



Filed by:  
G. Scott Shepherd, Site Development Specialist 2 - SBA Communications  
134 Flanders Rd., Suite 125, Westborough, MA 01581  
508.251.0720 x 3807 - GShepherd@sbsite.com

January 18, 2021

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

**Notice of Exempt Modification**  
**1 Hartford Square, New Britain, CT 06052**  
**Latitude : 41.6663919**  
**Longitude : -72.8127989**  
**T-Mobile #: CT11351C\_Anchor**

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 152-foot level of the existing 176-foot Self-Support Tower at 1 Hartford Square. The tower is owned by SBA Towers. The property is owned by Hartford Square Associates. T-Mobile now intends to replace three (3) 1900/2100 MHz antennas with three (3) new L2500 MHz antennas as well as, remove (3) three 1900/2100 MHz antenna and replace with three (3) new 1900/2100 MHz antennas.

The new antennas would support 5G services and would installed at the 152-foot level of the tower.

**Please note:** Per the Connecticut Siting Council Website: [CSC COVID 19 Guidelines](#).  
*In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.*

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- (3) Ericsson AIR21 KRC118023-1 1900/2100 MHz antennas (Remove) – (3) Ericsson AIR6449 B41 L2500 MHz antennas (Replace)
- (3) Commscope LNX-651DS-A1M 1900/2100 MHz antenna (Remove) – (3) Ericsson AIR32 KRD901146-1 1900/2100 MHz antennas (Replace)
- (3) Ericsson RRUs-11 RRUs (Replace) – (3) Ericsson 4449 B71+B85 RRUs (Replace)

Install New:

- (3) Ericsson Radio 4415 B25 RRUs
- (3) Commscope SDX1926Q-43 Quadplexers
- (4) 1-5/8 Fiber
- (1) 1-1/4" fiber

Existing Equipment to Remain:

- (6) 1-5/8" Coax
- (3) 1-5/8" fiber
- (3) Sector Frames (T-frames)
- (3) Ericsson KRY 112 144/1 TMAs

Entitlements:

- (4) 1-5/8" coax
- (1) 1-1/4" Fiber

GROUND

Install New:

- Ericsson 6160 Equipment cabinet on existing concrete pad
- Ericsson B160 Battery Cabinet on existing concrete pad
- Equipment inside existing 6131 BTS cabinet

Existing Equipment to Remain:

- ½" Coax for GPS

This facility was approved by the Department of Municipal Development for the City of New Britain on July 17, 2000. Approval was given for a 175' lattice type communication tower. Building/Zoning Permit 1414 was issued for the tower on August 1, 2000, and Building/Zoning Permit 1680 was issued for a site shelter on October 25, 2000. There do not appear to have been any post-construction stipulations set per inquiry with the City. Please see attached.

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 the Honorable Erin Stewart, Mayor of the City of New Britain, and David Zajac, Zoning Enforcement Officer for the City of New Britain, as well as the property owner Hartford Square Associates, LLC. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16.50j-72(b)(2).

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

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-referenced telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

G. Scott Shepherd  
Site Development Specialist 2  
SBA COMMUNICATIONS CORPORATION  
134 Flanders Rd., Suite 125  
Westborough, MA 01581  
508.251.0720 x3804 / T 508.366.2610 / F  
508.868.6000 + C  
[GShepherd@sbsite.com](mailto:GShepherd@sbsite.com)

#### Attachments

cc: The Honorable Erin Stewart, Mayor of the City of New Britain—w/attachments  
*City Hall Room 204, 27 West Main St., New Britain, CT 06051*  
David Zajac, Zoning Enforcement Officer—w/attachments  
*City Hall Room 404, 27 West Main St., New Britain, CT 06051*  
Hartford Square Associates, LLC— w/attachments  
*1 Hartford Square Door #19, New Britain, CT 06052 (SBA address on file)*  
*1 Hartford Square West Box #15, New Britain, CT 06052 (Town address on file)*



Exhibit List

Exhibit 1	Check Copy	X
Exhibit 2	Notification Receipts	Filed electronically due to COVID-19
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Not available (See Email)
Exhibit 6	Construction Drawings	Chappell 1/8/21
Exhibit 7	Structural Analysis	TES 11/10/20
Exhibit 8	Mount Analysis	TES 11/9/20
Exhibit 9	EME Report	Transcom 12/1/20



## EXHIBIT 1

Normally, Exhibit 1 would contain a copy of the check for the filing fee.

# EXHIBIT 2

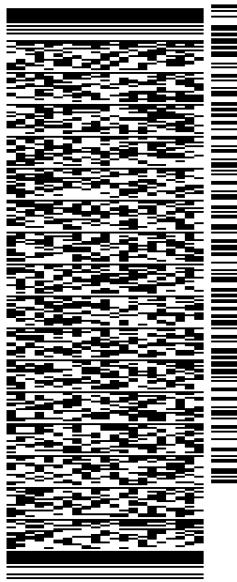
ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 18JAN21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET14340  
BILL SENDER

TO **MELANIE A. BACHMAN EXEC. DIR**  
**CONNECTICUT SITING COUNCIL**  
**TEN FRANKLIN SQUARE**

**NEW BRITAIN CT 06051**

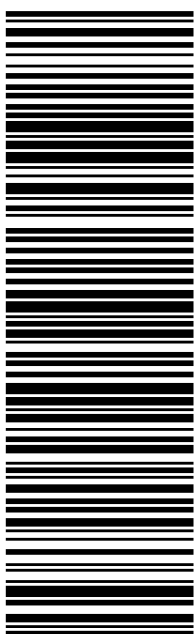
(508) 251-0720 X.3807 REF: 105692009-6089  
INV# DEPT:



TRK# 7726 5617 2238  
0201  
TUE - 19 JAN 10:30A  
PRIORITY OVERNIGHT

**EB BDLA**

06051  
BDL  
CT:US



56DJ1/1136/FE4A

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

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

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ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 18JAN21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET14340

BILL SENDER

TO HONORABLE ERIN STEWART, MAYOR

CITY NEW BRITAIN

27 WEST MAIN ST.

ROOM 204

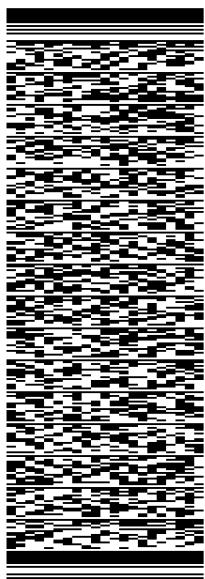
NEW BRITAIN CT 06051

(508) 251-0720 X.3807

REF: 105692009-6089

PO:

DEPT:



56DJ1/1136/FE4A

TRK# 7726 5620 4741  
0201

TUE - 19 JAN 10:30A

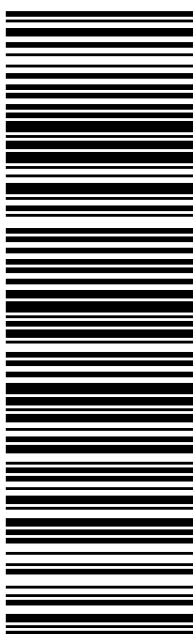
PRIORITY OVERNIGHT

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06051

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SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 18JAN21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET14340

BILL SENDER

TO DAVID ZAJAC, ZONE ENF. OFFICER

CITY NEW BRITAIN

27 WEST MAIN ST.

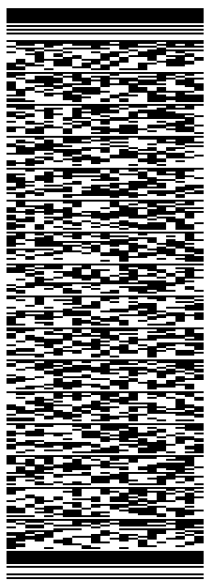
ROOM 404

NEW BRITAIN CT 06051

(508) 251-0720 X.3807

REF: 105692009-6089

PO: DEPT:



56DJ1/1136/FE4A

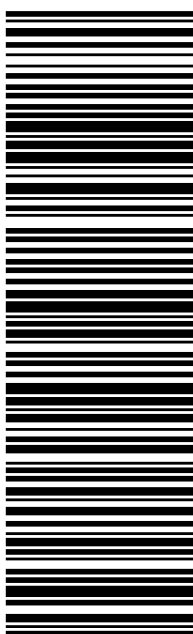
TRK# 7726 5622 2957  
0201

TUE - 19 JAN 10:30A

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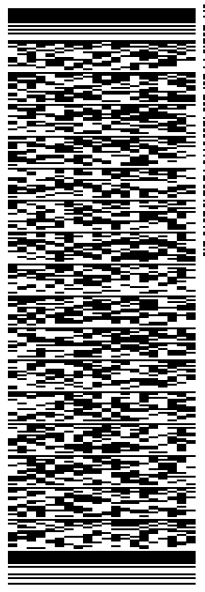
ORIGIN ID:BFBA (508) 614-0389  
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SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 18JAN21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET14340  
BILL SENDER

TO 1 HARTFORD SQUARE  
HARTFORD SQUARE ASSOCIATES, LLC  
DOOR #19

NEW BRITAIN CT 06052

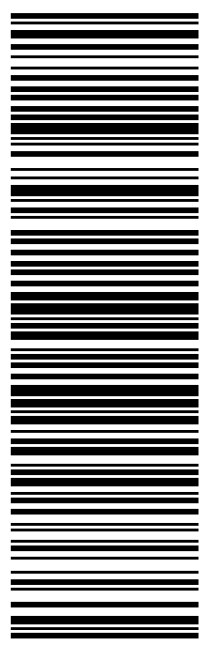
(508) 251-0720 X 3807 REF: 105692009-6089  
INV# PO: DEPT:



J211021011101uv

TRK# 7726 5625 4069  
TUE - 19 JAN 10:30A  
PRIORITY OVERNIGHT

EBBDLA  
06052  
CT-US BDL



56DJ1/1136/FE4A

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# EXHIBIT 3

# 1 HARTFORD SQ

**Location** 1 HARTFORD SQ

**Mblu** F4A/ 2/ / /

**Acct#** 44950001

**Owner** HARTFORD SQUARE ASSOCIATES LLC

**Assessment** \$4,116,000

**Appraisal** \$5,880,000

**PID** 764

**Building Count** 2

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$3,710,700	\$2,169,300	\$5,880,000

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$2,597,490	\$1,518,510	\$4,116,000

## Owner of Record

**Owner** HARTFORD SQUARE ASSOCIATES LLC  
**Co-Owner**  
**Address** 1 HARTFORD SQ WEST BOX #15  
NEW BRITAIN, CT 06052

**Sale Price** \$0  
**Certificate**  
**Book & Page** 1903/1103  
**Sale Date** 12/03/2014

## Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
HARTFORD SQUARE ASSOCIATES LLC	\$0		1903/1103	12/03/2014
HARTFORD SQUARE ASSOCIATES LLC	\$0		1895/0267	07/22/2014
HARTFORD SQUARE ASSOCIATES LLC	\$0		1895/0157	07/22/2014
HARTFORD SQUARE ASSOCIATES LLC	\$0	1	1830/0539	12/06/2011
HARTFORD SQUARE ASSOCIATES LLC	\$3,500,000		1813/0022	02/14/2011

## Building Information

### Building 1 : Section 1

**Year Built:** 1940  
**Living Area:** 542,561  
**Replacement Cost:** \$18,387,603



**Building Percent** 20

**Good:**

**Replacement Cost**

**Less Depreciation:** \$3,677,500

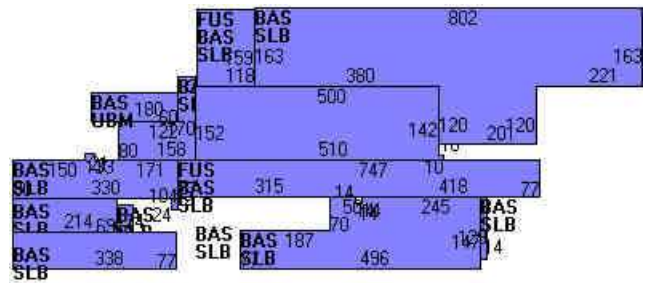
Building Attributes	
Field	Description
STYLE	Warehouse
MODEL	Ind/Comm
Grade	C
Stories:	2
Occupancy	31.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Metal/Tin
Interior Wall 1	Minimum/Masonr
Interior Wall 2	
Interior Floor 1	Finished Concr
Interior Floor 2	
Central Heat	Yes
Usrflid 208	99
AC Type	Partial
Struct Class	
Bldg Use	Ind Whse MDL-96
Apt Units	
Total Bedrms	00
Total Baths	0
Comm Units	
Ind Units	
1st Floor Use:	4010
Heat/AC	Unit Heat
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	Ceil & Min WL
Rooms/Prtns	Average
Wall Height	18.00
% Comn Wall	

**Building Photo**



(<http://images.vgsi.com/photos/NewBritainCTPhotos//\00\03\49>)

**Building Layout**



(<http://images.vgsi.com/photos/NewBritainCTPhotos//Sketches/7>)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	466,084	466,084
FUS	Finished Upper Story	76,477	76,477
SLB	Slab	455,284	0
UBM	Basement	10,800	0
		1,008,645	542,561

**Building 2 : Section 1**

**Year Built:**

**Living Area:** 0

**Replacement Cost:** \$0

**Building Percent****Good:****Replacement Cost****Less Depreciation:** \$0

<b>Building Attributes : Bldg 2 of 2</b>	
<b>Field</b>	<b>Description</b>
Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Central Heat Sys	
Heat Type	
AC Type	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs	
Total Rooms	
Bath Style	
Kitchen Style	
Num Kitchens	
Whirlpool Tub	
Fireplaces	
Usrflid 104	
Rec Room Finish	
Rec Room Qual	
Usrflid 107	
Bsmt Garages	
Fireplaces	
Usrflid 108	
Usrflid 101	
Usrflid 102	
Bldg Nbhd	

**Building Photo**

(<http://images.vgsi.com/photos/NewBritainCTPhotos//default.jpg>)

**Building Layout**

 Building Layout

(<http://images.vgsi.com/photos/NewBritainCTPhotos//Sketches/7>)

<b>Building Sub-Areas (sq ft)</b>	<b><u>Legend</u></b>
No Data for Building Sub-Areas	

## Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
A/C	Central A/C	18000.00 S.F.	\$11,700	1
LDL2	Load Lv Manual	8.00 Units	\$1,900	1

## Land

### Land Use

**Use Code** 4010  
**Description** Ind Whse MDL-96  
**Zone** I2  
**Neighborhood** 101G  
**Alt Land Appr Category** No

### Land Line Valuation

**Size (Acres)** 31.10  
**Depth**  
**Assessed Value** \$1,518,510  
**Appraised Value** \$2,169,300

## Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV5	Conc Pad			1836.00 S.F.	\$22,000	2
UST2	Utility Metal			3036.00 S.F.	\$21,900	1
CB4	PreCastConcCel			200.00 S.F.	\$33,000	2
UST3	Utility Masonr			484.00 S.F.	\$4,600	1
CB3	PreCastConcCel			240.00 S.F.	\$55,400	2
UST2	Utility Metal			320.00 S.F.	\$2,300	1
CB3	PreCastConcCel			360.00 S.F.	\$83,200	2
UST1	Utility Frame			320.00 S.F.	\$2,800	1
FN4	Fence-8' Chain			272.00 L.F.	\$3,500	2
UST2	Utility Metal			2000.00 S.F.	\$14,400	1
SCL1	Scales-Mech			60.00 Tons	\$37,800	2
TNK2	Tank Bulk			300000.00 Gal	\$1,200	1
PAV1	Paving Asphalt			50000.00 S.F.	\$48,000	1
BLB2	Billboard 2 Side			2.00 Units	\$0	1

## Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$3,710,700	\$2,169,300	\$5,880,000
2017	\$4,021,200	\$2,169,300	\$6,190,500
2016	\$4,466,700	\$2,076,000	\$6,542,700

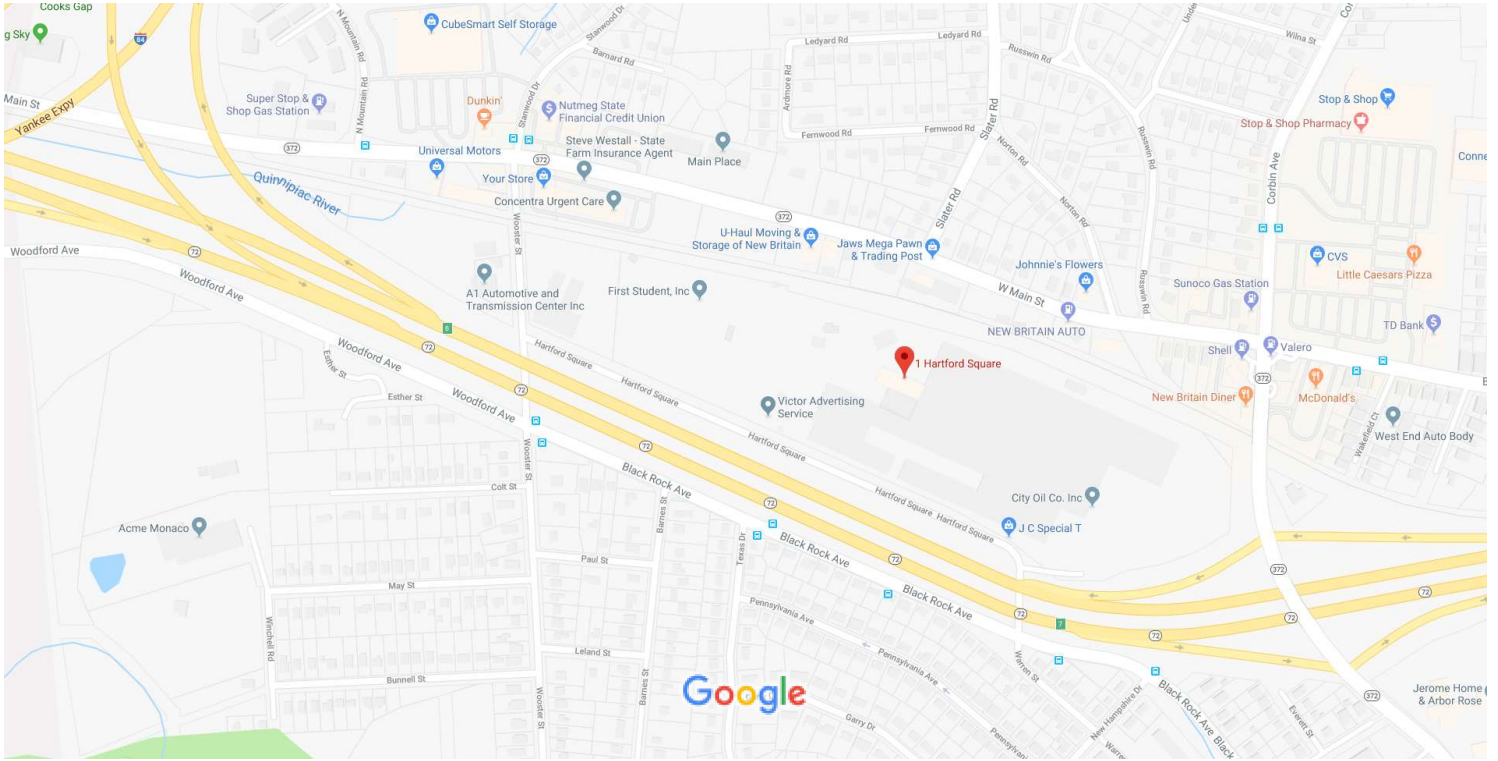
**Assessment**

<b>Valuation Year</b>	<b>Improvements</b>	<b>Land</b>	<b>Total</b>
2018	\$2,597,490	\$1,518,510	\$4,116,000
2017	\$2,814,840	\$1,518,510	\$4,333,350
2016	\$3,126,690	\$1,453,200	\$4,579,890

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# EXHIBIT 4

# Google Maps 1 Hartford Square



Map data ©2019 Google 200 ft



## 1 Hartford Square

New Britain, CT 06052



Directions



Save



Nearby



Send to your phone



Share

### Photos



# EXHIBIT 5



## Kri Pelletier

---

**From:** Dave Zajac <Dave.Zajac@newbritainct.gov>  
**Sent:** Friday, June 21, 2019 1:53 PM  
**To:** Kri Pelletier  
**Subject:** RE: [External] RE: Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)

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

Nothing I found  
Dave

*David D. Zajac*

**Building & Zoning Enforcement**

27 West Main Street Suite 404

New Britain, CT 06051

Office: 860-826-3384

Desk: 860-612-5014

City Web: [www.newbritainct.gov](http://www.newbritainct.gov)

Zoning Ordinance: [https://library.municode.com/ct/new\\_Britain/codes/zoning\\_ordinances](https://library.municode.com/ct/new_Britain/codes/zoning_ordinances)

G.I.S. Map: <http://newbritain.mapxpress.net/>



**New Britain**  
*Connecticut*

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---

**From:** Kri Pelletier [mailto:KPelletier@sbsite.com]  
**Sent:** Friday, June 21, 2019 1:40 PM  
**To:** Dave Zajac; Donna L. Boga; Sergio Lupo  
**Cc:** Steven Schiller  
**Subject:** RE: [External] RE: Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)

Hi Dave, and thank you.

So just to confirm, there don't appear to be any ZBA or P&Z approval documents calling out any stipulations on the tower?

(We'll only be applying for upgrades, so they would likely not apply anyway, but it is our responsibility to provide if available.)

Thanks again,

**Kri Pelletier**

*Prop Spec - Svcs*

508.251.0720 x3804 + **T**

508.366.2610 + **F**

203.446.7700 + **C**

---

**From:** Dave Zajac [mailto:Dave.Zajac@newbritainct.gov]  
**Sent:** Friday, June 21, 2019 12:39 PM  
**To:** Kri Pelletier <KPelletier@sbsite.com>; Donna L. Boga <Donna.Boga@newbritainct.gov>; Sergio Lupo <Sergio.Lupo@newbritainct.gov>  
**Cc:** Steven Schiller <Steven.Schiller@newbritainct.gov>  
**Subject:** RE: [External] RE: Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)

Hi  
Hope this helps  
Copies of the permits to put up the tower  
Which is the approval of building and zoning  
Anything else, e-mail or call  
Thanks  
Dave

*David D. Zajac*

**Building & Zoning Enforcement**

27 West Main Street Suite 404

New Britain, CT 06051

Office: 860-826-3384

Desk: 860-612-5014

City Web: [www.newbritainct.gov](http://www.newbritainct.gov)

Zoning Ordinance: [https://library.municode.com/ct/new\\_Britain/codes/zoning\\_ordinances](https://library.municode.com/ct/new_Britain/codes/zoning_ordinances)

G.I.S. Map: <http://newbritain.mapxpress.net/>



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---

**From:** Kri Pelletier [mailto:KPelletier@sbsite.com]  
**Sent:** Thursday, June 20, 2019 3:31 PM  
**To:** Donna L. Boga; Sergio Lupo; Dave Zajac  
**Cc:** Steven Schiller  
**Subject:** RE: [External] RE: Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)  
**Importance:** High

Good Afternoon All,

Just following up on the below.

Please note that in some cases, as many years have gone by, the original zoning approval documents do not exist. If you believe this to be the case, we will simply need confirmation – a reply email stating same would be just fine.

Thank you,

**Kri Pelletier**  
Prop Spec - Svcs

508.251.0720 x3804 + T  
508.366.2610 + F  
203.446.7700 + C

---

**From:** Kri Pelletier  
**Sent:** Wednesday, June 12, 2019 4:59 PM  
**To:** Donna L. Boga <[Donna.Boga@newbritainct.gov](mailto:Donna.Boga@newbritainct.gov)>; Sergio Lupo <[Sergio.Lupo@newbritainct.gov](mailto:Sergio.Lupo@newbritainct.gov)>; Dave Zajac <[Dave.Zajac@newbritainct.gov](mailto:Dave.Zajac@newbritainct.gov)>  
**Cc:** Steven Schiller <[Steven.Schiller@newbritainct.gov](mailto:Steven.Schiller@newbritainct.gov)>  
**Subject:** RE: [External] RE: Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)

Thank you, Steven and all.

Please let me know if you need any further information to assist with the tracking of the original approval.

Thank you,

**Kri Pelletier**  
*Prop Spec - Svcs*

508.251.0720 x3804 + T  
508.366.2610 + F  
203.446.7700 + C

---

**From:** Steven Schiller [<mailto:Steven.Schiller@newbritainct.gov>]  
**Sent:** Monday, June 10, 2019 4:02 PM  
**To:** Kri Pelletier <[KPelletier@sbsite.com](mailto:KPelletier@sbsite.com)>  
**Cc:** Donna L. Boga <[Donna.Boga@newbritainct.gov](mailto:Donna.Boga@newbritainct.gov)>; Sergio Lupo <[Sergio.Lupo@newbritainct.gov](mailto:Sergio.Lupo@newbritainct.gov)>; Dave Zajac <[Dave.Zajac@newbritainct.gov](mailto:Dave.Zajac@newbritainct.gov)>  
**Subject:** [External] RE: Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)

Kri-

Any formal approval, probably a building permit, would have come from a zoning official in the Building dept. I've cc'd the individuals above, that would most likely be able to assist you.

Steven P. Schiller, AICP  
City Planner  
City of New Britain  
Suite 208, City Hall  
27 West Main Street  
New Britain, Connecticut 06051  
860-826-3430  
[Steven.Schiller@NewBritainCT.gov](mailto:Steven.Schiller@NewBritainCT.gov)

---

**From:** Kri Pelletier [<mailto:KPelletier@sbsite.com>]  
**Sent:** Monday, June 10, 2019 3:36 PM

**To:** Steven Schiller <[Steven.Schiller@newbritainct.gov](mailto:Steven.Schiller@newbritainct.gov)>

**Subject:** Existing Cell tower - One Hartford Square (SBA/T-Mobile CT11351C)

Hi Steven,

On behalf of T-Mobile, we're readying materials for antenna upgrades at the existing cell site at One Hartford Square in New Britain.

As you are likely aware, prior to applying for building permits for existing cell tower upgrades, we must get CT Siting Council Approval. The Council now requires us to provide copies of the original zoning approval for the towers in order to show any post-construction stipulations.

Looks like the tower at One Hartford Square was approved before the CSC had jurisdiction. I have the attached City of New Britain's Memorandum regarding Site Plan approval, but not the actual approval itself.

Might you be able to provide a scanned copy or direct me to another department that could help locate?

Thank you for your assistance,

**Kri Pelletier**

*Prop Spec - Svcs*



**SBA Communications Corporation**

134 Flanders Road  
Suite 125  
Westborough, MA 01581

508.251.0720 x3804 + **T**

508.366.2610 + **F**

203.446.7700 + **C**

[KPelletier@sbsite.com](mailto:KPelletier@sbsite.com)

*Your Signal Starts Here.*

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LOCATION DATE Aug 1, 2000 ZONE I2 CODE YR 99 APPLICATION BUILDING/ZONING  
1 HARTFORD SQUARE NEW BRITAIN, CT  
 B 1414 COST \$84,000 FEE 1290.00 CO. FEE 15.00  
 CK # 86378 CK # 80378

1. OWNER Dixwell Associates. ADDRESS 1 HARTFORD Sq. N.B. CT.  
 2. APPLICANT SBA ADDRESS 80 EASTERN BLVD GLASTONBURY  
 3. ARCHITECT THOMAS W. SCHEPKE P.E. ADDRESS 6718 W. PLANK RD, PEORIA, ILL.

REMODELING  ACCESSORY  DEMOLITION  SIGNAGE  SITE PLAN REVIEW  OTHER   
 NEW CONST  NO. BEDROOMS \_\_\_\_\_ NO. BATHS \_\_\_\_\_ NO. GARAGES \_\_\_\_\_ FLOOD ZONE Y/N/NA \_\_\_\_\_

CONSTRUCT 175' LATTICE TYPE COMMUNICATION TOWER PER PLANS/SPECS.

C/O 11/7/03

DIMENSIONS	NO. OF STORIES	HEIGHT	TOTAL SQ. FT. FLR AREA
LOT SIZE	TOTAL LAND AREA SQ. FT.	BUILDING TYPE	USE GROUP

I hereby agree to conform to all of the requirements of the Laws of the State of Connecticut and the Ordinance of the City of New Britain and to notify the Building Commission of any alteration in the plans or specifications of the Building for which this permit is asked.

Applicant [Signature] (signature) X EDWARD G. DUPONT (print) X 860 659-9101 (telephone no.)  
 Owner \_\_\_\_\_ (signature) \_\_\_\_\_ (print) \_\_\_\_\_ (telephone no.)

**B** 1414  
 CITY OF NEW BRITAIN  
 DEPARTMENT OF LICENSES, PERMITS  
 AND INSPECTIONS  
 TELEPHONE: 826-3383

**BUILDING/ZONING PERMIT**

DATE	<u>8/14/00</u>
COST	<u>84,000.</u>
FEE	<u>1,290.</u>

APPLICANT SBA TEL. NO. 860 659-9101  
 ADDRESS 80 Eastern Bld. Glastonbury, CT  
 PERMIT FOR: Construct 175' Lattice Type Communication Tower per plans and specs.

LOCATION ONE HARTFORD SQUARE C/O 11/7/03  
 BUILDING DIMENSIONS FT. WIDE BY \_\_\_\_\_ FT. LONG AND \_\_\_\_\_ FT. IN HEIGHT \_\_\_\_\_  
 BUILDING TYPE \_\_\_\_\_ USE GROUP \_\_\_\_\_ LOT SIZE \_\_\_\_\_ ZONE I2  
 OWNER Dixwell Associates CERT. OF OCCUPANCY REQUIRED YES  NO \_\_\_\_\_  
 ADDRESS 1 Hartford Sq. NB, CT AS-BUILT SURVEY REQUIRED YES  NO \_\_\_\_\_

THE MATCHING APPLICATION IS PART AND PARCEL OF THIS BUILDING PERMIT.

WHERE APPLICABLE SEPARATE PERMITS ARE REQUIRED FOR ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS.

OFFICE COPY

BUILDING OFFICIAL

**MANDATORY INSPECTIONS REQUIRED**

**POST PERMIT FOR DURATION OF WORK**



LOCATION DATE **OCTOBER 25, 2000** ZONE **I2** CODE YR **99** APPLICATION BUILDING/ZONING  
**1 HARTFORD SQUARE** NEW BRITAIN, CT  
**B 1680** COST **\$80,000** FEE **1,230** CO. FEE **15.00**  
 CK# **22775** CK# **22775**

1. OWNER **DIXWELL ASSOCIATES** ADDRESS **1 HARTFORD SQ., N.B. CT.**  
 2. APPLICANT **NELSON COMMUNICATION SERVICES, INC.** ADDRESS **ROUTE 16, ALBANY, NEW HAMPSHIRE**  
 3. ARCHITECT **MURALI D. ATLURU P.E.** ADDRESS **556 WASHINGTON AVE, N. HAVEN, CT.**

REMODELING  ACCESSORY  DEMOLITION  SIGNAGE  SITE PLAN REVIEW  CONWAY  OTHER   
 NEW CONTST  NO. BEDROOMS \_\_\_\_\_ NO. BATHS \_\_\_\_\_ NO. GARAGES \_\_\_\_\_ FLOOD ZONE Y/N/NA **NH**  
**INSTALL 10' x 20' PRE-ENGINEERED STEEL FRAME SHELTER ON EXISTING CONCRETE PAD (SEE PERMIT # B1414, FOR LATTICE TOWER.)**  
**C.O. ISSUED 2/1/01**

DIMENSIONS	NO. OF STORIES	HEIGHT	TOTAL SQ. FT. FLR AREA
LOT SIZE	TOTAL LAND AREA SQ. FT.	BUILDING TYPE	USE GROUP

I hereby agree to conform to all of the requirements of the Laws of the State of Connecticut and the Ordinance of the City of New Britain and to notify the Building Commission of any alteration in the plans or specifications of the Building for which this permit is asked.

Applicant *[Signature]* (signature) **John H. Nelson Jr.** (print) **603-447-8879** (telephone no.)  
 Owner \_\_\_\_\_ (signature) \_\_\_\_\_ (print) \_\_\_\_\_ (telephone no.)

**B 1680**

CITY OF NEW BRITAIN  
 DEPARTMENT OF LICENSES, PERMITS  
 AND INSPECTIONS  
 TELEPHONE: 826-3383

**BUILDING/ZONING PERMIT**

DATE	<b>11/20/00</b>
COST	<b>80,000.</b>
FEE	<b>1,230.</b>

APPLICANT **Nelson Communication Services, Inc.** TEL. NO. **603 447-8879**  
 ADDRESS **Route 16, Albany, New Hampshire**  
 PERMIT FOR: **Install 10'x20' pre-engineered steel frame shelter on existing pad (see Permit #B1414 for lattice tower issued 8/14/00)**

LOCATION **1 HARTFORD SQUARE**

BUILDING DIMENSIONS	FT. WIDE BY	FT. LONG AND	FT. IN HEIGHT
BUILDING TYPE	USE GROUP	LOT SIZE	ZONE
OWNER <b>Dixwell Associates</b>	CERT. OF OCCUPANCY REQUIRED		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
ADDRESS <b>1 Hartford Sq. NB, CT</b>	AS-BUILT SURVEY REQUIRED		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

THE MATCHING APPLICATION IS PART AND PARCEL OF THIS BUILDING PERMIT.

WHERE APPLICABLE SEPARATE PERMITS ARE REQUIRED FOR ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS.

**MANDATORY INSPECTIONS REQUIRED**

OFFICE COPY \_\_\_\_\_ BUILDING OFFICIAL \_\_\_\_\_

**POST PERMIT FOR DURATION OF WORK**



# City of New Britain

New Britain, Connecticut 06051

DEPT. OF MUNICIPAL DEVELOPMENT

"New Britain:  
A City for  
All People"

27 West Main Street - Room 311

(860) 826-3330

FAX: (860) 826-2682

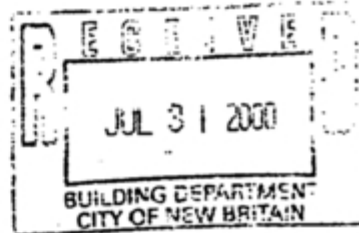
## MEMORANDUM

TO: Frank M. Wiatr, Director of Licenses and Permits

FROM: Steven P. Schiller, Planner II

DATE: July 27, 2000

SUBJECT: Site Plan Review for:



ONE HARTFORD SQUARE  
SBA CELL TOWER, AMODIO PROPERTY  
PLAN DATED: 7/17/00

As requested, a review of the above Site Plan was made and we recommend that the Site Plan be APPROVED as submitted. City Plan approval indicates that the Site Plan and/or Landscaping Plan appears to conform to professional planning standards, but in no way shall be construed as confirmation of the accuracy or adequacy of the contents of the plans and shall not relieve the owner of the obligation to construct facilities which function safely and conform to all applicable statutes, ordinances and regulations.

NOTE: APPROVAL IS CONTINGENT UPON ZONING ENFORCEMENT OFFICIAL'S CONCURRENCE THAT THE PROPOSED USE IS PERMISSIBLE IN THE I-2 DISTRICT AND THAT THE 135 FOOT TOWER IS EXEMPTED FROM THE 125 FOOT MAXIMUM HEIGHT RESTRICTION, PURSUANT TO SECTION 230-30.

cc: Clarence Corbin, City Engineer

Kenneth A. Malinowski, Director  
Department of Municipal Development

SITE # 10125-077  
FILE TYPE CONS  
SECTION Permitting

# EXHIBIT 6



# NEW BRITAIN/RT-72 WOOSTER

1 HARTFORD SQUARE  
NEW BRITAIN, CT 06052  
HARTFORD COUNTY

SITE NO.: CT11351C

SITE TYPE: 176'± SELF-SUPPORT TOWER

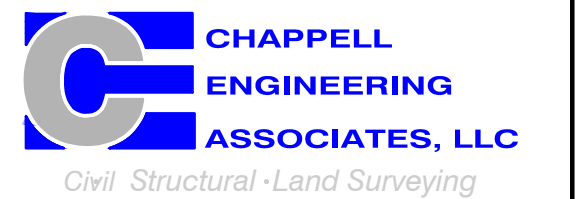
RF DESIGN GUIDELINE: 67D5A997DB OUTDOOR

## T-MOBILE NORTHEAST LLC

15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
(508) 286-2700



SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
(508) 251-0720



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



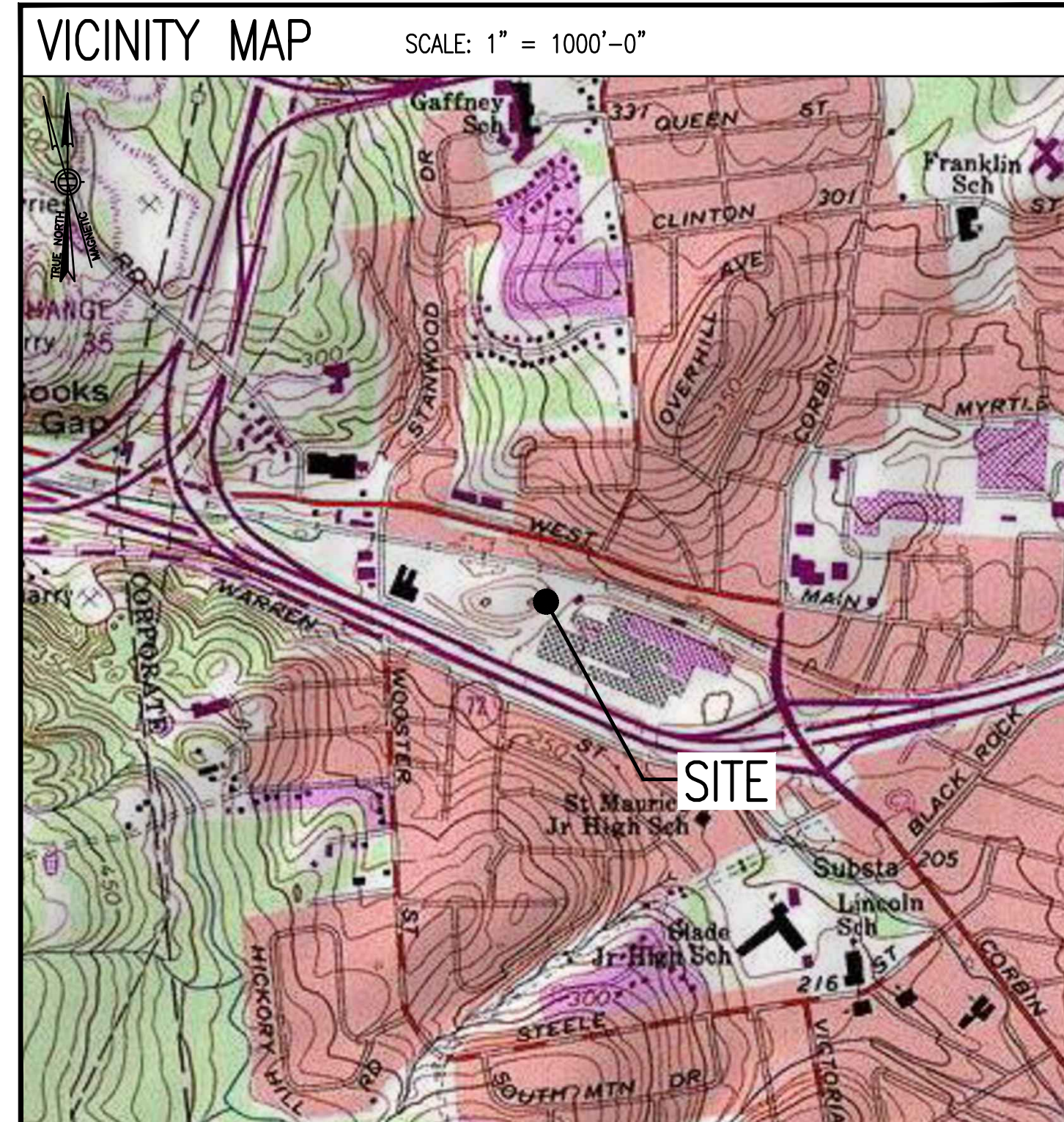
APPROVALS			
PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES	
LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
SECTOR D:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

SITE NOTES	
1.	THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE. <ul style="list-style-type: none"> <li>• ADA COMPLIANCE NOT REQUIRED.</li> <li>• POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.</li> <li>• NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.</li> </ul>
2.	CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3.	NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES. <ul style="list-style-type: none"> <li>• BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE</li> <li>• ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE</li> <li>• STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.</li> </ul>

GENERAL NOTES	
1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.	11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.	12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.	13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.	14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.	16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.	17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.	
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.	
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.	

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



**DO NOT SCALE DRAWINGS**

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SHEET INDEX		
SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	2
GN-1	GENERAL NOTES	2
A-1	COMPOUND & EQUIPMENT PLANS	2
A-2	TOWER ELEVATION & ANTENNA PLANS	2
A-3	SITE DETAILS	2
A-4	ANTENNA & FEEDLINE CHARTS	2
E-1	ELECTRIC & GROUNDING DETAILS	2

**SPECIAL ZONING NOTE:**  
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

PROJECT SUMMARY	
SITE NUMBER:	CT11351C
SBA SITE NUMBER:	CT04382-S
SBA SITE NAME:	NEW BRITAIN 2, CT
SITE ADDRESS:	1 HARTFORD SQUARE NEW BRITAIN, CT 06052
PROPERTY OWNER:	HARTFORD SQUARE ASSOCIATES LLC. 1 HARTFORD SQUARE, WEST BOX #15 NEW BRITAIN, CT 06052
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	HARTFORD COUNTY
ZONING DISTRICT:	I2 (GENERAL INDUSTRY)
STRUCTURE TYPE:	SELF-SUPPORT TOWER
STRUCTURE HEIGHT:	176'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SROth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.666400° N41°39'59.04" LONGITUDE W.72.812800° W72°48'46.08"

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/21	ISSUED FOR CONSTRUCTION	CMC
1	12/21/20	ISSUED FOR CONSTRUCTION	CMC
0	11/20/20	ISSUED FOR REVIEW	CMC

SITE NUMBER:  
**CT11351C**

SITE ADDRESS:  
1 HARTFORD SQUARE  
NEW BRITAIN, CT 06052

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T-1**



**GENERAL NOTES:**

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR – T-MOBILE  
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)  
OWNER – T-MOBILE  
OEM – ORIGINAL EQUIPMENT MANUFACTURER
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR 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, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
- THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
- CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- IF THE EXISTING CELL SITE IS 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 TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

**SITE WORK GENERAL NOTES:**

- THE SUBCONTRACTOR 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 ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- 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.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 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 ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- 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 IN THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR 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 SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

**CONCRETE AND REINFORCING STEEL NOTES:**

- 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.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNDO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:  
CONCRETE CAST AGAINST EARTH.....3 IN.  
CONCRETE EXPOSED TO EARTH OR WEATHER:  
#6 AND LARGER .....2 IN.  
#5 AND SMALLER & WWF .....1½ IN.  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:  
SLAB AND WALL .....¾ IN.  
BEAMS AND COLUMNS .....½ IN.
- A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;  
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.  
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.  
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

**STRUCTURAL STEEL NOTES:**

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T-MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

**SOIL COMPACTION NOTES FOR SLAB ON GRADE:**

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
- AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

**COMPACTION EQUIPMENT:**

- HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

**CONSTRUCTION NOTES:**

- FIELD VERIFICATION:  
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
- COORDINATION OF WORK:  
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- CABLE LADDER RACK:  
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

**ELECTRICAL INSTALLATION NOTES:**

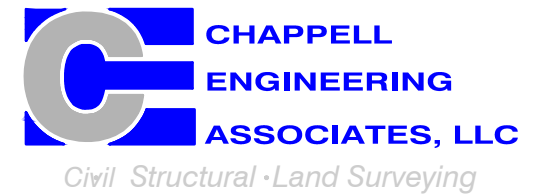
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TCELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TCELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO 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, ANS/IEEE AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND, DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- 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 RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/21	ISSUED FOR CONSTRUCTION	CMC
1	12/21/20	ISSUED FOR CONSTRUCTION	CMC
0	11/20/20	ISSUED FOR REVIEW	CMC

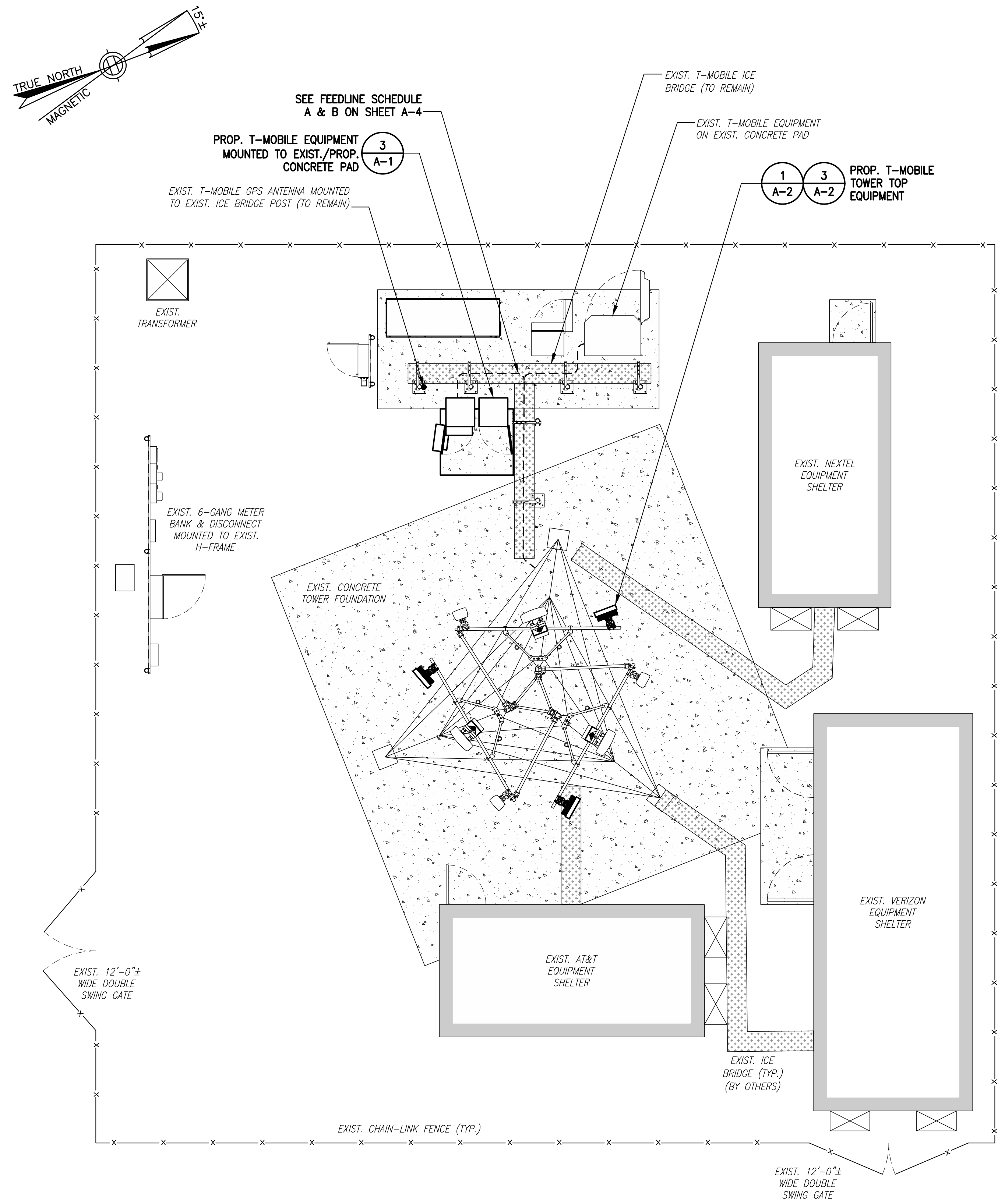
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**CT11351C**  
  
SITE ADDRESS:  
1 HARTFORD SQUARE  
NEW BRITAIN, CT 06052

SHEET TITLE  
  
GENERAL NOTES

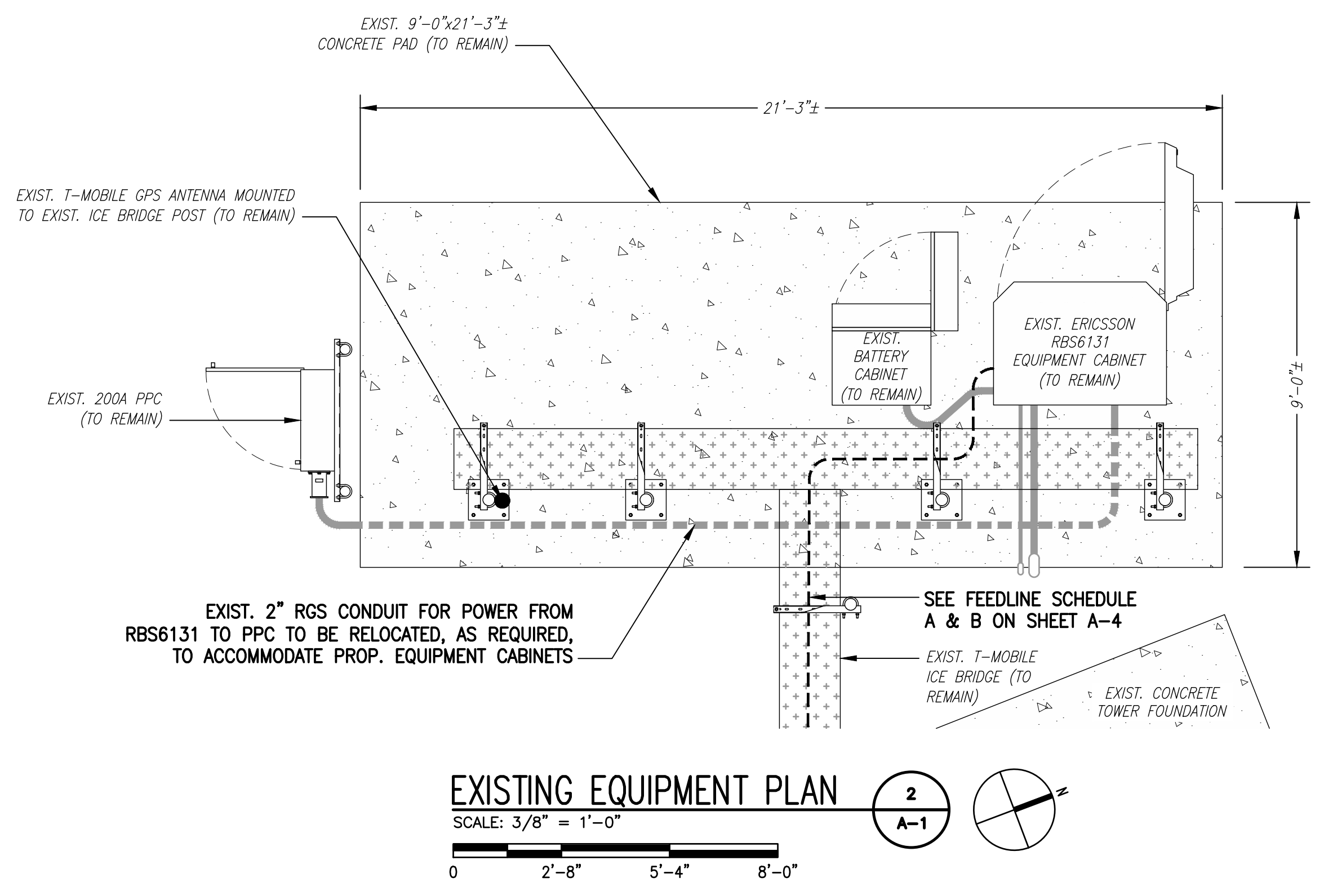
SHEET NUMBER  
  
**GN-1**



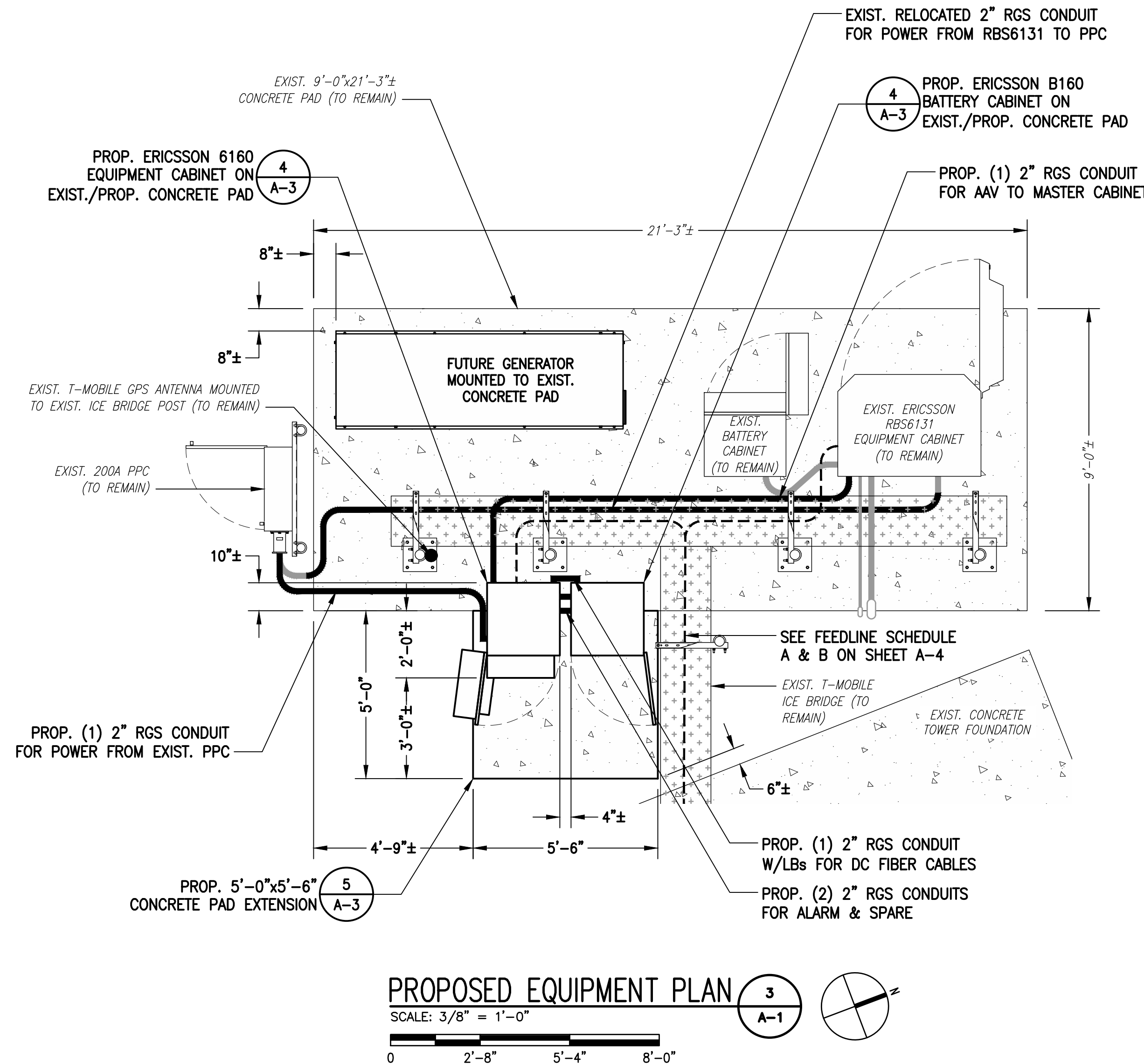
**SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):**  
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.



**COMPOUND PLAN** 1  
 SCALE: 3/16" = 1'-0"  
 0 5'-4" 10'-8" 16'-0"



**EXISTING EQUIPMENT PLAN** 2  
 SCALE: 3/8" = 1'-0"  
 0 2'-8" 5'-4" 8'-0"



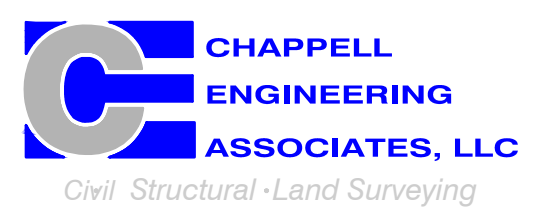
**PROPOSED EQUIPMENT PLAN** 3  
 SCALE: 3/8" = 1'-0"  
 0 2'-8" 5'-4" 8'-0"

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SHEET TITLE  
**COMPOUND &  
 EQUIPMENT PLANS**

SHEET NUMBER  
**A-1**







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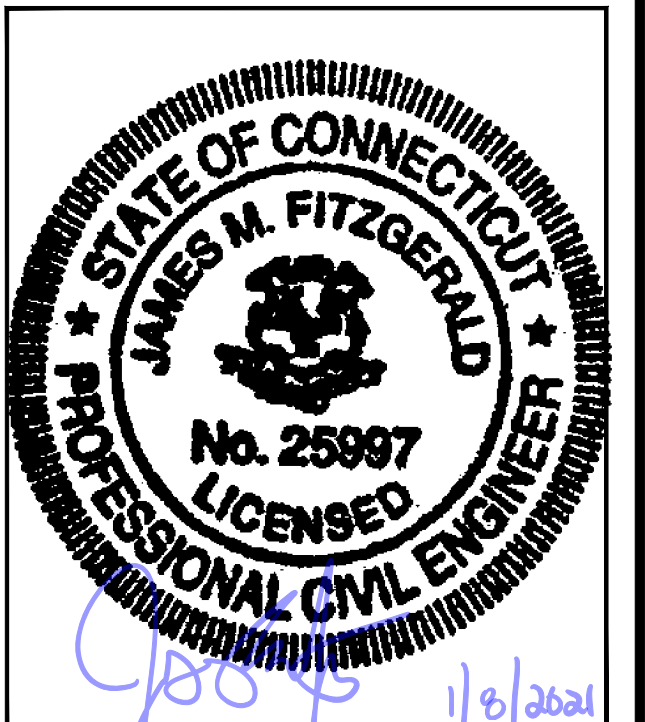
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**CT11351C**

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NEW BRITAIN, CT 06052

SHEET TITLE  
**SITE DETAILS**

SHEET NUMBER  
**A-3**



**ERICSSON M-MIMO AIR6449 B41 ANTENNA**  
DIMENSIONS: 33.1"H x 20.5"W x 8.3"D  
WEIGHT: 103.0 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3

**ANTENNA DETAIL** (1)  
SCALE: N.T.S.



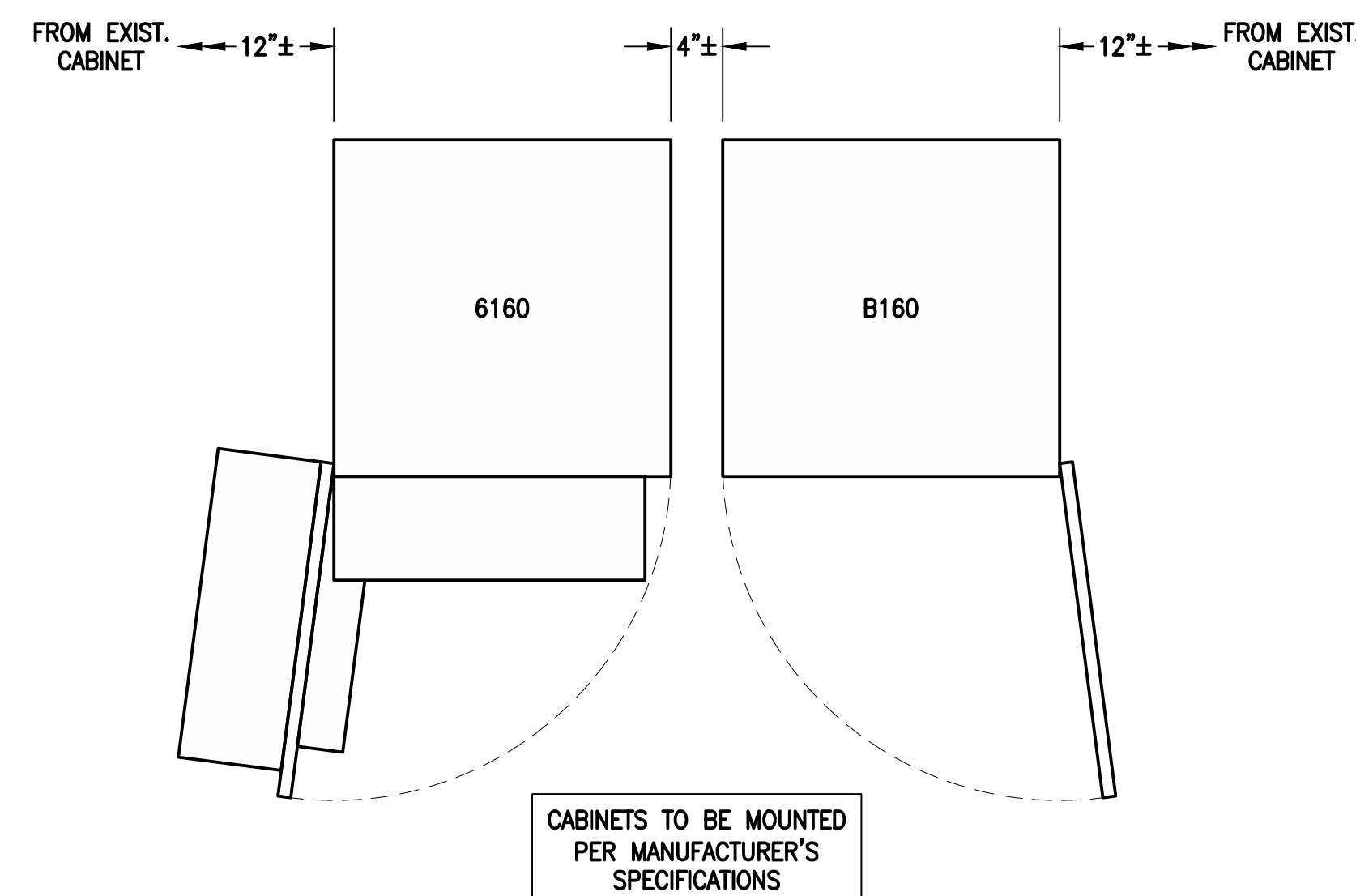
**ERICSSON RADIO 4415 B66A**  
DIMENSIONS: 16.5"H x 13.4"W x 5.9"D  
WEIGHT: 46.0 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3

**RADIO DETAIL** (2)  
SCALE: N.T.S.



**COMMSCOPE SDX1926Q-43 QUADPLEXER**  
DIMENSIONS: 4.2"H x 6.9"W x 2.9"D  
WEIGHT: 6.2 lbs  
QUANTITY: 1 PER SECTOR, TOTAL OF 3

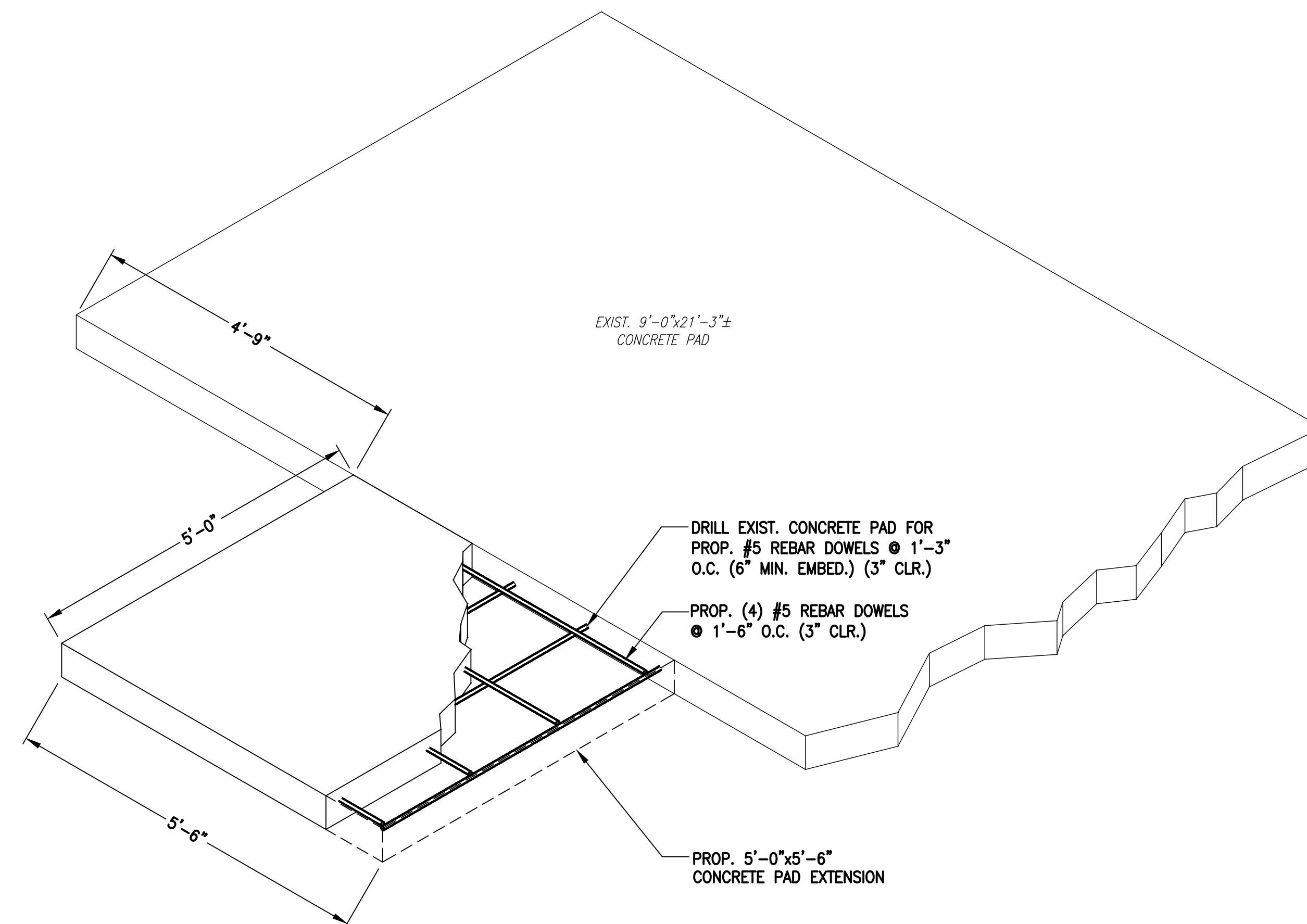
**DIPLEXER DETAIL** (3)  
SCALE: N.T.S.



**ERICSSON 6160 SITE SUPPORT CABINET**  
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D  
QUANTITY: TOTAL OF 1

**ERICSSON B160 BATTERY CABINET**  
DIMENSIONS: 63.25"H x 26.0"W x 26.0"D  
QUANTITY: TOTAL OF 1

**EQUIPMENT DETAILS** (4)  
SCALE: N.T.S.



**CONCRETE PAD EXTENSION** (5)  
SCALE: N.T.S.

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	A1 ERICSSON AIR32 KRD901146-1 B66A/B2A	152'± AGL	50°	0°	7°	L2100	-	EXIST. (6) 1-5/8" COAX CABLES EXIST. (3) 1-5/8" (6x12) HCS FIBER CABLES PROP. (3) 1-5/8" (6x12) HCS FIBER CABLES
	A2 RFS APXVAARR24_43-U-NA20	152'± AGL	50°	0°	7°	L1900/N600	-	
	A3 ERICSSON M-MIMO AIR6449 B41	152'± AGL	50°	0°	2°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85 ERICSSON RADIO 4415 B25 COMMSCOPE SDX1926Q-43 QUADPLEXER GENERIC TWIN STYLE 1B AWS TMA	
BETA	B1 ERICSSON AIR32 KRD901146-1 B66A/B2A	152'± AGL	160°	0°	7°	L2100	-	
	B2 RFS APXVAARR24_43-U-NA20	152'± AGL	160°	0°	7°	L1900/N600	-	
	B3 ERICSSON M-MIMO AIR6449 B41	152'± AGL	160°	0°	2°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85 ERICSSON RADIO 4415 B25 COMMSCOPE SDX1926Q-43 QUADPLEXER GENERIC TWIN STYLE 1B AWS TMA	
GAMMA	C1 ERICSSON AIR32 KRD901146-1 B66A/B2A	152'± AGL	270°	0°	7°	L2100	-	
	C2 RFS APXVAARR24_43-U-NA20	152'± AGL	270°	0°	7°	L1900/N600	-	
	C3 ERICSSON M-MIMO AIR6449 B41	152'± AGL	270°	0°	2°	L700/L600/N600	ERICSSON RADIO 4449 B71+B85 ERICSSON RADIO 4415 B25 COMMSCOPE SDX1926Q-43 QUADPLEXER GENERIC TWIN STYLE 1B AWS TMA	

CABLE NOTE: EXISTING (4) 1-5/8" COAX CABLES & (1) 1-1/4" (9x18) HCS FIBER CABLE TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV9 - 09/25/20

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (6) 1-5/8" COAX CABLES (3) 1-5/8" HCS FIBER CABLES (1) 1/2" COAX FOR GPS ANTENNA  EXISTING TO BE REMOVED: (4) 1-5/8" COAX CABLES (1) 1-1/4" (9x18) HCS FIBER CABLE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (3) 1-5/8" (6x12) HCS FIBER CABLES	

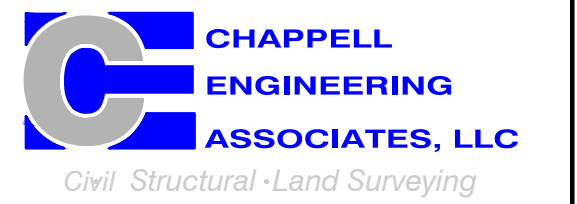
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

## T-MOBILE NORTHEAST LLC

15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
(508) 286-2700



SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
(508) 251-0720



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/21	ISSUED FOR CONSTRUCTION	CMC
1	12/21/20	ISSUED FOR CONSTRUCTION	CMC
0	11/20/20	ISSUED FOR REVIEW	CMC

SITE NUMBER:  
**CT11351C**

SITE ADDRESS:  
1 HARTFORD SQUARE  
NEW BRITAIN, CT 06052

SHEET TITLE  
**ANTENNA &  
FEEDLINE CHARTS**

SHEET NUMBER  
**A-4**

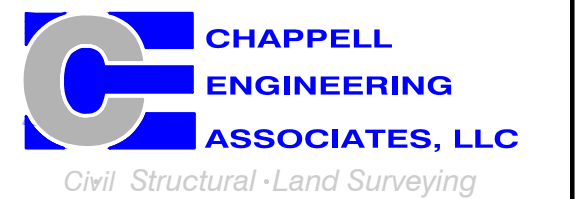


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15 COMMERCE WAY, SUITE B  
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CHECKED BY: JMT

APPROVED BY: JMT

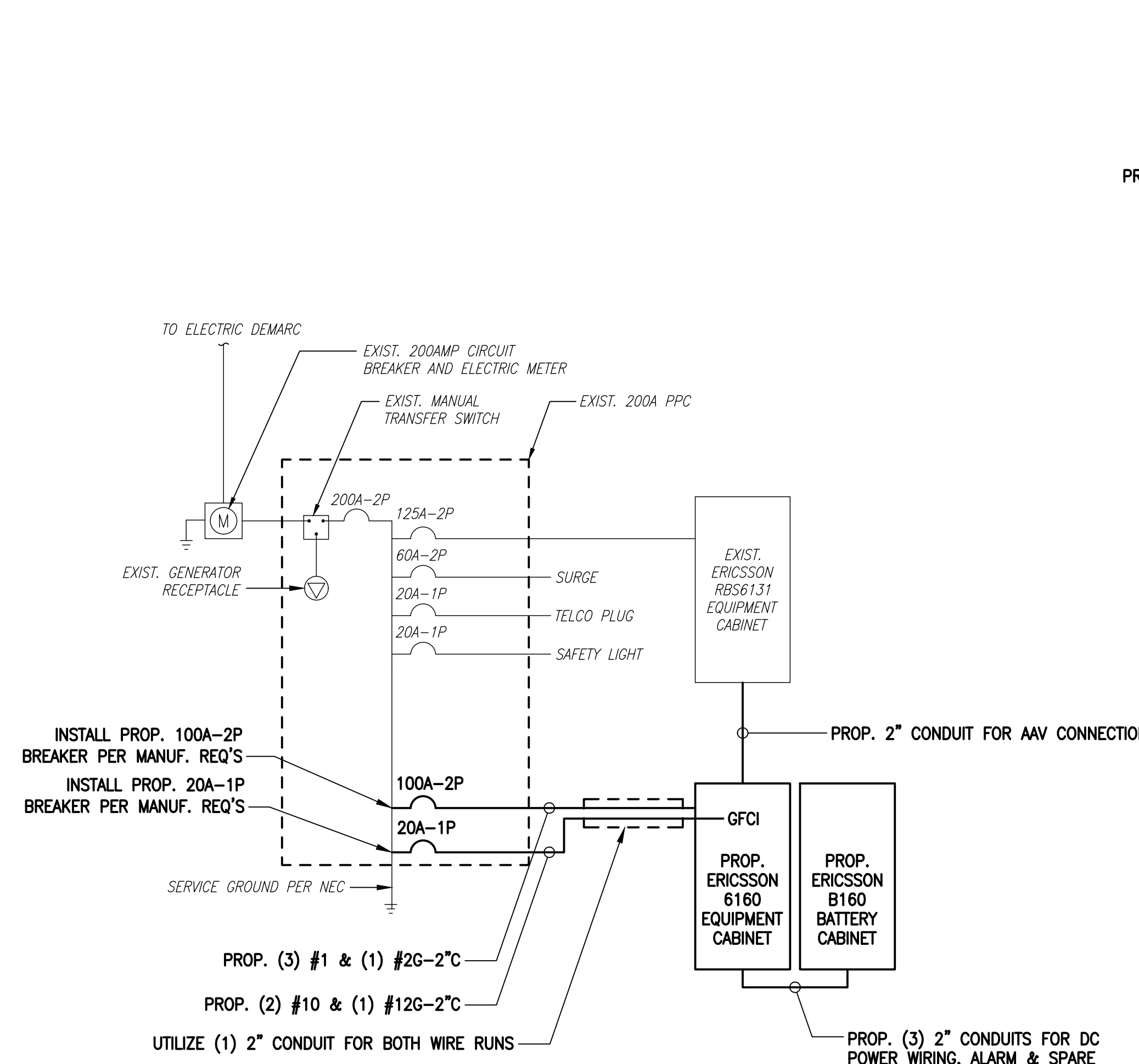
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	01/08/21	ISSUED FOR CONSTRUCTION	CMC
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0	11/20/20	ISSUED FOR REVIEW	CMC

SITE NUMBER:  
**CT11351C**

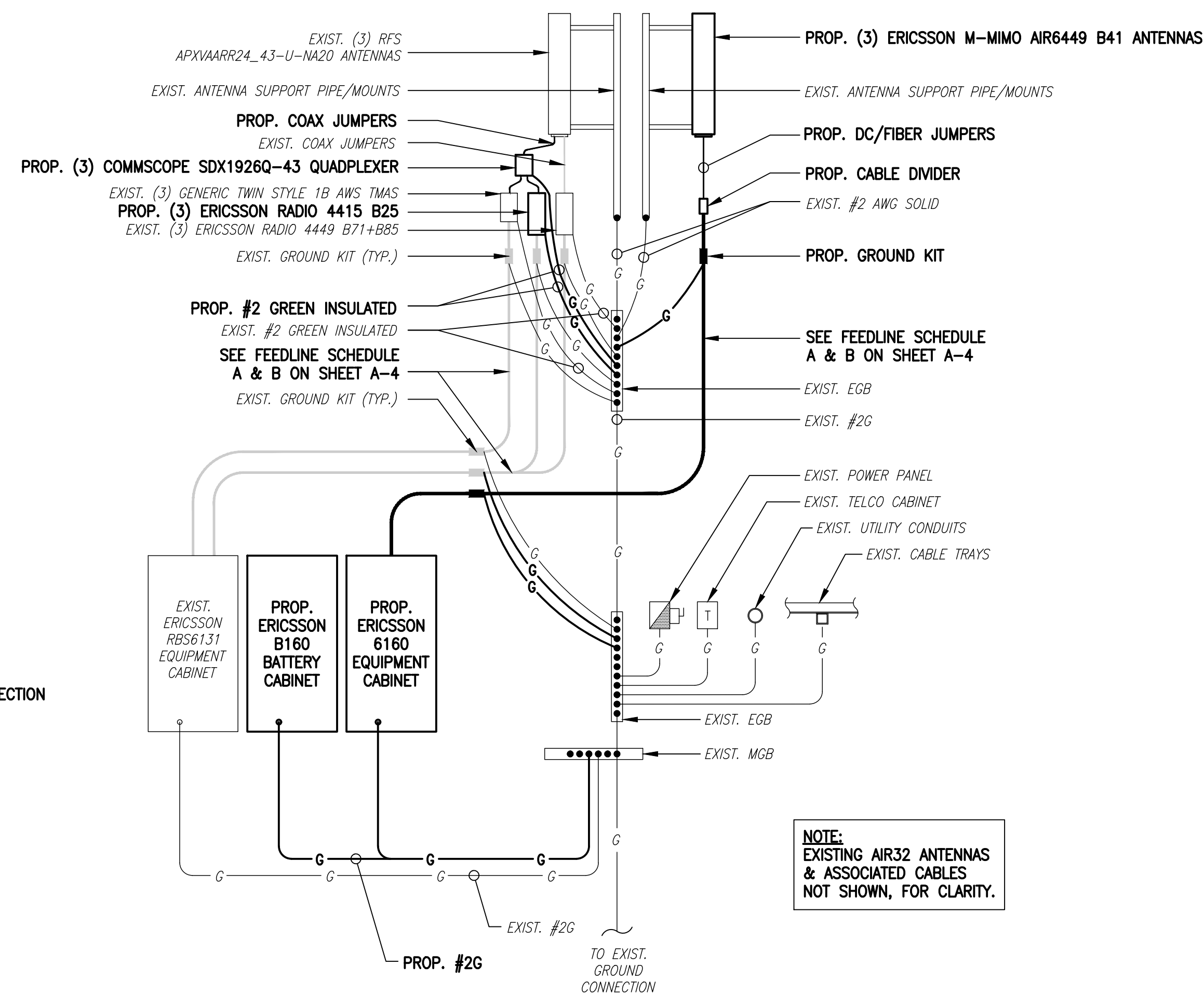
SITE ADDRESS:  
1 HARTFORD SQUARE  
NEW BRITAIN, CT 06052

SHEET TITLE  
**ELECTRIC & GROUNDING  
DETAILS**

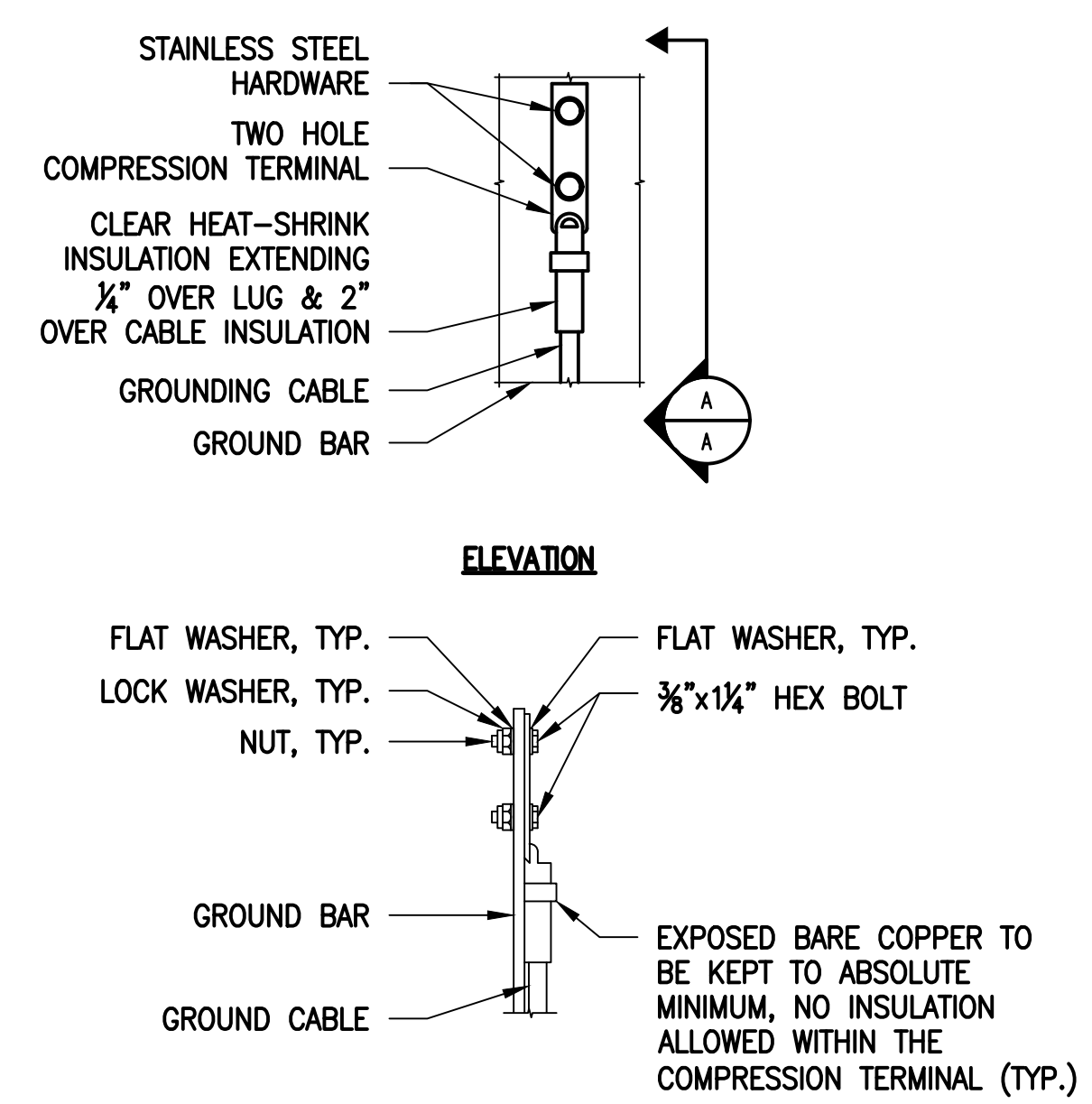
SHEET NUMBER  
**E-1**



**ONE LINE DIAGRAM**  
SCALE: NOT TO SCALE  
1  
E-1

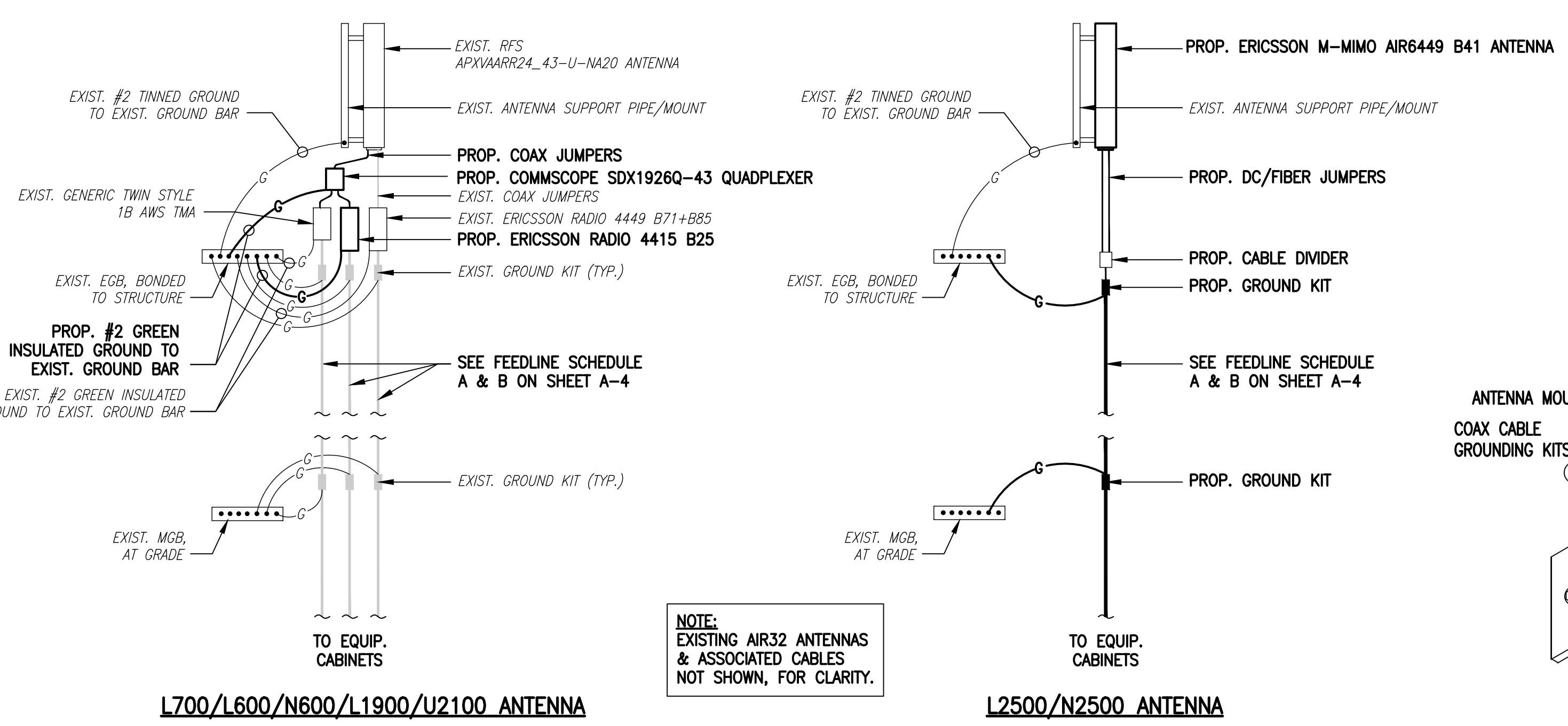


**GROUNDING RISER DIAGRAM**  
SCALE: NOT TO SCALE  
2  
E-1

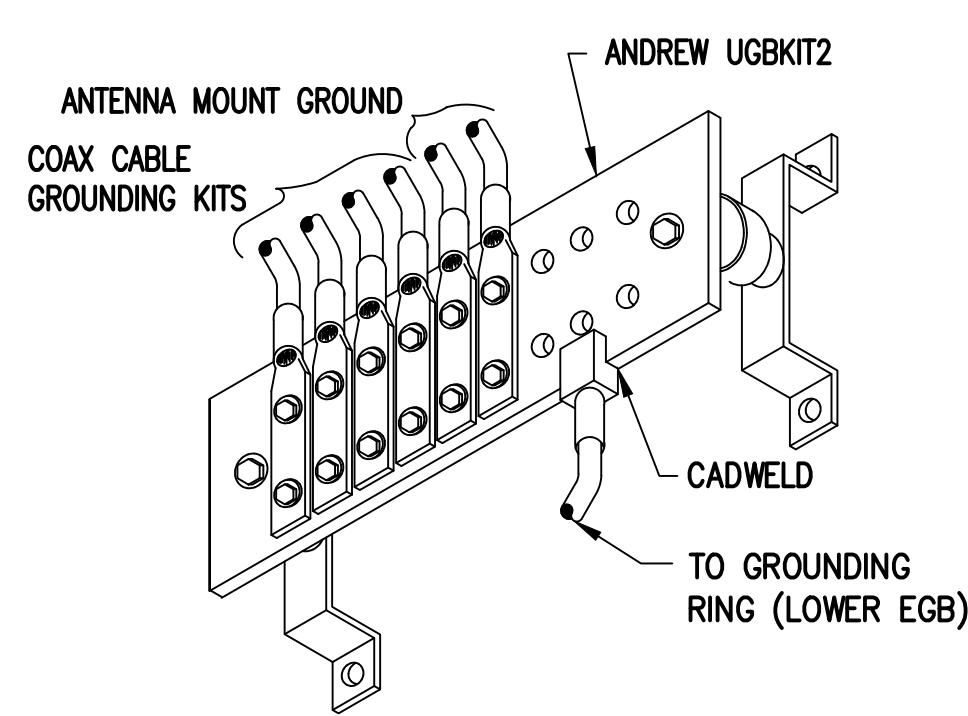


**TYPICAL GROUND BAR  
CONNECTIONS DETAIL**  
SCALE: NOT TO SCALE  
3  
E-1

- NOTES:
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
  - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
  - CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.



**COAX CABLE CONNECTION  
AND GROUNDING DETAIL**  
SCALE: NOT TO SCALE  
4  
E-1



**GROUND BAR (EGB)**  
SCALE: NOT TO SCALE  
5  
E-1

## ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THHN, OR THININSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

# EXHIBIT 7





**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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**Structural Analysis Report**

**Existing 176 ft Rohn Self Supporting Tower**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT04382-S**

**Customer Site Name: New Britain 2, CT**

**Carrier Name: T-Mobile (App#: 141543, V1)**

**Carrier Site ID / Name: CT11351C / New Britain/RT 72 Wooster**

**Site Location: 1 Hartford Square**

**New Britain, Connecticut**

**Hartford County**

**Latitude: 41.666411**

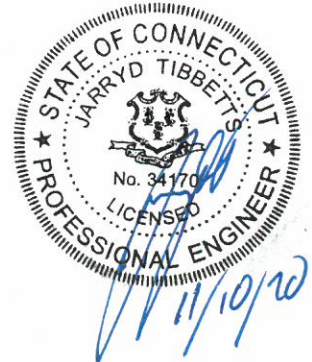
**Longitude: -72.812803**

**Analysis Result:**

**Max Structural Usage: 78.0% [Pass]**

**Max Foundation Usage: 50.0% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: N/A**



**Report Prepared By: Sital Shrestha**

## Introduction

The purpose of this report is to summarize the analysis results on the 176 ft Rohn Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Rohn Eng. File # 44545AE, Dwg. # C000882, dated 08/21/2000
<b>Foundation Drawing</b>	Rohn Eng. File # 44545AE, Dwg. # A001473, dated 07/26/2000
<b>Geotechnical Report</b>	Jaworski Geotech, Project # 00309G, dated 07/05/2000
<b>Modification Drawings</b>	Allpro Consulting Group, Job # 17-0378 rev.1, dated 02/21/2017
<b>Mount Analysis</b>	TES, Project No. #99208, dated 11/09/2020

## Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **TESTowers**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

<b>Wind Speed Used in the Analysis:</b>	Ultimate Design Wind Speed $V_{ult} = 125.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 97.0$ mph (3-Sec. Gust)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 1" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_S = 0.183$ , $S_1 = 0.064$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

## Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	Kathrein 840 10054 Panel	(3) Sector Frames w/ (3) VBrace Kits (SitePro SFSV- L) & (6) 2-3/8"x6" Pipe Masts (BBPM-K1)	(4) 1/2" Fiber (6) 5/16" Fiber (1) 5/16" RET	Sprint Nextel
2		4	Andrew VHLP2.5 Dish			
3		3	Samsung U-RAS Flexible FRH			
4		3	Dragonwave Horizon Duo			
5	166.0	3	Kathrein 800-10121 Panel	(3) Sector Frames w/ V-Stabilizer Reinforcement Kit	(12) 1 5/8" (4) 3/4" DC* (2) 1/2" Fiber*	AT&T
6		3	Quintel QS66512-2 Panel			
7		3	CCI HPA-65R-BUU-H-6-Panel			
8		6	Powerwave LGP 21401 TMA			
9		6	CCI TPX-070821			
10		6	Kathrein 860-10025 RET			
11		3	Ericsson RRUS-11 RRU			
12		6	Ericsson RRUS-32 B2s RRU			
13		3	Ericsson RRUS-32 B66 RRU			
14		3	Ericsson RRUS-32 RRU			
15	2	Raycap DC6-48-60-18-8F OVP				
-	155.0	3	Ericsson Air21 B2A/B4P Panel	(3) Sector Frames	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson AIR 21 B4A/B2P Panel			
-		3	Commscope LNX-6515DS-A1M Panel			
-		3	Ericsson KRY 112 144/1 TMA			
-		3	Ericsson RRUS-11 (Band 12)			
23	140.0	3	Kathrein 800 10735v01 Panel	(3) T-Frames	(12) 1 5/8" (2) 1 5/8" Hybrid (1) 1/2"	Verizon
24		3	Antel BXA-80080/4CF Panel			
25		6	Andrew SBNHH-1D65B Panel			
26		3	ALU RRH-2x60-AWS			
27		3	ALU RRH-2x60-PCS			
28		3	ALU RRH-2X60W-700U			
29		1	RFS DB-T1-6Z-8AB-OZ Box			
30	1	GPS				
31	82.0	1	GPS	Pipe	(2) 1/2"	Sprint Nextel

\*inside (1) 3" Flex conduit

**Proposed Carrier’s Final Configuration of Antennas, Mounts and Transmission Lines**

Information pertaining to the proposed carrier’s final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
16	152.0	3	Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)	(3) Sector Frame	(1) 1 1/4" Fiber (8) 1 5/8" Coax (5) 1 5/8" Fiber	T-Mobile
17		3	RFS APXVAARR24_43-U-NA20			
18		3	Ericsson AIR6449 B41			
19		3	Ericsson KRY 112 144/1			
20		3	Commscope SDX1926Q-43			
21		3	Ericsson 4449 B71+B85			
22		3	Ericsson 4415 B25			

See the attached coax layout for the line placement considered in the analysis.

## **Analysis Results**

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	<b>49.2%</b>	<b>78.0%</b>	<b>4.1%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	263.9	224.2	26.2

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

## **Operational Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.1500 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

## Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

## Structure: CT04382-S-SBA

<b>Site Name:</b> New Britain 2, CT	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Type:</b> Self Support	<b>Base Shape:</b> Triangle	<b>Basic WS:</b> 97.00
<b>Height:</b> 176.00 (ft)	<b>Base Width:</b> 21.00	<b>Basic Ice WS:</b> 50.00
<b>Base Elev:</b> 0.00 (ft)	<b>Top Width:</b> 4.69	<b>Operational WS:</b> 60.00



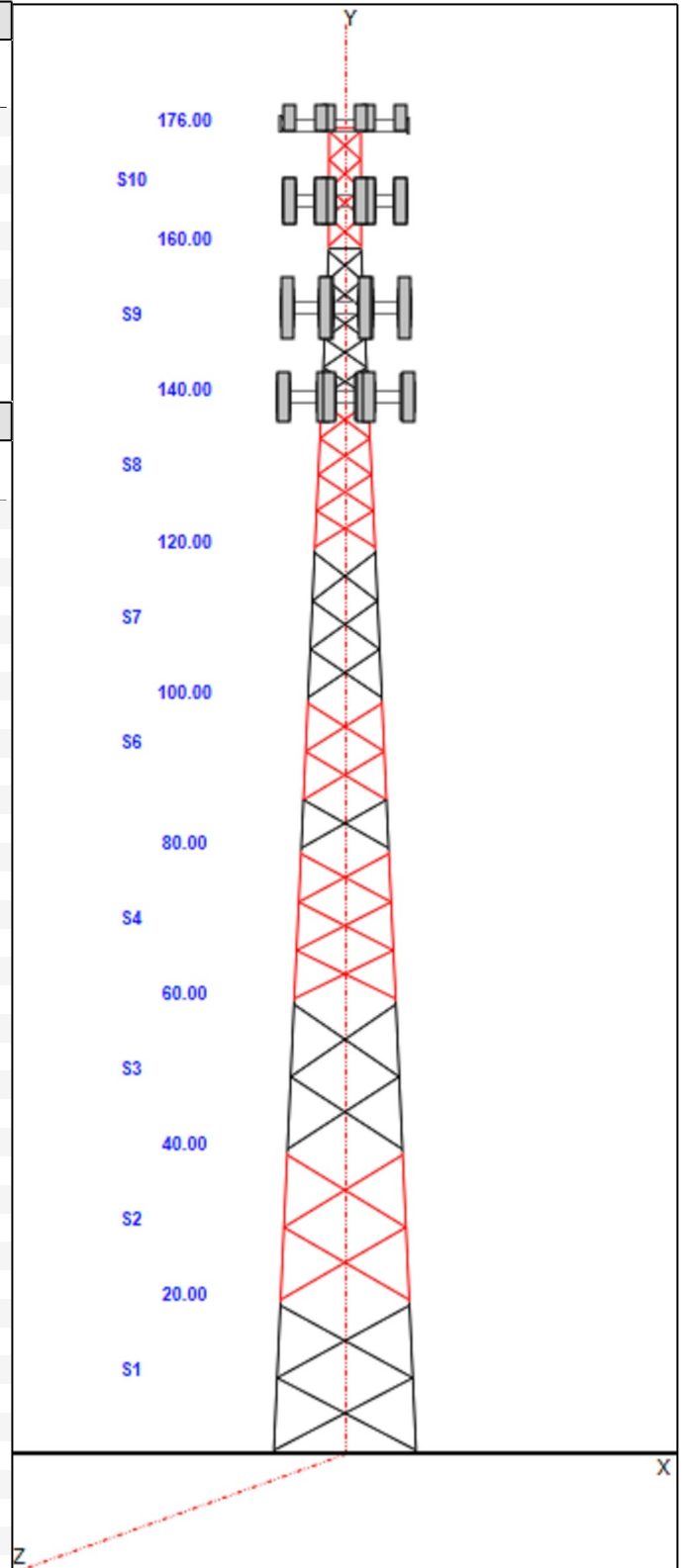
Page: 1

### Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	PX 8" DIA PIPE	SAE 4X4X0.25	
2	PX 8" DIA PIPE	SAE 3.5X3.5X0.25	
3	PSP ROHN 8 EHS	SAE 3.5X3.5X0.25	
4	PX 6" DIA PIPE	SAE 3X3X0.25	
5	PX 6" DIA PIPE	MOD 2L2.5x2.5x3/16_S	
6	PX 6" DIA PIPE	SAE 2.5X2.5X0.1875	
7	PSP ROHN 6 EHS	SAE 2.5X2.5X0.1875	
8	PX 5" DIA PIPE	SAE 2X2X0.1875	
9	PX 4" DIA PIPE	SAE 2X2X0.1875	SAE 2X2X0.1875
10	PX 3" DIA PIPE	SAE 2X2X0.25	SAE 2X2X0.25

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
176.00	179.00	1	Lightning Rod
176.00	176.00	1	Beacon
176.00	176.00	3	Light Sector Frame
176.00	176.00	1	(3) SFS-H-L (V-Braces)
176.00	177.00	4	VHLP2.5
176.00	177.00	3	Horizon Duo
176.00	177.00	3	840 10054
176.00	177.00	3	U-RAS Flexible FRH
166.00	166.00	3	800-10121
166.00	166.00	3	QS66512-2
166.00	166.00	3	HPA-65R-BUU-H6
166.00	166.00	6	LGP21401
166.00	166.00	6	CCI TPX-070821
166.00	166.00	6	860 10025
166.00	166.00	3	RRUS 11
166.00	166.00	6	RRUS 32 B2
166.00	166.00	3	RRUS 32 B66
166.00	166.00	3	RRUS 32
166.00	166.00	2	DC6-48-60-18-8F
166.00	166.00	3	Sector Frame
166.00	166.00	1	(3) V-Stabilizer Kit
152.00	152.00	3	KRY 112 144/1
152.00	152.00	3	AIR32 KRD901146-1_B66A_B2A (Oc
152.00	152.00	3	APXVAARR24_43-U-NA20
152.00	152.00	3	AIR6449 B41
152.00	152.00	3	SDX1926Q-43
152.00	152.00	3	4449 B71 + B12
152.00	152.00	3	RRUS 4415 B25
152.00	152.00	3	Sector Frame
140.00	140.00	3	Sector Frame-Pipe
140.00	140.00	6	SBNHH-1D65B
140.00	140.00	3	800 10735
140.00	140.00	3	BXA-80080-4CF
140.00	140.00	3	RRH-2X60-AWS
140.00	140.00	3	RRH-2X60-PCS
140.00	140.00	3	RRH-2x60-700U
140.00	140.00	1	DB-T1-6Z-8AB-0Z Box
140.00	140.00	1	GPS
82.00	82.00	1	GPS



**Structure: CT04382-S-SBA**

<b>Site Name:</b> New Britain 2, CT	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Type:</b> Self Support	<b>Base Shape:</b> Triangle	<b>Basic WS:</b> 97.00
<b>Height:</b> 176.00 (ft)	<b>Base Width:</b> 21.00	<b>Basic Ice WS:</b> 50.00
<b>Base Elev:</b> 0.00 (ft)	<b>Top Width:</b> 4.69	<b>Operational WS:</b> 60.00



**Linear Appurtenances**

Elev From (ft)	Elev To (ft)	Qty	Description
152.00	176.00	4	1/2" Fiber
152.00	176.00	6	5/16" Fiber
152.00	176.00	1	5/16" RET
152.00	176.00	1	W/G Ladder
0.00	166.00	12	1 5/8" Coax
0.00	166.00	2	1/2" Fiber
0.00	166.00	1	3" Conduit
0.00	166.00	4	3/4" DC
0.00	162.00	1	W/G Ladder
0.00	152.00	1	1 1/4" Fiber
0.00	152.00	8	1 5/8" Coax
0.00	152.00	5	1 5/8" Fiber
0.00	152.00	1	W/G Ladder
0.00	140.00	12	1 5/8" Coax
0.00	140.00	2	1 5/8" Hybrid
0.00	140.00	1	1/2" Coax
0.00	82.00	1	1/2" Coax

**Base Reactions**

Leg	Overturning
Max Uplift: -224.22 (kips)	Moment: 4483.16 (ft-kips)
Max Down: 263.99 (kips)	Total Down: 52.43 (kips)
Max Shear: 26.19 (kips)	Total Shear: 42.21 (kips)



# Structure: CT04382-S-SBA

**Site Name:** New Britain 2, CT

**Code:** EIA/TIA-222-G

11/10/2020

**Type:** Self Support

**Base Shape:** Triangle

**Basic WS:** 97.00

**Height:** 176.00 (ft)

**Base Width:** 21.00

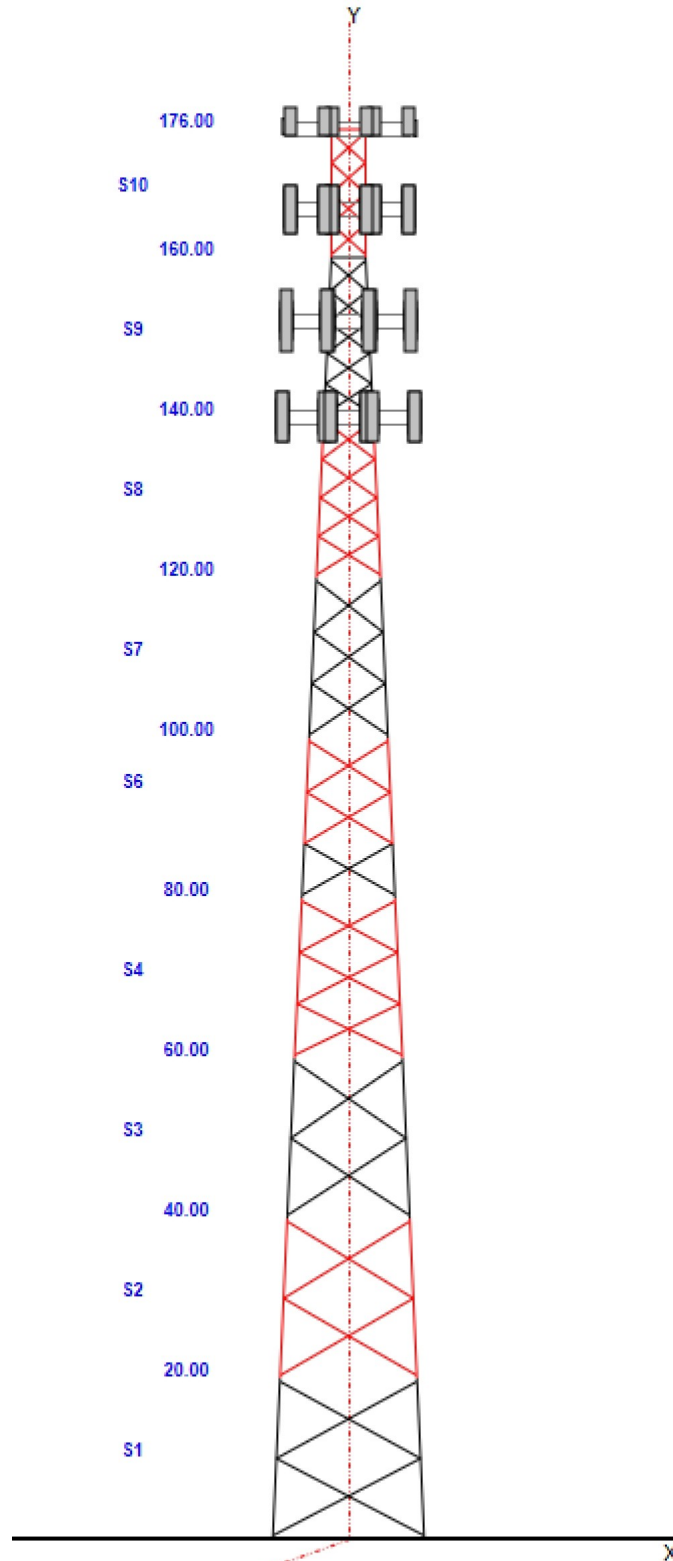
**Basic Ice WS:** 50.00

**Base Elev:** 0.00 (ft)

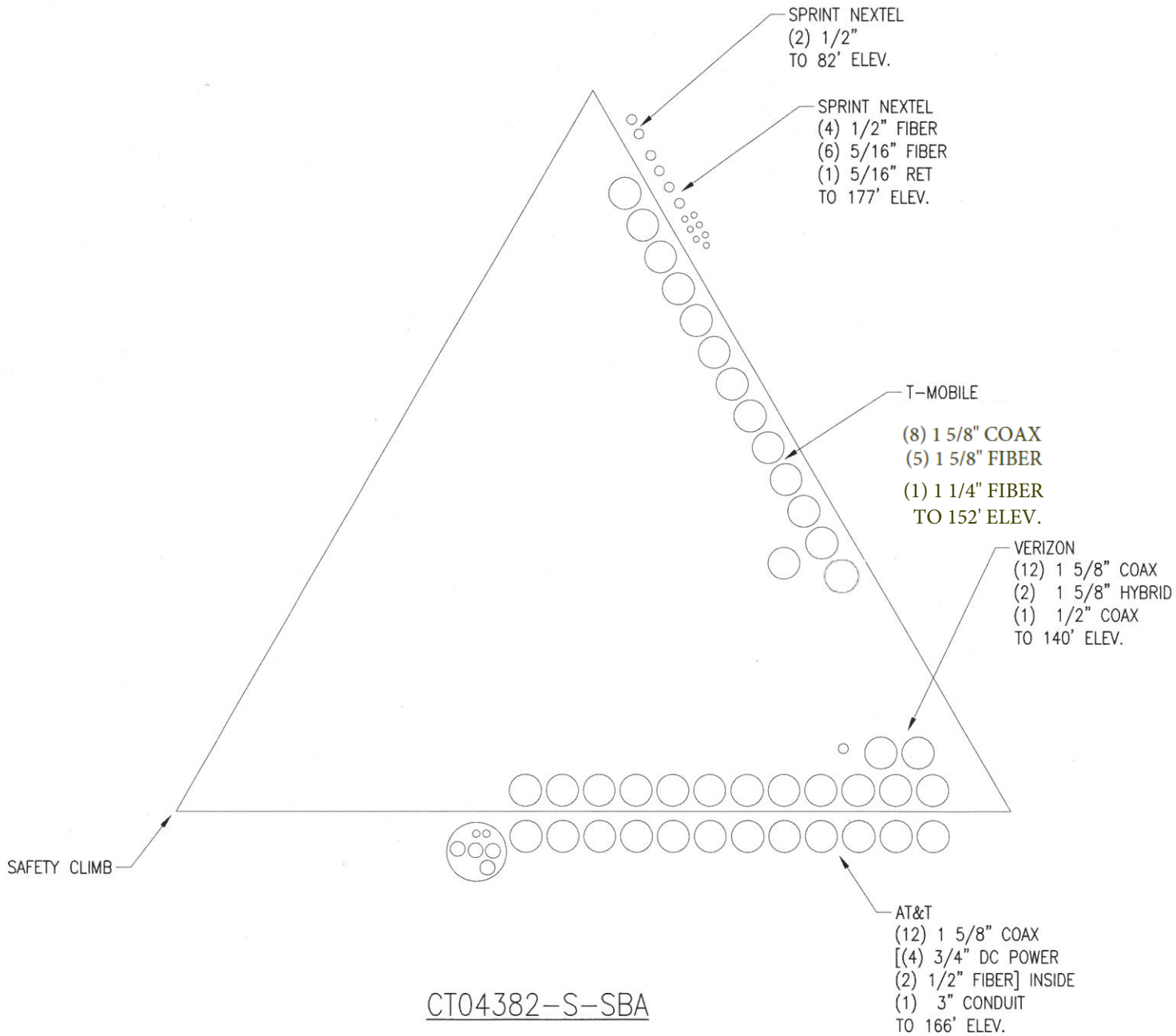
**Top Width:** 4.69

**Operational WS:** 60.00

Page: 3



# Coax Layout



## Loading Summary

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 5

### Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
176.00	Lightning Rod	1	5.00	0.500	33.24	2.853	72.000	1.000	1.000	1.00	1.00	3.000
176.00	Beacon	1	36.00	2.720	215.62	4.000	28.000	17.500	17.500	1.00	1.00	0.000
176.00	Light Sector Frame	3	500.00	17.500	1441.39	36.281	0.000	0.000	0.000	0.75	0.75	0.000
176.00	(3) SFS-H-L (V-Braces)	1	230.00	6.700	663.04	16.161	0.000	0.000	0.000	0.75	1.00	0.000
176.00	VHLP2.5	4	27.00	4.680	158.97	6.398	26.100	26.100	13.200	1.00	1.00	1.000
176.00	Horizon Duo	3	10.60	0.430	40.99	1.119	4.700	7.500	7.500	0.80	0.67	1.000
176.00	840 10054	3	30.00	4.590	143.64	6.846	42.000	12.700	2.800	0.80	0.68	1.000
176.00	U-RAS Flexible FRH	3	33.00	1.820	89.17	3.134	16.000	11.600	5.000	0.80	0.67	1.000
166.00	800-10121	3	44.10	5.150	198.99	7.991	54.500	10.300	5.900	0.80	0.79	0.000
166.00	QS66512-2	3	111.00	8.130	436.39	9.922	72.000	12.000	9.600	0.80	0.92	0.000
166.00	HPA-65R-BUU-H6	3	51.00	9.660	404.87	11.540	72.000	14.800	9.000	0.80	0.85	0.000
166.00	LGP21401	6	14.10	1.290	47.81	2.417	14.400	9.200	2.600	0.80	0.67	0.000
166.00	CCI TPX-070821	6	20.00	2.180	87.27	3.600	16.000	14.000	6.000	0.80	0.67	0.000
166.00	860 10025	6	1.20	0.180	9.29	0.691	7.600	2.400	2.000	0.80	0.67	0.000
166.00	RRUS 11	3	50.70	2.520	180.67	3.426	17.000	17.800	9.200	0.80	0.67	0.000
166.00	RRUS 32 B2	6	53.00	2.740	181.79	3.750	27.200	12.100	7.000	0.80	0.67	0.000
166.00	RRUS 32 B66	3	53.00	2.740	181.79	3.750	27.200	12.100	7.000	0.80	0.67	0.000
166.00	RRUS 32	3	77.00	1.650	150.17	2.458	20.900	9.500	3.300	0.80	0.67	0.000
166.00	DC6-48-60-18-8F	2	31.80	0.920	115.17	1.511	24.000	11.000	11.000	0.80	0.67	0.000
166.00	Sector Frame	3	500.00	17.500	1441.39	36.281	0.000	0.000	0.000	0.75	0.75	0.000
166.00	(3) V-Stabilizer Kit	1	180.00	6.100	485.01	14.714	0.000	0.000	0.000	0.75	0.75	0.000
152.00	KRY 112 144/1	3	11.00	0.410	25.38	1.044	6.900	6.100	2.700	0.80	0.67	0.000
152.00	AIR32 KRD901146-1_B66A_B2A	3	132.20	6.510	393.25	8.098	57.000	12.900	8.700	0.80	0.87	0.000
152.00	APXVAARR24_43-U-NA20	3	128.00	20.240	709.08	22.805	95.900	24.000	7.800	0.80	0.70	0.000
152.00	AIR6449 B41	3	103.00	5.650	285.82	6.917	33.100	20.500	8.300	0.80	0.71	0.000
152.00	SDX1926Q-43	3	6.10	0.230	17.47	0.721	4.000	6.000	3.000	0.80	0.67	0.000
152.00	4449 B71 + B12	3	74.00	1.970	151.83	2.729	17.900	13.200	10.600	0.80	0.67	0.000
152.00	RRUS 4415 B25	3	46.00	1.640	100.80	2.327	15.000	13.200	5.400	0.80	0.67	0.000
152.00	Sector Frame	3	500.00	17.500	1430.78	36.069	0.000	0.000	0.000	0.75	0.75	0.000
140.00	Sector Frame-Pipe	3	450.00	14.000	912.45	23.249	0.000	0.000	0.000	0.75	0.75	0.000
140.00	SBNHH-1D65B	6	40.00	8.160	314.13	9.905	72.600	11.900	7.100	0.80	0.83	0.000
140.00	800 10735	3	28.70	8.620	230.29	12.504	76.100	11.900	3.900	0.80	0.66	0.000
140.00	BXA-80080-4CF	3	48.20	4.800	527.57	7.262	48.200	11.200	5.900	0.80	0.76	0.000
140.00	RRH-2X60-AWS	3	55.00	3.500	160.17	4.537	21.000	11.500	7.000	0.80	0.67	0.000
140.00	RRH-2X60-PCS	3	55.00	2.200	145.64	3.209	21.000	12.000	7.000	0.80	0.67	0.000
140.00	RRH-2x60-700U	3	19.50	1.510	78.90	2.203	21.600	12.000	9.000	0.80	0.67	0.000
140.00	DB-T1-6Z-8AB-OZ Box	1	18.90	4.800	178.05	7.002	24.000	24.000	10.000	1.00	1.00	0.000
140.00	GPS	1	10.00	1.000	48.54	1.936	12.000	9.000	6.000	1.00	1.00	0.000
82.00	GPS	1	10.00	1.000	46.86	1.895	12.000	9.000	6.000	1.00	1.00	0.000
<b>Totals:</b>		<b>118</b>	<b>10,782.60</b>		<b>36,015.01</b>					<b>Number of Appurtenances :</b>	<b>39</b>	

## Loading Summary

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



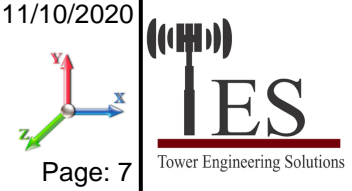
Page: 6

### Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
152.00	176.00	1/2" Fiber	4	0.50	0.16	50.00	3	Block		N	0.50	0.94	
152.00	176.00	5/16" Fiber	6	0.32	0.95	100.00	3	Individual IR		N	0.50	0.64	
152.00	176.00	5/16" RET	1	0.32	0.08	100.00	3	Individual NR		N	1.00	1.00	
152.00	176.00	W/G Ladder	1	2.00	6.00	100.00	3	Individual NR		N	0.50	1.00	
0.00	166.00	1 5/8" Coax	12	1.98	1.04	100.00	1	Individual IR		N	0.50	1.00	
0.00	166.00	1/2" Fiber	2	0.50	0.16	100.00	1	Individual IR		N	0.50	0.00	0
0.00	166.00	3" Conduit	1	3.02	1.78	100.00	1	Individual NR		N	0.50	1.00	
0.00	166.00	3/4" DC	4	0.75	0.40	50.00	1	Block		N	0.50	0.00	0
0.00	162.00	W/G Ladder	1	0.25	6.00	100.00	1	Individual NR		N	0.50	1.00	
0.00	152.00	1 1/4" Fiber	1	1.55	0.66	100.00	3	Individual NR		N	1.00	1.00	
0.00	152.00	1 5/8" Coax	8	1.98	1.04	100.00	3	Individual IR		N	0.50	0.42	
0.00	152.00	1 5/8" Fiber	5	2.00	1.10	100.00	3	Individual IR		N	0.50	0.96	
0.00	152.00	W/G Ladder	1	0.25	6.00	100.00	3	Individual NR		N	0.50	1.00	
0.00	140.00	1 5/8" Coax	12	1.98	1.04	100.00	1	Individual IR		N	0.50	1.00	0
0.00	140.00	1 5/8" Hybrid	2	2.00	1.10	100.00	1	Individual IR		N	0.50	1.00	0
0.00	140.00	1/2" Coax	1	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	
0.00	82.00	1/2" Coax	1	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	

## Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.2D + 1.6W Normal Wind	1.2D + 1.6W 97 mph Wind at Normal To Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

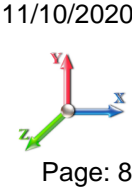
Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)					
1	10.0	14.33	28.639	28.80	0.00	0.14	2.81	1.00	1.00	0.00	41.32	139.55	0.00	6,625.7	0.0	2265.98	1327.73	3,593.71
2	30.0	14.34	22.974	28.80	0.00	0.14	2.81	1.00	1.00	0.00	35.64	139.55	0.00	6,220.7	0.0	1957.29	1328.85	3,286.13
3	50.0	16.60	20.940	28.80	0.00	0.15	2.78	1.00	1.00	0.00	33.15	139.55	0.00	5,328.6	0.0	2076.81	1537.66	3,614.47
4	70.0	18.27	22.213	22.12	0.00	0.15	2.76	1.00	1.00	0.00	32.88	139.55	0.00	5,070.4	0.0	2255.93	1692.82	3,948.75
5	83.4	19.21	0.000	17.99	0.00	0.20	2.59	1.00	1.00	0.00	9.80	47.13	0.00	1,798.0	0.0	663.12	599.49	1,262.61
6	93.4	19.84	10.586	14.61	0.00	0.16	2.74	1.00	1.00	0.00	17.51	91.44	0.00	2,858.1	0.0	1296.87	1200.04	2,496.92
7	110.0	20.79	14.081	22.12	0.00	0.17	2.69	1.00	1.00	0.00	24.58	138.47	0.00	3,810.8	0.0	1868.66	1904.12	3,772.78
8	130.0	21.81	11.695	18.58	0.00	0.18	2.66	1.00	1.00	0.00	21.17	138.47	0.00	3,527.8	0.0	1669.70	1997.21	3,666.91
9	150.0	22.72	11.717	15.03	0.00	0.22	2.54	1.00	1.00	0.00	20.03	76.52	0.00	2,680.9	0.0	1573.00	1735.71	3,308.72
10	168.0	23.47	8.438	9.33	0.00	0.22	2.53	1.00	1.00	0.00	13.84	21.08	0.00	1,571.8	0.0	1115.49	534.01	1,649.50
														<b>39,492.9</b>	<b>0.0</b>	<b>30,600.50</b>		

<b>Load Case:</b> 1.2D + 1.6W 60° Wind	1.2D + 1.6W 97 mph Wind at 60° From Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)					
1	10.0	14.33	28.639	28.80	0.00	0.14	2.81	0.80	1.00	0.00	35.59	139.55	0.00	6,625.7	0.0	1951.84	1327.73	3,279.56
2	30.0	14.34	22.974	28.80	0.00	0.14	2.81	0.80	1.00	0.00	31.05	139.55	0.00	6,220.7	0.0	1704.98	1328.85	3,033.82
3	50.0	16.60	20.940	28.80	0.00	0.15	2.78	0.80	1.00	0.00	28.96	139.55	0.00	5,328.6	0.0	1814.40	1537.66	3,352.07
4	70.0	18.27	22.213	22.12	0.00	0.15	2.76	0.80	1.00	0.00	28.43	139.55	0.00	5,070.4	0.0	1951.08	1692.82	3,643.91
5	83.4	19.21	0.000	17.99	0.00	0.20	2.59	0.80	1.00	0.00	9.80	47.13	0.00	1,798.0	0.0	663.12	599.49	1,262.61
6	93.4	19.84	10.586	14.61	0.00	0.16	2.74	0.80	1.00	0.00	15.39	91.44	0.00	2,858.1	0.0	1140.05	1200.04	2,340.09
7	110.0	20.79	14.081	22.12	0.00	0.17	2.69	0.80	1.00	0.00	21.76	138.47	0.00	3,810.8	0.0	1654.53	1904.12	3,558.65
8	130.0	21.81	11.695	18.58	0.00	0.18	2.66	0.80	1.00	0.00	18.83	138.47	0.00	3,527.8	0.0	1485.25	1997.21	3,482.45
9	150.0	22.72	11.717	15.03	0.00	0.22	2.54	0.80	1.00	0.00	17.69	76.52	0.00	2,680.9	0.0	1389.01	1735.71	3,124.72
10	168.0	23.47	8.438	9.33	0.00	0.22	2.53	0.80	1.00	0.00	12.15	21.08	0.00	1,571.8	0.0	979.45	534.01	1,513.46
														<b>39,492.9</b>	<b>0.0</b>	<b>28,591.35</b>		

## Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.2D + 1.6W 90° Wind	1.2D + 1.6W 97 mph Wind at 90° From Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

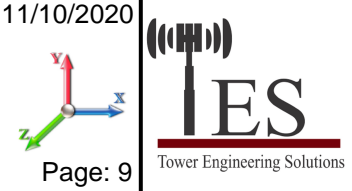
Sect Seq	Wind Height (ft)	qz (psf)	Total	Total	Ice	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear	Linear	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)							Area (sqft)	Area (sqft)					
1	10.0	14.33	28.639	28.80	0.00	0.14	2.81	0.85	1.00	0.00	37.02	139.55	0.00	6,625.7	0.0	2030.37	1327.73	3,358.10
2	30.0	14.34	22.974	28.80	0.00	0.14	2.81	0.85	1.00	0.00	32.20	139.55	0.00	6,220.7	0.0	1768.05	1328.85	3,096.90
3	50.0	16.60	20.940	28.80	0.00	0.15	2.78	0.85	1.00	0.00	30.00	139.55	0.00	5,328.6	0.0	1880.01	1537.66	3,417.67
4	70.0	18.27	22.213	22.12	0.00	0.15	2.76	0.85	1.00	0.00	29.55	139.55	0.00	5,070.4	0.0	2027.29	1692.82	3,720.12
5	83.4	19.21	0.000	17.99	0.00	0.20	2.59	0.85	1.00	0.00	9.80	47.13	0.00	1,798.0	0.0	663.12	599.49	1,262.61
6	93.4	19.84	10.586	14.61	0.00	0.16	2.74	0.85	1.00	0.00	15.92	91.44	0.00	2,858.1	0.0	1179.25	1200.04	2,379.30
7	110.0	20.79	14.081	22.12	0.00	0.17	2.69	0.85	1.00	0.00	22.46	138.47	0.00	3,810.8	0.0	1708.07	1904.12	3,612.19
8	130.0	21.81	11.695	18.58	0.00	0.18	2.66	0.85	1.00	0.00	19.42	138.47	0.00	3,527.8	0.0	1531.36	1997.21	3,528.57
9	150.0	22.72	11.717	15.03	0.00	0.22	2.54	0.85	1.00	0.00	18.28	76.52	0.00	2,680.9	0.0	1435.01	1735.71	3,170.72
10	168.0	23.47	8.438	9.33	0.00	0.22	2.53	0.85	1.00	0.00	12.57	21.08	0.00	1,571.8	0.0	1013.46	534.01	1,547.47
														<b>39,492.9</b>	<b>0.0</b>			

<b>Load Case:</b> 0.9D + 1.6W Normal Wind	0.9D + 1.6W 97 mph Wind at Normal To Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 0.90	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total	Total	Ice	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear	Linear	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)							Area (sqft)	Area (sqft)					
1	10.0	14.33	28.639	28.80	0.00	0.14	2.81	1.00	1.00	0.00	41.32	139.55	0.00	4,969.3	0.0	2265.98	1327.73	3,593.71
2	30.0	14.34	22.974	28.80	0.00	0.14	2.81	1.00	1.00	0.00	35.64	139.55	0.00	4,665.6	0.0	1957.29	1328.85	3,286.13
3	50.0	16.60	20.940	28.80	0.00	0.15	2.78	1.00	1.00	0.00	33.15	139.55	0.00	3,996.5	0.0	2076.81	1537.66	3,614.47
4	70.0	18.27	22.213	22.12	0.00	0.15	2.76	1.00	1.00	0.00	32.88	139.55	0.00	3,802.8	0.0	2255.93	1692.82	3,948.75
5	83.4	19.21	0.000	17.99	0.00	0.20	2.59	1.00	1.00	0.00	9.80	47.13	0.00	1,348.5	0.0	663.12	599.49	1,262.61
6	93.4	19.84	10.586	14.61	0.00	0.16	2.74	1.00	1.00	0.00	17.51	91.44	0.00	2,143.6	0.0	1296.87	1200.04	2,496.92
7	110.0	20.79	14.081	22.12	0.00	0.17	2.69	1.00	1.00	0.00	24.58	138.47	0.00	2,858.1	0.0	1868.66	1904.12	3,772.78
8	130.0	21.81	11.695	18.58	0.00	0.18	2.66	1.00	1.00	0.00	21.17	138.47	0.00	2,645.9	0.0	1669.70	1997.21	3,666.91
9	150.0	22.72	11.717	15.03	0.00	0.22	2.54	1.00	1.00	0.00	20.03	76.52	0.00	2,010.7	0.0	1573.00	1735.71	3,308.72
10	168.0	23.47	8.438	9.33	0.00	0.22	2.53	1.00	1.00	0.00	13.84	21.08	0.00	1,178.8	0.0	1115.49	534.01	1,649.50
														<b>29,619.7</b>	<b>0.0</b>			

## Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 9

<b>Load Case:</b> 0.9D + 1.6W 60° Wind	0.9D + 1.6W 97 mph Wind at 60° From Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 0.90	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

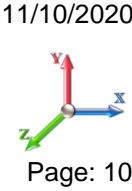
Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)					
1	10.0	14.33	28.639	28.80	0.00	0.14	2.81	0.80	1.00	0.00	35.59	139.55	0.00	4,969.3	0.0	1951.84	1327.73	3,279.56
2	30.0	14.34	22.974	28.80	0.00	0.14	2.81	0.80	1.00	0.00	31.05	139.55	0.00	4,665.6	0.0	1704.98	1328.85	3,033.82
3	50.0	16.60	20.940	28.80	0.00	0.15	2.78	0.80	1.00	0.00	28.96	139.55	0.00	3,996.5	0.0	1814.40	1537.66	3,352.07
4	70.0	18.27	22.213	22.12	0.00	0.15	2.76	0.80	1.00	0.00	28.43	139.55	0.00	3,802.8	0.0	1951.08	1692.82	3,643.91
5	83.4	19.21	0.000	17.99	0.00	0.20	2.59	0.80	1.00	0.00	9.80	47.13	0.00	1,348.5	0.0	663.12	599.49	1,262.61
6	93.4	19.84	10.586	14.61	0.00	0.16	2.74	0.80	1.00	0.00	15.39	91.44	0.00	2,143.6	0.0	1140.05	1200.04	2,340.09
7	110.0	20.79	14.081	22.12	0.00	0.17	2.69	0.80	1.00	0.00	21.76	138.47	0.00	2,858.1	0.0	1654.53	1904.12	3,558.65
8	130.0	21.81	11.695	18.58	0.00	0.18	2.66	0.80	1.00	0.00	18.83	138.47	0.00	2,645.9	0.0	1485.25	1997.21	3,482.45
9	150.0	22.72	11.717	15.03	0.00	0.22	2.54	0.80	1.00	0.00	17.69	76.52	0.00	2,010.7	0.0	1389.01	1735.71	3,124.72
10	168.0	23.47	8.438	9.33	0.00	0.22	2.53	0.80	1.00	0.00	12.15	21.08	0.00	1,178.8	0.0	979.45	534.01	1,513.46
														<b>29,619.7</b>	<b>0.0</b>			<b>28,591.35</b>

<b>Load Case:</b> 0.9D + 1.6W 90° Wind	0.9D + 1.6W 97 mph Wind at 90° From Face
<b>Wind Load Factor:</b> 1.60	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 0.90	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)					
1	10.0	14.33	28.639	28.80	0.00	0.14	2.81	0.85	1.00	0.00	37.02	139.55	0.00	4,969.3	0.0	2030.37	1327.73	3,358.10
2	30.0	14.34	22.974	28.80	0.00	0.14	2.81	0.85	1.00	0.00	32.20	139.55	0.00	4,665.6	0.0	1768.05	1328.85	3,096.90
3	50.0	16.60	20.940	28.80	0.00	0.15	2.78	0.85	1.00	0.00	30.00	139.55	0.00	3,996.5	0.0	1880.01	1537.66	3,417.67
4	70.0	18.27	22.213	22.12	0.00	0.15	2.76	0.85	1.00	0.00	29.55	139.55	0.00	3,802.8	0.0	2027.29	1692.82	3,720.12
5	83.4	19.21	0.000	17.99	0.00	0.20	2.59	0.85	1.00	0.00	9.80	47.13	0.00	1,348.5	0.0	663.12	599.49	1,262.61
6	93.4	19.84	10.586	14.61	0.00	0.16	2.74	0.85	1.00	0.00	15.92	91.44	0.00	2,143.6	0.0	1179.25	1200.04	2,379.30
7	110.0	20.79	14.081	22.12	0.00	0.17	2.69	0.85	1.00	0.00	22.46	138.47	0.00	2,858.1	0.0	1708.07	1904.12	3,612.19
8	130.0	21.81	11.695	18.58	0.00	0.18	2.66	0.85	1.00	0.00	19.42	138.47	0.00	2,645.9	0.0	1531.36	1997.21	3,528.57
9	150.0	22.72	11.717	15.03	0.00	0.22	2.54	0.85	1.00	0.00	18.28	76.52	0.00	2,010.7	0.0	1435.01	1735.71	3,170.72
10	168.0	23.47	8.438	9.33	0.00	0.22	2.53	0.85	1.00	0.00	12.57	21.08	0.00	1,178.8	0.0	1013.46	534.01	1,547.47
														<b>29,619.7</b>	<b>0.0</b>			<b>29,093.64</b>

## Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 10

<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi Normal Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 1.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
												Linear Area (sqft)	Linear Area (sqft)					
1	10.0	3.81	28.639	66.92	38.12	0.23	2.51	1.00	1.00	1.77	67.44	209.30	23.67	16,562.	9936.4	547.27	431.34	978.61
2	30.0	3.81	22.974	68.98	40.18	0.24	2.46	1.00	1.00	1.98	63.19	214.11	26.41	16,805.	10584.7	504.26	448.15	952.42
3	50.0	4.41	20.940	68.67	39.87	0.26	2.40	1.00	1.00	2.08	61.33	216.53	27.80	16,268.	10939.4	551.76	525.64	1,077.40
4	70.0	4.86	22.213	69.64	47.52	0.31	2.27	1.00	1.00	2.16	64.12	218.19	28.75	16,486.	11415.6	601.34	577.80	1,179.14
5	83.4	5.10	0.000	33.28	15.29	0.36	2.14	1.00	1.00	2.19	20.93	74.14	8.18	5,958.9	4160.9	194.52	197.36	391.88
6	93.4	5.27	10.586	44.01	29.40	0.33	2.22	1.00	1.00	2.22	37.39	144.35	14.66	9,956.2	7098.2	371.55	396.07	767.62
7	110.0	5.52	14.081	63.84	41.72	0.36	2.15	1.00	1.00	2.26	53.64	219.44	22.56	14,418.	10608.0	541.57	627.41	1,168.98
8	130.0	5.79	11.695	62.14	43.57	0.42	2.02	1.00	1.00	2.29	51.88	220.32	22.94	13,898.	10370.4	516.06	629.50	1,145.55
9	150.0	6.04	11.717	59.43	44.41	0.54	1.85	1.00	1.00	2.33	53.84	131.63	15.51	10,560.	7879.9	511.33	463.22	974.55
10	168.0	6.23	8.438	42.77	33.44	0.59	1.81	1.00	1.00	2.35	40.03	49.13	8.63	5,777.8	4206.1	383.85	175.30	559.15
													<b>126,692.5</b>	<b>87199.5</b>				

<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 60° Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 1.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
												Linear Area (sqft)	Linear Area (sqft)					
1	10.0	3.81	28.639	66.92	38.12	0.23	2.51	0.80	1.00	1.77	61.71	209.30	23.67	16,562.	9936.4	500.79	431.34	932.13
2	30.0	3.81	22.974	68.98	40.18	0.24	2.46	0.80	1.00	1.98	58.59	214.11	26.41	16,805.	10584.7	467.60	448.15	915.75
3	50.0	4.41	20.940	68.67	39.87	0.26	2.40	0.80	1.00	2.08	57.14	216.53	27.80	16,268.	10939.4	514.09	525.64	1,039.72
4	70.0	4.86	22.213	69.64	47.52	0.31	2.27	0.80	1.00	2.16	59.68	218.19	28.75	16,486.	11415.6	559.67	577.80	1,137.48
5	83.4	5.10	0.000	33.28	15.29	0.36	2.14	0.80	1.00	2.19	20.93	74.14	8.18	5,958.9	4160.9	194.52	197.36	391.88
6	93.4	5.27	10.586	44.01	29.40	0.33	2.22	0.80	1.00	2.22	35.27	144.35	14.66	9,956.2	7098.2	350.51	396.07	746.58
7	110.0	5.52	14.081	63.84	41.72	0.36	2.15	0.80	1.00	2.26	50.82	219.44	22.56	14,418.	10608.0	513.14	627.41	1,140.55
8	130.0	5.79	11.695	62.14	43.57	0.42	2.02	0.80	1.00	2.29	49.54	220.32	22.94	13,898.	10370.4	492.79	629.50	1,122.29
9	150.0	6.04	11.717	59.43	44.41	0.54	1.85	0.80	1.00	2.33	51.50	131.63	15.51	10,560.	7879.9	489.07	463.22	952.30
10	168.0	6.23	8.438	42.77	33.44	0.59	1.81	0.80	1.00	2.35	38.34	49.13	8.63	5,777.8	4206.1	367.67	175.30	542.97
													<b>126,692.5</b>	<b>87199.5</b>				



## Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 11

<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 90° Wind	1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.20	
<b>Ice Dead Load Factor:</b> 1.00	<b>Ice Importance Factor:</b> 1.00

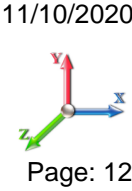
Sect Seq	Wind Height (ft)	qz (psf)	Total		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)					
1	10.0	3.81	28.639	66.92	38.12	0.23	2.51	0.85	1.00	1.77	63.14	209.30	23.67	16,562.	9936.4	512.41	431.34	943.75
2	30.0	3.81	22.974	68.98	40.18	0.24	2.46	0.85	1.00	1.98	59.74	214.11	26.41	16,805.	10584.7	476.76	448.15	924.92
3	50.0	4.41	20.940	68.67	39.87	0.26	2.40	0.85	1.00	2.08	58.19	216.53	27.80	16,268.	10939.4	523.51	525.64	1,049.14
4	70.0	4.86	22.213	69.64	47.52	0.31	2.27	0.85	1.00	2.16	60.79	218.19	28.75	16,486.	11415.6	570.09	577.80	1,147.89
5	83.4	5.10	0.000	33.28	15.29	0.36	2.14	0.85	1.00	2.19	20.93	74.14	8.18	5,958.9	4160.9	194.52	197.36	391.88
6	93.4	5.27	10.586	44.01	29.40	0.33	2.22	0.85	1.00	2.22	35.80	144.35	14.66	9,956.2	7098.2	355.77	396.07	751.84
7	110.0	5.52	14.081	63.84	41.72	0.36	2.15	0.85	1.00	2.26	51.52	219.44	22.56	14,418.	10608.0	520.25	627.41	1,147.66
8	130.0	5.79	11.695	62.14	43.57	0.42	2.02	0.85	1.00	2.29	50.12	220.32	22.94	13,898.	10370.4	498.61	629.50	1,128.10
9	150.0	6.04	11.717	59.43	44.41	0.54	1.85	0.85	1.00	2.33	52.08	131.63	15.51	10,560.	7879.9	494.64	463.22	957.86
10	168.0	6.23	8.438	42.77	33.44	0.59	1.81	0.85	1.00	2.35	38.77	49.13	8.63	5,777.8	4206.1	371.71	175.30	547.01
														<b>126,692.5</b>	<b>87199.5</b>			<b>8,990.06</b>

<b>Load Case:</b> 1.0D + 1.0W Normal Wind	1.0D + 1.0W 60 mph Wind at Normal To Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.00	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat Area (sqft)	Round Area (sqft)								Linear Area (sqft)	Linear Area (sqft)					
1	10.0	5.48	28.639	28.80	0.00	0.14	2.81	1.00	1.00	0.00	44.39	139.55	0.00	5,521.4	0.0	582.18	317.50	899.68
2	30.0	5.49	22.974	28.80	0.00	0.14	2.81	1.00	1.00	0.00	38.72	139.55	0.00	5,184.0	0.0	508.45	317.77	826.23
3	50.0	6.35	20.940	28.80	0.00	0.15	2.78	1.00	1.00	0.00	36.36	139.55	0.00	4,440.5	0.0	544.84	367.71	912.55
4	70.0	6.99	22.213	22.12	0.00	0.15	2.76	1.00	1.00	0.00	34.78	139.55	0.00	4,225.3	0.0	570.61	404.81	975.42
5	83.4	7.35	0.000	17.99	0.00	0.20	2.59	1.00	1.00	0.00	10.58	47.13	0.00	1,498.4	0.0	171.24	143.36	314.60
6	93.4	7.59	10.586	14.61	0.00	0.16	2.74	1.00	1.00	0.00	18.85	91.44	0.00	2,381.7	0.0	333.85	286.97	620.82
7	110.0	7.96	14.081	22.12	0.00	0.17	2.69	1.00	1.00	0.00	26.56	138.47	0.00	3,175.7	0.0	482.97	455.34	938.31
8	130.0	8.34	11.695	18.58	0.00	0.18	2.66	1.00	1.00	0.00	22.31	138.47	0.00	2,939.8	0.0	420.75	477.60	898.35
9	150.0	8.69	11.717	15.03	0.00	0.22	2.54	1.00	1.00	0.00	20.40	76.52	0.00	2,234.1	0.0	382.96	415.07	798.02
10	168.0	8.98	8.438	9.33	0.00	0.22	2.53	1.00	1.00	0.00	13.84	21.08	0.00	1,309.8	0.0	266.75	127.70	394.45
														<b>32,910.8</b>	<b>0.0</b>			<b>7,578.43</b>

## Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 12

<b>Load Case:</b> 1.0D + 1.0W 60° Wind	1.0D + 1.0W 60 mph Wind at 60° From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.00	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
												Linear Area (sqft)	Linear Area (sqft)					
1	10.0	5.48	28.639	28.80	0.00	0.14	2.81	0.80	1.00	0.00	38.66	139.55	0.00	5,521.4	0.0	507.05	317.50	824.56
2	30.0	5.49	22.974	28.80	0.00	0.14	2.81	0.80	1.00	0.00	34.13	139.55	0.00	5,184.0	0.0	448.12	317.77	765.89
3	50.0	6.35	20.940	28.80	0.00	0.15	2.78	0.80	1.00	0.00	32.17	139.55	0.00	4,440.5	0.0	482.09	367.71	849.80
4	70.0	6.99	22.213	22.12	0.00	0.15	2.76	0.80	1.00	0.00	30.33	139.55	0.00	4,225.3	0.0	497.72	404.81	902.53
5	83.4	7.35	0.000	17.99	0.00	0.20	2.59	0.80	1.00	0.00	10.58	47.13	0.00	1,498.4	0.0	171.24	143.36	314.60
6	93.4	7.59	10.586	14.61	0.00	0.16	2.74	0.80	1.00	0.00	16.73	91.44	0.00	2,381.7	0.0	296.35	286.97	583.32
7	110.0	7.96	14.081	22.12	0.00	0.17	2.69	0.80	1.00	0.00	23.75	138.47	0.00	3,175.7	0.0	431.76	455.34	887.10
8	130.0	8.34	11.695	18.58	0.00	0.18	2.66	0.80	1.00	0.00	19.97	138.47	0.00	2,939.8	0.0	376.64	477.60	854.24
9	150.0	8.69	11.717	15.03	0.00	0.22	2.54	0.80	1.00	0.00	18.05	76.52	0.00	2,234.1	0.0	338.96	415.07	754.03
10	168.0	8.98	8.438	9.33	0.00	0.22	2.53	0.80	1.00	0.00	12.15	21.08	0.00	1,309.8	0.0	234.22	127.70	361.92
													<b>32,910.8</b>	<b>0.0</b>	<b>7,097.97</b>			

<b>Load Case:</b> 1.0D + 1.0W 90° Wind	1.0D + 1.0W 60 mph Wind at 90° From Face
<b>Wind Load Factor:</b> 1.00	<b>Wind Importance Factor:</b> 1.00
<b>Dead Load Factor:</b> 1.00	
<b>Ice Dead Load Factor:</b> 0.00	<b>Ice Importance Factor:</b> 1.00

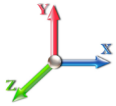
Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
												Linear Area (sqft)	Linear Area (sqft)					
1	10.0	5.48	28.639	28.80	0.00	0.14	2.81	0.85	1.00	0.00	40.09	139.55	0.00	5,521.4	0.0	525.83	317.50	843.34
2	30.0	5.49	22.974	28.80	0.00	0.14	2.81	0.85	1.00	0.00	35.27	139.55	0.00	5,184.0	0.0	463.20	317.77	780.97
3	50.0	6.35	20.940	28.80	0.00	0.15	2.78	0.85	1.00	0.00	33.22	139.55	0.00	4,440.5	0.0	497.78	367.71	865.49
4	70.0	6.99	22.213	22.12	0.00	0.15	2.76	0.85	1.00	0.00	31.44	139.55	0.00	4,225.3	0.0	515.94	404.81	920.75
5	83.4	7.35	0.000	17.99	0.00	0.20	2.59	0.85	1.00	0.00	10.58	47.13	0.00	1,498.4	0.0	171.24	143.36	314.60
6	93.4	7.59	10.586	14.61	0.00	0.16	2.74	0.85	1.00	0.00	17.26	91.44	0.00	2,381.7	0.0	305.72	286.97	592.69
7	110.0	7.96	14.081	22.12	0.00	0.17	2.69	0.85	1.00	0.00	24.45	138.47	0.00	3,175.7	0.0	444.57	455.34	899.90
8	130.0	8.34	11.695	18.58	0.00	0.18	2.66	0.85	1.00	0.00	20.56	138.47	0.00	2,939.8	0.0	387.67	477.60	865.27
9	150.0	8.69	11.717	15.03	0.00	0.22	2.54	0.85	1.00	0.00	18.64	76.52	0.00	2,234.1	0.0	349.96	415.07	765.03
10	168.0	8.98	8.438	9.33	0.00	0.22	2.53	0.85	1.00	0.00	12.57	21.08	0.00	1,309.8	0.0	242.35	127.70	370.05
													<b>32,910.8</b>	<b>0.0</b>	<b>7,218.09</b>			

## Force/Stress Compression Summary

**Structure:** CT04382-S-SBA  
**Site Name:** New Britain 2, CT  
**Height:** 176.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

11/10/2020  
  
 Page: 13



### LEG MEMBERS

Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls	
			X	Y			Z	KL/R						
1	20	PX - 8" DIA PIPE	-257.90	1.2D + 1.6W	Normal Wind	9.64	49	49	49	19.70	50.00	558.14	46.2	Member X
2	40	PX - 8" DIA PIPE	-240.24	1.2D + 1.6W	Normal Wind	0.38	49	49	49	0.77	50.00	574.18	41.8	Member X
3	60	PSP - ROHN 8 EHS	-213.63	1.2D + 1.6W	Normal Wind	0.38	48	48	48	0.74	50.00	437.38	48.8	Member X
4	80	PX - 6" DIA PIPE	-185.89	1.2D + 1.6W	Normal Wind	0.38	48	48	48	0.99	50.00	377.97	49.2	Member X
5	86.79	PX - 5" DIA PIPE	-158.03	1.2D + 1.6W	Normal Wind	0.38	48	48	48	0.99	50.00	377.97	41.8	Member X
6	100	PX - 6" DIA PIPE	-142.81	1.2D + 1.6W	Normal Wind	6.43	48	48	48	16.90	50.00	370.18	38.6	Member X
7	120	PSP - ROHN 6 EHS	-127.13	1.2D + 1.6W	Normal Wind	0.38	48	48	48	0.97	50.00	302.06	42.1	Member X
8	140	PX - 5" DIA PIPE	-93.64	1.2D + 1.6W	Normal Wind	0.38	47	47	47	1.15	50.00	274.92	34.1	Member X
9	160	PX - 4" DIA PIPE	-54.24	1.2D + 1.6W	Normal Wind	0.38	47	47	47	1.43	50.00	198.42	27.3	Member X
10	176	PX - 3" DIA PIPE	-18.73	1.2D + 1.6W	Normal Wind	0.38	44	44	44	1.74	50.00	135.87	13.8	Member X

### Splices

Sect	Top Elev	Top Splice					Bottom Splice						
		Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	1.2D + 1.6W Normal Wind	240.68	0.00	0.0			1.2D + 1.6W Normal Wind	264.60	0.00			
2	40	1.2D + 1.6W Normal Wind	214.16	0.00	0.0			1.2D + 1.6W Normal Wind	240.68	0.00		1 A325	8
3	60	1.2D + 1.6W Normal Wind	186.33	0.00	0.0			1.2D + 1.6W Normal Wind	214.16	0.00		1 A325	8
4	80	1.2D + 1.6W Normal Wind	158.40	0.00	0.0			1.2D + 1.6W Normal Wind	186.33	0.00		1 A325	8
5	86.79	1.2D + 1.6W Normal Wind	147.11	0.00	0.0			1.2D + 1.6W Normal Wind	158.40	0.00		1 A325	6
6	100	1.2D + 1.6W Normal Wind	127.46	0.00	0.0			1.2D + 1.6W Normal Wind	147.11	0.00		1 A325	6
7	120	1.2D + 1.6W Normal Wind	93.89	0.00	0.0			1.2D + 1.6W Normal Wind	127.46	0.00		1 A325	6
8	140	1.2D + 1.6W Normal Wind	55.39	0.00	0.0			1.2D + 1.6W Normal Wind	93.89	0.00		1 A325	6
9	160	1.2D + 1.6W Normal Wind	19.06	0.00	0.0			1.2D + 1.6W Normal Wind	55.39	0.00		1 A325	4
10	176	1.2D + 1.0Di + 1.0Wi Normal Wi	2.48	0.00	0.0			1.2D + 1.6W Normal Wind	19.06	0.00		7/8 A325	4

### HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Bear		Use %	Controls	
			X	Y			Z	KL/R	Cap (kips)					Cap (kips)				
1	20									0.00	0	0						
2	40									0.00	0	0						
3	60									0.00	0	0						
4	80									0.00	0	0						
5	86.7									0.00	0	0						
6	100									0.00	0	0						
7	120									0.00	0	0						
8	140									0.00	0	0						
9	160	SAE - 2X2X0.1875	-0.16	1.2D + 1.6W	Normal Wind	4.76	100	100	100	144.97	36.00	7.63	1	1	12.43	7.84	2	Member Z
10	176	SAE - 2X2X0.25	-0.30	1.2D + 1.6W	60° Wind	4.69	100	100	100	143.88	36.00	10.26	1	1	12.43	10.45	3	Member Z

### DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Bear		Use %	Controls	
			X	Y			Z	KL/R	Cap (kips)					Cap (kips)				
1	20	SAE - 4X4X0.25	-7.59	0.9D + 1.6W	90° Wind	21.76	50	50	50	164.26	36.00	16.24	1	1	17.89	12.6	60	Bolt Bear
2	40	SAE - 3.5X3.5X0.25	-7.18	1.2D + 1.6W	90° Wind	20.84	50	50	50	180.15	36.00	11.76	1	1	17.89	12.6	61	Member Z
3	60	SAE - 3.5X3.5X0.25	-7.15	1.2D + 1.6W	90° Wind	18.25	50	50	50	157.82	36.00	15.33	1	1	17.89	12.6	57	Bolt Bear
4	80	SAE - 3X3X0.25	-6.09	1.2D + 1.6W	90° Wind	14.76	50	50	50	149.57	36.00	14.54	1	1	17.89	12.6	48	Bolt Bear
5	86.7	MOD - 2L2.5x2.5x3/16	-6.05	1.2D + 1.6W	90° Wind	14.10	50	50	50	113.59	36.00	29.91	1	1	12.43		49	Bolt Shear
6	100	SAE - 2.5X2.5X0.1875	-6.11	1.2D + 1.6W	90° Wind	12.97	50	50	50	157.27	36.00	8.24	1	1	12.43	7.84	78	Bolt Bear

## Force/Stress Compression Summary

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



### DIAGONAL MEMBERS

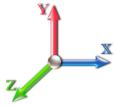
Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing %			KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap		Bear Cap (kips)	Use %	Controls
						X	Y	Z						(kips)	(kips)			
7	120	SAE - 2.5X2.5X0.1875	-6.00	1.2D + 1.6W 90° Wind	11.28	50	50	50	136.73	36.00	10.90	1	1	12.43	7.84	77	Bolt Bear	
8	140	SAE - 2X2X0.1875	-5.63	1.2D + 1.6W 90° Wind	8.60	50	50	50	130.93	36.00	9.33	1	1	12.43	7.84	72	Bolt Bear	
9	160	SAE - 2X2X0.1875	-3.98	1.2D + 1.6W 90° Wind	7.64	50	50	50	117.23	36.00	11.16	1	1	12.43	7.84	51	Bolt Bear	
10	176	SAE - 2X2X0.25	-3.33	1.2D + 1.6W 90° Wind	6.09	50	50	50	100.10	36.00	17.97	1	1	12.43	10.4	32	Bolt Bear	

## Force/Stress Tension Summary

**Structure:** CT04382-S-SBA  
**Site Name:** New Britain 2, CT  
**Height:** 176.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

11/10/2020  
  
 Page: 15



### LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	PX - 8" DIA PIPE	225.51	0.9D + 1.6W 60° Wind	50	574.20	39.3	Member
2	40	PX - 8" DIA PIPE	205.56	0.9D + 1.6W 60° Wind	50	574.20	35.8	Member
3	60	PSP - ROHN 8 EHS	183.88	0.9D + 1.6W 60° Wind	50	437.40	42.0	Member
4	80	PX - 6" DIA PIPE	160.49	0.9D + 1.6W 60° Wind	50	378.00	42.5	Member
5	86.792	PX - 6" DIA PIPE	136.68	0.9D + 1.6W 60° Wind	50	378.00	36.2	Member
6	100	PX - 6" DIA PIPE	123.09	0.9D + 1.6W 60° Wind	50	378.00	32.6	Member
7	120	PSP - ROHN 6 EHS	109.61	0.9D + 1.6W 60° Wind	50	302.09	36.3	Member
8	140	PX - 5" DIA PIPE	79.36	0.9D + 1.6W 60° Wind	50	274.95	28.9	Member
9	160	PX - 4" DIA PIPE	44.43	0.9D + 1.6W 60° Wind	50	198.45	22.4	Member
10	176	PX - 3" DIA PIPE	13.28	0.9D + 1.6W 60° Wind	50	135.90	9.8	Member

### Splices

Sect	Top Elev	Load Case	Top Splice				Load Case	Bottom Splice				
			Force (kips)	Cap (kips)	Use %	Bolt Type		Num Bolts	Force (kips)	Cap (kips)	Use %	Bolt Type
1	20	0.9D + 1.6W 60° Wind	205.24	0.00	0.0		0.9D + 1.6W 60° Wind	225.5	0.00			
2	40	0.9D + 1.6W 60° Wind	183.51	0.00	0.0		0.9D + 1.6W 60° Wind	205.2	424.08	48.4	1 A325	8
3	60	0.9D + 1.6W 60° Wind	160.16	0.00	0.0		0.9D + 1.6W 60° Wind	183.5	424.08	43.3	1 A325	8
4	80	0.9D + 1.6W 60° Wind	136.45	0.00	0.0		0.9D + 1.6W 60° Wind	160.1	424.08	37.8	1 A325	8
5	86.792	0.9D + 1.6W 60° Wind	126.65	0.00	0.0		0.9D + 1.6W 60° Wind	136.4	318.06	42.9	1 A325	6
6	100	0.9D + 1.6W 60° Wind	109.39	0.00	0.0		0.9D + 1.6W 60° Wind	126.6	318.06	39.8	1 A325	6
7	120	0.9D + 1.6W 60° Wind	79.17	0.00	0.0		0.9D + 1.6W 60° Wind	109.3	318.06	34.4	1 A325	6
8	140	0.9D + 1.6W 60° Wind	43.70	0.00	0.0		0.9D + 1.6W 60° Wind	79.17	318.06	24.9	1 A325	6
9	160	0.9D + 1.6W 60° Wind	13.38	0.00	0.0		0.9D + 1.6W 60° Wind	43.70	212.04	20.6	1 A325	4
10	176		0.00	0.00	0.0		0.9D + 1.6W 60° Wind	13.38	166.24	8.0	7/8 A325	4

### HORIZONTAL MEMBERS

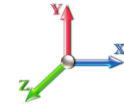
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			36	0.00	0	0					
2	40	-			36	0.00	0	0					
3	60	-			36	0.00	0	0					
4	80	-			36	0.00	0	0					
5	86.792	-			36	0.00	0	0					
6	100	-			36	0.00	0	0					
7	120	-			36	0.00	0	0					
8	140	-			36	0.00	0	0					
9	160	SAE - 2X2X0.1875	0.17	1.2D + 1.6W 60° Wind	36	23.00	1	1	12.43	7.84	7.85	2.2	Bolt Bear
10	176	SAE - 2X2X0.25	0.43	0.9D + 1.6W Normal Wi	36	30.46	1	1	12.43	10.45	10.47	4.1	Bolt Bear

### DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	SAE - 4X4X0.25	7.47	0.9D + 1.6W 90° Wind	36	62.86	1	1	17.89	12.62	26.92	59.2	Bolt Bear
2	40	SAE - 3.5X3.5X0.25	7.19	0.9D + 1.6W 90° Wind	36	54.76	1	1	17.89	12.62	21.48	57.0	Bolt Bear
3	60	SAE - 3.5X3.5X0.25	6.97	0.9D + 1.6W 90° Wind	36	54.76	1	1	17.89	12.62	21.48	55.2	Bolt Bear
4	80	SAE - 3X3X0.25	5.98	0.9D + 1.6W 90° Wind	36	46.66	1	1	17.89	12.62	16.04	47.4	Bolt Bear
5	86.792	MOD - 2L2.5x2.5x3/16_Spec	5.94	0.9D + 1.6W 90° Wind	36	59.00	1	1	12.43			47.7	Bolt Shear
6	100	SAE - 2.5X2.5X0.1875	6.02	1.2D + 1.6W 90° Wind	36	29.22	1	1	12.43	7.84	9.89	76.8	Bolt Bear
7	120	SAE - 2.5X2.5X0.1875	5.88	1.2D + 1.6W 90° Wind	36	29.22	1	1	12.43	7.84	9.89	75.1	Bolt Bear

## Force/Stress Tension Summary

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



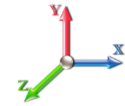
Page: 16

### DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
8	140	SAE - 2X2X0.1875	5.55	1.2D + 1.6W 90° Wind	36	23.00	1	1	12.43	7.84	7.85	70.9	Bolt Bear
9	160	SAE - 2X2X0.1875	3.93	1.2D + 1.6W 90° Wind	36	23.00	1	1	12.43	7.84	7.85	50.2	Bolt Bear
10	176	SAE - 2X2X0.25	3.21	0.9D + 1.6W 90° Wind	36	30.46	1	1	12.43	10.45	10.47	30.8	Bolt Bear

## Seismic Section Forces

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 17

**Load Case: 1.2D + 1.0E**

<b>Dead Load Factor</b>	1.20	<b>Sds</b> 0.195	<b>Ss</b> 0.1830	<b>Fa</b> 1.6000	<b>Ke</b> 0.0000
<b>Seismic Load Factor</b>	1.00	<b>Sd1</b> 0.102	<b>S1</b> 0.0640	<b>Fv</b> 2.4000	<b>Kg</b> 0.0000
<b>Seismic Importance Factor</b>	1.00	<b>SA</b> 0.172	<b>R</b> 3.0000	<b>Vs</b> 3.0105	<b>f1</b> 1.6813

Sect #	Elev (ft)	Wz (lb)	Lateral			Fsz (lb)
			a	b	c	
1	10.00	5521.4	0.01	0.05	0.03	20.95
2	30.00	5183.9	0.05	0.07	0.04	42.54
3	50.00	4440.5	0.15	0.07	0.03	59.94
4	70.00	4225.3	0.30	0.05	0.01	86.05
5	83.40	1508.3	0.42	0.01	0.01	37.75
6	93.40	2381.7	0.53	-0.03	0.01	67.49
7	110.00	3175.6	0.74	-0.10	0.04	109.05
8	130.00	5177.9	1.03	-0.10	0.15	245.77
9	150.00	5235.0	1.37	0.23	0.40	408.20
10	168.00	6843.4	1.72	1.21	0.85	889.75

**Load Case: 0.9D + 1.0E**

<b>Dead Load Factor</b>	0.90	<b>Sds</b> 0.195	<b>Ss</b> 0.1830	<b>Fa</b> 1.6000	<b>Ke</b> 0.0000
<b>Seismic Load Factor</b>	1.00	<b>Sd1</b> 0.102	<b>S1</b> 0.0640	<b>Fv</b> 2.4000	<b>Kg</b> 0.0000
<b>Seismic Importance Factor</b>	1.00	<b>SA</b> 0.172	<b>R</b> 3.0000	<b>Vs</b> 3.0105	<b>f1</b> 1.6813

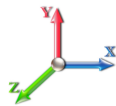
Sect #	Elev (ft)	Wz (lb)	Lateral			Fsz (lb)
			a	b	c	
1	10.00	5521.4	0.01	0.05	0.03	20.95
2	30.00	5183.9	0.05	0.07	0.04	42.54
3	50.00	4440.5	0.15	0.07	0.03	59.94
4	70.00	4225.3	0.30	0.05	0.01	86.05
5	83.40	1508.3	0.42	0.01	0.01	37.75
6	93.40	2381.7	0.53	-0.03	0.01	67.49
7	110.00	3175.6	0.74	-0.10	0.04	109.05
8	130.00	5177.9	1.03	-0.10	0.15	245.77
9	150.00	5235.0	1.37	0.23	0.40	408.20
10	168.00	6843.4	1.72	1.21	0.85	889.75

## Support Forces Summary

**Structure:** CT04382-S-SBA  
**Site Name:** New Britain 2, CT  
**Height:** 176.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 0.85

**Topography:** 1

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

11/10/2020  
  
 Page: 18



Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	-0.01	263.99	-26.19	
	1a	8.68	-105.78	-8.00	
	1b	-8.68	-105.77	-8.01	
1.2D + 1.6W 60° Wind	1	-2.37	136.33	-13.09	
	1a	-12.52	136.25	4.49	
	1b	-19.93	-220.15	-11.51	
1.2D + 1.6W 90° Wind	1	-2.81	17.48	-1.08	
	1a	-19.84	225.14	9.85	
	1b	-18.06	-190.19	-8.77	
0.9D + 1.6W Normal Wind	1	-0.01	259.31	-25.91	
	1a	8.92	-110.00	-8.14	
	1b	-8.91	-109.99	-8.15	
0.9D + 1.6W 60° Wind	1	-2.38	131.81	-12.81	
	1a	-12.28	131.73	4.35	
	1b	-20.16	-224.22	-11.64	
0.9D + 1.6W 90° Wind	1	-2.82	13.11	-0.80	
	1a	-19.60	220.52	9.71	
	1b	-18.29	-194.30	-8.91	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	125.53	-7.46	
	1a	2.66	17.76	-2.37	
	1b	-2.66	17.80	-2.37	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.70	88.94	-3.73	
	1a	-3.58	88.91	1.26	
	1b	-6.04	-16.76	-3.49	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.81	53.69	-0.16	
	1a	-5.73	115.11	2.84	
	1b	-5.46	-7.71	-2.68	
1.2D + 1.0E	1	0.00	32.49	4.76	
	1a	5.70	9.97	-3.34	
	1b	-5.70	9.97	-3.34	
0.9D + 1.0E	1	0.00	28.10	5.04	
	1a	5.95	5.61	-3.48	
	1b	-5.95	5.61	-3.48	
1.0D + 1.0W Normal Wind	1	0.00	74.20	-7.07	
	1a	1.54	-15.26	-1.63	
	1b	-1.54	-15.25	-1.63	
1.0D + 1.0W 60° Wind	1	-0.60	43.33	-3.86	
	1a	-3.64	43.31	1.41	
	1b	-4.29	-42.94	-2.47	
1.0D + 1.0W 90° Wind	1	-0.70	14.56	-0.93	
	1a	-5.43	64.82	2.73	
	1b	-3.83	-35.69	-1.80	

### Max Reactions



Leg

Overturing

---

Max Uplift: -224.22 (kips)

Max Down: 263.99 (kips)

Max Shear: 26.19 (kips)

Moment: 4483.16 (ft-kips)

Total Down: 52.43 (kips)

Total Shear: 42.21 (kips)

## Analysis Summary

<b>Structure:</b> CT04382-S-SBA	<b>Code:</b> EIA/TIA-222-G	11/10/2020
<b>Site Name:</b> New Britain 2, CT	<b>Exposure:</b> B	
<b>Height:</b> 176.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 0.85	<b>Topography:</b> 1	<b>Struct Class:</b> II
		<b>Page:</b> 20



### Max Reactions

	Leg	Overturning
Max Uplift:	-224.22 (kips)	Moment: 4483.16 (ft-kips)
Max Down:	263.99 (kips)	Total Down: 52.43 (kips)
Max Shear:	26.19 (kips)	Total Shear: 42.21 (kips)

### Anchor Bolts

Bolt Size (in.): 1.00	Number Bolts: 10
Yield Strength (Ksi): 109.00	Tensile Strength (Ksi): 125.00
Detail Type: A	

**Interaction Ratio: 0.42**


### Max Usages

Max Leg: 49.2% (1.2D + 1.6W Normal Wind - Sect 4)  
 Max Diag: 78.0% (1.2D + 1.6W 90° Wind - Sect 6)  
 Max Horiz: 4.1% (0.9D + 1.6W Normal Wind - Sect 10)

### Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0E - Normal To Face	80.38	0.0152	0.0008	0.0227
	140.00	0.0494	0.0016	0.0503
	151.93	0.0595	-0.0014	0.0526
	164.19	0.0712	-0.0016	0.0548
	176.00	0.0829	0.0016	0.0591
0.9D + 1.6W 97 mph Wind at 60° From Face	80.38	0.2104	0.0154	0.3344
	140.00	0.6770	0.0283	0.6355
	151.93	0.8028	0.0275	0.6252
	164.19	0.9400	0.0305	0.6378
	176.00	1.0743	0.0340	0.6766
0.9D + 1.6W 97 mph Wind at 90° From Face	80.38	0.2120	-0.0167	0.3329
	140.00	0.6820	-0.0296	0.6324
	151.93	0.8085	-0.0275	0.6276
	164.19	0.9465	-0.0292	0.6440
	176.00	1.0814	-0.0302	0.6566
0.9D + 1.6W 97 mph Wind at Normal To Face	80.38	0.2178	0.0138	0.3458
	140.00	0.6983	0.0238	0.6528
	151.93	0.8276	0.0215	0.6429
	164.19	0.9689	0.0219	0.6566
	176.00	1.1077	0.0210	0.7555
1.0D + 1.0W 60 mph Wind at 60° From Face	80.38	0.0509	0.0034	0.0809
	140.00	0.1631	0.0060	0.1528
	151.93	0.1932	0.0055	0.1498
	164.19	0.2262	0.0058	0.1527
	176.00	0.2583	0.0060	0.1624

1.0D + 1.0W 60 mph Wind at 90° From Face	80.38	0.0513	-0.0040	0.0804
	140.00	0.1643	-0.0070	0.1520
	151.93	0.1946	-0.0065	0.1505
	164.19	0.2278	-0.0068	0.1543
	176.00	0.2600	-0.0070	0.1576
-----				
1.0D + 1.0W 60 mph Wind at Normal To Face	80.38	0.0528	0.0033	0.0833
	140.00	0.1683	0.0057	0.1563
	151.93	0.1993	0.0051	0.1542
	164.19	0.2332	0.0052	0.1575
	176.00	0.2664	0.0050	0.1807
-----				
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	80.38	0.0636	0.0042	0.0996
	140.00	0.2006	0.0073	0.1880
	151.93	0.2375	0.0068	0.1845
	164.19	0.2779	0.0072	0.1884
	176.00	0.3179	0.0074	0.2033
-----				
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	80.38	0.0638	-0.0049	0.0988
	140.00	0.2017	-0.0085	0.1869
	151.93	0.2389	-0.0079	0.1854
	164.19	0.2795	-0.0084	0.1907
	176.00	0.3196	-0.0088	0.1980
-----				
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	80.38	0.0640	0.0040	0.1006
	140.00	0.2038	0.0068	0.1880
	151.93	0.2414	0.0062	0.1880
	164.19	0.2827	0.0063	0.1929
	176.00	0.3235	0.0061	0.2223
-----				
1.2D + 1.0E - Normal To Face	80.38	0.0153	-0.0008	0.0227
	140.00	0.0495	-0.0016	0.0503
	151.93	0.0596	-0.0015	0.0528
	164.19	0.0713	-0.0016	0.0549
	176.00	0.0830	-0.0016	0.0591
-----				
1.2D + 1.6W 97 mph Wind at 60° From Face	80.38	0.2107	0.0155	0.3350
	140.00	0.6782	0.0284	0.6370
	151.93	0.8043	0.0275	0.6266
	164.19	0.9418	0.0306	0.6392
	176.00	1.0765	0.0341	0.6784
-----				
1.2D + 1.6W 97 mph Wind at 90° From Face	80.38	0.2122	-0.0167	0.3335
	140.00	0.6832	-0.0296	0.6339
	151.93	0.8100	-0.0275	0.6290
	164.19	0.9483	-0.0292	0.6454
	176.00	1.0835	-0.0303	0.6583
-----				
1.2D + 1.6W 97 mph Wind at Normal To Face	80.38	0.2181	0.0138	0.3463
	140.00	0.6996	0.0238	0.6542
	151.93	0.8291	0.0215	0.6443
	164.19	0.9708	0.0220	0.6582
	176.00	1.1099	0.0210	0.7571
-----				

	<b>Mat Foundation Design for Self Supporting Tower</b>			Date 11/10/2020
	<b>Customer Name:</b>	SBA Communications Corp	<b>EIA/TIA Standard:</b>	EIA-222-G
	<b>Site Name:</b>		<b>Structure Height (Ft.):</b>	176
	<b>Site Nmber:</b>	CT04382-S-SBA	<b>Engineer Name:</b>	J. Tibbetts
	<b>Engr. Number:</b>	99209	<b>Engineer Login ID:</b>	

**Foundation Info Obtained from:**

**Analysis or Design?**

**Number of Tower Legs:**

**Base Reactions (Factored):**

(1). Individual Leg:

Axial Load (Kips):	264.0	Uplift Force (Kips):	224.2
Shear Force (Kips):	26.2		

(2). Tower Base:

Total Vertical Load (Kips):	52.4	Total Shear Force (Kips):	42.2
Moment (Kips-ft):	4483.2		

**Foundation Geometries:**

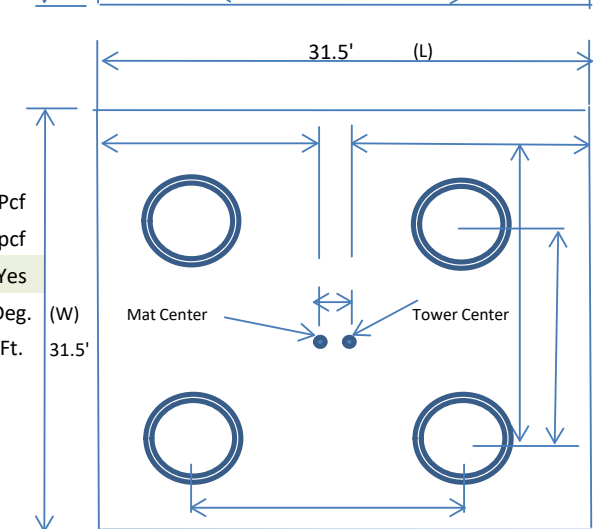
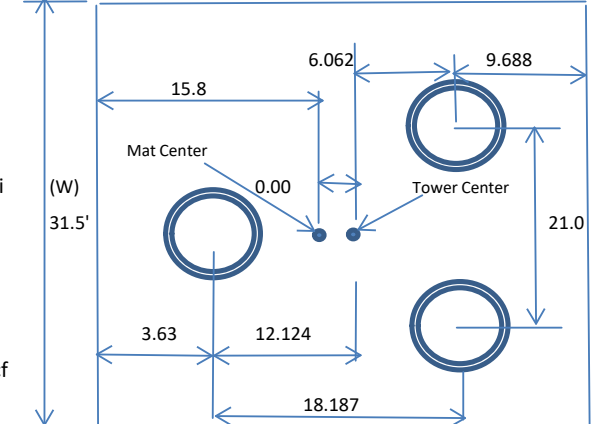
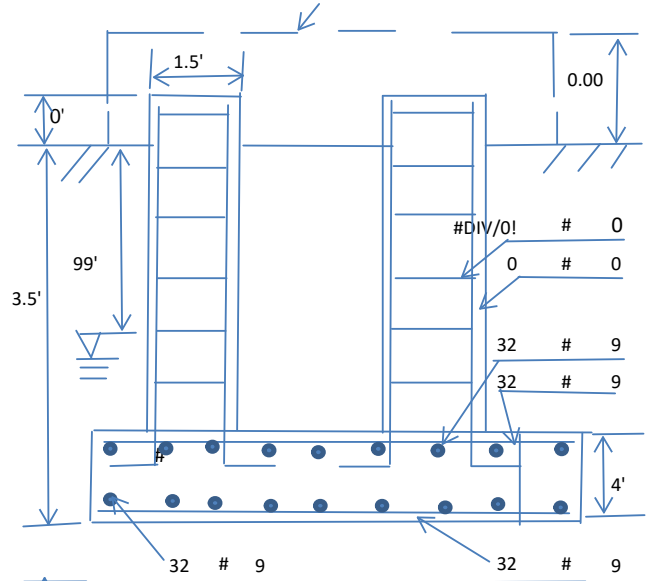
Leg distance (Center-to-Center ft.):	21.0	Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	Round 1.5	Pier Height A. G. (ft.):	0.00
Tower center to mat center (ft):	0	Depth of Base BG (ft.):	3.5
Length of Pad (ft.):	31.5	Width of Pad (ft.):	31.5
Thickness of Pad (ft):	4.00		

**Material Properties and Rebar Info:**

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)		Tie steel yield (ksi):	60	
Vertical Rebar Size #:		Tie / Stirrup Size #:		
Qty. of Vertical Rebars:		Tie Spacing (in):		
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	

**Soil Design Parameters:**

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	10000	Consider ties in concrete shear strength:	Yes	
Consider Soil Lateral Resistance ?	Yes	Enter soil C (psf) or Phi (deg.):	30.0	Deg. (W)
		Depth to ignor lateral resistance	1.0	Ft. 31.5'



Apply 1.35 for e/w per G/H: 1.35

<b>Foundation Analysis and Design:</b>	Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1.97	Total Dry Soil Weight (Kips):	0.23	
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00	
Total Effective Soil Weight (Kips):	0.23	Weight from the Concrete Block at Top (K):	0.00	
Total Dry Concrete Volume (cu. Ft.):	3969.04	Total Dry Concrete Weight (Kips):	595.36	
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00	
Total Effective Concrete Weight (Kips):	595.36	Total Vertical Load on Base (Kips):	648.01	

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	1664.55	<	Allowable Factored Soil Bearing (psf):	7500	0.22	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	9268.2	>	Design Factored Momont (kips-ft):	4652	0.50	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.99					OK!

**Check the capacities of Reinforceing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75	
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00	Load/ Capacity

**(2).Concrete Pad:**

One-Way Design Shear Capacity (L or W Direction, Kips):	1380.0	>	One-Way Factored Shear (L/W-Dir Kips	298.5	0.22	OK!
One-Way Design Shear Capacity (Diagonal Dir., Kips):	1112.9	>	One-Way Factored Shear (Dia. Dir, Kips	267.6	0.24	OK!
Lower Steel Pad Reinforcement Ratio (L or W-Direct. ):	0.0019		Lower Steel Reinf. Ratio (Dia. Dir.):	0.0017		
Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft):	6255.6	>	Moment at Bottom ( L-Direct. K-Ft):	1964.3	0.31	OK!
Lower Steel Pad Moment Capacity (Dia. Direction,K-ft):	6061.9	>	Moment at Bottom ( Dia. Dir. K-Ft):	1561.2	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L or W -Direction):	0.0019		Upper Steel Reinf. Ratio (Dia. Dir.):	0.0017		
Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft):	6255.6	>	Moment at the top (L-Dir Kips-Ft):	975.8	0.16	OK!
Upper Steel Pad Moment Capacity (Dia. Direction, K-ft):	6061.9	>	Moment at the top (Dia. Dir., K-Ft):	576.6	0.10	OK!
Punching Failure Capacity (Kips):	1351.5	>	Punch. Failure Factored Shear (K):	264.0	0.20	OK!

# EXHIBIT 8



**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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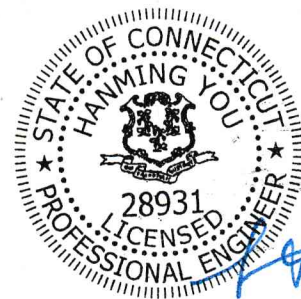
## **Antenna Mount Analysis Report**

**Existing 175-Ft Self Support Tower**  
**Customer Name: SBA Communications Corp**  
**Customer Site Number: CT04382-S**  
**Customer Site Name: New Britain 2, CT**  
**Carrier Name: T-Mobile (App#: 141543, V1)**  
**Carrier Site ID / Name: CT11351C / New Britain/RT 72 Wooster**  
**Site Location: 1 Hartford Square**  
**New Britain, Connecticut**  
**Hartford County**  
**Latitude: 41.666411**  
**Longitude: -72.812803**

### **Analysis Result:**

**Max Structural Usage: 83.4% [Pass]**

**Report Prepared By: Manoj Kandel**



## **Introduction**

The purpose of this report is to summarize the analysis results on the (3) Sector Frame at 152.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## **Sources of Information**

Mount Drawings	Mapping by Full Metal Tower Services, Dated 4/27/2019
Antenna Loading	Provided by SBA, Application #: 141543, V1
Modification Drawings	N/A

## **Analysis Criteria**

Basic Wind Speed Used in the Analysis:  $V_{ULT} = 125.0$  mph (3-Sec. Gust) / Equivalent to  
 $V_{ASD} = 97$  mph (3-Sec. Gust)

Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent

Operational Wind Speed: 60 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G/ 2015 IBC/ 2018 Connecticut State Building Code

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

## **Mount Information**

(3) Sector Frame at 152.00' elevation

## **Final Antenna Configuration**

- 3 Ericsson AIR32 KRD901146-1\_B66A\_B2A (Octo)
- 3 RFS APXVAARR24\_43-U-NA20
- 3 Ericsson AIR6449 B41
- 3 Ericsson KRY 112 144/1
- 3 Commscope SDX1926Q-43
- 3 Ericsson 4449 B71+B85
- 3 Ericsson 4415 B25

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.



## **Analysis Results**

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 83.4%, which occurs in the face horizontal. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

## **Attachments**

1. Mount Photos
2. Cost Estimate
3. Antenna Placement Diagram
4. Mount Mapping Information
5. Analysis Calculations

## **Standard Conditions**

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.
2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.
4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.
6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.
7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.
8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



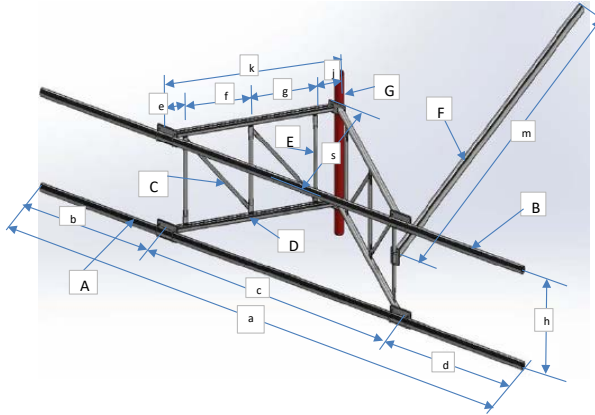


## Antenna Mount Type "MT-M" Mapping Form (PATENT PENDING)

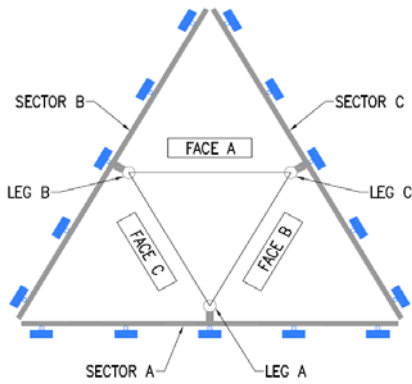
FCC #  
1220790

Tower Owner:	SBA Communications	Mapping Date:	4/27/19
Site Name:	New Britain 2, CT	Structure Type:	3-Sided S.S. Tower
Site Number or ID:	CT04382-S-SBA	Structure Height (Ft.):	175
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	152.4

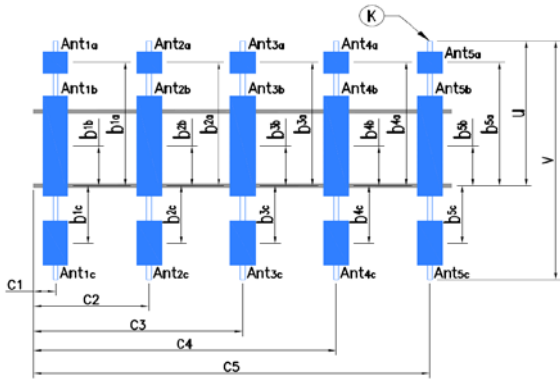
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.



Geometries (Unit: inches)									
a	143	e	6	j	10	o		s	55
b	20	f	30	k	74	p		t	
c	103	g	28	m	126	q		u*	69
d	20	h	43	n		r		v*	96
Members (Unit: inches) * - See Ant. Layout for "u", "v" and member "k" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	F	3.5 OD x 0.216 Pipe	3.5	3.068	0.216
B	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	G	4.5 OD x 0.237 Pipe	4.5	4.026	0.237
C	1.66 OD x 0.140 Pipe	1.66	1.38	0.14	H				
D	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	J				
E	1.66 OD x 0.140 Pipe	1.66	1.38	0.14	K (pipe)*	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									
3.5'									
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									
N/A									
Please enter the information below if members can't be found from the drop down lists									
MP2 Pipe 2.875 V:110, U:108									
Tower Face Width at the mount (ft.): 6'									
Tower Leg Size at the mount (in.): 4.5" OD x 0.237" Pipe									



Climbing facility is On Leg C, at 180° Degree Azimuth



Antenna Layout

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b <sub>1a</sub> , b <sub>2a</sub> , b <sub>3a</sub> , b <sub>1b</sub> ..." (In.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C <sub>1</sub> , C <sub>2</sub> , C <sub>3</sub> , C <sub>4</sub> , C <sub>5</sub> " (in.)	
<b>Sector A</b>									
Ant <sub>1a</sub>									
Ant <sub>1b</sub>	Antenna A	13	9	56	N/A	+42"	8	5	
Ant <sub>1c</sub>									
Ant <sub>2a</sub>									
Ant <sub>2b</sub>	Antenna B	12	7.5	96.5	1/2" (2)	+58"	7	70	
Ant <sub>2c</sub>	RRH A	17	7	20	1/2" (2)	+76"	N/A	70	
Ant <sub>3a</sub>									
Ant <sub>3b</sub>	Antenna C	12	8	56	1/2" (2)	+48"	7	137	
Ant <sub>3c</sub>	TMA A	6	3	8	1/2" (2)	+52"	N/A	137	
Ant <sub>4a</sub>									
Ant <sub>4c</sub>									
Ant <sub>5a</sub>									
Ant <sub>5b</sub>									
Ant <sub>5c</sub>									
Are Ant same as sector A?		Yes		Antennas on Sector B are the same as Sector A					

Azimuth (Degree) of Each Sector and Climbing Information

Sector A:	70°	↗	Deg	
Sector B:	160°		Deg	
Sector C:	285°		Deg	
Climbing:	180°		Deg	On Leg C
Climbing Facility	Corrosion Type:	No corrosion observed		
	Access:	Climbing path was unobstructed.		
	Condition:	N/A		

**Structure: CT04382-S-SBA - New Britain 2, CT**

**Sector: A**

11/9/2020

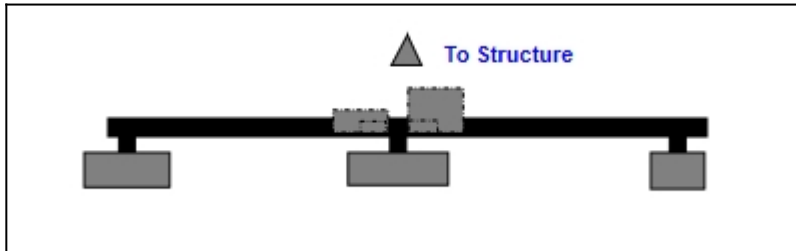


**Structure Type: Self Support**

Page: 1

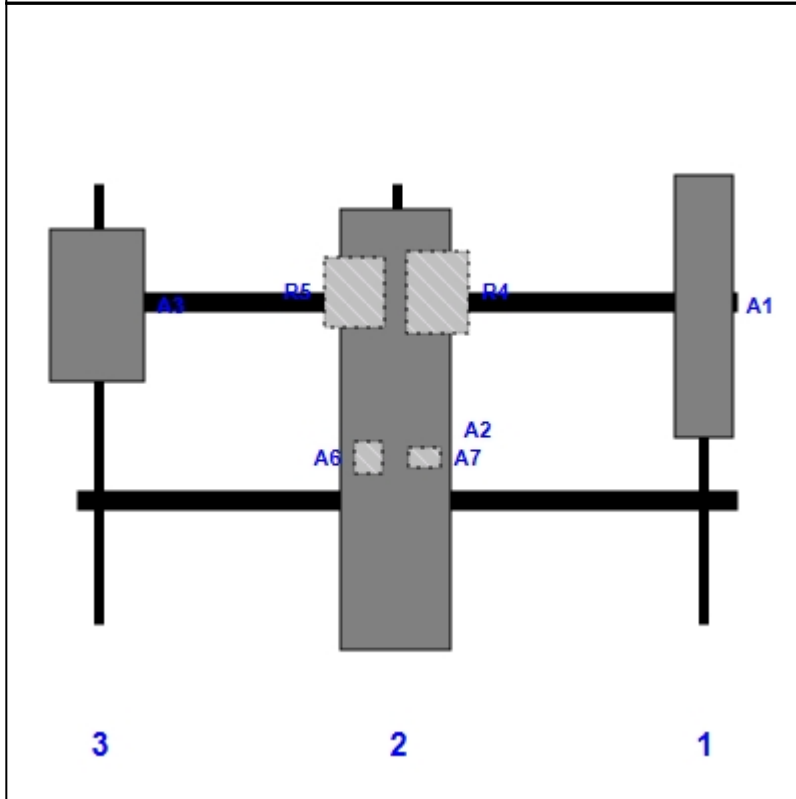
**Mount Elev: 152.00**

**Plan View**



**Front View**

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	137.00	1	a	Front	27.00			
A2	APXVAARR24_43-U-NA20	95.90	24.00	70.00	2	a	Front	54.00			
R4	4449 B71+B85	17.90	13.20	70.00	2	a	Behind	24.00	9.00		
R5	4415 B25	15.00	13.20	70.00	2	a	Behind	24.00	-9.00		
A6	KRY 112 144/1	6.90	6.10	70.00	2	a	Behind	60.00	-6.00		
A7	SDX1926Q-43	4.10	6.90	70.00	2	a	Behind	60.00	6.00		
A3	AIR6449 B41	33.10	20.50	5.00	3	a	Front	27.00			

Structure: CT04382-S-SBA - New Britain 2, CT

Sector: **B**

11/9/2020

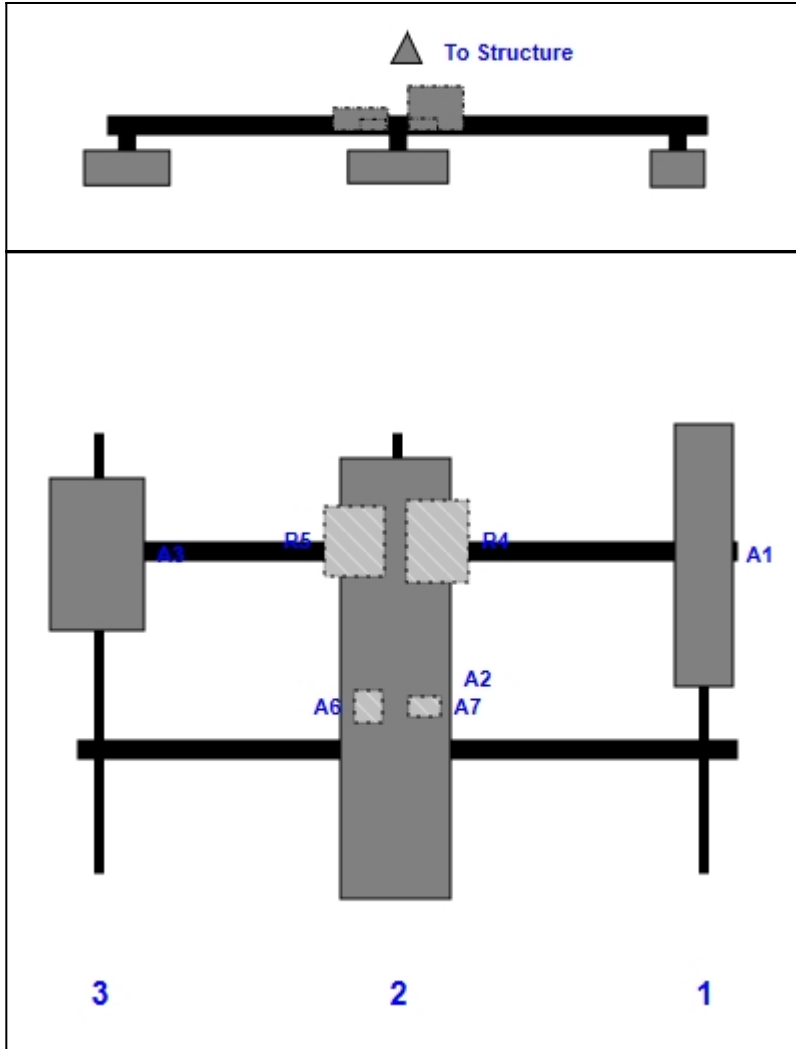


Structure Type: Self Support

Page: 2

Mount Elev: 152.00

Plan View



Front View

Looking Toward Structure

Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	137.00	1	a	Front	27.00			
A2	APXVAARR24_43-U-NA20	95.90	24.00	70.00	2	a	Front	54.00			
R4	4449 B71+B85	17.90	13.20	70.00	2	a	Behind	24.00	9.00		
R5	4415 B25	15.00	13.20	70.00	2	a	Behind	24.00	-9.00		
A6	KRY 112 144/1	6.90	6.10	70.00	2	a	Behind	60.00	-6.00		
A7	SDX1926Q-43	4.10	6.90	70.00	2	a	Behind	60.00	6.00		
A3	AIR6449 B41	33.10	20.50	5.00	3	a	Front	27.00			

**Structure: CT04382-S-SBA - New Britain 2, CT**

**Sector: C**

11/9/2020

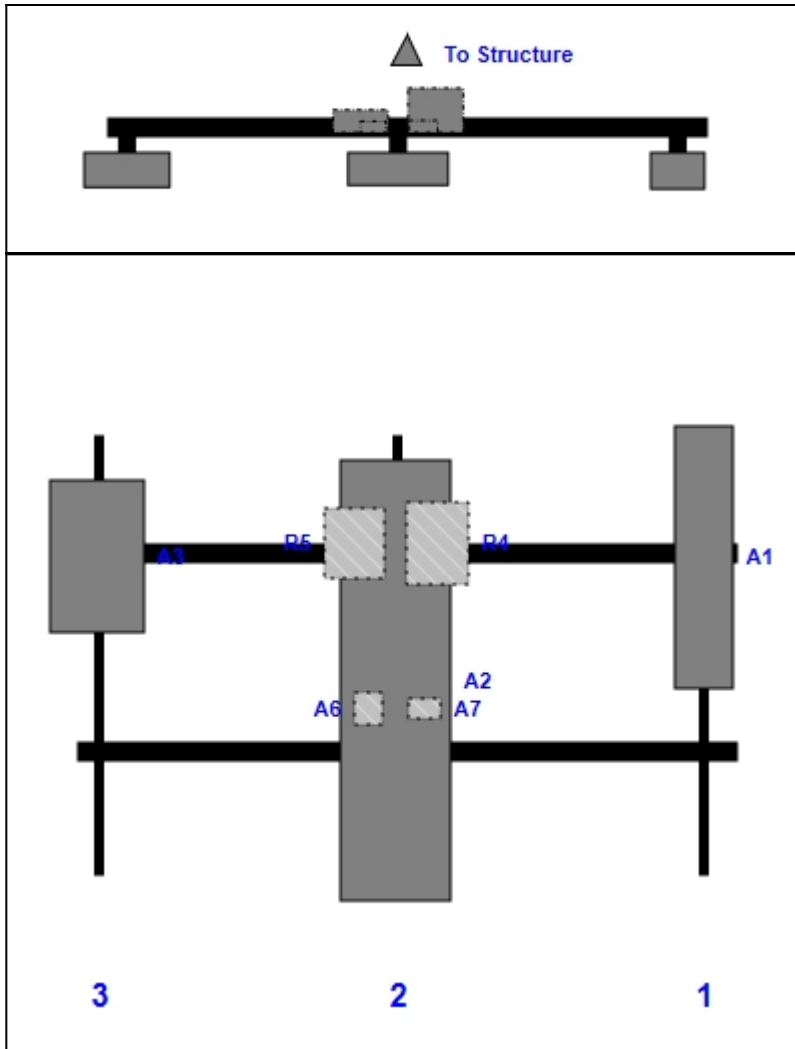


**Structure Type:** Self Support

Page: 3

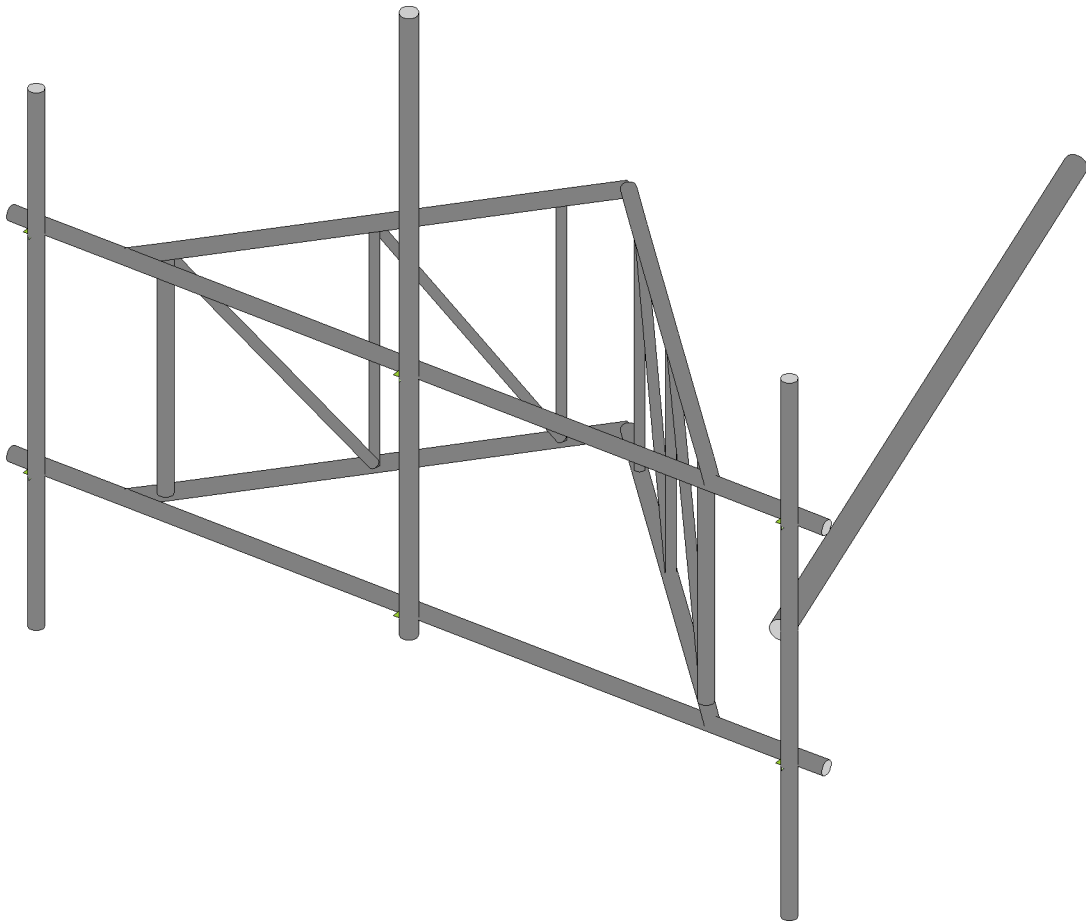
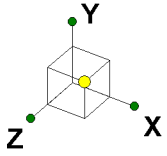
**Mount Elev:** 152.00

**Plan View**



**Front View**  
Looking Toward Structure

Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR32 KRD901146-1_B66A_B2A (Octo)	57.00	12.90	137.00	1	a	Front	27.00			
A2	APXVAARR24_43-U-NA20	95.90	24.00	70.00	2	a	Front	54.00			
R4	4449 B71+B85	17.90	13.20	70.00	2	a	Behind	24.00	9.00		
R5	4415 B25	15.00	13.20	70.00	2	a	Behind	24.00	-9.00		
A6	KRY 112 144/1	6.90	6.10	70.00	2	a	Behind	60.00	-6.00		
A7	SDX1926Q-43	4.10	6.90	70.00	2	a	Behind	60.00	6.00		
A3	AIR6449 B41	33.10	20.50	5.00	3	a	Front	27.00			



Tower Engineering Solutio...

CT04382-S-SBA\_MT\_LOT\_Loads Only\_Sector A\_G

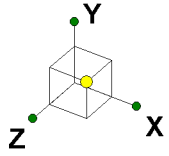
SK - 1

Nov 9, 2020 at 10:14 AM

TES Project No. 99208

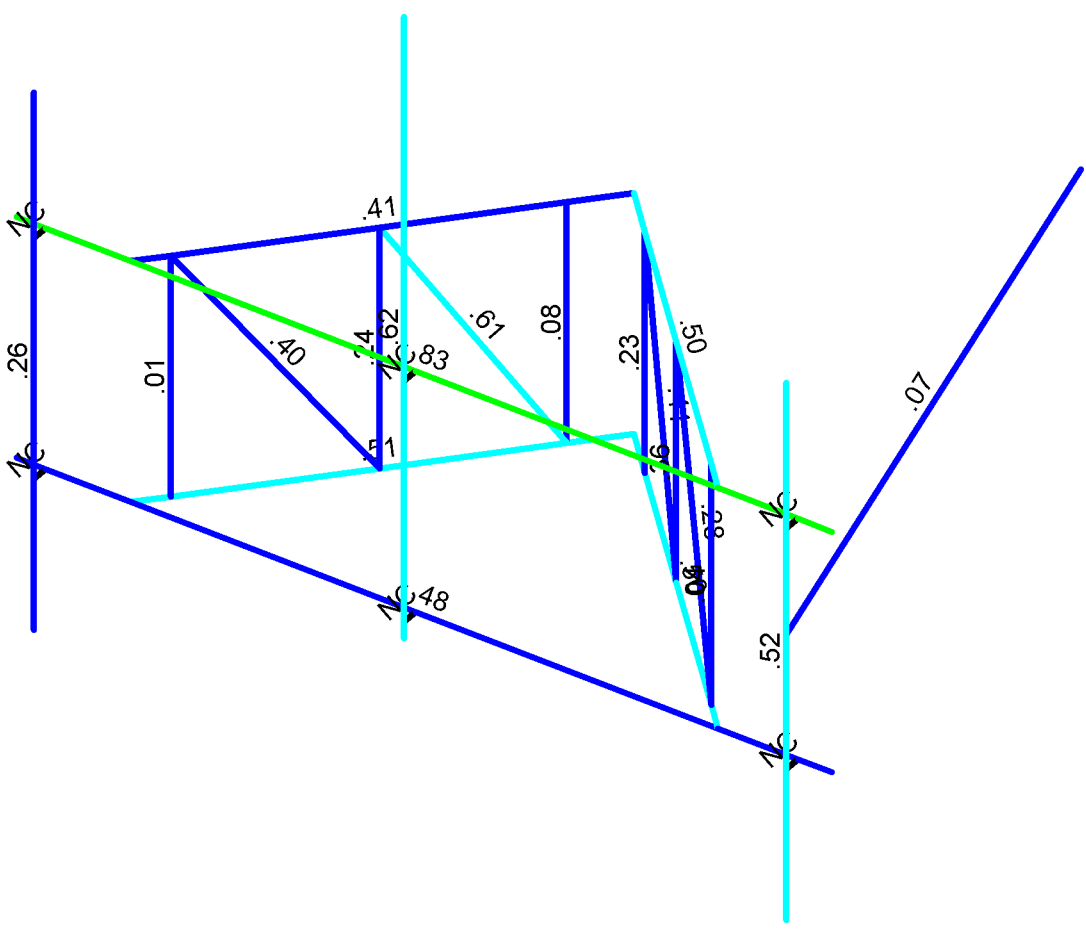
CT04382-S-SBA\_99208\_G\_RISA\_L...





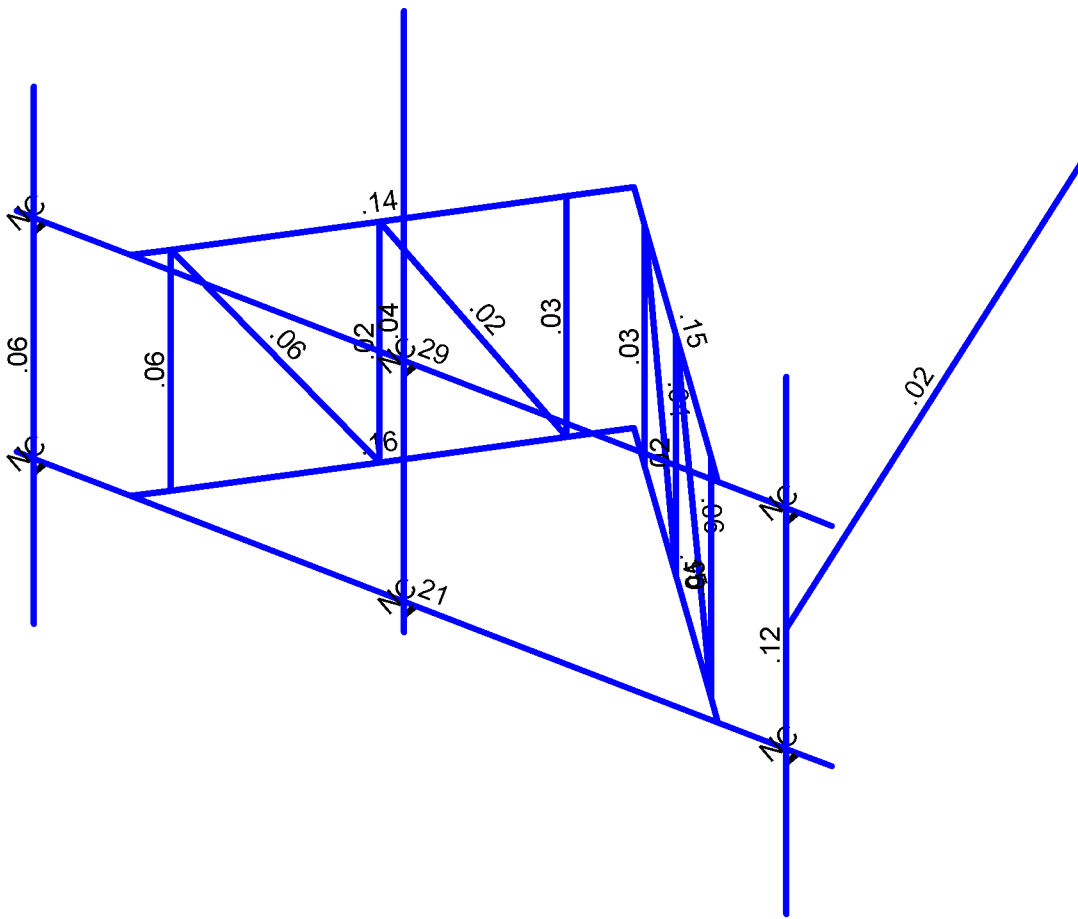
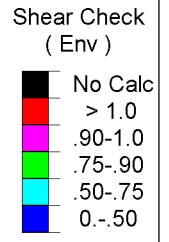
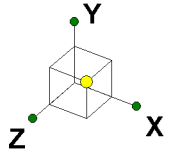
Code Check  
( Env )

Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Member Code Checks Displayed (Enveloped)  
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT04382-S-SBA_MT_LOT_Loads Only_Sector A_G	SK - 2
		Nov 9, 2020 at 10:22 AM
TES Project No. 99208		CT04382-S-SBA_99208_G_RISA_L...



Member Shear Checks Displayed (Enveloped)  
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT04382-S-SBA_MT_LOT_Loads Only_Sector A_G	SK - 3
TES Project No. 99208		Nov 9, 2020 at 10:23 AM
		CT04382-S-SBA_99208_G_RISA_L...



>c]bh7ccfX]bUhg'UbX'HYa dYUhi fYg'f' cb]bi YXL

	Šaa^	Y'Zca	Y'Zca	Z'Zca	V^  ]'ÁZa	Ö'ca&Gá[ ] { ÁOa] ÉE
FÍ	pFÍ	ÉÈIJJFÍ	HÈIHHH	IÉFÍHÍ	€	
FÌ	pFÌ	ÉÈIJJFÍ	€	IÉFÍHÍ	€	
FÌ	pFÌ	ÉÈIJJÍH	HÈIHHH	ÉÈÉGJG	€	
FÌ	pFÌ	ÉÈIJJÍH	€	ÉÈÉGJG	€	
FJ	pFJ	GÉIIFÍ	HÈIHHH	GÉFFÍFF	€	
GÉ	pGÉ	GÉIIFÍ	€	GÉFFÍFF	€	
GF	pGF	HÈIJJFÍ	HÈIHHH	IÉFÍHÍ	€	
GG	pGG	HÈIJJFÍ	€	IÉFÍHÍ	€	
GH	pUF	ÍÈIHHH	ÍÈI	IÈHHHH	€	
G	pUG	ÍÈIHHH	ÉG	IÈHHHH	€	
G	pUH	ÉÈG	J	IÈHHHH	€	
G	pUI	ÉÈG	ÉG	IÈHHHH	€	
G	pÚÍ	ÉÈIFÍÍ	ÍÈI	IÈHHHH	€	
G	pÚÍ	ÉÈIFÍÍ	ÉG	IÈHHHH	€	
GJ	pGJ	ÍÈIHHH	HÈIHHH	IÈIHHH	€	
HÉ	pHÉ	ÉÈG	HÈIHHH	IÈIHHH	€	
HF	pHF	ÉÈIFÍÍ	HÈIHHH	IÈIHHH	€	
HG	pHG	ÍÈIHHH	€	IÈIHHH	€	
HH	pHH	ÉÈG	€	IÈIHHH	€	
H	pH	ÉÈIFÍÍ	€	IÈIHHH	€	
H	pH	ÍÈIHHH	G	IÈHHHH	€	
H	pH	H	G	ÉÈI	€	
H	pH	ÍÈIHHH	HÈIHHH	IÈHHHH	€	
H	pH	ÉÈG	HÈIHHH	IÈHHHH	€	
HJ	pHJ	ÉÈIFÍÍ	HÈIHHH	IÈHHHH	€	
IÉ	pIÉ	ÍÈIHHH	€	IÈHHHH	€	
IF	pIF	ÉÈG	€	IÈHHHH	€	
IG	pIG	ÉÈIFÍÍ	€	IÈHHHH	€	

<chFc``YX'GhY'GYW]cb'GYlg

	Šaa^	Ú@^	V']^	Ö•ã} Áca	Tae]æ	Ö•ã} ÉE Gá Q'Á]á Q:Á]á RÁ]á
F	cccc	PUUFÍ	Óæ	p[ ]^	ÓI GÁIÉ	V']æ FJÈ IÉ IÉ FGE
G	Öæ [ ]æ	FÈUÓ	Óæ	Úá ^	ÓI HÁIÉ	V']æ ÉGH ÉÈI ÉÈI ÉÈI

7c`X': cfa YX'GhY'GYW]cb'GYlg

	Šaa^	Ú@^	V']^	Ö•ã} Áca	Tae]æ	Ö•ã} Á] ÉE Gá Q'Á]á Q:Á]á RÁ]á
F	Ø	I ÓW	Óæ	ÓW	ÓI ÉÁIÉH V']æ	IÉII FHÈI FÈI FÈI

5`i a ]bi a `GYW]cb'GYlg

	Šaa^	Ú@^	V']^	Ö•ã} Áca	Tae]æ	Ö•ã} Á] ÉE Gá Q'Á]á Q:Á]á RÁ]á
F	OŠFCE	ÓÉÓUFÍ	Óæ	ÓÁÓ	HÈÈPFI	V']æ FFÈ I IÉ I É FÈJ



**A Ya Vyf Dfja Ufm8 UUf7 cbhbi YXL**

	Šæ^	Ó{ }æ^	RãÁ c	SãÁ c	Ü[æ^ Q^* D Ú^&ç } ÉJGÉ	V{ }^	Ô•ã}^	Tæ^!æ	Ô•ã}^ ÁU{ }^
G	TG	PIF	PHH			ÜÖÖ	Ôæ	P{ }^	ÜÖÖ
G	TG	PH	PGJ			ÜÖÖ	Ôæ	P{ }^	ÜÖÖ
G	TG	PIE	PHG			ÜÖÖ	Ôæ	P{ }^	ÜÖÖ

**A Ya Vyf 5 Xj UbWX 8 UH**

	Šæ^	Ó{ }æ^	RãÁ c	Ü[æ^ Q^* D Ú^&ç } ÉJGÉ	RÁU~^çá á	VEÓÁU{ }^	Ú@•æç	Ô•ã}^ ÁU{ }^	Qæç^	Ú^&ç } ÉJGÉ
F	TF						ÿ^.			P{ }^
G	TG						ÿ^.			P{ }^
H	TH	Ó{ }æ					ÿ^.			P{ }^
I	TI	Ó{ }æ					ÿ^.			P{ }^
Í	TÍ	Ó{ }æ					ÿ^.			P{ }^
Î	TÎ	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
Ì	TÌ	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
J	TJ	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
F€	TF€	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FF	TF€	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FG	TFG	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FH	TFH	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FI	TFI	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FÍ	TÍ	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FÌ	TÌ	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
FË	TË						ÿ^.	Ë		P{ }^
FÌ	TÌ						ÿ^.	Ë		P{ }^
FJ	TJ						ÿ^.	Ë		P{ }^
G€	TG€	Ó{ }æ	Ó{ }æ				ÿ^.			P{ }^
GF	TGF						ÿ^.			P{ }^
GG	TGG						ÿ^.			P{ }^
GH	TGH						ÿ^.			P{ }^
G	TG						ÿ^.			P{ }^
G	TG						ÿ^.			P{ }^
G	TG						ÿ^.			P{ }^

**<chFc`YX`GhY` 8 Yg]] b`DUUa` Yhfg`**

	Šæ^	Ü[æ^ Q^* D Ú^&ç } ÉJGÉ	Š{ }* ççá	Šã^ çá	Šã:: çá	Š&{ } Á{ } çá	Š&{ } Á{ } çá	Š&{ } Á{ } çá	Šã^	S::	Òà	Ø{ }&ç }
F	TF	ÜÖÖ G€	FFÉFÍ				Šã^		F	F		Ó{ }æ
G	TG	ÜÖÖ G€	FFÉFÍ				Šã^		F	F		Ó{ }æ
H	TH	ÜÖÖ G€	ÍÉJ				Šã^		É	É		Šæ^!æ
I	TI	ÜÖÖ G€	ÍÉJ				Šã^		É	É		Ó{ }æ
Í	TÍ	ÜÖÖ G€	ÍÉJ				Šã^		É	É		Ó{ }æ
Î	TÎ	ÜÖÖ G€	ÍÉJ				Šã^		É	É		Ó{ }æ
Ì	TÌ	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
Ë	TË	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
J	TJ	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
F€	TF€	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
FF	TF€	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
FG	TFG	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
FH	TFH	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ
FI	TFI	ÜÖÖ G€	ÍÉJ				Šã^		F	F		Ó{ }æ













### 9bj YcdYA Ya Vyf'GYW]cb': cfWkg

	T ^ { a ^	U a	O r a ^ a	S O	^ A u a ^ a	S O	: A u a ^ a	S O	V   ^ ^ a ^ a	S O	^ E A [ { ^ )	Æ S O : E A [ { ^ )	Æ S O	
F	TF	F	{ æ €	FF	€	FF	€	FF	€	FF	€	FF	€	FF
G			{ a €	F	€	F	€	F	€	F	€	F	€	F
H		G	{ æ J F I E	G	I G E H	I	I G I E G	F	E H I	F	E I	G	E F	I
I			{ a E J E E H	F	E I E G F	H	E J E E I	G	E H G	G	E I I	F	E E H	G
J		H	{ æ J E I E I	G	I I E I H	I	I H E I	G	E F I	G	F E G H	F	E J I	I
I			{ a E I E E I I	F	E H I E J J	I	E I H E G H	F	E F I	F	E E I F	G	E G J	I
I		I	{ æ J E I E I	G	I I E I I	I	I I E E J G	G	E F I	G	E H I G	H	E I	I
I			{ a E I E E I I	F	E H E E F	I	E E E G I	F	E F I	F	E E F H	I	E I	I
J		I	{ æ €	FF	€	FF	€	FF	€	FF	€	FF	€	FF
F€			{ a €	F	€	F	€	F	€	F	€	F	€	F
FF	TG	F	{ æ €	FF	€	FF	€	FF	€	FF	€	FF	€	FF
FG			{ a €	F	E I €	J	€	F	€	F	€	F	€	F
FH		G	{ æ F G E G J	H	I E E I I	I	J H E I F	I	E I G	F	E I	F	E J I	J
FI			{ a E G E J H	I	I H E I G	H	E E G G	I	E F I	G	E E	G	E G	F
FÍ		H	{ æ F J F E I I	H	E F E E I	J	E I	H	E I	G	E G H	I	E E J I	J
Fî			{ a E H I E I I	I	E H E E G	I	E H E I I	I	E F I	F	E E H G	I	E I G	I
Fï		I	{ æ F J F E I I	H	E H E F I	J	E I	H	E I	G	E G H	H	E I	I
Fì			{ a E H I E I I	I	E H G E H	I	E H E I I	I	E F I	F	E E I	I	E F H	H
FJ		I	{ æ €	FF	€	FF	€	FF	€	FF	€	FF	€	FF
Q€			{ a €	F	€	F	€	F	€	F	€	F	€	F
QF	TH	F	{ æ I I I E I J	F	I G E J I	I	I I E J H	G	E J I	I	€	FF	€	FF
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**9bj YcdY55 `58A %\$\$. 5 G8 `!6i jXj|b' `5`i a jbi a `7cXY7\ YWg**

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# EXHIBIT 9

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

T-Mobile Existing Facility

Site ID: CT11351C

New Britain/Rt 72 Wooster  
1 Hartford Square Street  
New Britain, Connecticut 06052

**December 1, 2020**

**EBI Project Number: 6220006074**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>21.85%</b>

December 1, 2020

T-Mobile

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

Emissions Analysis for Site: CT11351C - New Britain/Rt 72 Wooster

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1 Hartford Square Street in New Britain, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

## **CALCULATIONS**

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 1 Hartford Square Street in New Britain, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 9) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 10) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 11) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antennas used in this modeling are the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector A, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector B, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative

estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 13) The antenna mounting height centerline of the proposed antennas is 152 feet above ground level (AGL).
- 14) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 15) All calculations were done with respect to uncontrolled / general population threshold limits.

## T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A1 MPE %:	2.00%	Antenna B1 MPE %:	2.00%	Antenna C1 MPE %:	2.00%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	11,055.53	ERP (W):	11,055.53	ERP (W):	11,055.53
Antenna A2 MPE %:	2.60%	Antenna B2 MPE %:	2.60%	Antenna C2 MPE %:	2.60%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	38,477.89	ERP (W):	38,477.89	ERP (W):	38,477.89
Antenna A3 MPE %:	5.99%	Antenna B3 MPE %:	5.99%	Antenna C3 MPE %:	5.99%



Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	10.58%
Sprint	1.67%
Clearwire	0.07%
Metro PCS	0.79%
Verizon	3.69%
AT&T	5.05%
<b>Site Total MPE % :</b>	<b>21.85%</b>

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	10.58%
T-Mobile Sector B Total:	10.58%
T-Mobile Sector C Total:	10.58%
Site Total MPE % :	21.85%

### T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	152.0	6.40	1900 MHz GSM	1000	0.64%
T-Mobile 1900 MHz LTE	2	2056.61	152.0	6.40	1900 MHz LTE	1000	0.64%
T-Mobile 2100 MHz LTE	2	2307.55	152.0	7.18	2100 MHz LTE	1000	0.72%
T-Mobile 600 MHz LTE	2	591.73	152.0	1.84	600 MHz LTE	400	0.46%
T-Mobile 600 MHz NR	1	1577.94	152.0	2.46	600 MHz NR	400	0.61%
T-Mobile 700 MHz LTE	2	648.82	152.0	2.02	700 MHz LTE	467	0.43%
T-Mobile 1900 MHz LTE	2	2203.69	152.0	6.86	1900 MHz LTE	1000	0.69%
T-Mobile 2100 MHz UMTS	2	1294.56	152.0	4.03	2100 MHz UMTS	1000	0.40%
T-Mobile 2500 MHz LTE	1	19238.94	152.0	29.94	2500 MHz LTE	1000	2.99%
T-Mobile 2500 MHz NR	1	19238.94	152.0	29.94	2500 MHz NR	1000	2.99%
						<b>Total:</b>	<b>10.58%</b>

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

## Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	10.58%
Sector B:	10.58%
Sector C:	10.58%
T-Mobile Maximum MPE % (Sector A):	10.58%
Site Total:	21.85%
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **21.85%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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