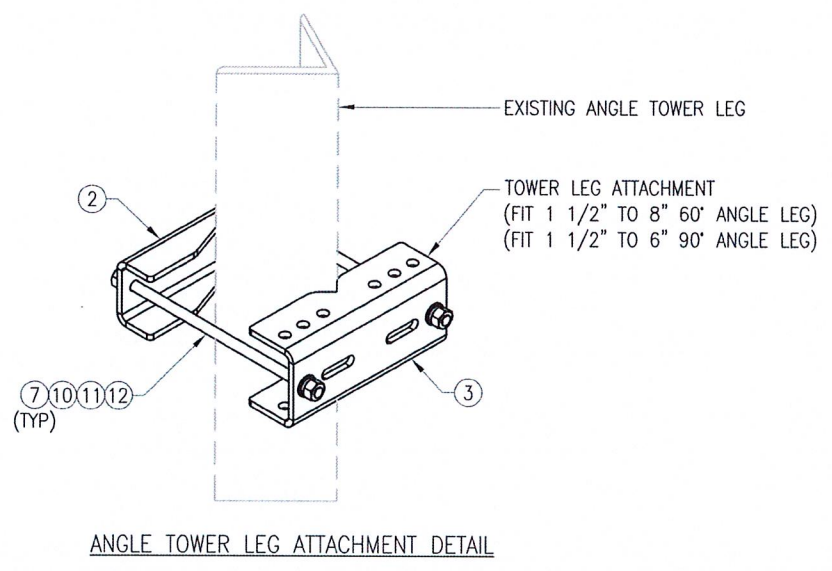
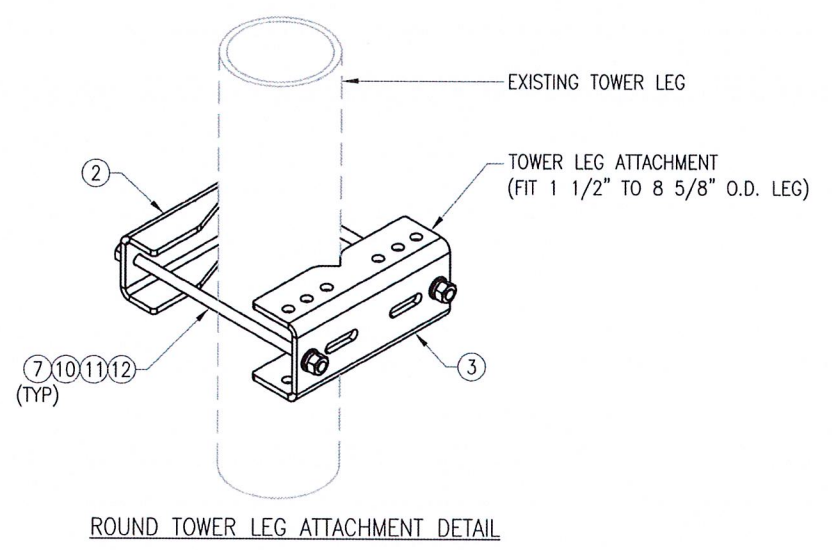
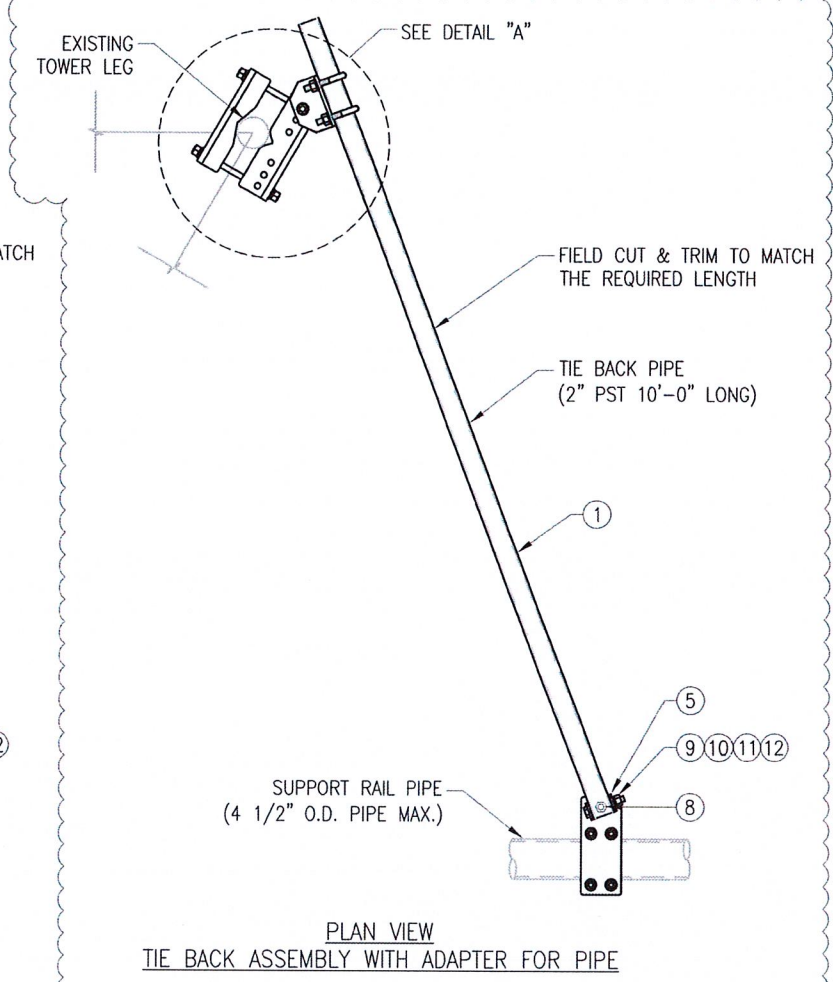
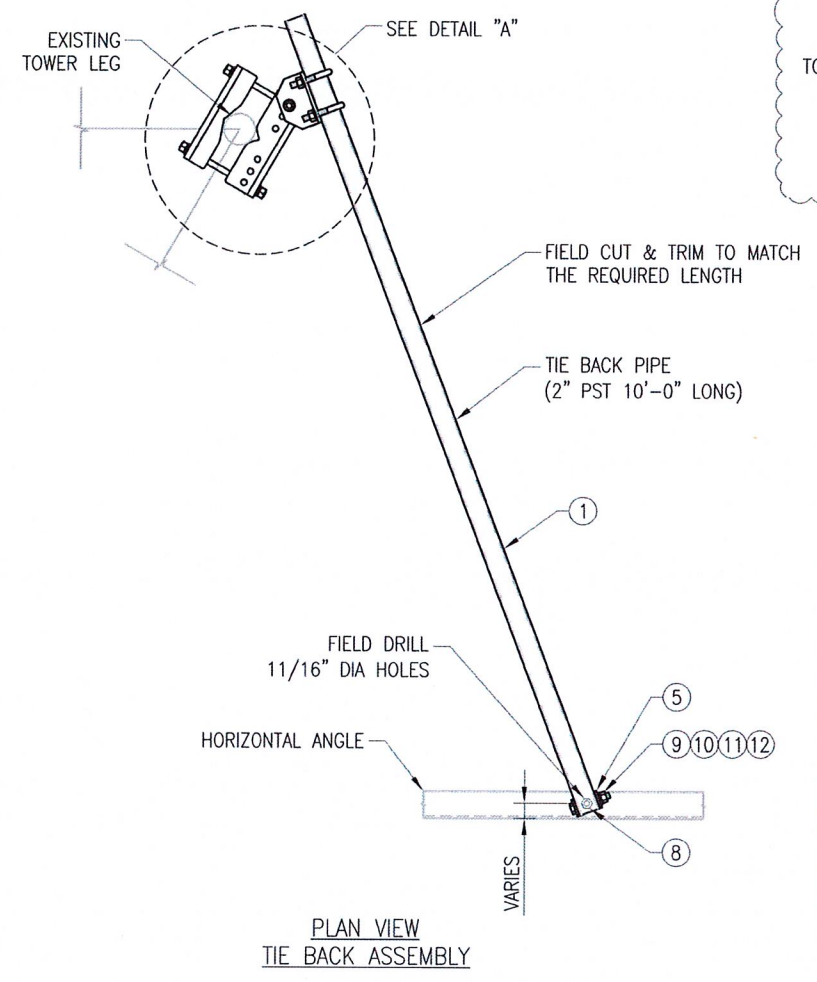
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SHEET TITLE:
 MOUNT PHOTOS

SHEET NUMBER:
 SS-2



VZWSMART-SFK1 (TIE BACK ASSEMBLY)						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT	
1	1	PST2375-10	2" PST (2.375" O.D. X 0.154" THK) X 10'-0" A53 GR-B 35KSI	SFK1-F1	38	
2	1	BP825-12	PL 3/8" X 8 1/4" X 1'-0" A36 BENT PLATE	SFK1-F2	11	
3	1	BP11125-12	PL 3/8" X 11 1/8" X 1'-0" A36 BENT PLATE	SFK1-F3	14	
4	1	BP6-9375	PL 3/8" X 6" X 9 3/8" A36 BENT PLATE	SFK1-F4	6	
5	1	BP2-875	PL 1/4" X 2" X 8 3/4" A36 BENT PLATE	SFK1-F4	1	
6	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	2	
7	2	---	THREADED ROD 5/8" DIA. X 1'-6" F1554-36 HDG	---	0	
8	2	---	BOLT 5/8" X 2" A325	---	0	
9	1	---	BOLT 5/8" X 4 1/4" A325	---	0	
10	15	FW-625	5/8" HDG USS FLAT WASHER	---	1	
11	15	LW-625	5/8" HDG LOCK WASHER	---	0	
12	15	NUT-625	5/8" HDG HEX NUT	---	2	
13	1	PL375-4511	PL 3/8" X 4 1/2" X 11" A36	SFK1-F1	4	
14	1	V-CLAMP	PL 1/2" X 4 1/4" X 8 5/8" A36 BEND PLATE	SFK1-F5	5	
15	4	---	BOLT 5/8" X 6" FULL THREAD SAE GR 5	---	0	
					GALVANIZED WT	84

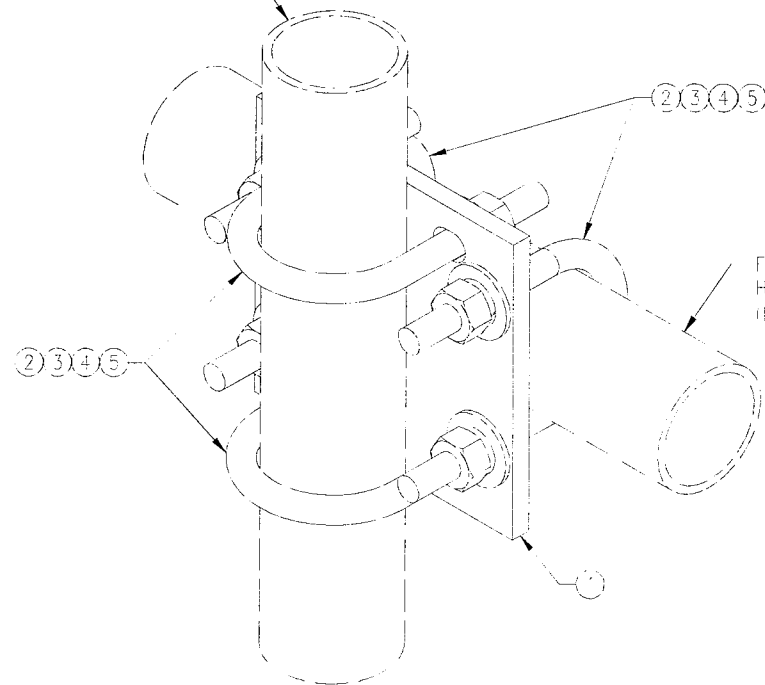
NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

DRAWN BY: BT	CHECKED BY: HMA/KW		
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	05/08/20
2	REVISED	BT	04/10/21

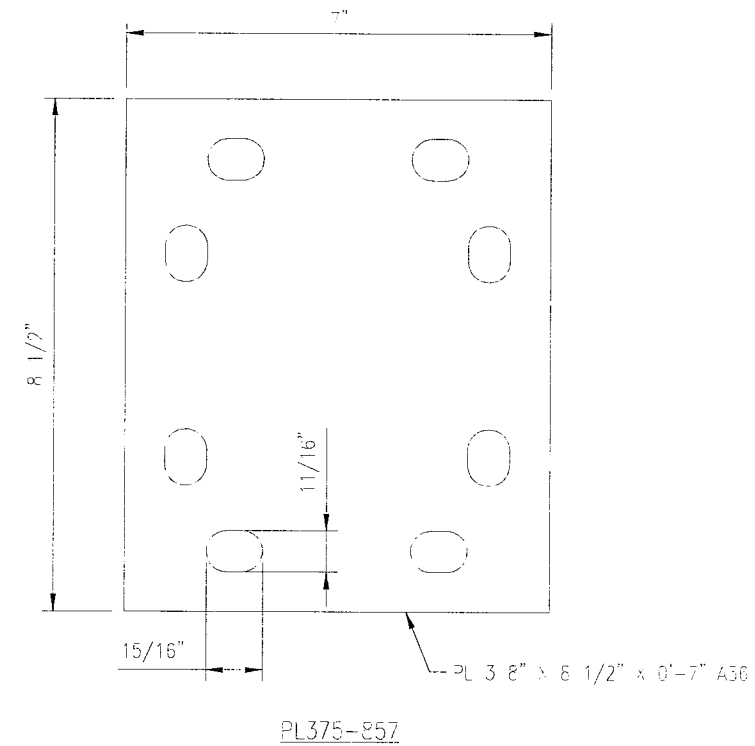
SHEET TITLE:
VZWSMART-SFK1
TIE BACK ASSEMBLY

SHEET NUMBER: VZWSMART-SFK1	REV #: 1
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FITS 2.375" O.D. AND 2.875" O.D.
VERTICAL PIPE.
(NOT INCLUDED IN THIS KIT)



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



VZWSMART-MSK1 (CROSSOVER PLATE)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-857	PL 3/8" X 6 1/2" X 0'-7" A36	MSK1-F1	6
2	4	MS02-625-300-500	RJ-BOLT 5/8" X 3" L.W. X 5" (L. 436 (OP EQUIV.))	HBC-1	5
3	8	FW-828	5/8" HDG USS FLAT WASHER	---	1
4	8	LW-825	5/8" HDG LOCK WASHER	---	0
5	5	NUT-825	5/8" HDG HEX NUT	---	1

3-DIMENSIONAL AT 14

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

DRAWN BY: H.R. CHECKED BY: HMA

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

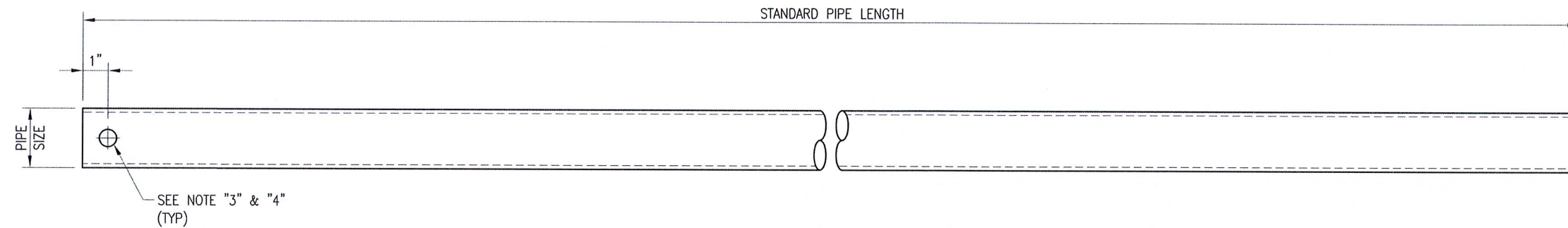
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SHEET TITLE:

VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER: REV #:

VZWSMART-MSK1



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"

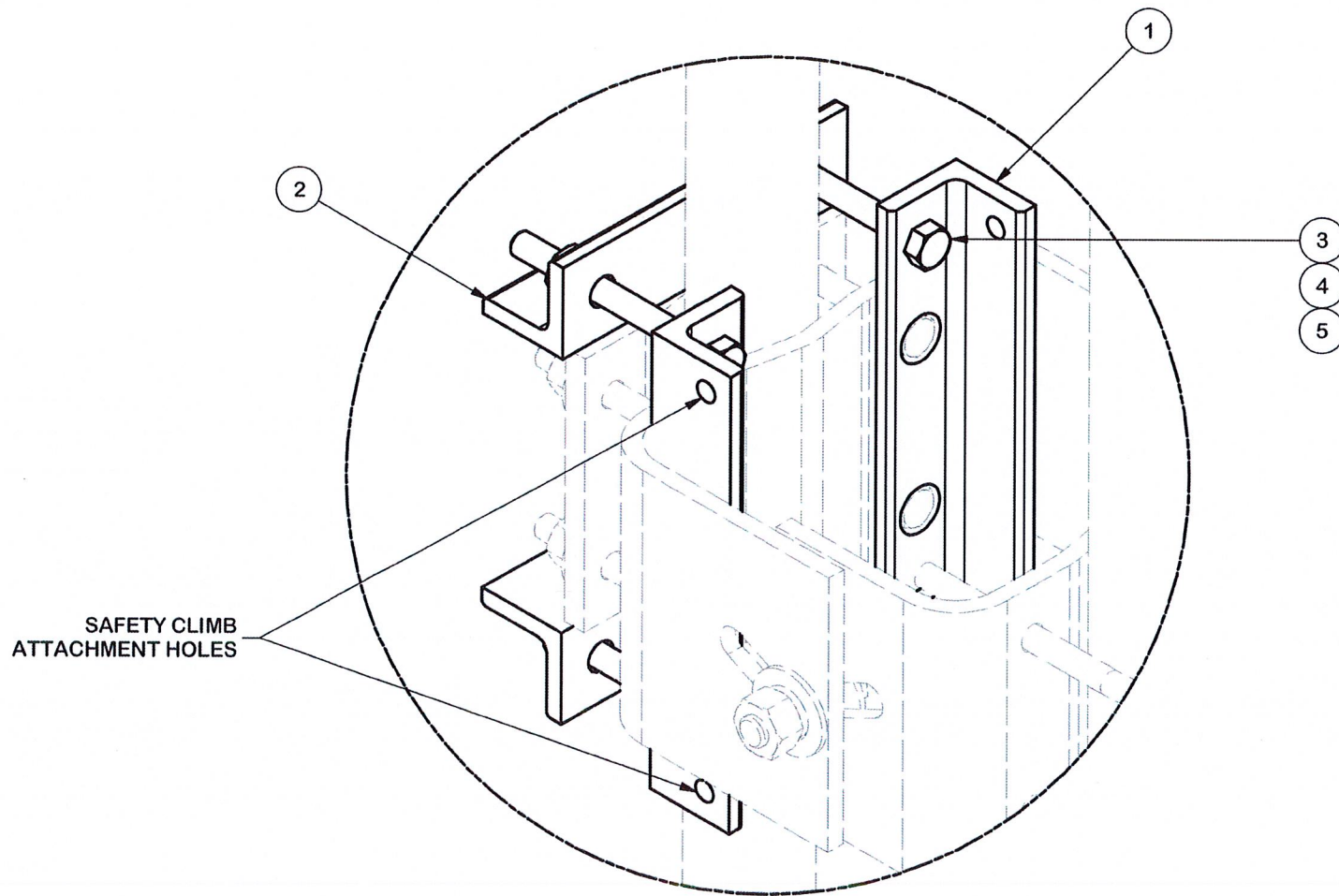
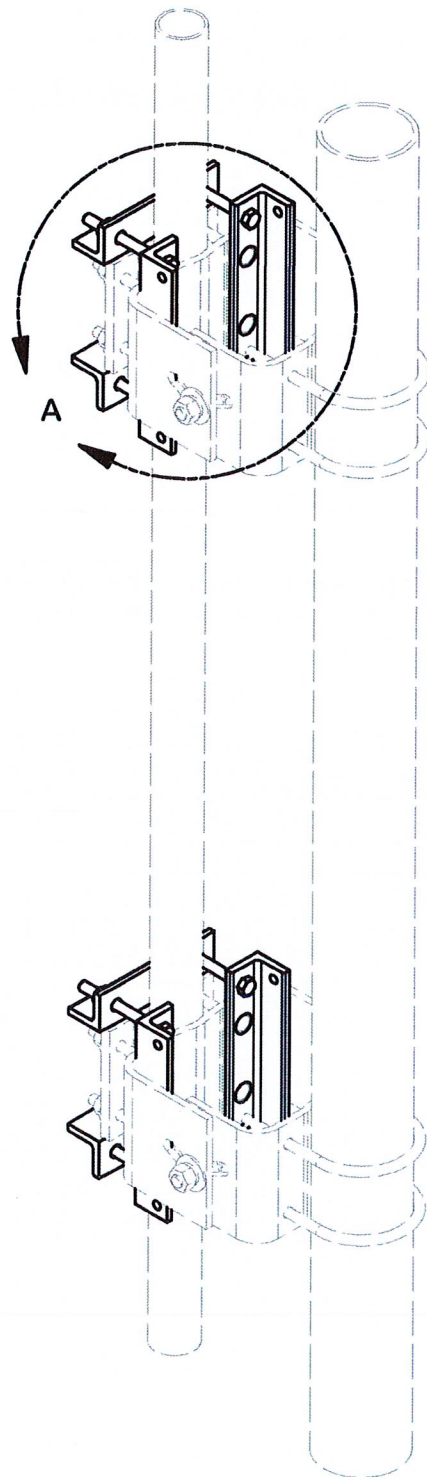
NOTE:
 APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
 PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
 SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:**
1. ALL PIPE GRADE A53-B OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 1 1/16" 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
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:
 VZWSMART
 STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE	REV #: 0
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SAFETY CLIMB
ATTACHMENT HOLES

DETAIL A

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-R5-FRA1	REINFORCEMENT ANGLE	10 in	3.84	15.36
2	4	X-R5-RFA2	REINFORCEMENT ANGLE	7 1/8 in	2.86	11.45
3	8	G1208	1/2" x 8" HDG HEX BOLT GR5 FULL THREAD	8 in	0.49	3.94
3	8	G1205	1/2" x 5" HDG HEX BOLT GR5 FULL THREAD	5 in	0.33	2.61
4	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
5	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	34.04

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:
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DESCRIPTION

R5 UNIVERSAL PIPE MOUNT
REINFORCEMENT KIT

CPD NO.	DRAWN BY	ENG. APPROVAL
	JFS 4/22/2020	5/6/2020
CLASS	SUB	DRAWING USAGE
81	02	CUSTOMER
	CHECKED BY	
	BMC 5/6/2020	



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.	R5-REINF
DWG. NO.	R5-REINF

Exhibit D

Structural Analysis Report

Date: June 09, 2022



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

Subject: Structural Analysis Report

Carrier Designation: Verizon Wireless Co-Locate
Site Number: 468179
Site Name: SOUTHINGTON_I691_CT - A

Crown Castle Designation: BU Number: 841298
Site Name: SOUTHINGTON ROGUS
JDE Job Number: 717405
Work Order Number: 2115096
Order Number: 617730 Rev. 0

Engineering Firm Designation: Crown Castle Project Number: 2115096

Site Data: 250 MERIDEN WATERBURY TURNPIKE,
SOUTHINGTON, Hartford County, CT
Latitude 41° 33' 24.54", Longitude -72° 51' 10.84"
120 Foot - Self Support Tower

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

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

LC7: Proposed Equipment Configuration

Sufficient Capacity

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Ryan T. Conway

Respectfully submitted by:

Maham Barimani, P.E.
Senior Project Engineer

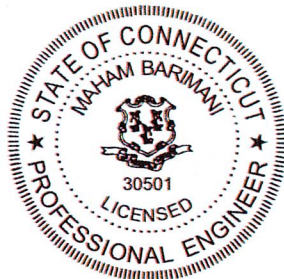


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2) ANALYSIS CRITERIA

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3.2) Assumptions

4) ANALYSIS RESULTS

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Table 5 - Tower Component Stresses vs. Capacity - LC7

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 120 ft Self Support tower designed by PiRod. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-H
 Risk Category: II
 Wind Speed: 118 mph
 Exposure Category: B
 Topographic Factor: 1
 Ice Thickness: 1 in
 Wind Speed with Ice: 50 mph
 Service Wind Speed: 60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
55.0	60.0	3	commscope	NHH-65B-R2B w/ Mount Pipe	2	1-5/8
		3	commscope	NHHSS-65B-R2BT4 w/ Mount Pipe		
		2	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	CBRS RT4401-48A		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RF4439D-25A		
		3	samsung telecommunications	RF4440D-13A		
	3	tower mounts	6' x 4" Mount Pipe			
	55.0	3	tower mounts	6' x 2" Horizontal Mount Pipe		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
120.0	124.0	1	pctel	MFB9157	3	7/8
	123.0	1	scala	OGB6-900		
	122.0	1	rfs celwave	BA1012-0		
119.0	120.0	3	cci antennas	TPA65R-BU8D_CCIV2 w/ Mount Pipe	2	3/8 3/4
		3	ericsson	RRUS 4449 B5/B12		
		1	raycap	DC6-48-60-18-8C		
	119.0	1	tower mounts	Side Arm Mount [SO 304-3]		
110.0	110.0	3	cci antennas	OPA-65R-LCUU-H6 w/ Mount Pipe	6	3/8 3/4
		3	ericsson	RRUS 8843 B2/B66A		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
100.0	100.0	1	raycap	DC6-48-60-18-8C	1	1-1/2
		1	tower mounts	Side Arm Mount [SO 304-3]		
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
60.0	66.0	1	scala	OGD6-905/945	2	7/8
	62.0	1	rfs celwave	BA1012-0		
	60.0	2	tower mounts	Side Arm Mount [SO 305-1]		
50.0	60.0	1	scala	OGD6-905/945	1	1/2
	56.0	1	scala	OGB9-900-DT3	1	7/8
	50.0	2	tower mounts	Side Arm Mount [SO 305-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	10197236	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	9168114	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	7426751	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	6175374	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5964578	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5388172	CCISITES
4-GEOTECHNICAL REPORTS	5114302	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	5114267	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5114299	CCISITES
4-POST-MODIFICATION INSPECTION	9549096	CCISITES
4-POST-MODIFICATION INSPECTION	8266808	CCISITES
4-POST-MODIFICATION INSPECTION	6175357	CCISITES
4-POST-MODIFICATION INSPECTION	5610335	CCISITES

3.1) Analysis Method

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

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	120 - 100	Leg	1 1/2	3	-13.58	55.54	24.4	Pass
T2	100 - 80	Leg	1 1/2	88	-47.09	55.54	84.8	Pass
T3	80 - 60	Leg	SR 1.5in w/ 1/2HSS 2.375in x 0.25in	174	-77.26	100.17	77.0	Pass
T4	60 - 40	Leg	SR 1.75in w/ 1/2HSS 2.375in x 0.154in	276	-117.41	122.93	95.3	Pass
T5	40 - 20	Leg	SR 2in w/ 1/2HSS 2.875in x 0.276in	378	-157.23	157.62	99.7	Pass
T6	20 - 0	Leg	SR 2.25in w/ 1/2HSS 2.875in x 0.276in	456	-193.25	195.32	98.9	Pass
T1	120 - 100	Diagonal	5/8	14	-1.61	4.53	35.5	Pass
T2	100 - 80	Diagonal	5/8	100	-2.85	4.53	62.9	Pass
T3	80 - 60	Diagonal	5/8	270	-3.78	4.55	83.1	Pass
T4	60 - 40	Diagonal	3/4	289	-4.45	6.47	68.9	Pass
T5	40 - 20	Diagonal	7/8	454	-4.24	10.89	39.0	Pass
T6	20 - 0	Diagonal	7/8	468	-3.83	8.47	45.3	Pass
T1	120 - 100	Horizontal	3/4	27	-0.31	6.28	5.0	Pass
T2	100 - 80	Horizontal	3/4	115	-1.13	6.28	17.9	Pass
T3	80 - 60	Horizontal	3/4	188	-1.40	5.01	27.8	Pass
T4	60 - 40	Horizontal	3/4	290	-2.11	3.76	56.1	Pass
T5	40 - 20	Horizontal	7/8	392	-2.78	5.52	50.4	Pass
T6	20 - 0	Horizontal	7/8	470	-3.40	4.41	77.2	Pass
T1	120 - 100	Secondary Horizontal	5/8	86	0.00	14.50	0.5	Pass
T2	100 - 80	Secondary Horizontal	5/8	172	0.00	14.50	0.5	Pass
T3	80 - 60	Secondary Horizontal	1x1	274	1.87	14.40	13.0	Pass
T4	60 - 40	Secondary Horizontal	1x1	293	-2.11	9.73	21.7	Pass
T1	120 - 100	Top Girt	1	6	-0.16	16.35	1.0	Pass
T2	100 - 80	Top Girt	1	90	-0.87	16.35	5.3	Pass
T3	80 - 60	Top Girt	1	176	-1.40	16.66	8.4	Pass
T4	60 - 40	Top Girt	1	278	-2.11	13.88	15.2	Pass
T5	40 - 20	Top Girt	1	380	-2.78	11.44	24.3	Pass
T6	20 - 0	Top Girt	1	458	-3.40	9.02	37.7	Pass
T1	120 - 100	Bottom Girt	3/4	9	-0.88	6.28	14.0	Pass
T2	100 - 80	Bottom Girt	3/4	95	-1.84	6.28	29.3	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail	
T3	80 - 60	Bottom Girt	3/4	181	-1.94	4.84	40.0	Pass	
T4	60 - 40	Bottom Girt	1	283	-2.80	11.40	24.6	Pass	
T5	40 - 20	Bottom Girt	1	383	-2.78	9.16	30.4	Pass	
T6	20 - 0	Bottom Girt	1	463	-2.32	7.33	31.6	Pass	
							Summary		
							Leg (T5)	99.7	Pass
							Diagonal (T3)	83.1	Pass
							Horizontal (T6)	77.2	Pass
							Secondary Horizontal (T4)	21.7	Pass
							Top Girt (T6)	37.7	Pass
							Bottom Girt (T3)	40.0	Pass
							Bolt Checks	54.7	Pass
							Rating =	99.7	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	62.7	Pass
1	Base Foundation (Structure)	0	16.7	Pass
1	Base Foundation (Soil Interaction)	0	75.6	Pass
Structure Rating (max from all components) =				99.7%

Notes:

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

4.1) Recommendations

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

Exhibit E

Mount Analysis



Maser Consulting Connecticut
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Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10145336
Maser Consulting Connecticut Project #: 20777028A

April 29, 2022

Site Information

Site ID: 468179-VZW / SOUTHLINGTON_I691_CT - A
Site Name: SOUTHLINGTON_I691_CT - A
Carrier Name: Verizon Wireless
Address: 250 Meriden Waterbury Tpk
Southington, Connecticut 06489
Hartford County
Latitude: 41.556831°
Longitude: -72.853017°

Structure Information

Tower Type: 120-Ft Self Support
Mount Type: 5.00-Ft T-Arm

FUZE ID # 16092616

Analysis Results

T-Arm: 38.3% **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

Report Prepared By: Frank Centone

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
Radio Frequency Data Sheet (RFDS)	Verizon RFDS, Site ID: 5008563, Dated March 28, 2022
Mount Mapping Report	Onsight Services LLC, Site ID: 468179, Dated April 10, 2022
Previous Mount Analysis	Maser Consulting Connecticut, Project #: 20777028A, Dated April 15, 2022
Mount Modification Drawings	Maser Consulting Connecticut, Project #: 20777028A, Dated April 29, 2022

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 118 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.00 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.988
Seismic Parameters:	S_s : 0.20 g S_1 : 0.06 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 mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
58.00	60.00	3	Commscope	NHH-65B-R2B	Added
		3	Commscope	NHHSS-65B-R2BT4	
		3	Samsung	MT6407-77A	
		3	Samsung	RF4440d-13A	
		3	Samsung	RF4439d-25A	
		3	Samsung	CBRS RRH - RT4401-48A	
		2	Raycap	RVZDC-6627-PF-48	

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Maser Consulting 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 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
MOD Tieback	1.3%	Pass
MOD Support Rail	17.8%	Pass
Antenna Mount	25.1%	Pass
Standoff Vertical	11.3%	Pass
Face Horizontal	38.3%	Pass
Mount Connection	11.3%	Pass

Structure Rating – (Controlling Utilization of all Components)	38.3%
---	--------------

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	6.5	5.3	9.9	8.7
0.5	8.7	7.3	13.6	12.2
1	10.9	9.2	17.2	15.5

Notes:

- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 1 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts 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. Mount Mapping Report (for reference only)
6. Analysis Calculations

Exhibit F

Power Density/RF Emissions Report

Site Name: **Southington / 691 CT**
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm ²)	Maximum Permissible Exposure* (mW/cm ²)	Fraction of MPE (%)
VZW 700	751	4	710	2840	60	0.0284	0.5007	5.67%
VZW Cellular	869	4	679	2716	60	0.0271	0.5793	4.68%
VZW PCS	1980	4	1422	5688	60	0.0568	1.0000	5.68%
VZW AWS	2125	4	1496	5984	60	0.0598	1.0000	5.98%
VZW CBAND	3730	4	6531	26124	60	0.2610	1.0000	26.10%
VZW CBRS	3625	4	12	48	60	0.0005	1.0000	0.05%
Total Percentage of Maximum Permissible Exposure								
								48.15%

*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/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.