



Filed by:

G. Scott Shepherd, Site Development Specialist II - SBA Communications  
134 Flanders Rd., Suite 125, Westborough, MA 01581  
508.251.0720 x 3807 - gshepherd@sbsite.com

March 2, 2021

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

**RE: Notice of Exempt Modification**  
**1021 Blue Hills Ave., Bloomfield, CT 06002**  
**Latitude: 41.820119**  
**Longitude: -72.696514**  
**T-Mobile Site #: CT11162B\_Anchor**

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 125-foot level of the existing 125-foot Self-Supporting Tower at 1021 Blue Hills Ave., Bloomfield, CT. The 125-foot tower is owned by SBA Properties, LLC. The property is owned by The Blue Hills Fire District, Bloomfield, CT. T-Mobile now intends to remove three (3) 1900/2100 MHz antennas and replace with three (3) new 2500 MHz antennas.

The new antennas support 5G services and would be installed at the 125-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 B2A B4P (1900/2100 MHz) antenna (remove) – (3) Ericsson AIR6449 B41 (2500 MHz) antenna (replace)

Install New:

- (1) 1-5/8" Hybrid/Fiber
- (3) Ericsson 4415 B25 RRUs
- (1) Modified Platform (MS-HR2875-33ECP)

Existing Equipment to Remain:

- (3) RFS APXVAARR24\_43-U-NA20 (600/700/1900/2100 MHz) antenna
- (3) Ericsson AIR32 KRD901146-1\_B66 (1900/2100 MHz) antenna
- (3) Ericsson KRY 112 144/2 TMAs
- (3) Ericsson Radio 4449 B71+B85 RRU
- (2) 1-5/8" Hybrid/fiber
- (6) 1-5/8" coax
- (1) 1-1/4" fiber
- Platform w/ Handrails w/ (3) PRK-FMA Reinforcement Kit

Entitlements:

- (5) 1-5/8" coax

GROUND

Install New:

- (1) Ericsson 6160 Equipment cabinet to existing concrete pad
- (1) Ericsson B160 Battery Cabinet to existing concrete pad

Existing Equipment to Remain:

- (1) Existing equipment cabinet
- (1) GPS antenna

Remove and Replace:

- N/A

This facility was approved with Special Permit by the Board of Appeals of the Town of Bloomfield on December 1, 1997. The tower was to be located 12 feet from the property line at 1021 Blue Hills Ave with an 8' chain link fence placed around the tower. (No CSC original approval). 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 Town of Bloomfield's Town Manager, Philip Schenck, the Zoning Enforcement Officer, Michael Kosilla and the Property Owner, Blue Hills Fire Dept. Chief William Lewis. (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 II  
SBA COMMUNICATIONS CORPORATION  
134 Flanders Rd., Suite 125  
Westborough, MA 01581

508.251.0720 x3807 + T  
508.366.2610 + F  
5083868.6000 + C  
gshepherd@sbsite.com

Attachments

cc: Philip Schenck, Town Manager / with attachments  
*Town of Bloomfield, 800 Bloomfield Ave., Bloomfield, CT 06002*  
Michael Kosilla, Zoning Enforcement Officer / with attachments  
*Town of Bloomfield, 800 Bloomfield Ave., Bloomfield, CT 06002*  
*William Lewis, Fire Marshal, 1021 Blue Hills Ave., Bloomfield, CT 06002*

**EXHIBIT LIST**

Exhibit 1	Check Copy	To be invoiced at a later date per Covid guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Town of Bloomfield Zoning Board of Appeals Dec. 1, 1997
Exhibit 6	Construction Drawings	Chappell Engineering 2/26/21
Exhibit 7	Structural Analysis	TES 2/1/21
Exhibit 8	Mount Mod Drawings	TES 1/29/21 Job# 101515
Exhibit 9	Post-Mod Mount Analysis	TES 1/22/21
Exhibit 9	EME Report	EBI Consulting 2/18/21

## EXHIBIT 1

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

# EXHIBIT 2

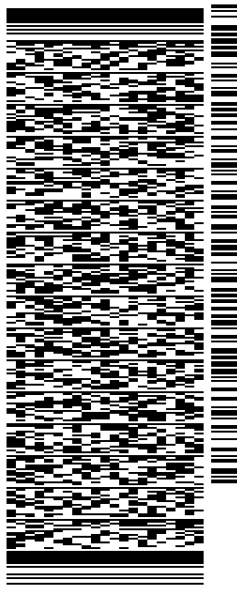
ORIGIN ID:BBFA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 02MAR21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4340  
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. PO. DEPT:

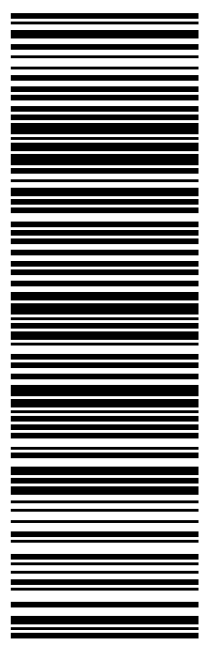


TRK# 0201 7730 4321 3573

WED - 03 MAR 10:30A  
PRIORITY OVERNIGHT

EB BDLA

06051  
CT-US BDL



56DJ3/AC39/FE4A

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

ORIGIN ID:BBFA (508) 614-0389 RICK WOODS SBA COMMUNICATIONS CORPORATION 134 FLANDERS RD SUITE 125 WESTBOROUGH, MA 01581 UNITED STATES US	SHIP DATE: 02MAR21 ACTWGT: 1.00 LB CAD: 105843304/NET14340 BILL SENDER
TO TOWN MANAGER TOWN OF BLOOMFIELD PHILIP SCHENCK 800 BLOOMFIELD AVE. BLOOMFIELD CT 06002 (508) 251-0720 X 3807 INV# PO: DEPT:	REF: 105692009-6089

56DJ3/AC39/FE4A

TRK# 7730 4325 4757  
0201

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EB EHTA  
06002  
CT:US BDL




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SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 02MAR21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4340

BILL SENDER

TO ZONE ENFORCEMENT OFFICER

TOWN OF BLOOMFIELD

MICHAEL KOSILLA

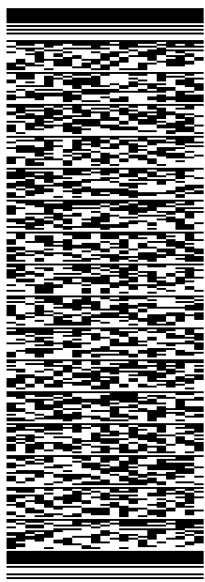
800 BLOOMFIELD AVE.

BLOOMFIELD CT 06002

(508) 251-0720 X 3807 REF: 105692009-6089

PO:

DEPT:



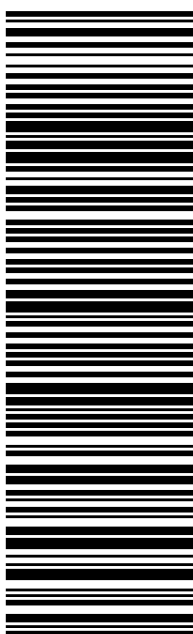
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TRK# 7730 4328 4988  
0201

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PRIORITY OVERNIGHT

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06002  
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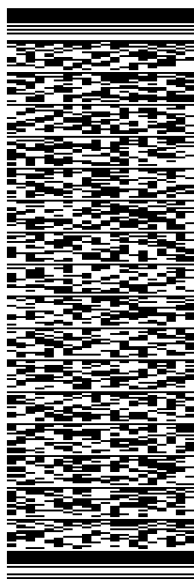
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ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 02MAR21  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4340  
BILL SENDER

TO FIRE MARSHAL  
TOWN OF BLOOMFIELD  
WILLIAM LEWIS  
1021 BLUE HILLS AVE.  
BLOOMFIELD CT 06002  
(508) 251-0720 X 3807 REF: 105692009-6089  
INV# DEPT:  
PO:

56DJ3/AC39/FE4A

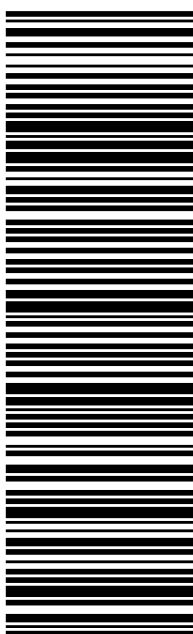


TRK# 7730 4332 8627  
0201

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06002  
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# EXHIBIT 3



Property Information

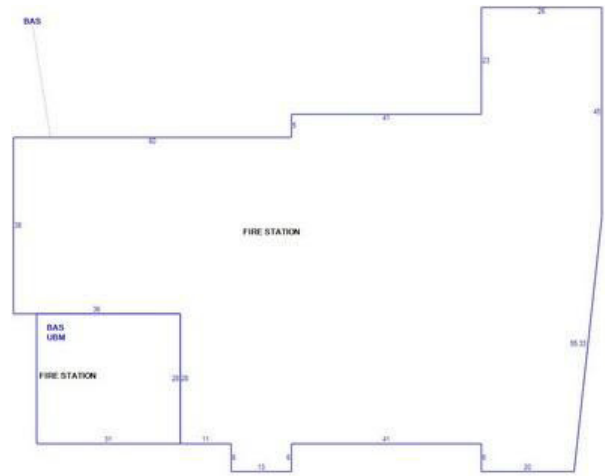
Property Location	1021 BLUE HILLS AVE
Owner	BLUE HILLS FIRE DIST
Co-Owner	BLUE HILLS AVE COR
Mailing Address	ROCKWELL AVENUE BLOOMFIELD CT 06002
Land Use	922 Mun Bldg Com
Land Class	E
Zoning Code	GWB
Census Tract	4712

Site Index	C
Acreage	1.23
Utilities	
Lot Setting/Desc	
Fire District	B
Book / Page	0091/0376

Photo



Sketch



Primary Construction Details

Year Built	1962
Building Desc.	Commercial
Building Style	Fire Station
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Brick Veneer
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Arch Shingles
Interior Walls	Drywall
Interior Walls 2	Minimum
Interior Floors 1	Vinyl/Asphalt
Interior Floors 2	Concrete

Heating Fuel	Gas
Heating Type	Hot Water
AC Type	42
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Bsmt Fin Area	0
Rec Rm Area	0
Bsmt Gar	0
Fireplaces	0

(\*Industrial / Commercial Details)

Building Use	Commercial
Building Condition	G
Sprinkler %	100
Heat / AC	HEAT/AC SPLIT
Frame Type	Masonry
Baths / Plumbing	Average
Ceiling / Wall	Sus Ceil & Wal
Rooms / Prtns	Average
Wall Height	12.00
First Floor Use	
Foundation	NA

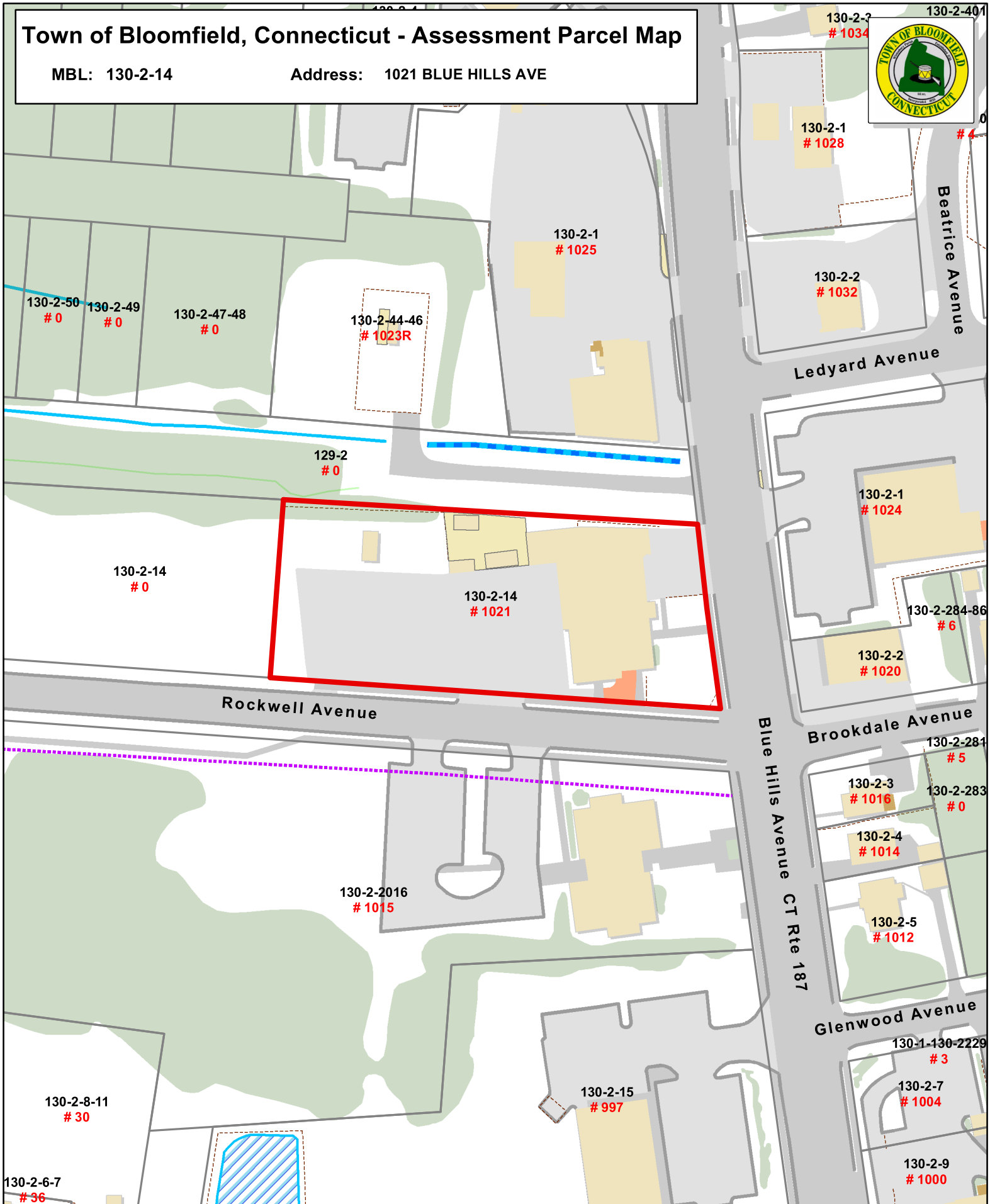


# EXHIBIT 4

# Town of Bloomfield, Connecticut - Assessment Parcel Map

MBL: 130-2-14

Address: 1021 BLUE HILLS AVE



Approximate Scale:  
1 inch = 100 feet

Disclaimer:  
This map is for informational purposes only.  
All information is subject to verification by any user.  
The Town of Bloomfield and its mapping contractors  
assume no legal responsibility for the information contained herein.

Map Produced October 2019  
Parcels labeled by Unique ID

# EXHIBIT 5



ZONING BOARD OF APPEALS

TOWN OF BLOOMFIELD

LOCATION: 1021 Blue Hills Avenue  
Please type or print

OWNER OF RECORD: Blue Hills Fire District

The foregoing application for 14 Variance; 14 Special Exception pursuant to Section IV.S.4b/III-P of the Bloomfield Zoning Regulations, pertains to premises bounded and described as follows:  
(Type or attach written legal boundary description)

(See Attached Description)

Notary: [Signature]  
MARK LECAULT  
MY COMMISSION EXPIRES: 11/30/2001

December 1, 1997  
Date

[Signature] CHIEF  
Signature of Owner of Record

PLEASE NOTE REQUIREMENTS BELOW FOR RECORDING APPROVAL ON LAND RECORDS

To be completed by Zoning Board of Appeals following approval:

I hereby certify that the Zoning Board of Appeals, at a meeting held on December 1, 1997, approved XX Variance and XXX Special Exception of Cordless Data Transfer, Inc. for a radio tower in the gateway zone,

to be located 12 feet from the property line, 1021 Blue Hills Ave., (Fire Dept.)

at the above premises, pursuant to Section IV.S.4.b III-P of the Bloomfield Zoning Regulations, subject to the following conditions (if any):

An 8-foot chain link fence shall be placed around the tower

Woodrow Dixon  
Woodrow Dixon  
Secretary - ZBA

\* NOTE: PURSUANT TO SECTION 8-3d OF THE CONN. GENERAL STATUTES, THIS VARIANCE/SPECIAL EXCEPTION WILL NOT BECOME EFFECTIVE UNTIL IT HAS BEEN RECORDED ON THE LAND RECORDS OF THE TOWN OF BLOOMFIELD. IT IS THE RESPONSIBILITY OF THE OWNER TO RECORD THIS FORM AND PAY THE RECORDING FEE. (\$10.00 FOR THE FIRST PAGE, \$5.00 EACH ADDITIONAL PAGE)

\* NO BUILDING PERMITS REQUIRED IN CONNECTION WITH THE ABOVE VARIANCE OR SPECIAL EXCEPTION MAY BE ISSUED UNTIL THIS APPROVAL HAS BEEN RECORDED.

# EXHIBIT 6



**SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):**  
**GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT**  
**THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL**  
**ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).**

# BLUE HILLS/JN OF RT-187 1

## 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
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

## GENERAL NOTES

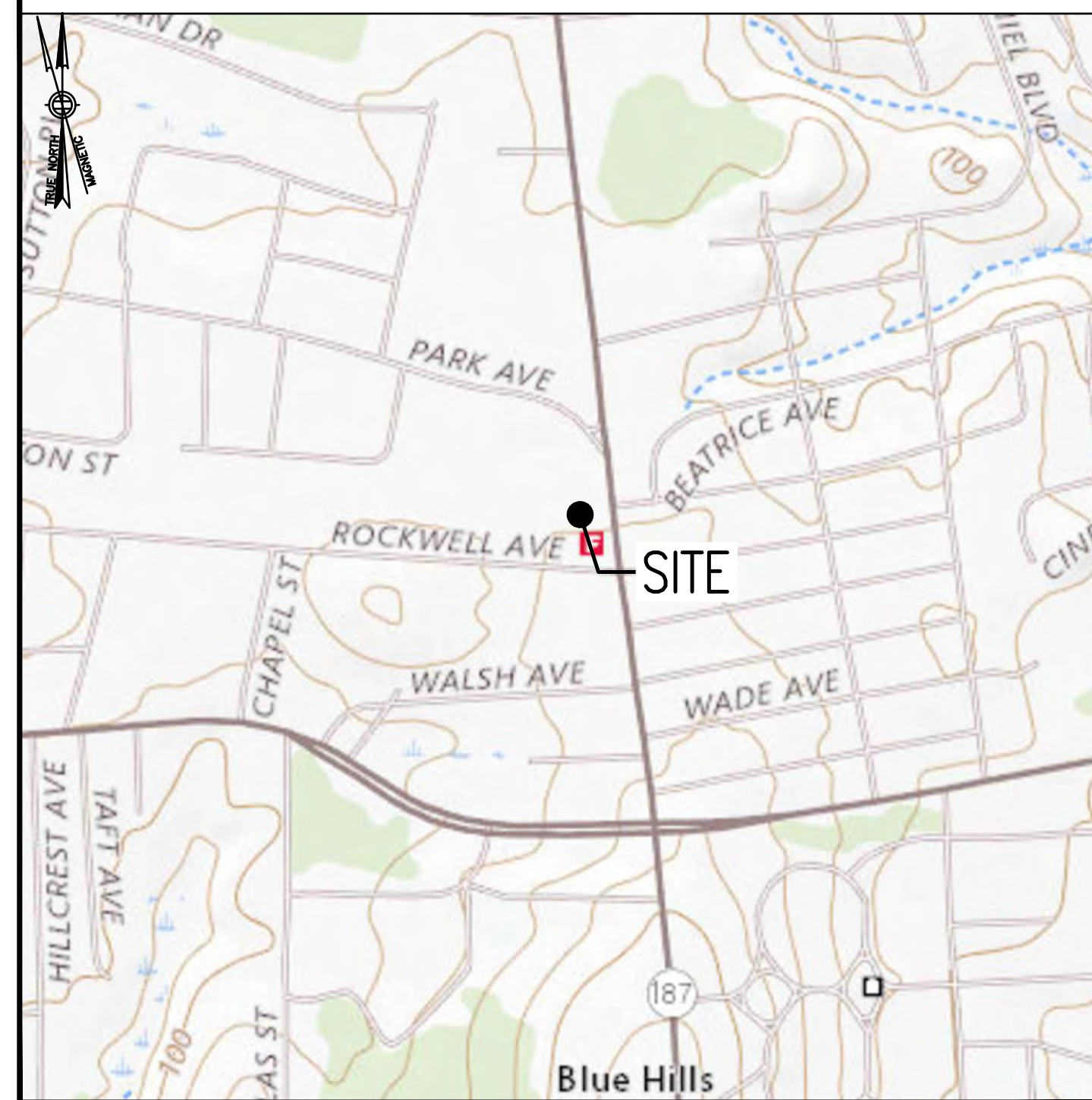
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND 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.
- 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.
- 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.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- 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.
- 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.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- 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.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- 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.

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



## VICINITY MAP:

1"=1000'



## DIRECTIONS

FROM COMMERCE WAY TRAVELING NE TOWARDS N BOUNDARY RD/S WASHINGTON ST, CONTINUE ONTO S. WASHINGTON ST TO TAKE A RIGHT ONTO MA-123 E, TURN LEFT TO MERGE ONTO I-495 N TOWARD MANSFIELD, MARLBORO, FOLLOW I-495 N, USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD HARTFORD CT/NEW YORK CITY, CONTINUE ONTO I-84, ENTERING CT, TAKE EXIT 61 FOR I-291 W TOWARD WINDSOR, CONTINUE ONTO I-291 W, TAKE EXIT 1 FOR CT-218 TOWARD BLOOMFIELD, CONTINUE ON CT-218 W, USE ANY LANE TO TURN LEFT ONTO CT-218 W, TURN RIGHT ONTO CT-187 N/BLOUE HILLS AVE, TURN LEFT ONTO ROCKWELL AVE, TURN RIGHT, DESTINATION WILL BE ON THE RIGHT.

1021 BLUE HILLS AVENUE  
 BLOMMFIELD, CT 06002

SITE NO.: CT11162B

RF DESIGN GUIDELINE: 67D5A997DB OUTDOOR

## SITE NOTES

- 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.
  - ADA COMPLIANCE NOT REQUIRED.
  - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
  - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- 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.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
  - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
  - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
  - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

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## 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.

## PROJECT SUMMARY

SITE NUMBER:	CT11162B
SITE NAME:	BLUE HILLS/JN OF RT-187 1
SBA SITE NUMBER:	CT01725-A
SBA SITE NAME:	BLOOMFIELD
SITE ADDRESS:	1021 BLUE HILLS AVENUE BLOMMFIELD, CT 06002
ASSESSOR'S PARCEL NO.:	MAP-130-2 BLOC-14 LOT-CELL
ZONING DISTRICT:	GATEWAY DISTRICT (GDW)
CONSTRUCTION TYPE:	ANCHOR UPGRADE
LAND OWNER:	SBA TOWERS II LLC 5900 BROKEN SOUND PARKWAY NW BOCA RATON, FL 33487-0000
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
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: 41.82012600° N41'49'12.45" LONGITUDE: -72.69648900° W72'41'47.36"

## SPECIAL ZONING NOTE:

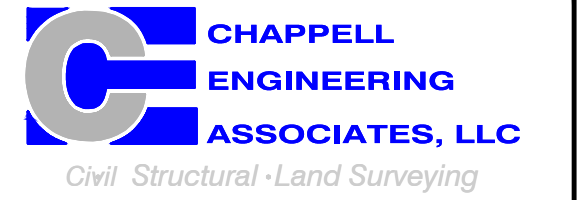
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE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

..T-Mobile..

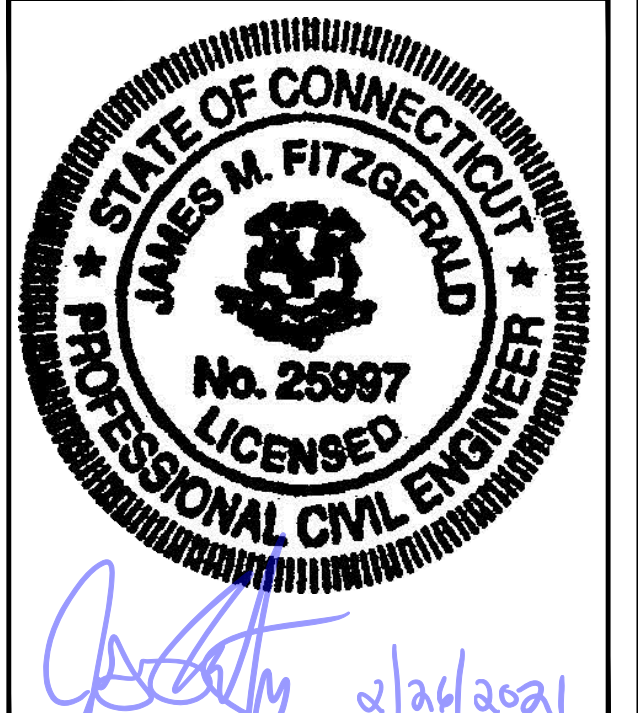
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APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	02/26/21	ISSUED FOR CONSTRUCTION	BJJ
0	02/12/21	ISSUED FOR REVIEW	BJJ

SITE NUMBER:  
**CT11162B**  
 SITE ADDRESS:  
 1021 BLUE HILLS AVENUE  
 BLOOMFIELD, CT 06002

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.
- EQUIPMENT 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, UNO.
- 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 (BC1905.6.2.3) 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 NOT 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:**

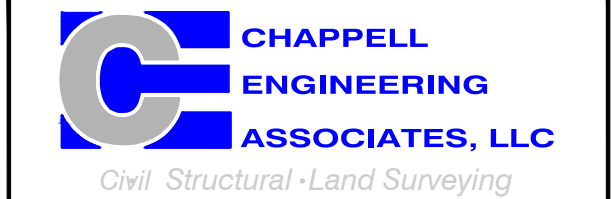
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- 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, ½ 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 LAMACOD 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 LAMACOD 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 (#8 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 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.



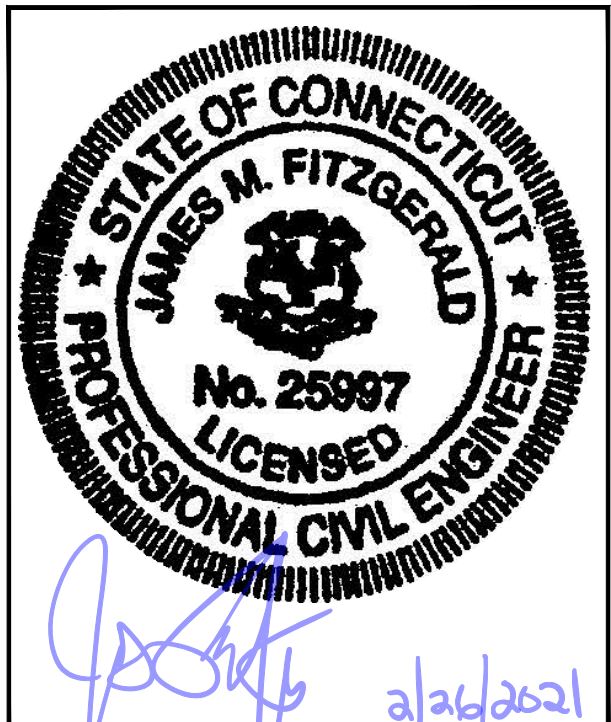
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CHECKED BY: *JMT* JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
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0	02/12/21	ISSUED FOR REVIEW	BJJ

SITE NUMBER:  
**CT11162B**

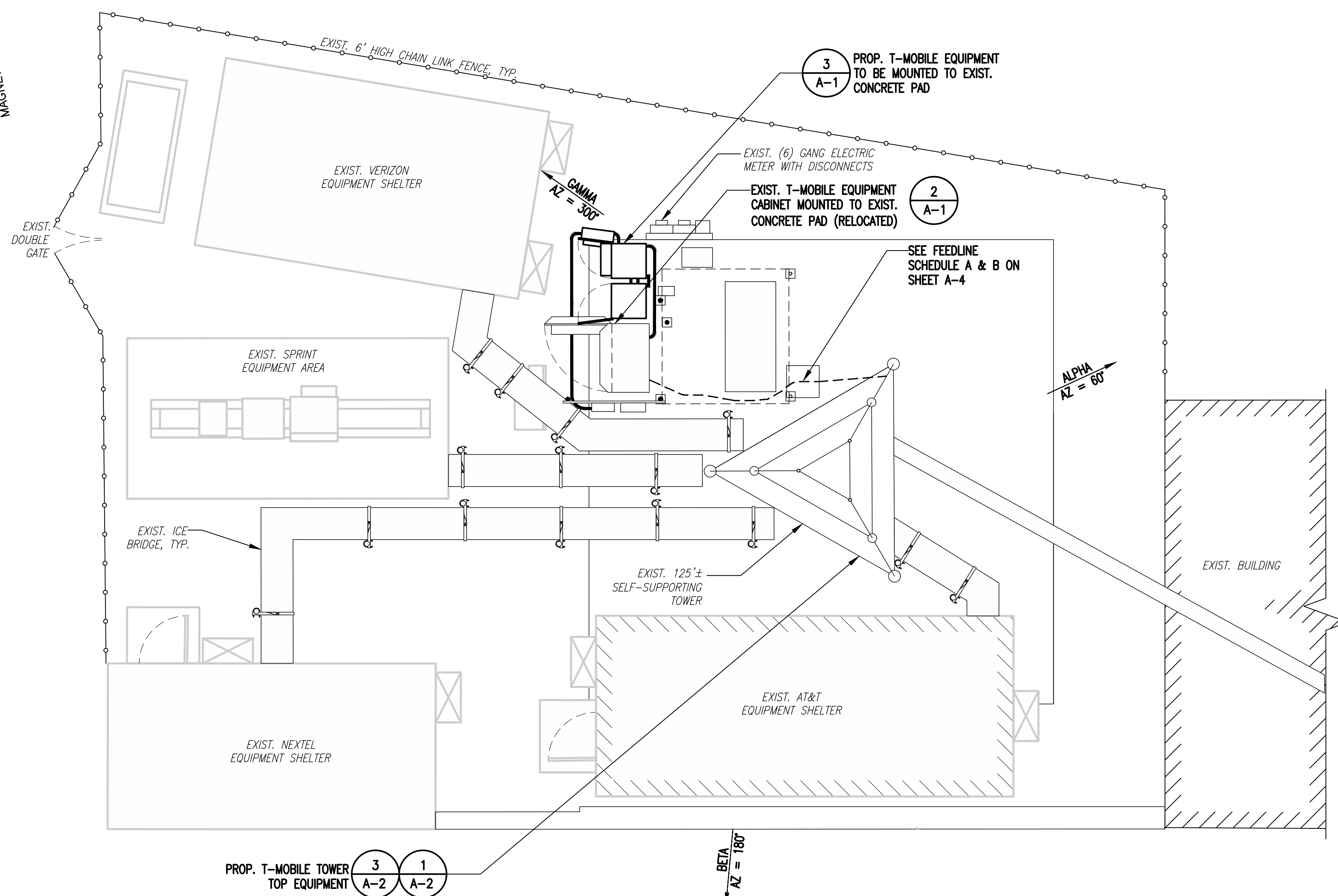
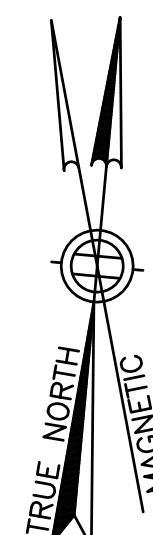
SITE ADDRESS:  
1021 BLUE HILLS AVENUE  
BLOOMFIELD, CT 06002

SHEET TITLE  
**GENERAL NOTES**

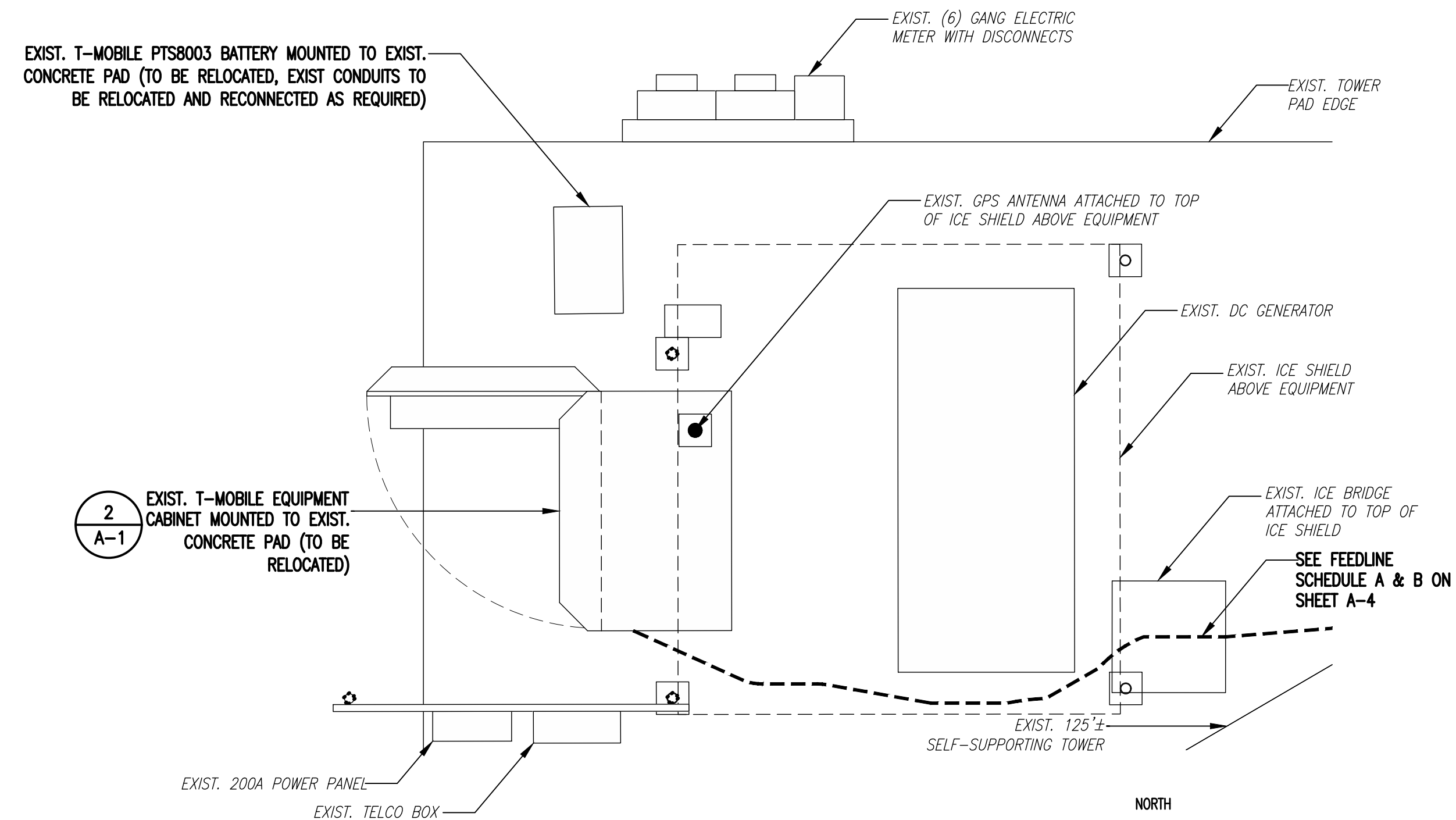
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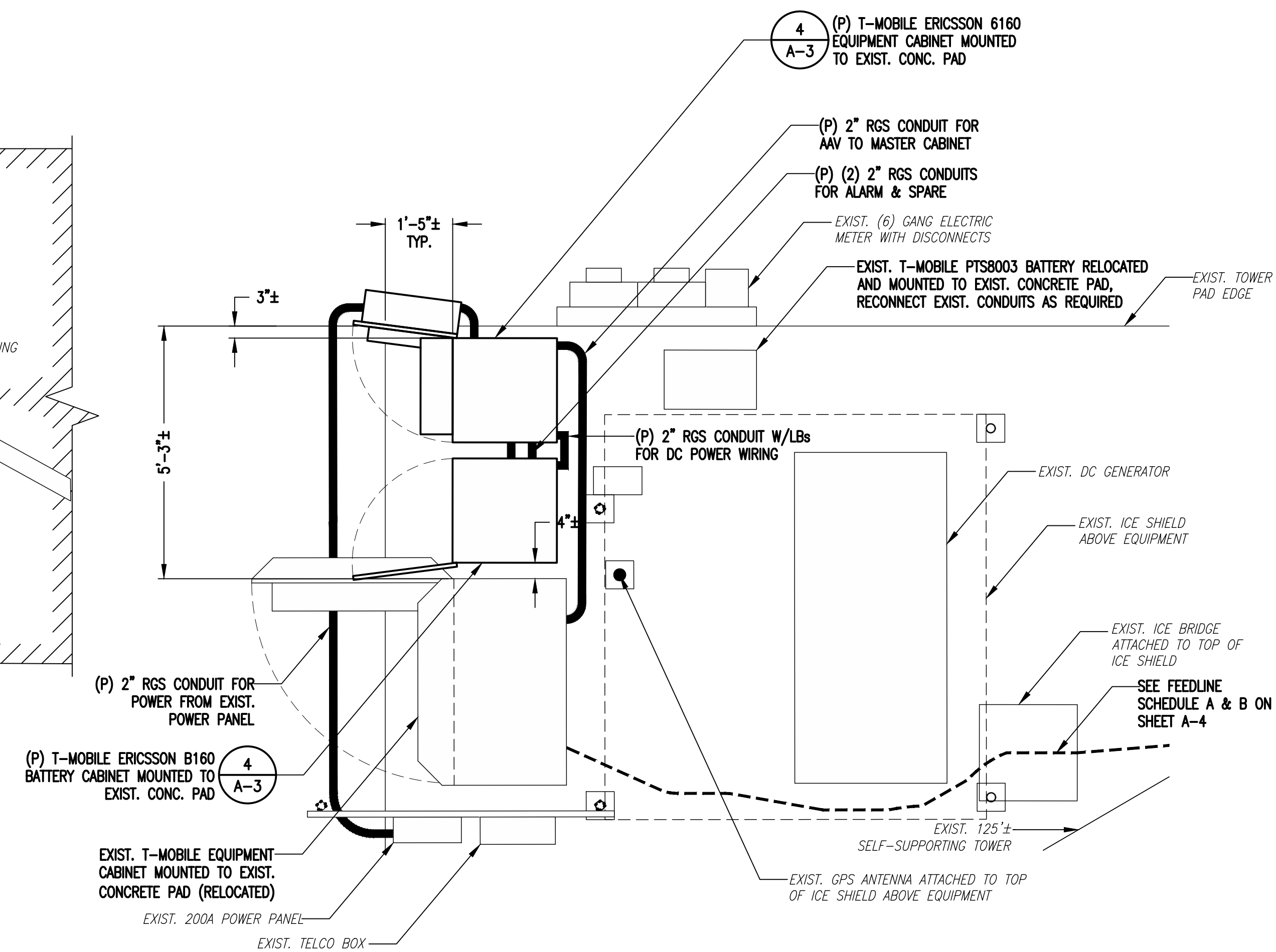
**SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):**  
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER  
 RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS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



**COMPOUND PLAN**  
 SCALE: 1" = 5'-0"  
 0 2.5' 5' 10' 15'



**EXISTING EQUIPMENT PLAN**  
 SCALE: 1" = 2'-0"  
 0 1' 2' 4' 6'



**PROPOSED EQUIPMENT PLAN**  
 SCALE: 1" = 2'-0"  
 0 1' 2' 4' 6'

**T-Mobile**  
 T-MOBILE NORTHEAST LLC  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700

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

**CHAPPELL ENGINEERING ASSOCIATES, LLC**  
 Civil Structural/Land Surveying  
 R.K. EXECUTIVE CENTRE  
 201 BOSTON POST ROAD WEST, SUITE 101  
 MARLBOROUGH, MA 01752  
 (508) 481-7400  
 www.chappellengineering.com

STATE OF CONNECTICUT  
 JAMES M. FITZGERALD  
 No. 25897  
 LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT  
 APPROVED BY: JMT

**SUBMITTALS**

REV.	DATE	DESCRIPTION	BY
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0	02/12/21	ISSUED FOR REVIEW	BDJ

SITE NUMBER:  
**CT11162B**  
 SITE ADDRESS:  
 1021 BLUE HILLS AVENUE  
 BLOOMFIELD, CT 06002

SHEET TITLE  
**COMPOUND PLAN & EQUIPMENT PLANS**

SHEET NUMBER  
**A-1**

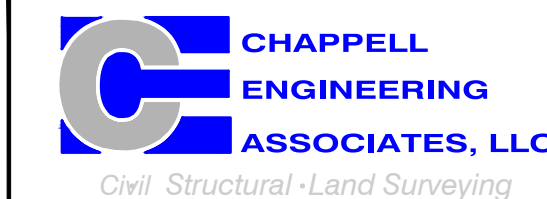




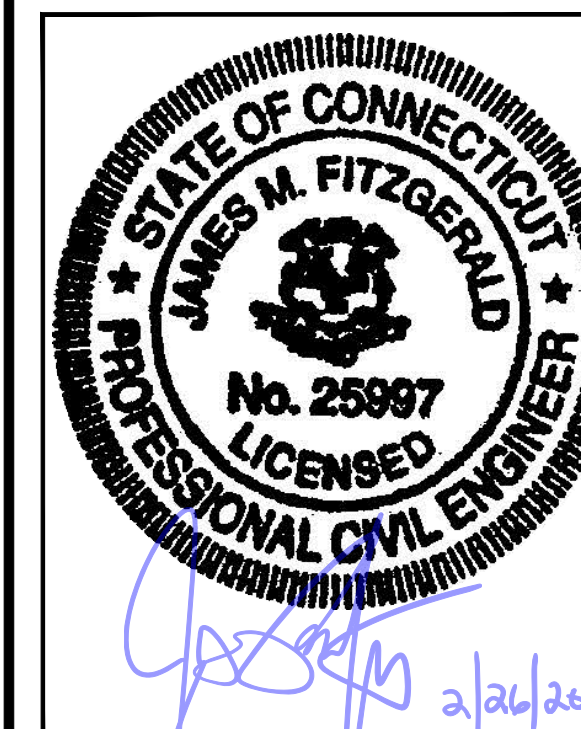




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CT11162B

SITE ADDRESS:

1021 BLUE HILLS AVENUE  
BLOOMFIELD, CT 06002

SHEET TITLE

SITE DETAILS

SHEET NUMBER

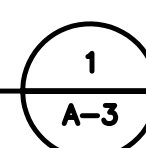
A-3



ERICSSON RRUS 4415 B26  
DIMENSIONS: 16.5"H x 13.4"W x 5.9"D  
WEIGHT: 46 LBS  
1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

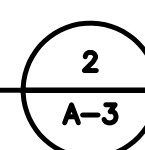
SCALE: N.T.S.



COMMSCOPE DIPLEXER SDX19260 / E14F05P86  
DIMENSIONS: 4.173"H x 6.929"W x 2.913"D  
WEIGHT: 6.173 LBS  
1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

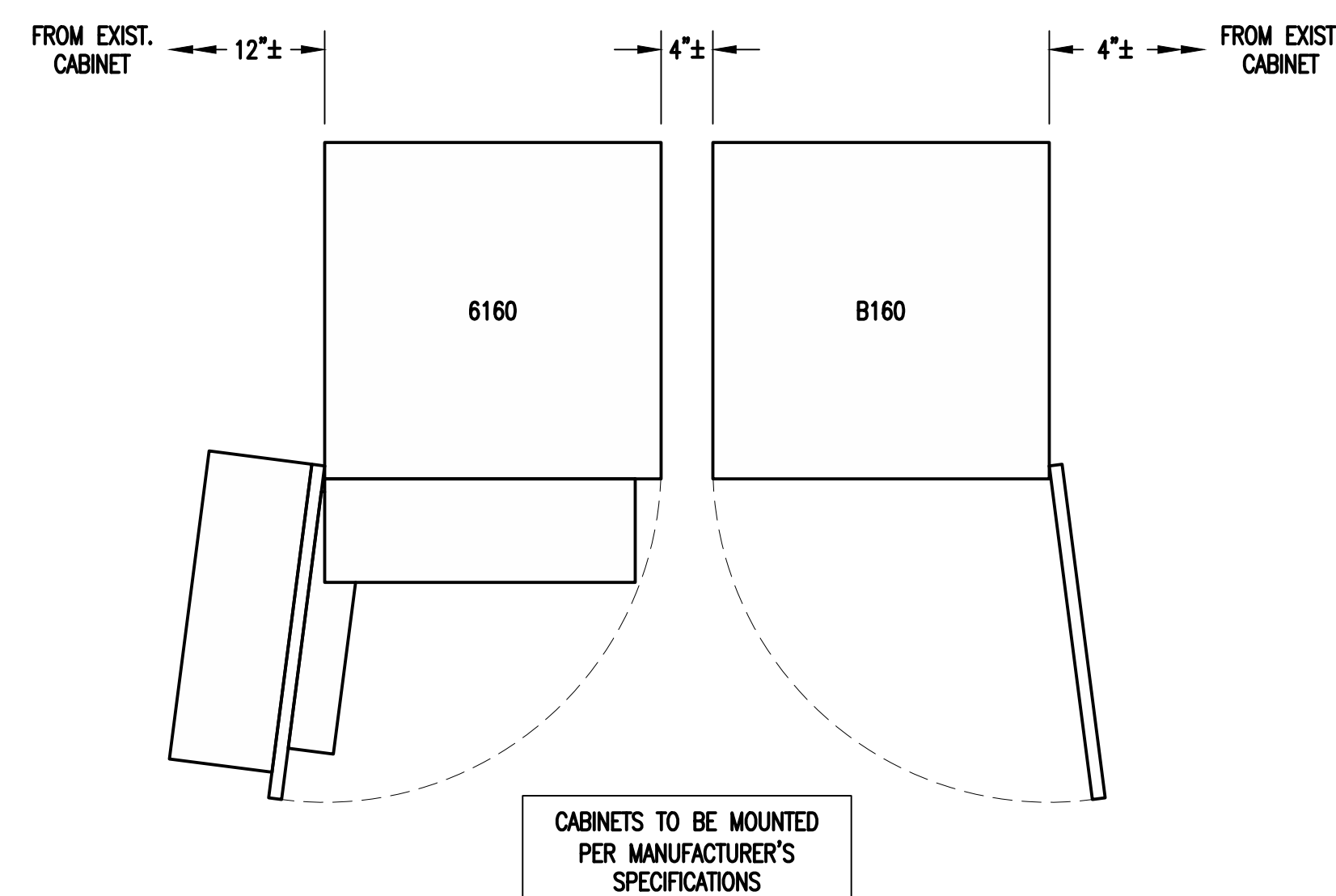
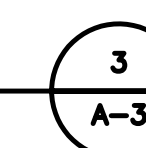
SCALE: N.T.S.



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

ANTENNA DETAILS

SCALE: N.T.S.



ERICSSON 6161 SITE SUPPORT CABINET

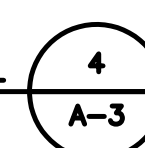
DIMENSIONS: 63.25"H x 26.0W x 34.0"D  
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET

DIMENSIONS: 63.25"H x 26.0W x 26.0"D  
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL

SCALE: N.T.S.



**FINAL ANTENNA CONFIGURATION**

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 ERICSSON M-MIMO AIR6449 B41	125°-0'± AGL	60°	0°	0°	L2500/N2500	-	(E) (6) 1-5/8" COAX CABLES (E) (2) 1-3/8" (6x12) HCS FIBER CABLES (E) (1) 1-3/4" (9x18) HCS FIBER CABLE (P) (1) 1-5/8" (6x12) HCS FIBER CABLE
	A2 RFS APXVAARR24_43-U-NA20	125°-0'± AGL	60°	0°	0°	L700/L600/N600 L1900/U2100	ERICSSON RADIO 4449 B71+BB5 ERICSSON RADIO 4415 B25 COMMSCOPE DIPLEXER SDX1926Q-43 TWIN STYLE 1B AWS (KRY 112 144/2) TMA	
	A3 EMPTY	-	-	-	-	-	-	
	A4 ERICSSON AIR32 KR0901146-1 B66A/B2A	125°-0'± AGL	60°	0°	0°	L1900/G1900 L2100	-	
BETA	B1 ERICSSON M-MIMO AIR6449 B41	125°-0'± AGL	180°	0°	0°	L2500/N2500	-	
	B2 RFS APXVAARR24_43-U-NA20	125°-0'± AGL	180°	0°	0°	L700/L600/N600 L1900/U2100	ERICSSON RADIO 4449 B71+BB5 ERICSSON RADIO 4415 B25 COMMSCOPE DIPLEXER SDX1926Q-43 TWIN STYLE 1B AWS (KRY 112 144/2) TMA	
	B3 EMPTY	-	-	-	-	-	-	
	B4 ERICSSON AIR32 KR0901146-1 B66A/B2A	125°-0'± AGL	180°	0°	0°	L1900/G1900 L2100	-	
GAMMA	C1 ERICSSON M-MIMO AIR6449 B41	125°-0'± AGL	300°	0°	0°	L2500/N2500	-	
	C2 RFS APXVAARR24_43-U-NA20	125°-0'± AGL	300°	0°	0°	L700/L600/N600 L1900/U2100	ERICSSON RADIO 4449 B71+BB5 ERICSSON RADIO 4415 B25 COMMSCOPE DIPLEXER SDX1926Q-43 TWIN STYLE 1B AWS (KRY 112 144/2) TMA	
	C3 EMPTY	-	-	-	-	-	-	
	C4 ERICSSON AIR32 KR0901146-1 B66A/B2A	125°-0'± AGL	300°	0°	0°	L1900/G1900 L2100	-	

CABLE NOTE: EXISTING (5) 1-5/8" COAX CABLES (CAPPED & WRAPPED) TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

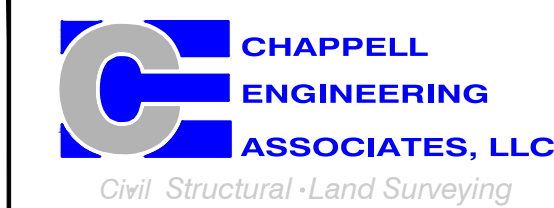
NOTE: RFDS REV5 - 09/26/20

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (6) 1-5/8" COAX CABLES (2) 1-3/8" (6x12) HCS FIBER CABLES (1) 1-3/4" (9x18) HCS FIBER CABLE (1) 1/2" COAX CABLE FOR GPS ANTENNA  EXISTING TO BE REMOVED: (5) 1-5/8" COAX CABLES	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1-5/8" (6x12) HCS FIBER CABLE	
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.		

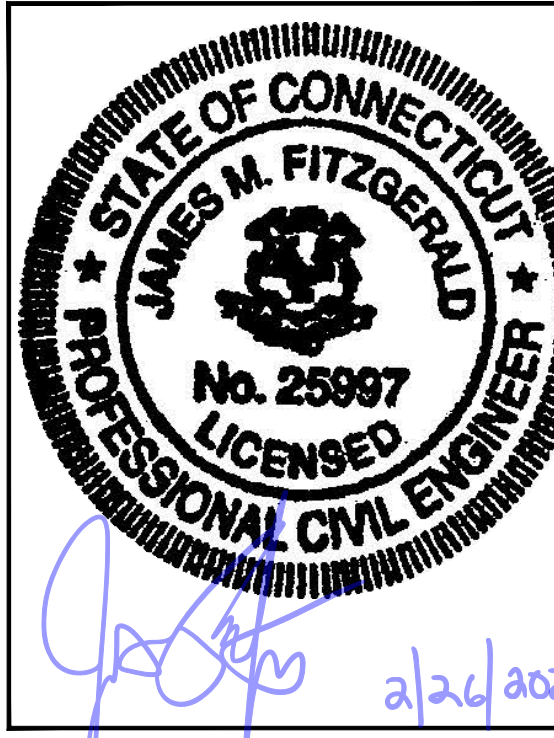
  
 T-MOBILE NORTHEAST LLC  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700



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SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
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0	02/12/21	ISSUED FOR REVIEW	BDJ

SITE NUMBER:  
**CT11162B**  
  
 SITE ADDRESS:  
 1021 BLUE HILLS AVENUE  
 BLOOMFIELD, CT 06002

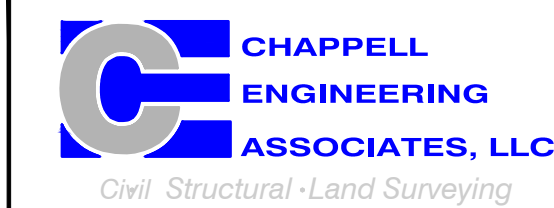
SHEET TITLE:  
**ANTENNA & FEEDLINE CHARTS**

SHEET NUMBER:  
**A-4**





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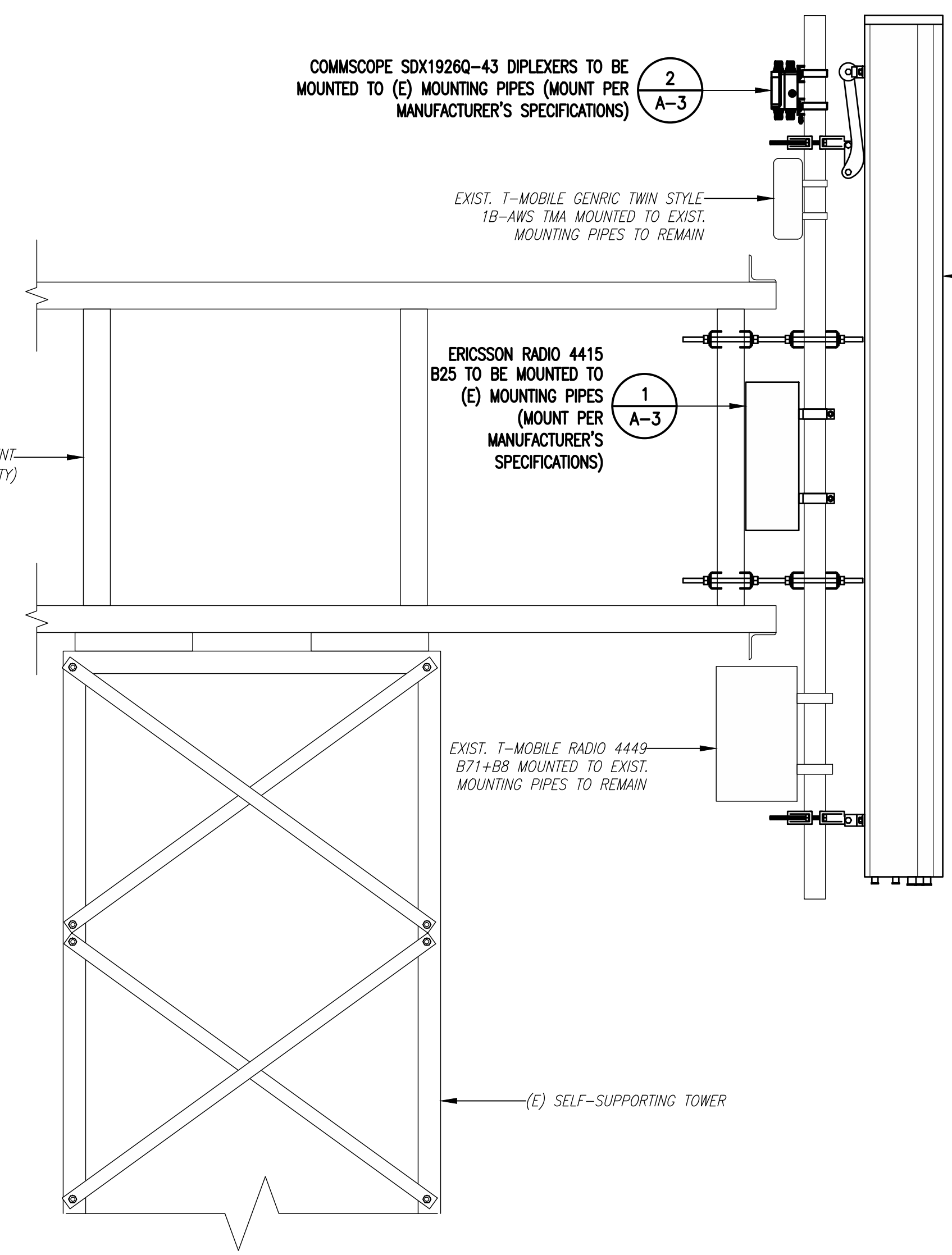
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
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SITE ADDRESS:  
1021 BLUE HILLS AVENUE  
BLOOMFIELD, CT 06002

SHEET TITLE  
**ANTENNA MOUNTING  
DETAILS**

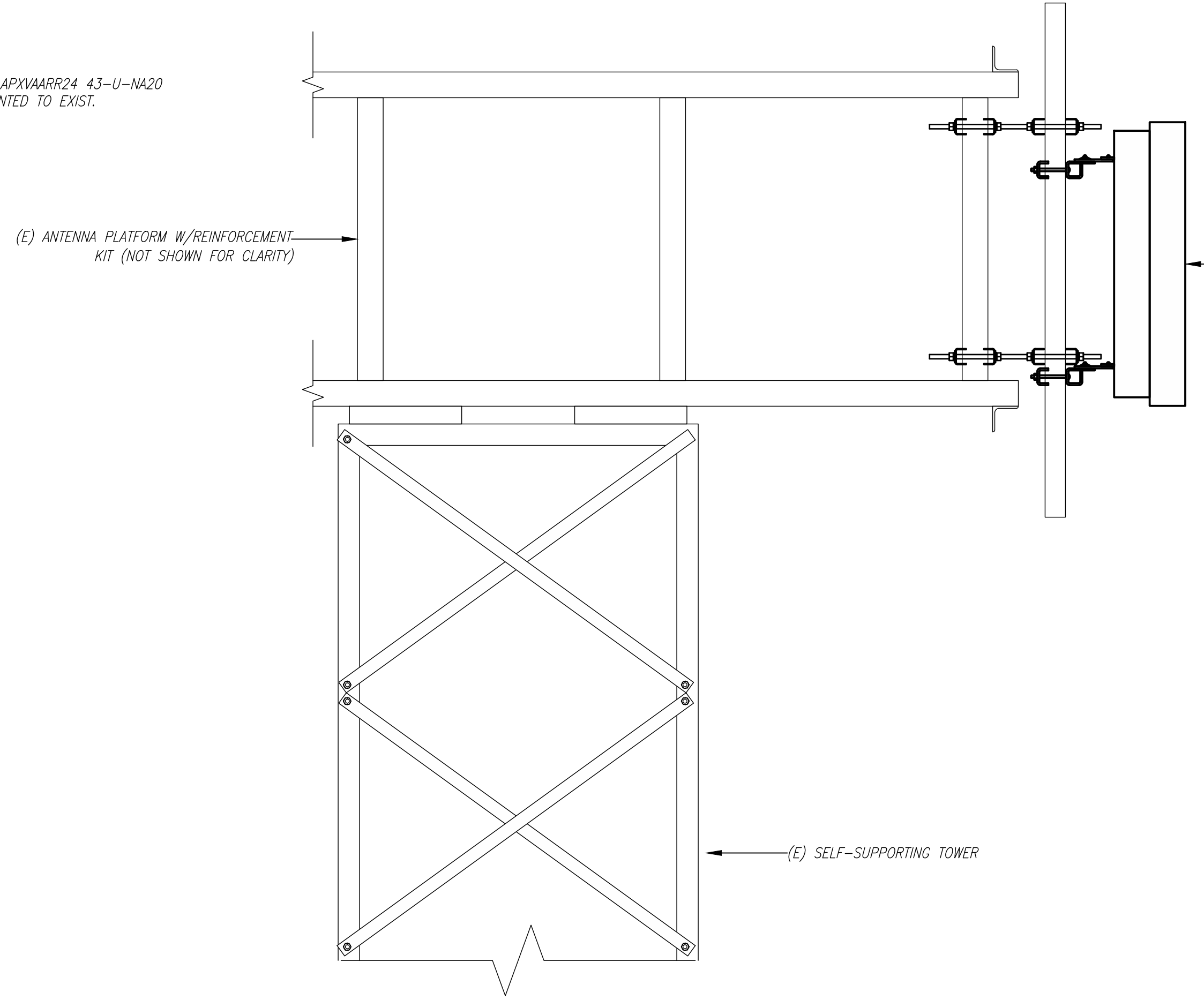
SHEET NUMBER  
**S-1**



ANTENNA, DIPLEXER,  
TMA & RADIO MOUNT DETAIL  
SCALE: N.T.S.

1  
S-1

EACH SECTOR  
EXIST. T-MOBILE RFS-APXVAARR24 43-U-NA20  
PANEL ANTENNAS MOUNTED TO EXIST.  
MOUNTING PIPES



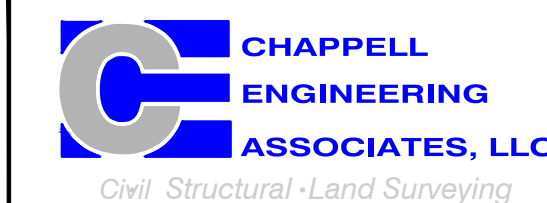
ANTENNA MOUNT DETAIL  
SCALE: N.T.S.

2  
S-1

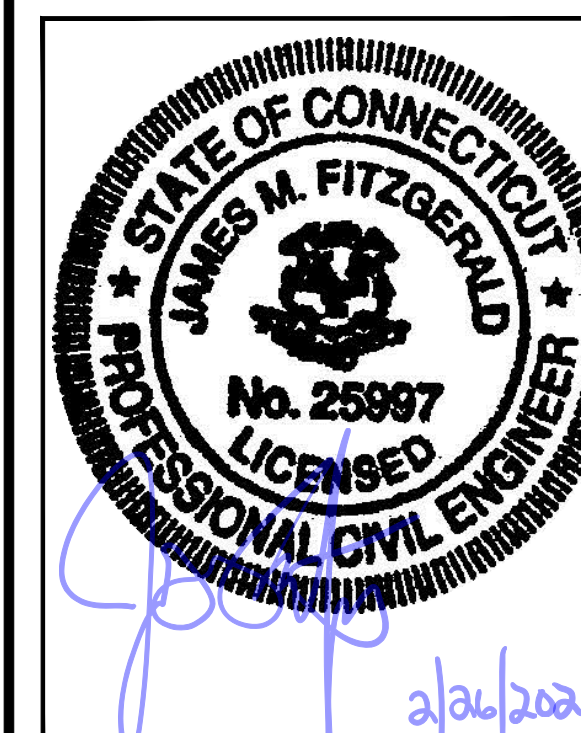




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CT11162B

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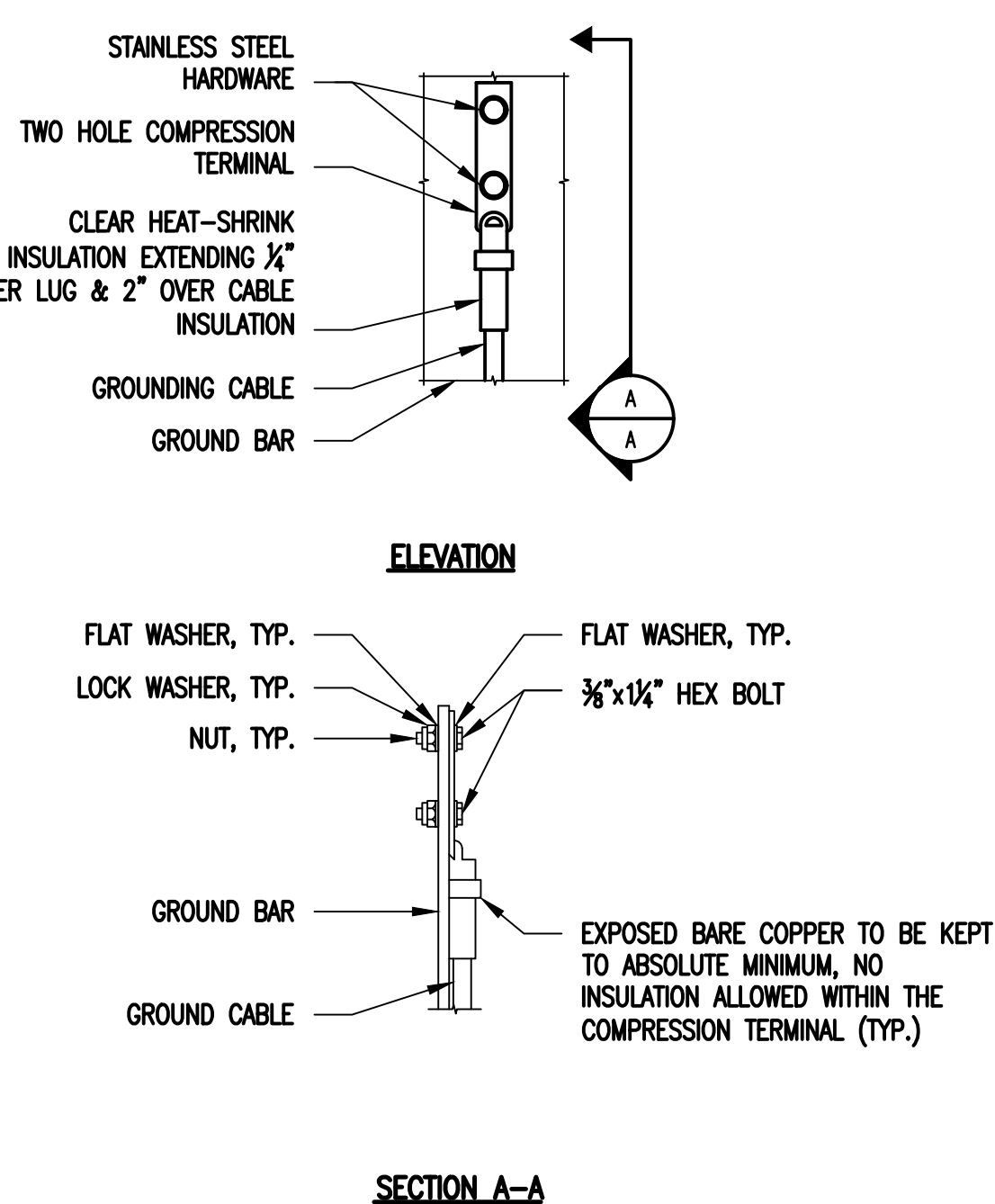
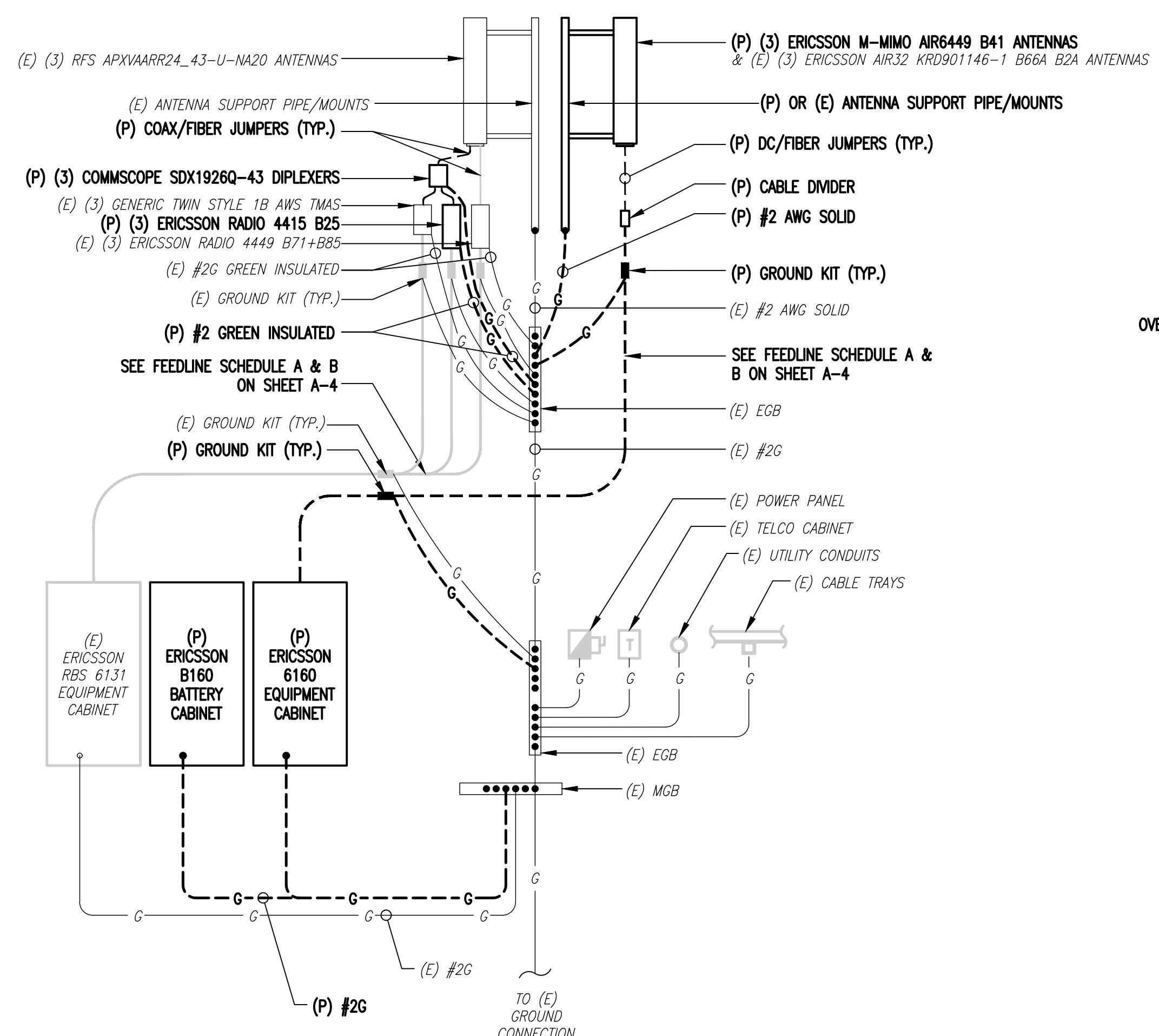
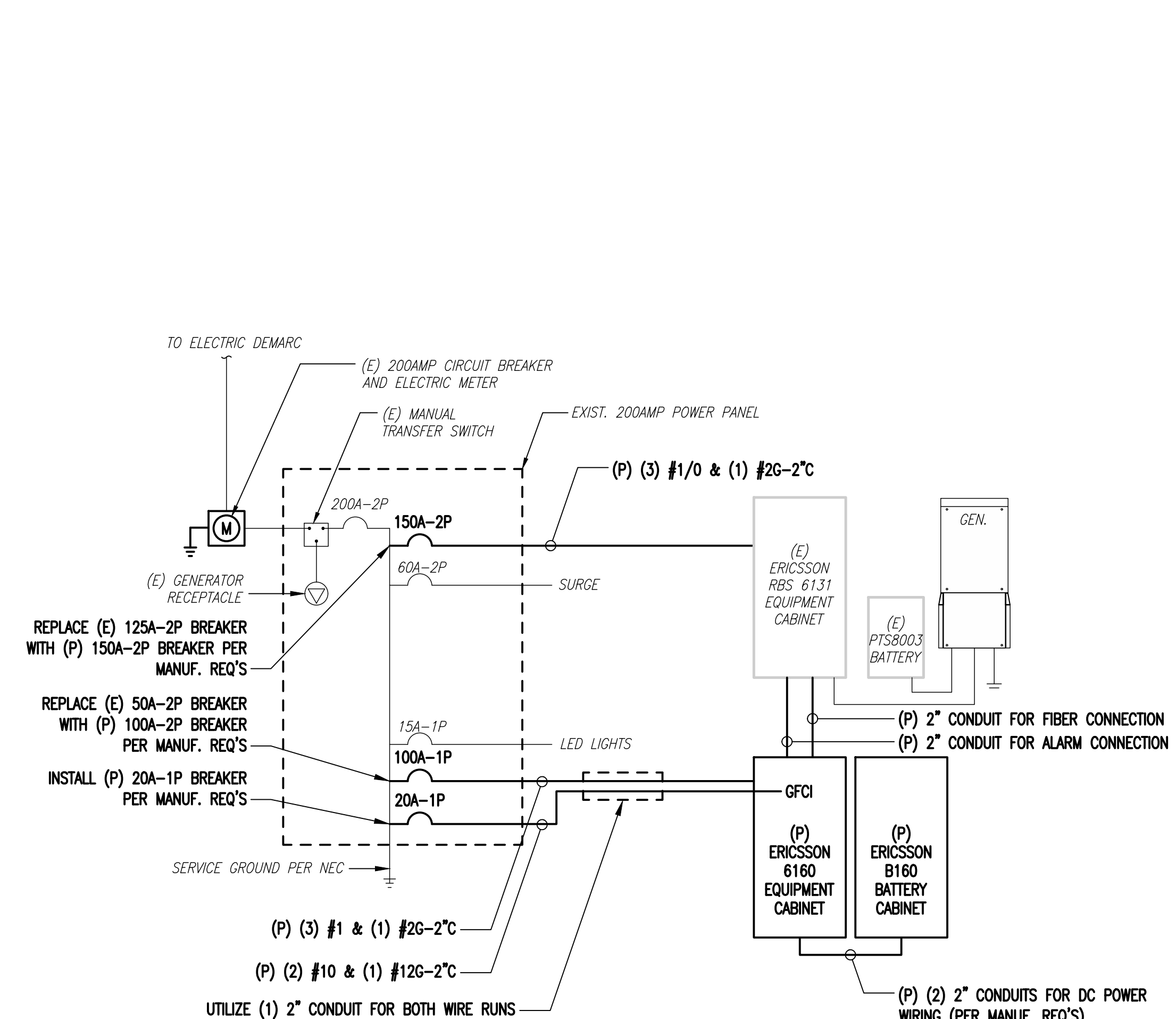
1021 BLUE HILLS AVENUE  
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SHEET TITLE

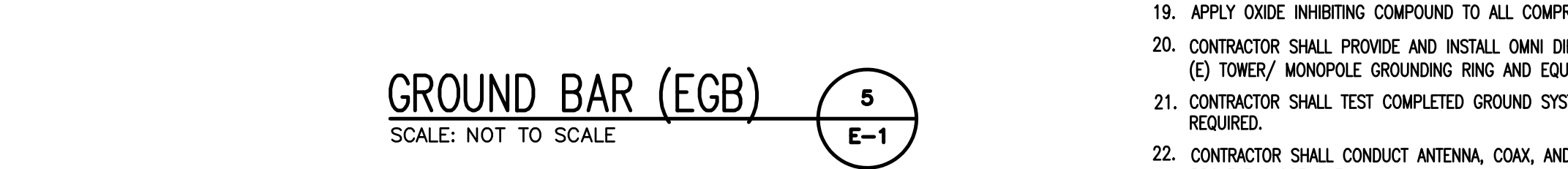
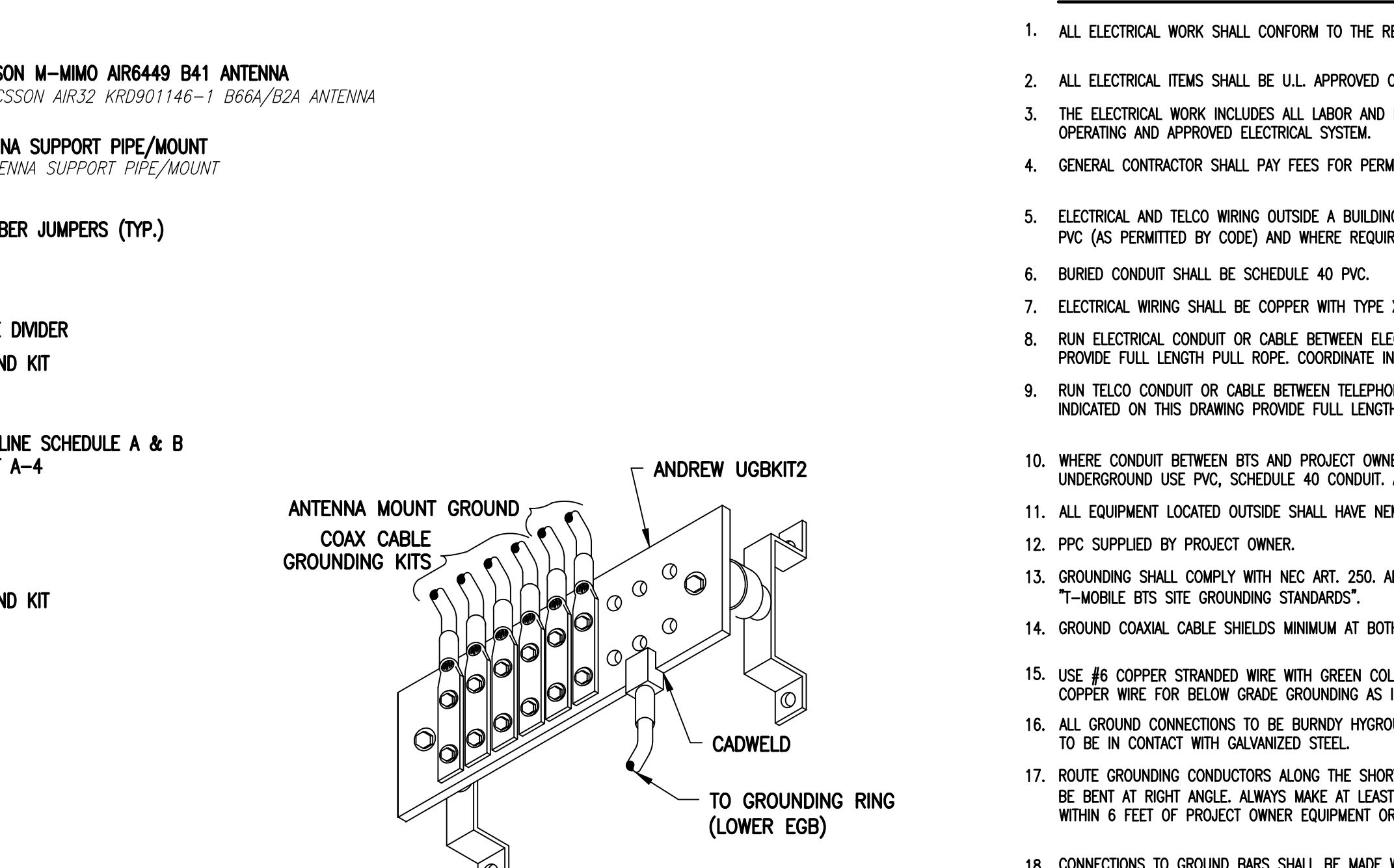
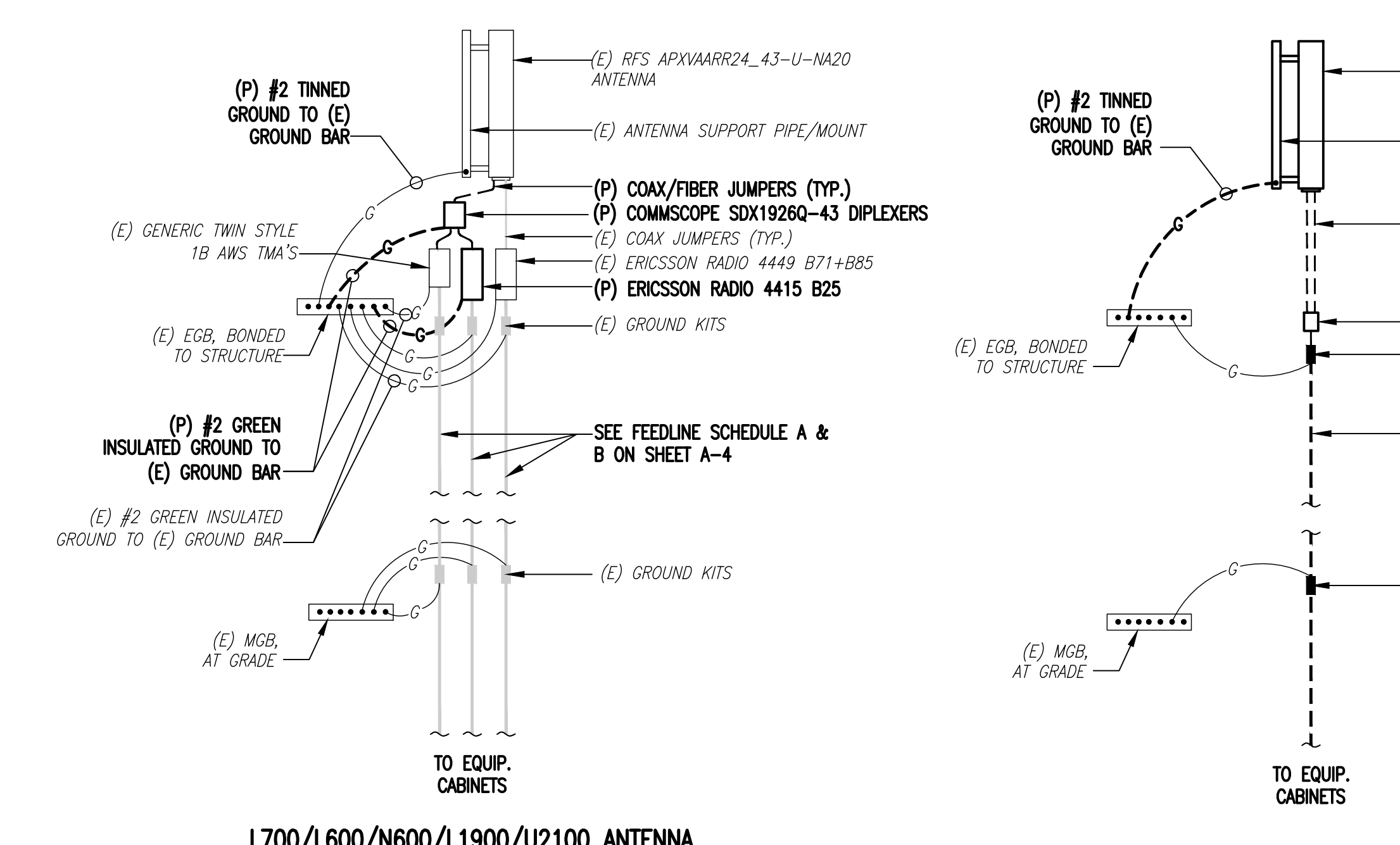
ELECTRICAL &  
GROUNDING DETAILS

SHEET NUMBER

E-1



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



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 BITS 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 BITS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BITS 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 BITS 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 (E) 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 125 ft Nudd Corporation Self Supporting Tower**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT01725-A**

**Customer Site Name: Bloomfield**

**Carrier Name: T-Mobile (App#: 141277, v1)**

**Carrier Site ID / Name: CT11162B / Bluehills/Jn of RT-187\_1**

**Site Location: 1021 Blue Hills Avenue**

**Bloomfield, Connecticut**

**Hartford County**

**Latitude: 41.820119**

**Longitude: -72.696514**

**Analysis Result:**

**Max Structural Usage: 98.4% [Pass]**

**Max Foundation Usage: 44% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: +1.6%**



**Report Prepared By: Ram Kodali**

## Introduction

The purpose of this report is to summarize the analysis results on the 125 ft Nudd Corporation 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>	Fred A. Nudd Corporation, Project # 97-5566A-1, dated 3/11/98
<b>Foundation Drawing</b>	Fred A. Nudd Corporation, Drawing # 97-5566-2, dated 12/18/97
<b>Geotechnical Report</b>	FDH, Project # 1206690EG1 dated 08/10/2012
<b>Modification Drawings</b>	TES, Job # 70654, dated 6/6/19
<b>Mount Analysis</b>	TES, Project # 101515, dated 1/22/2021

## 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 $V_{ult} = 125$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 97$ 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>	$S_S = 0.18$ , $S_1 = 0.064$

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	135.0	1	Cellwave PD455	Platform w/ Handrails w/ (3) PRK-FMA Reinforcement Kit	(1) 7/8"	Blue Hills Fire
2		1	Cellwave AS MONR 31		(1) 1/2"	
3		3	Cellwave PD455		(4) 7/8"	Bloomfield Police Dept.
4	133.0	1	Cellwave AS MONR 31		(1) 1 1/4"	Blue Hills Fire
5	125.0	2	Cellwave PD455		(1) 1/2"	
6		1	Cellwave PD165S		(12) 1 5/8"	T-Mobile
-		3	Ericsson AIR 21 B2A/B4P - Panel		(1) 1 5/8" Fiber	
-		3	Ericsson AIR 21 B4A/B2P - Panel			
-		3	Commscope LNX-6515DS-A1M - Panel			
-		3	Ericsson KRY 112 144/1 - TMA			
-	3	Ericsson Radio S11B12				
14	120.0	2	Samsung U-RAS Flexible	(3) Sector Frame	(2) 1/2" Fiber	Clearwire
15		2	Dragonwave Horizon DUO		(1) 1/2"	
16		3	Kathrein 840 10054 - Panel		(6) 5/16" Fiber	
17		2	Andrew VHLP2.5 - Dish		(1) 5/16" RET	
18		1	Motorola Timing 2000			
19	110.0	1	Amphenol BXA-70080-4CF - Panel	(3) Sector Frame	(18) 1 5/8"	Verizon
20		2	Swedcom SLCP-2x6014F - Panel		(1) 1 5/8" Fiber	
21		3	Amphenol BXA-70063-4CF			
22		3	Amphenol BXA-171063-8BF			
23		3	Amphenol BXA-171063-12CF			
24		3	Alcatel Lucent RRH 2x40-AWS			
25		1	RFS DB-T1-6Z-8AB-OZ Distribution box			
26	98.0	3	Powerwave 7770.00	(3) Sector Frame w/ (3) Stiff Arm Kit (3) Site Pro SFR-K-L (3) Site Pro SFS-H-L	(12) 7/8"	AT&T
27		2	CCI HPA-65R-BUU-H8		(2) 1/2" Fiber	
28		1	CCI HPA-65R-BUU-H6		(6) 3/4" DC	
29		4	Kathrein 800 10966 - Panel		(1) 3" Conduit	
30		2	Kathrein 800 10965 - Panel			
31		6	Powerwave LGP21401 - TMA			
32		6	Powerwave LGP21901 Diplexer			
33		12	Powerwave 7020.00 RET			
34		3	Ericsson RRUS 8843 B2 B66A			
35		3	Ericsson RRUS 4449 B5/B12			
36		3	Ericsson RRUS 4415 B30			
37		1	Raycap DC6-48-60-18-8F			
38		1	Raycap DC6-48-60-0-18-8C-EV			
39		1	Raycap DC6-48-60-18-8C			
40	3	Kathrein 782 10253				

### **Existing Antennas, Mounts and Transmission Lines (Continued)**

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
41	87.0	3	Alcatel Lucent 1900MHz RRH	(3) Sector Frame	(1) 0.7" (3) 1 1/4"	Sprint
42		3	Alcatel Lucent 800MHZ RRH			
43		3	Alcatel Lucent TD-RRH8x20-25			
44		4	RFS ACU-A20-N			
45		3	RFS APXVSP18-C-A20 - Panel			
46		3	RFS APXVTM14-C-120 - Panel			
47		3	Samsung 800MHz Filter			
48	75.0	3	RFS APXV18-206517S-C	Direct Mount	(6) 1 5/8"	Metro
49	65.0	1	Nokia CS72188.01 LMU	(1) Standoff Mount	(1) 1/2"	AT&T

### **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
7	125.0	3	Ericsson AIR6449 B41 - Panel	Platform w/ Handrails w/ (3) PRK-FMA Reinforcement Kit And Mount Reinforcement	(9) 1 5/8" (2) 1-1/4" Hybrid (2) 1 5/8" Hybrid	T-Mobile
8		3	RFS APXVAARR24_43-U-NA20 - Panel			
9		3	AIR32 KRD901146-1_B66A (Octa) - Panel			
10		3	Ericsson KRY 112 144/2			
11		3	Commscope SDX1926Q-43			
12		3	Ericsson Radio 4449 B71+B85 RRU			
13		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>98.4%</b>	<b>91.0%</b>	<b>39.1%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	305.7	274.3	25.8

The foundation has been investigated using the supplied documents and soils report and was found to be 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 0.5377 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: CT01725-A-SBA

<b>Site Name:</b> Bloomfield	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Type:</b> Self Support	<b>Base Shape:</b> Triangle	<b>Basic WS:</b> 97.00
<b>Height:</b> 125.00 (ft)	<b>Base Width:</b> 12.50	<b>Basic Ice WS:</b> 50.00
<b>Base Elev:</b> 0.00 (ft)	<b>Top Width:</b> 3.50	<b>Operational WS:</b> 60.00



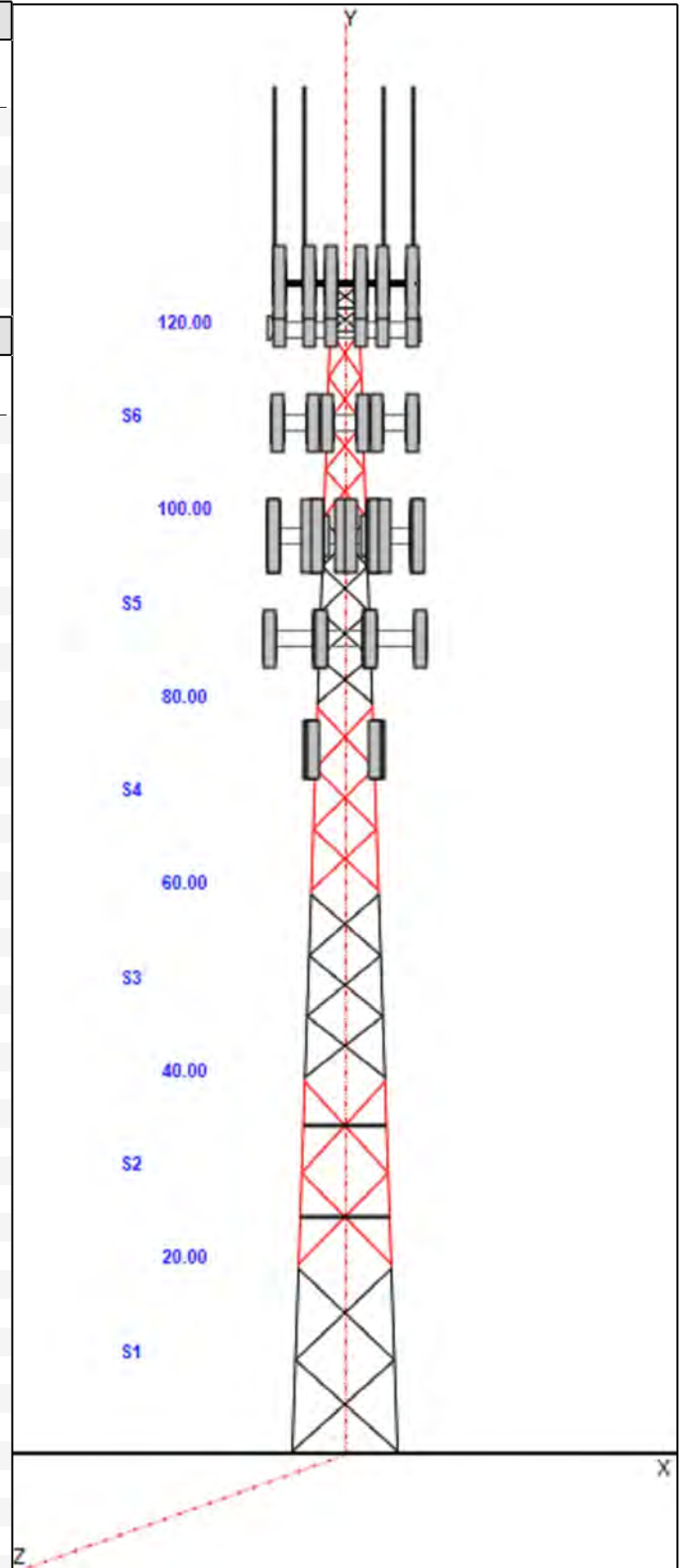
Page: 1

### Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	PST 8" DIA PIPE	SAE 3.5X3.5X0.25	
2	PST 6" DIA PIPE	SAE 3X3X0.25	
3	PST 6" DIA PIPE	SAE 2.5X2.5X0.1875	
4	PST 5" DIA PIPE	SAE 2.5X2.5X0.1875	
5	PST 3-1/2" DIA PIPE	SAE 2X2X0.1875	
6	PST 2-1/2" DIA PIPE	SAE 1.5X1.5X0.1875	
7	PST 2-1/2" DIA PIPE	SOL 5/8" SOLID	SAE 1.5X1.5X0.1875

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
125.00	125.00	3	AIR6449 B41
125.00	125.00	3	SDX1926Q-43
125.00	125.00	3	4415 B25
125.00	125.00	3	APXVAARR24_43-U-NA20
125.00	125.00	3	AIR32 KRD901146-1_B66A
125.00	125.00	3	KRY 112 144/1
125.00	125.00	3	Radio 4449 B71+B85 RRU
125.00	125.00	1	Lightning Rod
125.00	125.00	1	Beacon
125.00	125.00	1	PD165S
125.00	135.00	1	Cellwave AS MONR 31
125.00	135.00	3	PD455
125.00	135.00	3	PD455
125.00	125.00	1	Platform w/ HR
125.00	125.00	1	PRK-FMA
125.00	133.00	1	Cellwave AS MONR 31
125.00	125.00	1	(3) HR w/ V-Brace Kits
120.00	120.00	3	Sector Frame
120.00	120.00	2	U-RAS Flexible
120.00	120.00	2	Horizon DUO
120.00	120.00	3	840 10054
120.00	120.00	2	VHLP2.5
120.00	120.00	1	Timing2000
110.00	110.00	3	BXA-70063-4CF
110.00	110.00	1	DB-T1-6Z-8AB-0Z
110.00	110.00	1	BXA-70080-4CF
110.00	110.00	2	SLCP 2x6014F
110.00	110.00	3	BXA-171063-8BF
110.00	110.00	3	BXA-171063-12CF
110.00	110.00	3	RRH2x40-AWS
110.00	110.00	3	Sector Frame
98.00	98.00	1	(3) SFR-K-L
98.00	98.00	3	7770.00
98.00	98.00	1	(3) SFS-H-L
98.00	98.00	3	Sector Frame
98.00	98.00	1	(3) Stiff Arm Kit
98.00	98.00	2	HPA-65R-BUU-H8
98.00	98.00	1	HPA-65R-BUU-H6
98.00	98.00	4	800 10966
98.00	98.00	2	800 10965
98.00	98.00	6	LGP-21401
98.00	98.00	6	LGP-21903 Diplexer



**Structure: CT01725-A-SBA**

<b>Site Name:</b> Bloomfield	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Type:</b> Self Support	<b>Base Shape:</b> Triangle	<b>Basic WS:</b> 97.00
<b>Height:</b> 125.00 (ft)	<b>Base Width:</b> 12.50	<b>Basic Ice WS:</b> 50.00
<b>Base Elev:</b> 0.00 (ft)	<b>Top Width:</b> 3.50	<b>Operational WS:</b> 60.00



98.00	98.00	12	7020.00 RET
98.00	98.00	3	8843 B2 B66A
98.00	98.00	3	4449 B5/B12
98.00	98.00	3	4415 B30
98.00	98.00	1	DC6-48-60-18-8F
98.00	98.00	1	DC6-48-60-0-18-8C-EV
98.00	98.00	1	DC6-48-60-18-8C
98.00	98.00	3	782 10253
87.00	87.00	3	1900MHz RRH
87.00	87.00	3	800MHZ RRH
87.00	87.00	3	TD-RRH8x20-25
87.00	87.00	4	ACU-A20-N
87.00	87.00	3	APXVSP18-C-A20
87.00	87.00	3	APXVTM14-C-120
87.00	87.00	3	800MHz Filter
87.00	87.00	3	Sector Frame
75.00	75.00	3	APXV18-206517S-C
65.00	65.00	1	Standoff Mount
65.00	65.00	1	CS72188.01 LMU

**Linear Appurtenances**

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	125.00	1	1 1/4" Coax
0.00	125.00	9	1 5/8" Coax
0.00	125.00	2	1 5/8" Hybrid
0.00	125.00	2	1-1/4" Hybrid
0.00	125.00	2	1/2" Coax
0.00	125.00	1	7/8" Coax
0.00	125.00	4	7/8" Coax
0.00	125.00	1	W/G Ladder
0.00	125.00	1	W/G Ladder
0.00	120.00	1	1/2" Coax
0.00	120.00	2	1/2" Fiber
0.00	120.00	6	5/16" Fiber
0.00	120.00	1	5/16" RET
0.00	120.00	1	W/G Ladder
0.00	110.00	18	1 5/8" Coax
0.00	110.00	1	1 5/8" Fiber
0.00	110.00	1	W/G Ladder
0.00	98.00	2	1/2" Fiber
0.00	98.00	1	3" Conduit
0.00	98.00	6	3/4" DC
0.00	98.00	4	7/8" Coax
0.00	98.00	8	7/8" Coax
0.00	98.00	1	W/G Ladder
0.00	87.00	4	1 1/4" Coax
0.00	87.00	1	W/G Ladder
0.00	75.00	6	1 5/8" Coax
0.00	65.00	1	1/2" Coax

**Base Reactions**

Leg	Overturning
Max Uplift: -274.33 (kips)	Moment: 3159.70 (ft-kips)
Max Down: 305.75 (kips)	Total Down: 41.60 (kips)
Max Shear: 25.82 (kips)	Total Shear: 40.15 (kips)

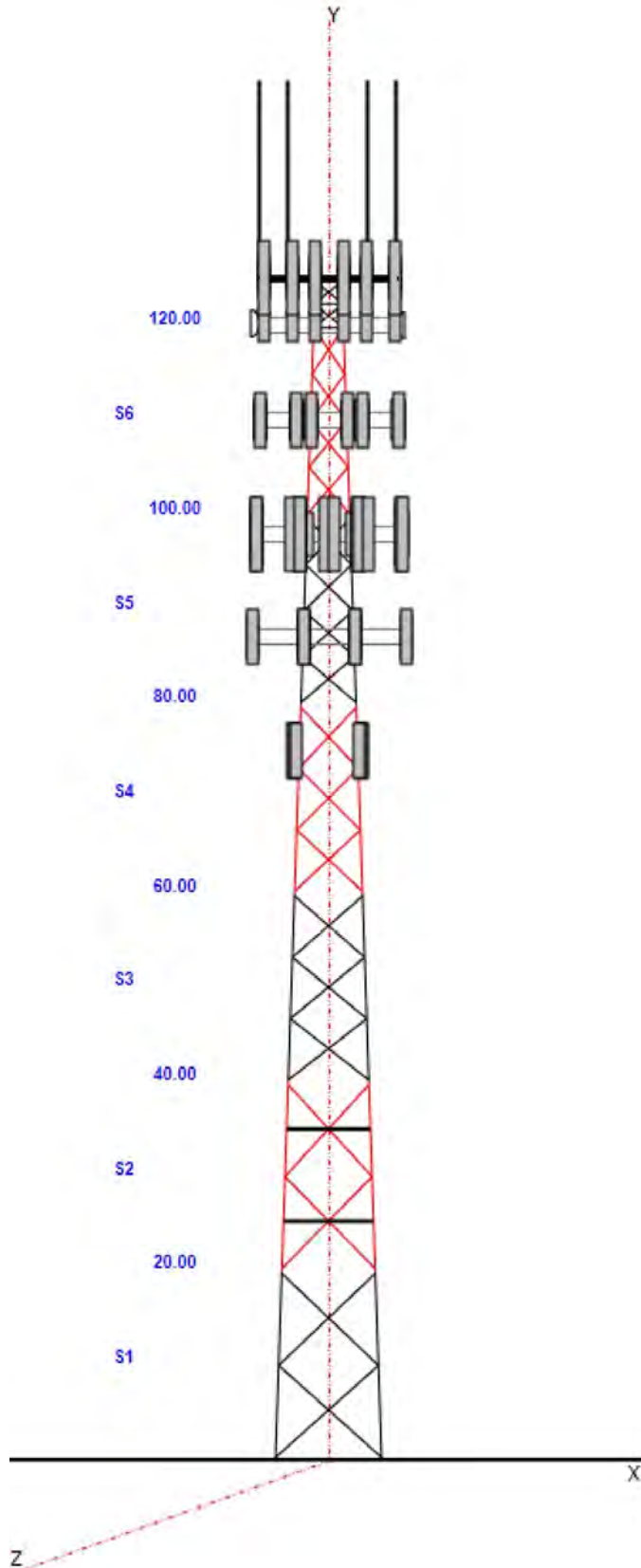
Structure: CT01725-A-SBA

Site Name: Bloomfield  
Type: Self Support  
Height: 125.00 (ft)  
Base Elev: 0.00 (ft)

Base Shape: Triangle  
Base Width: 12.50  
Top Width: 3.50

Code: EIA/TIA-222-G  
Basic WS: 97.00  
Basic Ice WS: 50.00  
Operational WS: 60.00

1/29/2021  
Page: 3

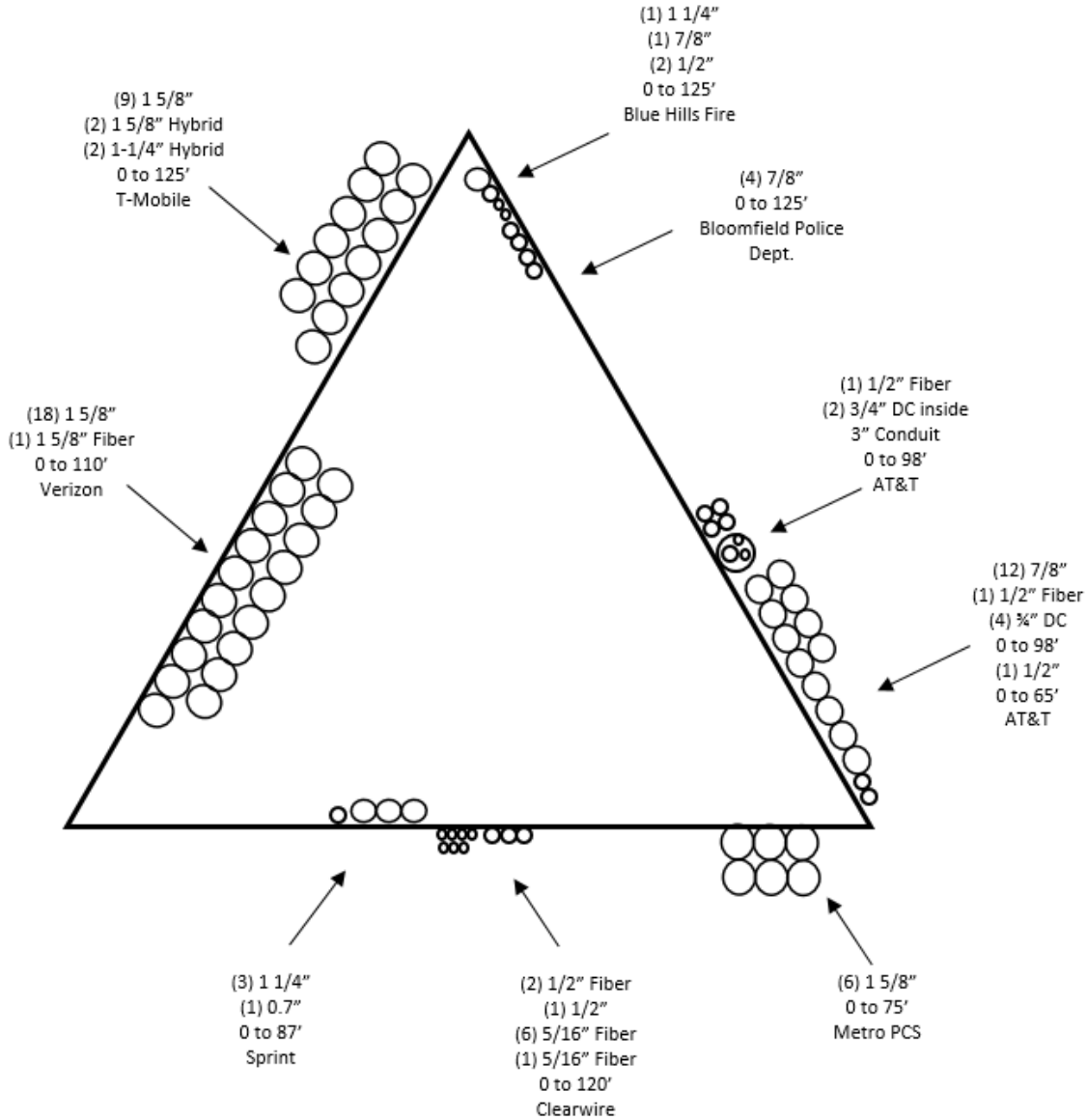


# Structure: CT01725-A-SBA - Coax Line Placement

**Type:** Self Support  
**Site Name:** Bloomfield  
**Height:** 125.00 (ft)

1/29/2021

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## Loading Summary

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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



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### 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)						
125.00	AIR6449 B41	3	103.00	5.650	282.16	6.892	33.100	20.500	8.300	0.75	0.71	0.000
125.00	SDX1926Q-43	3	6.10	0.300	43.70	0.692	6.900	5.500	8.200	0.75	0.67	0.000
125.00	4415 B25	3	46.00	1.640	99.71	2.313	15.000	13.200	5.400	0.75	0.67	0.000
125.00	APXVAARR24_43-U-NA20	3	128.00	20.240	695.54	22.751	95.900	24.000	7.800	0.75	0.70	0.000
125.00	AIR32 KRD901146-1_B66A	3	132.20	6.510	385.26	8.005	56.600	12.900	8.700	0.75	0.87	0.000
125.00	KRY 112 144/1	3	11.00	0.410	25.09	1.031	6.900	6.100	2.700	0.75	0.67	0.000
125.00	Radio 4449 B71+B85 RRU	3	70.00	1.650	166.38	2.376	15.000	13.200	9.300	0.75	0.67	0.000
125.00	Lightning Rod	1	5.00	0.500	32.36	2.780	72.000	1.000	1.000	1.00	1.00	0.000
125.00	Beacon	1	36.00	2.720	210.03	3.961	28.000	17.500	17.500	1.00	1.00	0.000
125.00	PD165S	1	5.00	1.810	120.44	22.822	0.700	39.000	50.000	1.00	1.00	0.000
125.00	Cellwave AS MONR 31	1	22.00	0.940	529.93	11.852	0.700	39.000	50.000	1.00	1.00	10.00
125.00	PD455	3	24.00	6.020	223.34	15.970	258.000	2.800	2.800	1.00	1.00	10.00
125.00	PD455	3	24.00	6.020	223.34	15.970	258.000	2.800	2.800	1.00	1.00	10.00
125.00	Platform w/ HR	1	1800.0	38.840	4262.73	65.410	0.000	0.000	0.000	1.00	1.00	0.000
125.00	PRK-FMA	1	337.91	5.330	954.34	12.622	0.000	0.000	0.000	1.00	1.00	0.000
125.00	Cellwave AS MONR 31	1	22.00	0.940	529.93	11.852	0.700	39.000	50.000	1.00	1.00	8.000
125.00	(3) HR w/ V-Brace Kits	1	650.00	15.500	1717.18	36.707	0.000	0.000	0.000	0.75	1.00	0.000
120.00	Sector Frame	3	450.00	14.000	904.79	23.096	0.000	0.000	0.000	0.75	0.75	0.000
120.00	U-RAS Flexible	2	33.00	1.820	86.84	3.080	16.100	11.600	5.300	0.80	0.73	0.000
120.00	Horizon DUO	2	10.60	0.430	39.73	1.091	4.700	9.300	9.300	0.80	0.67	0.000
120.00	840 10054	3	35.00	4.590	143.93	6.752	42.000	12.700	2.800	0.80	0.61	0.000
120.00	VHLP2.5	2	47.60	8.430	270.82	10.636	35.000	35.000	0.000	1.00	1.00	0.000
120.00	Timing2000	1	0.70	0.070	7.04	0.271	3.200	4.000	4.000	0.80	0.50	0.000
110.00	BXA-70063-4CF	3	9.90	4.720	141.55	7.109	47.400	11.200	5.200	0.80	0.73	0.000
110.00	DB-T1-6Z-8AB-0Z	1	18.90	4.800	214.54	5.952	24.000	24.000	10.000	0.80	0.71	0.000
110.00	BXA-70080-4CF	1	12.00	3.560	124.56	5.947	47.500	8.000	5.900	0.80	0.87	0.000
110.00	SLCP 2x6014F	2	20.00	6.490	247.81	9.172	53.000	14.000	11.000	0.80	0.89	0.000
110.00	BXA-171063-8BF	3	10.50	2.940	95.22	5.084	48.500	6.100	4.100	0.80	0.84	0.000
110.00	BXA-171063-12CF	3	15.00	4.780	138.97	7.842	72.400	6.100	4.100	0.80	0.84	0.000
110.00	RRH2x40-AWS	3	44.00	2.160	122.49	3.515	24.400	10.600	6.700	0.80	0.67	0.000
110.00	Sector Frame	3	500.00	17.500	1402.36	35.502	0.000	0.000	0.000	0.75	0.75	0.000
98.00	(3) SFR-K-L	1	394.00	16.600	1311.16	32.016	0.000	0.000	0.000	0.75	1.00	0.000
98.00	7770.00	3	35.00	5.500	216.79	6.873	55.000	11.000	5.000	0.80	0.73	0.000
98.00	(3) SFS-H-L	1	230.00	6.700	636.84	15.588	0.000	0.000	0.000	0.75	1.00	0.000
98.00	Sector Frame	3	500.00	17.500	1384.43	35.144	0.000	0.000	0.000	0.75	0.75	0.000
98.00	(3) Stiff Arm Kit	1	180.00	6.100	466.55	14.193	0.000	0.000	0.000	0.75	1.00	0.000
98.00	HPA-65R-BUU-H8	2	68.00	12.980	453.09	15.060	92.400	14.800	7.400	0.80	0.79	0.000
98.00	HPA-65R-BUU-H6	1	51.00	9.660	379.18	11.418	72.000	14.800	9.000	0.80	0.85	0.000
98.00	800 10966	4	125.70	17.360	596.25	19.676	96.000	20.000	6.900	0.80	0.72	0.000
98.00	800 10965	2	108.60	13.810	501.49	15.836	78.700	20.000	6.900	0.80	0.71	0.000
98.00	LGP-21401	6	14.10	1.290	45.77	2.349	14.400	9.200	2.600	0.80	0.67	0.000
98.00	LGP-21903 Diplexer	6	5.50	0.230	15.24	0.696	4.000	6.000	3.000	0.80	0.67	0.000
98.00	7020.00 RET	12	2.20	0.400	15.16	1.013	4.900	8.300	2.400	0.80	0.67	0.000
98.00	8843 B2 B66A	3	72.00	1.640	131.35	2.269	14.900	13.200	10.900	0.80	0.67	0.000
98.00	4449 B5/B12	3	71.00	1.970	138.63	2.663	17.900	13.200	9.400	0.80	0.67	0.000
98.00	4415 B30	3	44.10	1.860	104.20	2.586	13.500	16.500	4.800	0.80	0.67	0.000
98.00	DC6-48-60-18-8F	1	31.80	2.200	110.13	3.527	24.000	11.000	18.500	0.80	0.67	0.000
98.00	DC6-48-60-0-18-8C-EV	1	20.00	1.900	101.83	2.690	23.500	9.700	9.700	0.80	0.67	0.000

## Loading Summary

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021	
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B		
<b>Height:</b> 125.00 (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



98.00	DC6-48-60-18-8C	1	20.00	1.900	101.83	2.690	23.500	9.700	9.700	0.80	0.67	0.000
98.00	782 10253	3	2.90	0.120	8.12	0.463	2.900	4.200	1.800	0.80	0.67	0.000
87.00	1900MHz RRH	3	60.00	2.770	165.71	4.377	25.000	11.100	11.400	0.80	0.67	0.000
87.00	800MHZ RRH	3	59.50	2.640	158.33	4.106	18.000	15.100	11.300	0.80	0.67	0.000
87.00	TD-RRH8x20-25	3	70.00	4.050	217.87	5.101	26.100	18.600	6.700	0.80	0.67	0.000
87.00	ACU-A20-N	4	1.00	0.140	6.44	0.516	4.000	2.000	3.500	0.80	0.67	0.000
87.00	APXVSP18-C-A20	3	57.00	8.020	275.99	11.559	72.000	11.800	7.000	0.80	0.83	0.000
87.00	APXVTM14-C-120	3	56.00	6.340	270.33	7.775	56.300	12.600	6.300	0.80	0.79	0.000
87.00	800MHz Filter	3	10.00	0.490	30.33	1.201	4.600	11.000	4.500	0.80	0.67	0.000
87.00	Sector Frame	3	450.00	14.000	895.75	22.915	0.000	0.000	0.000	0.75	0.75	0.000
75.00	APXV18-206517S-C	3	26.40	5.170	141.11	8.104	72.000	6.800	3.200	1.00	0.74	0.000
65.00	Standoff Mount	1	40.00	1.500	74.50	2.794	0.000	0.000	0.000	1.00	1.00	0.000
65.00	CS72188.01 LMU	1	0.31	0.170	1.14	0.403	4.500	4.500	4.500	1.00	1.00	0.000

<b>Totals:</b>	<b>154</b>	<b>14,470.82</b>		<b>45,742.85</b>						<b>Number of Appurtenances :</b>	<b>61</b>
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## Loading Summary

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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



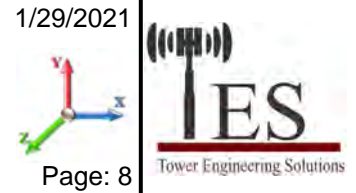
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### Linear Appurtenances Properties

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
0.00	125.00	1 1/4" Coax	1	1.55	0.66	100.00	2	Individual NR		N	1.00	1.00	
0.00	125.00	1 5/8" Coax	9	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	125.00	1 5/8" Hybrid	2	2.00	1.10	50.00	3	Block		N	0.50	1.00	
0.00	125.00	1-1/4" Hybrid	2	1.25	0.95	50.00	3	Block		N	0.50	1.00	
0.00	125.00	1/2" Coax	2	0.65	0.16	100.00	2	Individual NR		N	1.00	1.00	
0.00	125.00	7/8" Coax	1	1.11	0.52	100.00	2	Individual NR		N	1.00	1.00	
0.00	125.00	7/8" Coax	4	1.11	0.52	100.00	2	Individual IR		N	1.00	1.00	
0.00	125.00	W/G Ladder	1	2.00	6.00	100.00	3	Individual NR		N	1.00	1.00	
0.00	125.00	W/G Ladder	1	2.00	6.00	100.00	2	Individual NR		N	1.00	1.00	
0.00	120.00	1/2" Coax	1	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	
0.00	120.00	1/2" Fiber	2	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	
0.00	120.00	5/16" Fiber	6	0.44	0.08	50.00	1	Block		N	0.50	1.00	
0.00	120.00	5/16" RET	1	0.44	0.08	50.00	1	Block		N	1.00	1.00	
0.00	120.00	W/G Ladder	1	1.50	6.00	100.00	1	Individual NR		N	1.00	1.00	
0.00	110.00	1 5/8" Coax	18	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	110.00	1 5/8" Fiber	1	2.00	1.10	100.00	3	Individual NR		N	1.00	1.00	
0.00	110.00	W/G Ladder	1	2.00	6.00	100.00	3	Individual NR		N	1.00	1.00	
0.00	98.00	1/2" Fiber	2	0.00	0.16	50.00	2	Block		N	1.00	1.00	
0.00	98.00	3" Conduit	1	3.00	1.61	100.00	2	Individual NR		N	1.00	1.00	
0.00	98.00	3/4" DC	6	0.75	0.40	50.00	2	Block		N	0.50	1.00	
0.00	98.00	7/8" Coax	4	1.11	0.52	100.00	2	Individual IR		N	1.00	1.00	
0.00	98.00	7/8" Coax	8	1.11	0.52	50.00	2	Block		N	0.50	0.76	
0.00	98.00	W/G Ladder	1	2.00	6.00	100.00	2	Individual NR		N	1.00	1.00	
0.00	87.00	1 1/4" Coax	4	1.55	0.66	100.00	1	Individual IR		N	1.00	1.00	
0.00	87.00	W/G Ladder	1	2.00	6.00	100.00	1	Individual NR		N	1.00	1.00	
0.00	75.00	1 5/8" Coax	6	1.98	1.04	50.00	1	Block		N	0.50	0.83	
0.00	65.00	1/2" Coax	1	0.65	0.16	100.00	2	Individual NR		N	1.00	1.00	

## Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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

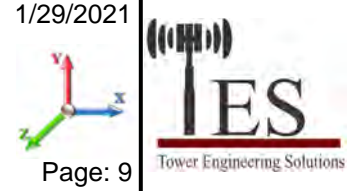
Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	14.33	16.978	28.78	0.00	0.18	2.65	1.00	1.00	0.00	30.23	157.20	0.00	5,577.4	0.0	1562.59	2695.91	4,258.50
2	30.0	14.34	18.717	22.10	0.00	0.19	2.63	1.00	1.00	0.00	30.19	157.20	0.00	4,971.2	0.0	1551.12	2698.19	4,249.31
3	50.0	16.60	12.939	22.10	0.00	0.19	2.64	1.00	1.00	0.00	24.10	157.20	0.00	4,334.6	0.0	1433.70	3122.18	4,555.88
4	70.0	18.27	11.598	18.56	0.00	0.20	2.61	1.00	1.00	0.00	21.45	153.50	0.00	3,903.7	0.0	1392.04	3358.02	4,750.06
5	90.0	19.63	9.614	13.35	0.00	0.19	2.63	1.00	1.00	0.00	17.26	132.56	0.00	3,102.9	0.0	1213.66	3124.45	4,338.12
6	110.0	20.79	6.277	9.59	0.00	0.18	2.68	1.00	1.00	0.00	11.75	78.32	0.00	1,931.1	0.0	889.15	1962.56	2,851.71
7	122.5	21.44	1.223	3.24	0.00	0.24	2.47	1.00	1.00	0.00	3.14	11.48	0.00	411.2	0.0	226.28	297.46	523.74
														<b>24,232.2</b>	<b>0.0</b>			<b>25,527.32</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 (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	14.33	16.978	28.78	0.00	0.18	2.65	0.80	1.00	0.00	26.83	157.20	0.00	5,577.4	0.0	1387.06	2695.91	4,082.97
2	30.0	14.34	18.717	22.10	0.00	0.19	2.63	0.80	1.00	0.00	26.45	157.20	0.00	4,971.2	0.0	1358.82	2698.19	4,057.01
3	50.0	16.60	12.939	22.10	0.00	0.19	2.64	0.80	1.00	0.00	21.51	157.20	0.00	4,334.6	0.0	1279.76	3122.18	4,401.93
4	70.0	18.27	11.598	18.56	0.00	0.20	2.61	0.80	1.00	0.00	19.13	153.50	0.00	3,903.7	0.0	1241.53	3358.02	4,599.55
5	90.0	19.63	9.614	13.35	0.00	0.19	2.63	0.80	1.00	0.00	15.33	132.56	0.00	3,102.9	0.0	1078.43	3124.45	4,202.88
6	110.0	20.79	6.277	9.59	0.00	0.18	2.68	0.80	1.00	0.00	10.50	78.32	0.00	1,931.1	0.0	794.16	1962.56	2,756.73
7	122.5	21.44	1.223	3.24	0.00	0.24	2.47	0.80	1.00	0.00	2.90	11.48	0.00	411.2	0.0	208.65	297.46	506.12
														<b>24,232.2</b>	<b>0.0</b>			<b>24,607.19</b>

## Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/29/2021</b>
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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



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<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

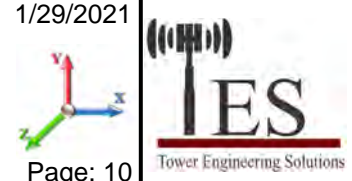
Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	14.33	16.978	28.78	0.00	0.18	2.65	0.85	1.00	0.00	27.68	157.20	0.00	5,577.4	0.0	1430.95	2695.91	4,126.86
2	30.0	14.34	18.717	22.10	0.00	0.19	2.63	0.85	1.00	0.00	27.39	157.20	0.00	4,971.2	0.0	1406.90	2698.19	4,105.09
3	50.0	16.60	12.939	22.10	0.00	0.19	2.64	0.85	1.00	0.00	22.16	157.20	0.00	4,334.6	0.0	1318.24	3122.18	4,440.42
4	70.0	18.27	11.598	18.56	0.00	0.20	2.61	0.85	1.00	0.00	19.71	153.50	0.00	3,903.7	0.0	1279.16	3358.02	4,637.17
5	90.0	19.63	9.614	13.35	0.00	0.19	2.63	0.85	1.00	0.00	15.81	132.56	0.00	3,102.9	0.0	1112.24	3124.45	4,236.69
6	110.0	20.79	6.277	9.59	0.00	0.18	2.68	0.85	1.00	0.00	10.81	78.32	0.00	1,931.1	0.0	817.91	1962.56	2,780.47
7	122.5	21.44	1.223	3.24	0.00	0.24	2.47	0.85	1.00	0.00	2.96	11.48	0.00	411.2	0.0	213.06	297.46	510.52
														<b>24,232.2</b>	<b>0.0</b>			<b>24,837.22</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 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 (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	14.33	16.978	28.78	0.00	0.18	2.65	1.00	1.00	0.00	30.23	157.20	0.00	4,183.1	0.0	1562.59	2695.91	4,258.50
2	30.0	14.34	18.717	22.10	0.00	0.19	2.63	1.00	1.00	0.00	30.19	157.20	0.00	3,728.4	0.0	1551.12	2698.19	4,249.31
3	50.0	16.60	12.939	22.10	0.00	0.19	2.64	1.00	1.00	0.00	24.10	157.20	0.00	3,250.9	0.0	1433.70	3122.18	4,555.88
4	70.0	18.27	11.598	18.56	0.00	0.20	2.61	1.00	1.00	0.00	21.45	153.50	0.00	2,927.8	0.0	1392.04	3358.02	4,750.06
5	90.0	19.63	9.614	13.35	0.00	0.19	2.63	1.00	1.00	0.00	17.26	132.56	0.00	2,327.2	0.0	1213.66	3124.45	4,338.12
6	110.0	20.79	6.277	9.59	0.00	0.18	2.68	1.00	1.00	0.00	11.75	78.32	0.00	1,448.3	0.0	889.15	1962.56	2,851.71
7	122.5	21.44	1.223	3.24	0.00	0.24	2.47	1.00	1.00	0.00	3.14	11.48	0.00	308.4	0.0	226.28	297.46	523.74
														<b>18,174.1</b>	<b>0.0</b>			<b>25,527.32</b>

## Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/29/2021</b>
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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> 10



<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

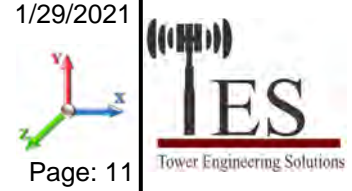
Sect Seq	Wind Height (ft)	qz (psf)	Total Area (sqft)		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area (sqft)		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat (sqft)	Round (sqft)								Linear	Linear					
1	10.0	14.33	16.978	28.78	0.00	0.18	2.65	0.80	1.00	0.00	26.83	157.20	0.00	4,183.1	0.0	1387.06	2695.91	4,082.97
2	30.0	14.34	18.717	22.10	0.00	0.19	2.63	0.80	1.00	0.00	26.45	157.20	0.00	3,728.4	0.0	1358.82	2698.19	4,057.01
3	50.0	16.60	12.939	22.10	0.00	0.19	2.64	0.80	1.00	0.00	21.51	157.20	0.00	3,250.9	0.0	1279.76	3122.18	4,401.93
4	70.0	18.27	11.598	18.56	0.00	0.20	2.61	0.80	1.00	0.00	19.13	153.50	0.00	2,927.8	0.0	1241.53	3358.02	4,599.55
5	90.0	19.63	9.614	13.35	0.00	0.19	2.63	0.80	1.00	0.00	15.33	132.56	0.00	2,327.2	0.0	1078.43	3124.45	4,202.88
6	110.0	20.79	6.277	9.59	0.00	0.18	2.68	0.80	1.00	0.00	10.50	78.32	0.00	1,448.3	0.0	794.16	1962.56	2,756.73
7	122.5	21.44	1.223	3.24	0.00	0.24	2.47	0.80	1.00	0.00	2.90	11.48	0.00	308.4	0.0	208.65	297.46	506.12
														<b>18,174.1</b>	<b>0.0</b>			<b>24,607.19</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 (sqft)		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area (sqft)		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat (sqft)	Round (sqft)								Linear	Linear					
1	10.0	14.33	16.978	28.78	0.00	0.18	2.65	0.85	1.00	0.00	27.68	157.20	0.00	4,183.1	0.0	1430.95	2695.91	4,126.86
2	30.0	14.34	18.717	22.10	0.00	0.19	2.63	0.85	1.00	0.00	27.39	157.20	0.00	3,728.4	0.0	1406.90	2698.19	4,105.09
3	50.0	16.60	12.939	22.10	0.00	0.19	2.64	0.85	1.00	0.00	22.16	157.20	0.00	3,250.9	0.0	1318.24	3122.18	4,440.42
4	70.0	18.27	11.598	18.56	0.00	0.20	2.61	0.85	1.00	0.00	19.71	153.50	0.00	2,927.8	0.0	1279.16	3358.02	4,637.17
5	90.0	19.63	9.614	13.35	0.00	0.19	2.63	0.85	1.00	0.00	15.81	132.56	0.00	2,327.2	0.0	1112.24	3124.45	4,236.69
6	110.0	20.79	6.277	9.59	0.00	0.18	2.68	0.85	1.00	0.00	10.81	78.32	0.00	1,448.3	0.0	817.91	1962.56	2,780.47
7	122.5	21.44	1.223	3.24	0.00	0.24	2.47	0.85	1.00	0.00	2.96	11.48	0.00	308.4	0.0	213.06	297.46	510.52
														<b>18,174.1</b>	<b>0.0</b>			<b>24,837.22</b>

## Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/29/2021</b>
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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 + 1.0Di + 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 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 (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	3.81	16.978	58.69	29.91	0.30	2.31	1.00	1.00	1.77	52.06	278.16	65.08	16,047.	10470.0	388.55	1017.94	1,406.48
2	30.0	3.81	18.717	54.01	31.91	0.33	2.23	1.00	1.00	1.98	51.54	290.53	72.64	17,030.	12059.0	371.90	1067.81	1,439.72
3	50.0	4.41	12.939	58.75	36.64	0.37	2.12	1.00	1.00	2.08	49.62	296.76	76.44	16,450.	12115.8	394.94	1250.58	1,519.23
4	70.0	4.86	11.598	53.95	35.39	0.41	2.05	1.00	1.00	2.16	46.07	295.54	73.67	15,899.	11996.0	390.15	1341.78	1,731.93
5	90.0	5.22	9.614	50.34	36.99	0.46	1.95	1.00	1.00	2.21	43.17	255.31	72.97	13,814.	10711.5	373.29	1156.26	1,529.55
6	110.0	5.52	6.277	44.25	34.66	0.52	1.88	1.00	1.00	2.26	37.05	150.46	63.92	9,233.6	7302.6	326.47	716.33	1,042.80
7	122.5	5.70	1.223	17.57	14.33	0.91	1.94	1.00	1.00	2.28	18.42	24.13	7.60	2,093.1	1681.9	173.23	20.17	193.40
														<b>90,568.8</b>	<b>66336.7</b>	<b>8,863.12</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 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 (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	3.81	16.978	58.69	29.91	0.30	2.31	0.80	1.00	1.77	48.67	278.16	65.08	16,047.	10470.0	363.21	1017.94	1,381.14
2	30.0	3.81	18.717	54.01	31.91	0.33	2.23	0.80	1.00	1.98	47.79	290.53	72.64	17,030.	12059.0	344.89	1067.81	1,412.70
3	50.0	4.41	12.939	58.75	36.64	0.37	2.12	0.80	1.00	2.08	47.03	296.76	76.44	16,450.	12115.8	374.34	1250.58	1,624.92
4	70.0	4.86	11.598	53.95	35.39	0.41	2.05	0.80	1.00	2.16	43.75	295.54	73.67	15,899.	11996.0	370.51	1341.78	1,712.29
5	90.0	5.22	9.614	50.34	36.99	0.46	1.95	0.80	1.00	2.21	41.24	255.31	72.97	13,814.	10711.5	356.66	1156.26	1,512.93
6	110.0	5.52	6.277	44.25	34.66	0.52	1.88	0.80	1.00	2.26	35.80	150.46	63.92	9,233.6	7302.6	315.41	716.33	1,031.73
7	122.5	5.70	1.223	17.57	14.33	0.91	1.94	0.80	1.00	2.28	18.18	24.13	7.60	2,093.1	1681.9	170.93	20.17	191.10
														<b>90,568.8</b>	<b>66336.7</b>	<b>8,866.81</b>		

## Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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> 1.2D + 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

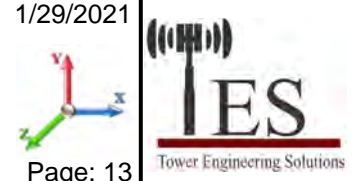
Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
			Flat (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)						
1	10.0	3.81	16.978	58.69	29.91	0.30	2.31	0.85	1.00	1.77	49.52	278.16	65.08	16,047.0	10470.0	369.54	1017.94	1,387.48	
2	30.0	3.81	18.717	54.01	31.91	0.33	2.23	0.85	1.00	1.98	48.73	290.53	72.64	17,030.0	12059.0	351.64	1067.81	1,419.46	
3	50.0	4.41	12.939	58.75	36.64	0.37	2.12	0.85	1.00	2.08	47.68	296.76	76.44	16,450.0	12115.8	379.49	1250.58	1,630.06	
4	70.0	4.86	11.598	53.95	35.39	0.41	2.05	0.85	1.00	2.16	44.33	295.54	73.67	15,899.0	11996.0	375.42	1341.78	1,717.20	
5	90.0	5.22	9.614	50.34	36.99	0.46	1.95	0.85	1.00	2.21	41.73	255.31	72.97	13,814.0	10711.5	360.82	1156.26	1,517.08	
6	110.0	5.52	6.277	44.25	34.66	0.52	1.88	0.85	1.00	2.26	36.11	150.46	63.92	9,233.6	7302.6	318.17	716.33	1,034.50	
7	122.5	5.70	1.223	17.57	14.33	0.91	1.94	0.85	1.00	2.28	18.24	24.13	7.60	2,093.1	1681.9	171.51	20.17	191.68	
														<b>90,568.8</b>	<b>66336.7</b>				<b>8,897.46</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 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 (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)						
1	10.0	5.48	16.978	28.78	0.00	0.18	2.65	1.00	1.00	0.00	32.94	157.20	0.00	4,647.9	0.0	407.14	644.68	1,051.82	
2	30.0	5.49	18.717	22.10	0.00	0.19	2.63	1.00	1.00	0.00	31.37	157.20	0.00	4,142.6	0.0	385.41	645.22	1,030.63	
3	50.0	6.35	12.939	22.10	0.00	0.19	2.64	1.00	1.00	0.00	25.59	157.20	0.00	3,612.2	0.0	364.10	746.61	1,110.71	
4	70.0	6.99	11.598	18.56	0.00	0.20	2.61	1.00	1.00	0.00	22.25	153.50	0.00	3,253.1	0.0	345.20	803.01	1,148.21	
5	90.0	7.51	9.614	13.35	0.00	0.19	2.63	1.00	1.00	0.00	17.26	132.56	0.00	2,585.8	0.0	290.23	747.16	1,037.39	
6	110.0	7.96	6.277	9.59	0.00	0.18	2.68	1.00	1.00	0.00	11.75	78.32	0.00	1,609.2	0.0	212.62	469.31	681.94	
7	122.5	8.20	1.223	3.24	0.00	0.24	2.47	1.00	1.00	0.00	3.14	11.48	0.00	342.7	0.0	54.11	71.13	125.24	
														<b>20,193.5</b>	<b>0.0</b>				<b>6,185.94</b>

## Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>1/29/2021</b>
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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> 13



<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

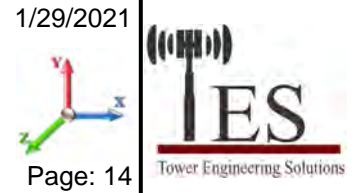
Sect Seq	Wind Height (ft)	qz (psf)	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	5.48	16.978	28.78	0.00	0.18	2.65	0.80	1.00	0.00	29.54	157.20	0.00	4,647.9	0.0	365.16	644.68	1,009.84
2	30.0	5.49	18.717	22.10	0.00	0.19	2.63	0.80	1.00	0.00	27.63	157.20	0.00	4,142.6	0.0	339.43	645.22	984.65
3	50.0	6.35	12.939	22.10	0.00	0.19	2.64	0.80	1.00	0.00	23.01	157.20	0.00	3,612.2	0.0	327.28	746.61	1,073.90
4	70.0	6.99	11.598	18.56	0.00	0.20	2.61	0.80	1.00	0.00	19.93	153.50	0.00	3,253.1	0.0	309.20	803.01	1,112.21
5	90.0	7.51	9.614	13.35	0.00	0.19	2.63	0.80	1.00	0.00	15.33	132.56	0.00	2,585.8	0.0	257.89	747.16	1,005.05
6	110.0	7.96	6.277	9.59	0.00	0.18	2.68	0.80	1.00	0.00	10.50	78.32	0.00	1,609.2	0.0	189.91	469.31	659.22
7	122.5	8.20	1.223	3.24	0.00	0.24	2.47	0.80	1.00	0.00	2.90	11.48	0.00	342.7	0.0	49.90	71.13	121.03
														<b>20,193.5</b>	<b>0.0</b>			<b>5,965.90</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 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 (sqft)	Round (sqft)								Linear (sqft)	Linear (sqft)					
1	10.0	5.48	16.978	28.78	0.00	0.18	2.65	0.85	1.00	0.00	30.39	157.20	0.00	4,647.9	0.0	375.65	644.68	1,020.33
2	30.0	5.49	18.717	22.10	0.00	0.19	2.63	0.85	1.00	0.00	28.57	157.20	0.00	4,142.6	0.0	350.92	645.22	996.15
3	50.0	6.35	12.939	22.10	0.00	0.19	2.64	0.85	1.00	0.00	23.65	157.20	0.00	3,612.2	0.0	336.49	746.61	1,083.10
4	70.0	6.99	11.598	18.56	0.00	0.20	2.61	0.85	1.00	0.00	20.51	153.50	0.00	3,253.1	0.0	318.20	803.01	1,121.21
5	90.0	7.51	9.614	13.35	0.00	0.19	2.63	0.85	1.00	0.00	15.81	132.56	0.00	2,585.8	0.0	265.97	747.16	1,013.13
6	110.0	7.96	6.277	9.59	0.00	0.18	2.68	0.85	1.00	0.00	10.81	78.32	0.00	1,609.2	0.0	195.59	469.31	664.90
7	122.5	8.20	1.223	3.24	0.00	0.24	2.47	0.85	1.00	0.00	2.96	11.48	0.00	342.7	0.0	50.95	71.13	122.08
														<b>20,193.5</b>	<b>0.0</b>			<b>6,020.91</b>

## Force/Stress Compression Summary

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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



### LEG MEMBERS

Sect	Top Elev	Member	Force		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls	
			(kips)				X	Y	Z					KL/R
1	20	PST - 8" DIA PIPE	-293.93	1.2D + 1.6W	Normal Wind	9.76	100	100	100	39.83	54.00	360.16	81.6	Member X
2	40	PST - 6" DIA PIPE	-253.01	1.2D + 1.6W	Normal Wind	9.76	50	50	50	26.02	54.00	257.07	98.4	Member X
3	60	PST - 6" DIA PIPE	-211.11	1.2D + 1.6W	Normal Wind	6.51	100	100	100	34.70	54.00	246.59	85.6	Member X
4	80	PST - 5" DIA PIPE	-160.67	1.2D + 1.6W	Normal Wind	6.51	100	100	100	41.53	54.00	182.37	88.1	Member X
5	100	PST - 3-1/2" DIA PIPE	-107.88	1.2D + 1.6W	Normal Wind	4.88	100	100	100	43.70	54.00	112.02	96.3	Member X
6	120	PST - 2-1/2" DIA PIPE	-50.18	1.2D + 1.6W	Normal Wind	4.94	100	100	100	62.62	54.00	60.76	82.6	Member X
7	125	PST - 2-1/2" DIA PIPE	-11.58	1.2D + 1.6W	Normal Wind	2.50	100	100	100	31.68	54.00	76.50	15.1	Member X

### Splices

Sect	Top Elev	Load Case	Top Splice				Bolt Type	Num Bolts	Load Case	Bottom Splice			
			Force (kips)	Cap (kips)	Use %					Force (kips)	Cap (kips)	Use %	Bolt Type
1	20	1.2D + 1.6W Normal Wind	265.43	0.00	0.0			1.2D + 1.6W Normal Wind	306.19	0.00			
2	40	1.2D + 1.6W Normal Wind	220.03	0.00	0.0			1.2D + 1.6W Normal Wind	265.43	0.00		1/4 A325	8
3	60	1.2D + 1.6W Normal Wind	170.41	0.00	0.0			1.2D + 1.6W Normal Wind	220.03	0.00		1 A325	8
4	80	1.2D + 1.6W Normal Wind	115.76	0.00	0.0			1.2D + 1.6W Normal Wind	170.41	0.00		1 A325	8
5	100	1.2D + 1.6W Normal Wind	55.95	0.00	0.0			1.2D + 1.6W Normal Wind	115.76	0.00		1 A325	6
6	120	1.2D + 1.6W Normal Wind	14.83	0.00	0.0			1.2D + 1.6W Normal Wind	55.95	0.00		3/4 A325	6
7	125	1.2D + 1.0Di + 1.0Wi 90° Wind	5.14	0.00	0.0			1.2D + 1.6W Normal Wind	14.83	0.00		3/4 A325	4

### HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Shear Bear		Use %	Controls		
			(kips)				X	Y	Z				KL/R	Num Holes (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	100									0.00	0	0						
6	120									0.00	0	0						
7	125	SAE - 1.5X1.5X0.1875	-3.95	1.2D + 1.6W	Normal Wind	3.50	100	100	100	100.34	36.00	10.11	2	1	35.78	27.73	39	Member Z

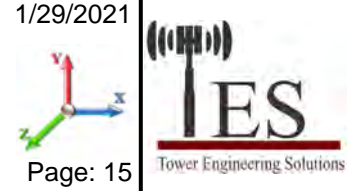
### DIAGONAL MEMBERS

Sect	Top Elev	Member	Force		Load Case	Len (ft)	Bracing %			Fy (ksi)	Mem Cap (kips)	Num Bolts	Shear Bear		Use %	Controls		
			(kips)				X	Y	Z				KL/R	Num Holes (kips)			Cap (kips)	
1	20	SAE - 3.5X3.5X0.25	-9.27	0.9D + 1.6W	90° Wind	14.99	50	50	50	129.60	36.00	22.62	1	1	12.43	13.0	75	Bolt Shear
2	40	SAE - 3X3X0.25	-9.64	1.2D + 1.6W	90° Wind	13.89	50	50	50	140.73	36.00	16.43	1	1	12.43	13.0	78	Bolt Shear
3	60	SAE - 2.5X2.5X0.1875	-8.19	1.2D + 1.6W	90° Wind	10.51	50	50	50	127.44	36.00	12.43	1	1	12.43	9.79	84	Bolt Bear
4	80	SAE - 2.5X2.5X0.1875	-7.64	1.2D + 1.6W	90° Wind	10.11	50	50	50	122.50	36.00	13.26	2	1	15.90	18.6	58	Member Z
5	100	SAE - 2X2X0.1875	-6.79	1.2D + 1.6W	90° Wind	7.13	50	50	50	111.43	36.00	11.97	1	1	7.95	7.50	90	Bolt Bear
6	120	SAE - 1.5X1.5X0.1875	-4.20	1.2D + 1.6W	90° Wind	6.88	50	50	50	140.97	36.00	6.02	1	1	7.95	7.50	70	Member Z
7	125	SOL - 5/8" SOLID	-2.23	1.2D + 1.6W	Normal Wind	4.30	50	50	50	148.89	36.00	3.13	0	0				T-Only



## Force/Stress Tension Summary

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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



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### LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	PST - 8" DIA PIPE	275.39	0.9D + 1.6W 60° Wind	54	408.24	67.5	Member
2	40	PST - 6" DIA PIPE	237.88	0.9D + 1.6W 60° Wind	54	271.19	87.7	Member
3	60	PST - 6" DIA PIPE	196.18	0.9D + 1.6W 60° Wind	54	271.19	72.3	Member
4	80	PST - 5" DIA PIPE	149.84	0.9D + 1.6W 60° Wind	54	208.98	71.7	Member
5	100	PST - 3-1/2" DIA PIPE	98.00	0.9D + 1.6W 60° Wind	54	130.25	75.2	Member
6	120	PST - 2-1/2" DIA PIPE	44.41	0.9D + 1.6W 60° Wind	54	82.81	53.6	Member
7	125	PST - 2-1/2" DIA PIPE	4.02	0.9D + 1.6W Normal Wind	54	82.81	4.9	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	237.62	0.00	0.0		0.9D + 1.6W 60° Wind	275.3	0.00			
2	40	0.9D + 1.6W 60° Wind	195.89	0.00	0.0		0.9D + 1.6W 60° Wind	237.6	610.56	38.9	1 1/4 A325	8
3	60	0.9D + 1.6W 60° Wind	149.64	0.00	0.0		0.9D + 1.6W 60° Wind	195.8	424.08	46.2	1 A325	8
4	80	0.9D + 1.6W 60° Wind	97.83	0.00	0.0		0.9D + 1.6W 60° Wind	149.6	424.08	35.3	1 A325	8
5	100	0.9D + 1.6W 60° Wind	44.29	0.00	0.0		0.9D + 1.6W 60° Wind	97.83	318.06	30.8	1 A325	6
6	120	0.9D + 1.6W 60° Wind	4.64	0.00	0.0		0.9D + 1.6W 60° Wind	44.29	180.60	24.5	3/4 A325	6
7	125		0.00	0.00	0.0		0.9D + 1.6W 60° Wind	4.64	120.40	3.8	3/4 A325	4

### HORIZONTAL MEMBERS

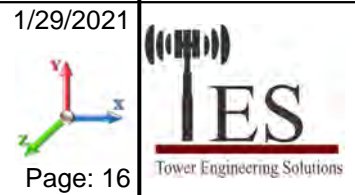
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			36	0.00	0	0					
2	40	-			36	0.00	0	0					
3	60	-			36	0.00	0	0					
4	80	-			36	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	125	SAE - 1.5X1.5X0.1875	1.92	1.2D + 1.6W Normal Wi	36	15.92	2	1	35.78	27.73	13.18	14.6	Blck Shear

### 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 - 3.5X3.5X0.25	8.83	0.9D + 1.6W 90° Wind	36	54.76	1	1	12.43	13.05	16.79	71.0	Bolt Shear
2	40	SAE - 3X3X0.25	8.86	0.9D + 1.6W 90° Wind	36	46.66	1	1	12.43	13.05	14.07	71.3	Bolt Shear
3	60	SAE - 2.5X2.5X0.1875	7.91	1.2D + 1.6W 90° Wind	36	29.22	1	1	12.43	9.79	9.53	83.0	Blck Shear
4	80	SAE - 2.5X2.5X0.1875	8.01	1.2D + 1.6W 90° Wind	36	29.22	2	1	15.90	18.60	13.66	58.6	Blck Shear
5	100	SAE - 2X2X0.1875	6.59	1.2D + 1.6W 90° Wind	36	23.00	1	1	7.95	7.50	7.25	91.0	Blck Shear
6	120	SAE - 1.5X1.5X0.1875	4.19	1.2D + 1.6W 90° Wind	36	17.17	1	1	7.95	7.50	5.21	80.5	Blck Shear
7	125	SOL - 5/8" SOLID	7.31	1.2D + 1.6W Normal Wi	36	9.94	0	0				73.5	Member

## Seismic Section Forces

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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: 1.2D + 1.0E</b>					
<b>Dead Load Factor</b>	1.20	<b>Sds</b> 0.192	<b>Ss</b> 0.1800	<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> 0.192	<b>R</b> 3.0000	<b>Vs</b> 2.6635	<b>f1</b> 1.9570

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	10.00	4647.8	0.01	0.06	0.03	20.40
2	30.00	4142.6	0.11	0.07	0.04	46.76
3	50.00	3612.1	0.30	0.04	0.01	79.81
4	70.00	3372.6	0.59	-0.05	0.01	116.34
5	90.00	8979.0	0.98	-0.11	0.12	469.83
6	110.00	5056.4	1.46	0.42	0.50	496.65
7	122.50	4853.4	1.82	1.61	1.00	751.64

<b>Load Case: 0.9D + 1.0E</b>					
<b>Dead Load Factor</b>	0.90	<b>Sds</b> 0.192	<b>Ss</b> 0.1800	<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> 0.192	<b>R</b> 3.0000	<b>Vs</b> 2.6635	<b>f1</b> 1.9570

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	10.00	4647.8	0.01	0.06	0.03	20.40
2	30.00	4142.6	0.11	0.07	0.04	46.76
3	50.00	3612.1	0.30	0.04	0.01	79.81
4	70.00	3372.6	0.59	-0.05	0.01	116.34
5	90.00	8979.0	0.98	-0.11	0.12	469.83
6	110.00	5056.4	1.46	0.42	0.50	496.65
7	122.50	4853.4	1.82	1.61	1.00	751.64

## Support Forces Summary

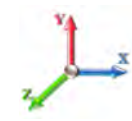
**Structure:** CT01725-A-SBA

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

1/29/2021

**Site Name:** Bloomfield

**Exposure:** B



**Height:** 125.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 0.85

**Topography:** 1

**Struct Class:** II

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Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	0.02	305.75	-25.82	
	1a	9.66	-132.07	-7.19	
	1b	-9.68	-132.08	-7.15	
1.2D + 1.6W 60° Wind	1	-1.37	157.43	-12.94	
	1a	-11.86	155.81	5.29	
	1b	-20.75	-271.64	-11.96	
1.2D + 1.6W 90° Wind	1	-1.60	13.89	-0.62	
	1a	-19.50	261.66	10.34	
	1b	-18.37	-233.96	-9.72	
0.9D + 1.6W Normal Wind	1	0.02	301.48	-25.61	
	1a	9.82	-135.14	-7.29	
	1b	-9.84	-135.15	-7.26	
0.9D + 1.6W 60° Wind	1	-1.38	153.57	-12.74	
	1a	-11.69	151.96	5.18	
	1b	-20.91	-274.33	-12.05	
0.9D + 1.6W 90° Wind	1	-1.61	10.42	-0.42	
	1a	-19.32	257.53	10.23	
	1b	-18.53	-236.75	-9.81	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.01	141.12	-9.44	
	1a	2.27	-3.27	-1.81	
	1b	-2.27	-3.34	-1.80	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.45	92.99	-5.34	
	1a	-4.82	92.11	2.28	
	1b	-6.03	-50.58	-3.47	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.52	44.86	-1.23	
	1a	-7.35	127.33	3.94	
	1b	-5.21	-37.68	-2.71	
1.2D + 1.0E	1	0.00	32.80	0.75	
	1a	2.41	4.40	-1.36	
	1b	-2.41	4.40	-1.36	
0.9D + 1.0E	1	0.00	29.28	0.96	
	1a	2.58	0.96	-1.46	
	1b	-2.58	0.96	-1.46	
1.0D + 1.0W Normal Wind	1	0.00	81.50	-6.72	
	1a	1.88	-23.41	-1.49	
	1b	-1.89	-23.42	-1.48	
1.0D + 1.0W 60° Wind	1	-0.34	45.95	-3.62	
	1a	-3.30	45.57	1.52	
	1b	-4.56	-56.86	-2.63	
1.0D + 1.0W 90° Wind	1	-0.39	11.56	-0.65	
	1a	-5.13	70.94	2.74	
	1b	-3.99	-47.83	-2.08	

### Max Reactions

Leg

Overturing

---

Max Uplift: -274.33 (kips)

Max Down: 305.75 (kips)

Max Shear: 25.82 (kips)

Moment: 3159.70 (ft-kips)

Total Down: 41.60 (kips)

Total Shear: 40.15 (kips)

## Analysis Summary

<b>Structure:</b> CT01725-A-SBA	<b>Code:</b> EIA/TIA-222-G	1/29/2021
<b>Site Name:</b> Bloomfield	<b>Exposure:</b> B	
<b>Height:</b> 125.00 (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> 19



### Max Reactions

	Leg	Overturning
Max Uplift:	-274.33 (kips)	Moment: 3159.70 (ft-kips)
Max Down:	305.75 (kips)	Total Down: 41.60 (kips)
Max Shear:	25.82 (kips)	Total Shear: 40.15 (kips)

### Anchor Bolts

Bolt Size (in.): 1.50	Number Bolts: 8
Yield Strength (Ksi): 36.00	Tensile Strength (Ksi): 58.00
Detail Type: A	

**Interaction Ratio: 0.58**

### Max Usages


Max Leg: 98.4% (1.2D + 1.6W Normal Wind - Sect 2)  
 Max Diag: 91.0% (1.2D + 1.6W 90° Wind - Sect 5)  
 Max Horiz: 39.1% (1.2D + 1.6W Normal Wind - Sect 7)

### Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0E - Normal To Face	66.75	0.0332	0.0022	0.0623
	73.25	0.0407	0.0025	0.0699
	85.13	0.0569	-0.0031	0.0871
	99.75	0.0823	0.0040	0.1236
	110.13	0.1042	-0.0042	0.1303
	120.00	0.1275	-0.0044	0.1420
	125.00	0.1398	-0.0043	0.1396
0.9D + 1.6W 97 mph Wind at 60° From Face	66.75	0.4632	0.1217	0.8224
	73.25	0.5622	0.1434	0.9158
	85.13	0.7714	0.2147	1.1021
	99.75	1.0837	0.3562	1.4559
	110.13	1.3401	0.6446	1.5133
	120.00	1.6030	0.9230	1.5678
	125.00	1.7393	1.0210	1.4265
0.9D + 1.6W 97 mph Wind at 90° From Face	66.75	0.4621	0.0394	0.8195
	73.25	0.5610	0.0457	0.9167
	85.13	0.7700	0.0653	1.1016
	99.75	1.0817	0.1040	1.4339
	110.13	1.3359	0.1753	1.4855
	120.00	1.5958	0.2433	1.5199
	125.00	1.7293	0.2436	0.9845

0.9D + 1.6W 97 mph Wind at Normal To Face	66.75	0.4718	0.0500	0.8360
	73.25	0.5727	0.0576	0.9320
	85.13	0.7863	0.0778	1.1230
	99.75	1.1082	0.1137	1.4957
	110.13	1.3733	0.1757	1.5522
	120.00	1.6487	0.2361	1.6859
	125.00	1.7990	0.2371	2.3379
1.0D + 1.0W 60 mph Wind at 60° From Face	66.75	0.1109	0.0162	0.1967
	73.25	0.1346	0.0189	0.2189
	85.13	0.1847	0.0268	0.2629
	99.75	0.2598	0.0422	0.3509
	110.13	0.3211	0.0711	0.3596
	120.00	0.3842	0.0990	0.3731
	125.00	0.4169	0.1046	0.3368
1.0D + 1.0W 60 mph Wind at 90° From Face	66.75	0.1110	0.0092	0.1966
	73.25	0.1347	0.0107	0.2199
	85.13	0.1848	0.0153	0.2643
	99.75	0.2596	0.0240	0.3454
	110.13	0.3206	0.0407	0.3564
	120.00	0.3830	0.0565	0.3648
	125.00	0.4150	0.0565	0.2372
1.0D + 1.0W 60 mph Wind at Normal To Face	66.75	0.1136	0.0119	0.2008
	73.25	0.1379	0.0136	0.2239
	85.13	0.1892	0.0183	0.2700
	99.75	0.2661	0.0270	0.3570
	110.13	0.3298	0.0413	0.3730
	120.00	0.3960	0.0554	0.4066
	125.00	0.4311	0.0555	0.5377
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	66.75	0.1552	0.0271	0.2749
	73.25	0.1883	0.0317	0.3057
	85.13	0.2583	0.0459	0.3670
	99.75	0.3633	0.0737	0.4984
	110.13	0.4498	0.1279	0.5075
	120.00	0.5389	0.1801	0.5261
	125.00	0.5850	0.1974	0.4828
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	66.75	0.1543	0.0109	0.2730
	73.25	0.1873	0.0126	0.3059
	85.13	0.2569	0.0175	0.3670
	99.75	0.3612	0.0270	0.4874
	110.13	0.4465	0.0438	0.4974
	120.00	0.5337	0.0596	0.5036
	125.00	0.5782	0.0597	0.2307
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	66.75	0.1568	0.0137	0.2790
	73.25	0.1906	0.0157	0.3122
	85.13	0.2620	0.0203	0.3776
	99.75	0.3702	0.0285	0.4991
	110.13	0.4603	0.0401	0.5311
	120.00	0.5548	0.0517	0.5912
	125.00	0.6055	0.0520	0.8714
1.2D + 1.0E - Normal To Face	66.75	0.0333	0.0022	0.0625
	73.25	0.0408	0.0025	0.0702
	85.13	0.0571	0.0031	0.0875
	99.75	0.0826	0.0040	0.1238
	110.13	0.1046	-0.0042	0.1309
	120.00	0.1280	-0.0044	0.1429
	125.00	0.1403	-0.0044	0.1403
1.2D + 1.6W 97 mph Wind at 60° From Face	66.75	0.4647	0.1222	0.8257
	73.25	0.5641	0.1441	0.9196
	85.13	0.7742	0.2157	1.1071
	99.75	1.0880	0.3578	1.4637
	110.13	1.3458	0.6476	1.5213
	120.00	1.6101	0.9272	1.5762
	125.00	1.7472	1.0257	1.4348

1.2D + 1.6W 97 mph Wind at 90° From Face	66.75	0.4636	0.0395	0.8228
	73.25	0.5629	0.0459	0.9205
	85.13	0.7728	0.0655	1.1067
	99.75	1.0861	0.1043	1.4407
	110.13	1.3416	0.1756	1.4934
	120.00	1.6029	0.2438	1.5284
	125.00	1.7371	0.2440	0.9932
-----				
1.2D + 1.6W 97 mph Wind at Normal To Face	66.75	0.4734	0.0502	0.8394
	73.25	0.5748	0.0578	0.9360
	85.13	0.7893	0.0780	1.1283
	99.75	1.1127	0.1140	1.5027
	110.13	1.3791	0.1762	1.5603
	120.00	1.6560	0.2366	1.6950
	125.00	1.8070	0.2377	2.3478
-----				

	<b>Mat Foundation Design for Self Supporting Tower</b>			Date 1/29/2021
	Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
	Site Name:		Structure Height (Ft.):	125
	Site Number:	CT01725-A-SBA	Engineer Name:	Rama K.
	Engr. Number:	102043	Engineer Login ID:	

**Foundation Info Obtained from:**

**Analysis or Design?**

**Number of Tower Legs:**

**Base Reactions (Factored):**

(1). Individual Leg:

Axial Load (Kips):	305.7	Uplift Force (Kips):	274.3
Shear Force (Kips):	25.8		

(2). Tower Base:

Total Vertical Load (Kips):	41.6	Total Shear Force (Kips):	40.2
Moment (Kips-ft):	3159.7		

**Foundation Geometries:**

Leg distance (Center-to-Center ft.):	12.5	Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	Round 3.0	Pier Height A. G. (ft.):	0.00
Tower center to mat center (ft):	1.01	Depth of Base BG (ft.):	4.3
Length of Pad (ft.):	29	Width of Pad (ft.):	29
Thickness of Pad (ft):	4.30		

**Material Properties and Rebar Info:**

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi):	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	9	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

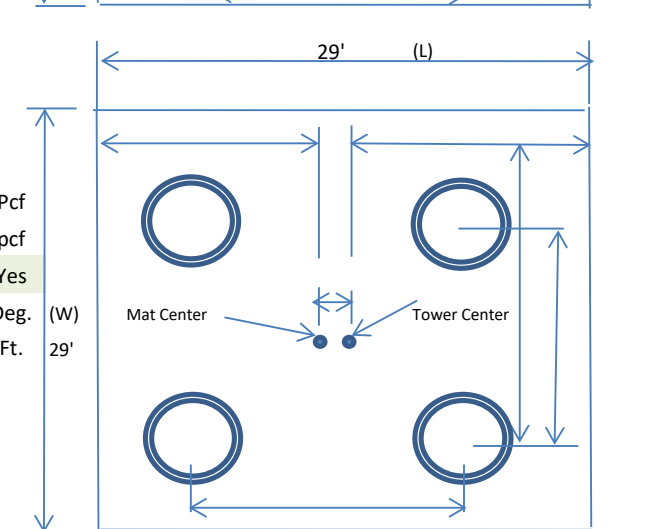
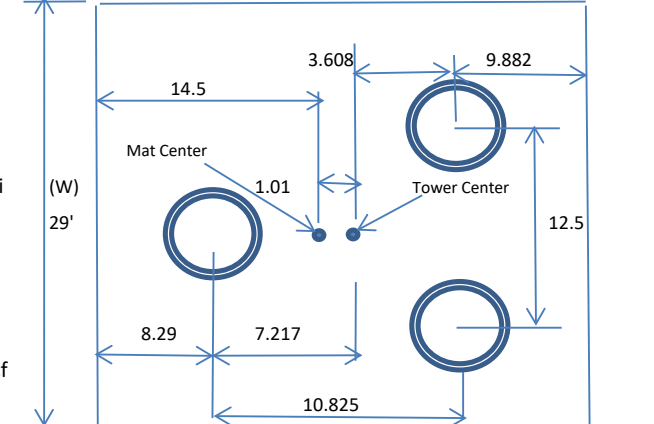
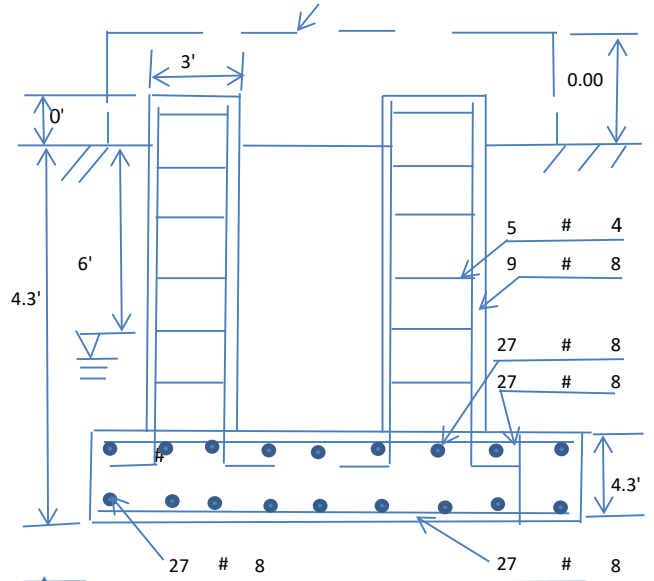
Qty. of Rebar in Pad (L):	27	Qty. of Rebar in Pad (W):	27
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	27	Qty. of Rebar in Pad (W):	27
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**Soil Design Parameters:**

Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	6.0	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. 29'





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.):		0.08	Total Dry Soil Weight (Kips):	0.01
Total Buoyant Soil Volume (cu. Ft.):		0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):		0.01	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3616.32		Total Dry Concrete Weight (Kips):	542.45
Total Buoyant Concrete Volume (cu. Ft.):	0.00		Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	542.45		Total Vertical Load on Base (Kips):	584.05

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	1641.97	<	Allowable Factored Soil Bearing (psf):	7500	0.22	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7682.2	>	Design Factored Momont (kips-ft):	3375	0.44	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.28					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

**(2).Concrete Pad:**

One-Way Design Shear Capacity (L or W Direction, Kips):	1375.2	>	One-Way Factored Shear (L/W-Dir Kips	261.3	0.19	OK!
One-Way Design Shear Capacity (Diagonal Dir., Kips):	1226.1	>	One-Way Factored Shear (Dia. Dir, Kips	280.0	0.23	OK!
Lower Steel Pad Reinforcement Ratio (L or W-Direct. ):	0.0013		Lower Steel Reinf. Ratio (Dia. Dir.):	0.0011		
Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft):	4547.5	>	Moment at Bottom ( L-Direct. K-Ft):	1736.1	0.38	OK!
Lower Steel Pad Moment Capacity (Dia. Direction,K-ft):	4556.8	>	Moment at Bottom ( Dia. Dir. K-Ft):	1637.6	0.36	OK!
Upper Steel Pad Reinforcement Ratio (L or W -Direction):	0.0013		Upper Steel Reinf. Ratio (Dia. Dir.):	0.0011		
Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft):	4547.5	>	Moment at the top (L-Dir Kips-Ft):	738.5	0.16	OK!
Upper Steel Pad Moment Capacity (Dia. Direction, K-ft):	4556.8	>	Moment at the top (Dia. Dir., K-Ft):	552.3	0.12	OK!
Punching Failure Capacity (Kips):	2088.1	>	Punch. Failure Factored Shear (K):	305.7	0.15	OK!

# EXHIBIT 8

# MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS EXISTING SELF SUPPORTING TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT01725-A  
CARRIER SITE #/NAME: CT11162B / BLUEHILLS/JN OF RT-187\_1  
COORDINATES (LATITUDE: 41.820119°, LONGITUDE: -72.696514°)

PLEASE NOTE THIS SET OF DRAWINGS ARE FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	0
A-2	ANTENNA MOUNT PHOTOS	0
D-1	STANDARD DETAILS	0
D-2	STANDARD DETAILS	0
D-3	STANDARD DETAILS	0
D-4	STANDARD DETAILS	0
D-5	STANDARD DETAILS	0
MSK3D	METROSITE PIPE TO PIPE CLAMPS	0
MS-HR2875-33ECP	METROSITE SUPPORT RAIL END CONNECTION KIT	

**NOTE:**

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 99819, DATED 01/08/2021.



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(800)-487-SITE

TES JOB NO:  
101515

CUSTOMER SITE NO:  
CT01725-A-SBA  
CUSTOMER SITE NAME:  
BLOOMFIELD  
1021 BLUE HILLS AVENUE  
BLOOMFIELD, CT 06002

Exp.10/31/2021



01/29/2021

DRAWN BY: CAH CHECKED BY: MF/BT

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	01/29/21

SHEET TITLE:  
  
TITLE SHEET

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SHEET NUMBER: T-1 REV #: 0

**BILL OF MATERIALS**

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	SHEET LIST	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
<b>MATERIAL &amp; HARDWARE</b>							
1	1	MS-HR2875-33ECP	METROSITE SUPPORT RAIL END CONNECTION KIT	A-1, MS-HR2875-33ECP	82.0	82.0	Galvanized
<b>FOLLOWING ITEMS ARE "CUSTOM" PARTS</b>							
9	9	PST2875-8	2 1/2" PST (2.875" O.D. X 0.203" THK) X 8'-0" A53 GR-B 35KSI	A-1	47.50	427.5	GALVANIZED
9	9	MSK3D	METROSITE PIPE TO PIPE CLAMPS	A-1	42.00	396.9	GALVANIZED
3	3	PST2875-13	2 1/2" PST (2.875" O.D. X 0.203" THK) X 13'-0" A53 GR-B 35KSI	A-1	77.11	242.9	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
9	9	PL2875-2875	PL 3/8" X 7 1/8" X 10" A36	D-1	7.70	69.3	GALVANIZED
48	51	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	D-1, D-2	1.38	70.4	(2) HHN & LKW-EA GALVANIZED
6	6	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	D-2, D-3	33.50	201.0	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
6	6	BRKW-4S	BRACKET WELDMENT	D-2, D-5	0.00	0.0	GALVANIZED
6	6	BRKW-2SS	BRACKET WELDMENT	D-2, D-4	0.00	0.0	GALVANIZED
12	12	AL-1	L 4" X 3" X 3/8" X 0'-3" A36	D-2, D-3	2.15	25.8	GALVANIZED
12	13	---	THREADED ROD 5/8" X 10" A36	D-2	1.45	18.9	(2) HHN & LKW-EA GALVANIZED
24	26	---	BOLT 5/8" X 2" A325	D-2	0.00	0.0	(1) HHN & LKW-EA GALVANIZED
<p align="center"><b>ALL METROSITE PARTS ARE AVAILABLE FROM METROSITE, LLC.</b></p> <p align="center"><b>180 IND PARK BLVD COMMERCE, GA 30529</b></p> <p align="center"><b>OFFICE: (706) 335-7045</b></p> <p align="center"><b>FAX: (706) 335-7056</b></p>							
<p align="center"><b>NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.</b></p>							
					<b>TOTAL WEIGHT (LBS) =</b>	<b>1534.6</b>	



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**GENERAL NOTES**

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.
7. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES (WITH SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
8. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-[TESORDERS@TESTOWER.US](mailto:TESORDERS@TESTOWER.US)

**FABRICATION**

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

**WELDING**

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

**BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS**

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RSCC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

**VERIFICATION AND INSPECTION**

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 FOR STEEL CONSTRUCTION AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING<sup>a,b</sup>

BOLT LENGTH <sup>f</sup>	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 <sup>d</sup>	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS <sup>d</sup>
NOT MORE THAN 4d <sub>b</sub>	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d <sub>b</sub> BUT NOT MORE THAN 8d <sub>b</sub>	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d <sub>b</sub> BUT NOT MORE THAN 12d <sub>b</sub>	2/3 TURN	5/6 TURN	1 TURN

<sup>a</sup> NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

<sup>b</sup> APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

<sup>c</sup> WHEN THE BOLT LENGTH EXCEEDS 12d<sub>b</sub>, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

<sup>d</sup> BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

**INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:**

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

**FIELD HOT WORK PLAN NOTES:**

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.



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CUSTOMER SITE NO:  
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CUSTOMER SITE NAME:  
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SHEET NUMBER: **GN-1** | REV #: **0**

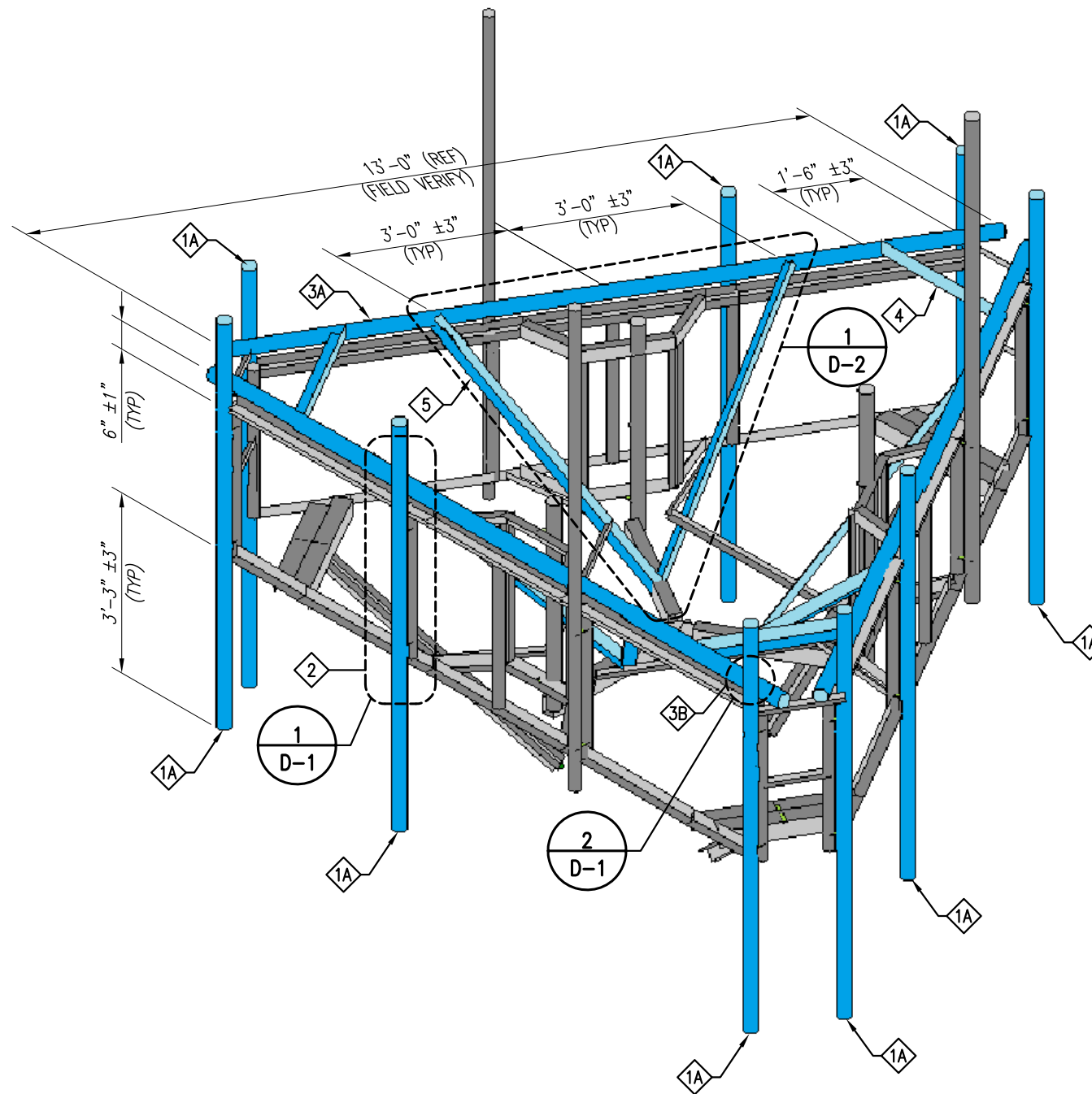
**SCOPE OF WORK**

- 1 A. REPLACE EXISTING ANTENNA MOUNT PIPES WITH NEW 2 1/2" PST ANTENNA MOUNT PIPE (8'-0" LONG), (3) PER SECTOR, THEN RELOCATE EXISTING ANTENNAS/EQUIPMENT TO NEW MOUNT PIPES. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.  
NOTE: CONTRACTOR TO COORDINATE WITH CARRIER PRIOR TO REPLACING OF EXISTING ANTENNA MOUNT PIPES TO DETERMINE IF EXISTING ANTENNAS NEEDS TO BE TURNED DOWN.
- 2 INSTALL NEW PIPE TO PIPE CLAMPS. SEE SHEETS D-1 AND MSK3D FOR DETAILS.
- 3 A. INSTALL NEW 2 1/2" PST TOP SUPPORT RAIL PIPE. (1) PER SECTOR.  
B. INSTALL NEW CROSSOVER PLATE CONNECTION. (3) PER SECTOR. SEE SHEET D-1 FOR DETAILS.
- 4 INSTALL NEW SUPPORT RAIL END CONNECTION KIT. SEE SHEET MS-HR2875-33ECP FOR DETAILS.
- 5 INSTALL NEW V-BRACING. SEE SHEET D-2 FOR DETAILS.
- 6 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



PHOTO 1

EXISTING ANTENNA MOUNT @ 125' ELEV



ISOMETRIC VIEW  
EXISTING ANTENNA MOUNT @ 125' ELEV.

**CONTRACTOR NOTE:**

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THERE IS NO INTERFERENCES WITH (SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
- 2. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESORDERS@TESTOWER.US

**NOTES:**

- 1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE LEGS AND/OR ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
- 2. WHEN FIELD CUTTING AND DRILLING ANGLES, USE SAME GAGE LINES AND EDGE DISTANCES AS INDICATED ON SHOP CUT AND DRILLED ENDS.
- 3. APPLY (2) COATS OF ZINGA COLD GALVANIZING COMPOUND AS PER THE MANUFACTURER'S SPECIFICATIONS TO ALL FIELD CUT AND DRILLED AREAS.
- 4. MEMBERS IN BLUE COLOR ARE NEW REINFORCEMENTS.

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	9	PST2875-8	2 1/2" PST (2.875" O.D. X 0.203" THK) X 8'-0" A53 GR-B 35
2	9	MSK3D	METROSITE PIPE TO PIPE CLAMPS
3	3	PST2875-13	2 1/2" PST (2.875" O.D. X 0.203" THK) X 13'-0" A53 GR-B 35
4	1	MS-HR2875-33ECP	METROSITE SUPPORT RAIL END CONNECTION KIT



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CT01725-A-SBA  
CUSTOMER SITE NAME:  
BLOOMFIELD

1021 BLUE HILLS AVENUE  
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ANTENNA MOUNT  
MODIFICATION DETAILS

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SHEET NUMBER: REV #:

A-1 0





PHOTO 1



PHOTO 2

REPLACE EXISTING ANTENNA MOUNT PIPES WITH NEW 2 1/2" PST ANTENNA MOUNT PIPES (8'-0" LONG) THEN RELOCATE EXISTING ANTENNAS/EQUIPMENT TO NEW MOUNT PIPES. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.

EXISTING EQUIPMENT MUST BE RELOCATED UP OR DOWN ALONG THE MEMBER TO ACCOMMODATE INSTALLATION OF MOUNT MODIFICATION



PHOTO 3



PHOTO 4

**NOTE:**  
EXISTING RRUS/EQUIPMENT MAY BE RELOCATED ALONG THE MEMBER TO ACCOMMODATE THE INSTALLATION OF NEW MOUNT MODIFICATION



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ANTENNA MOUNT PHOTOS

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SHEET NUMBER: | REV #:

A-2

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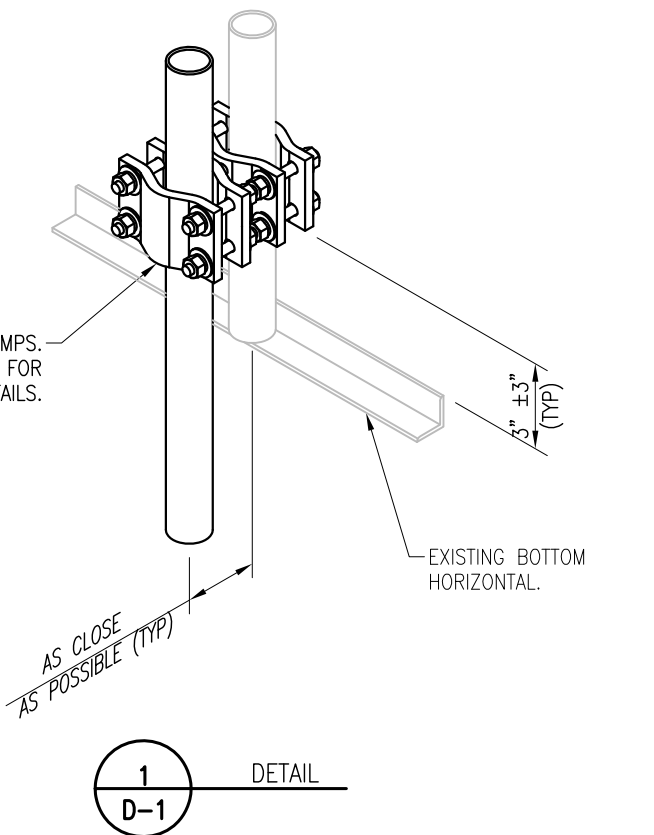
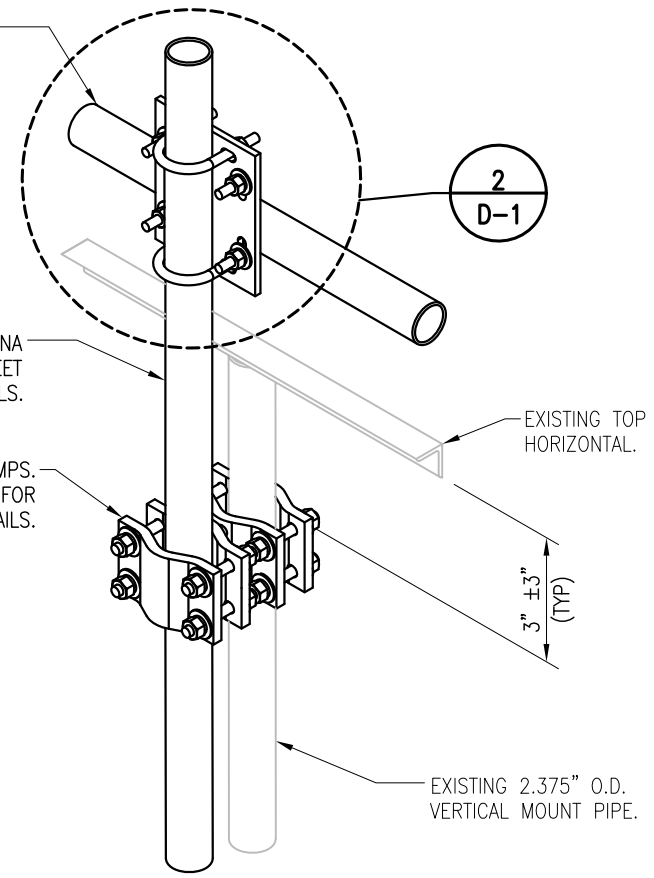
SHEET TITLE:

STANDARD DETAILS

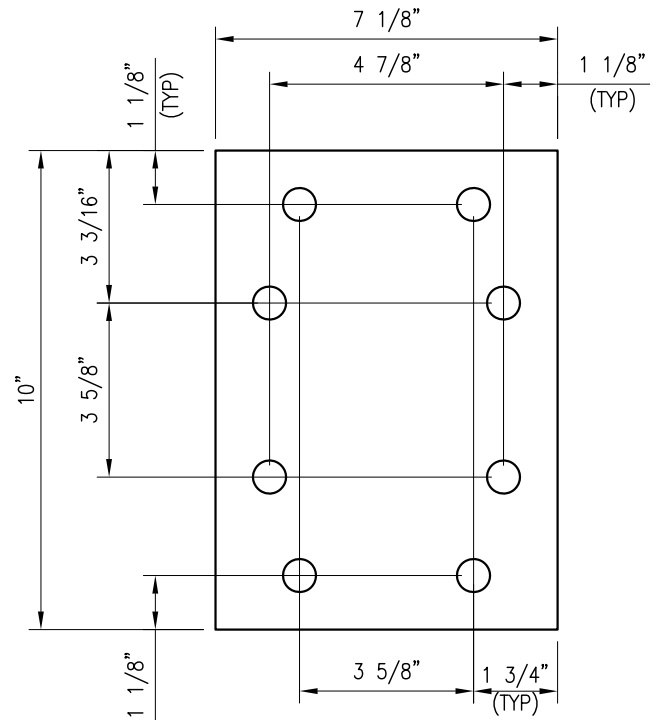
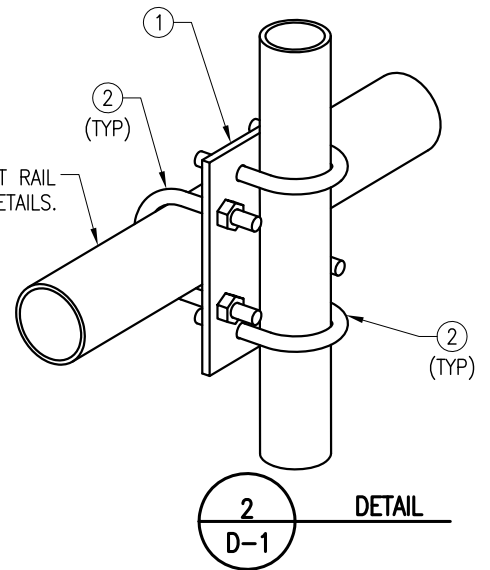
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SHEET NUMBER: | REV #:

D-1 | 0



NEW 2.875" O.D. TOP SUPPORT RAIL PIPE. SEE SHEET A-1 FOR DETAILS.



PL2875-2875  
 PL 3/8" X 7 1/8" X 10" A36  
 (7.7 LBS)

NOTES:  
 1. HOT-DIPPED GALVANIZED PER ASTM A123.  
 2. ALL HOLES ARE 11/16" DIA. U.N.O

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	9	PL2875-2875	PL 3/8" X 7 1/8" X 10" A36
2	36	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)

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 BLOOMFIELD, CT 06002

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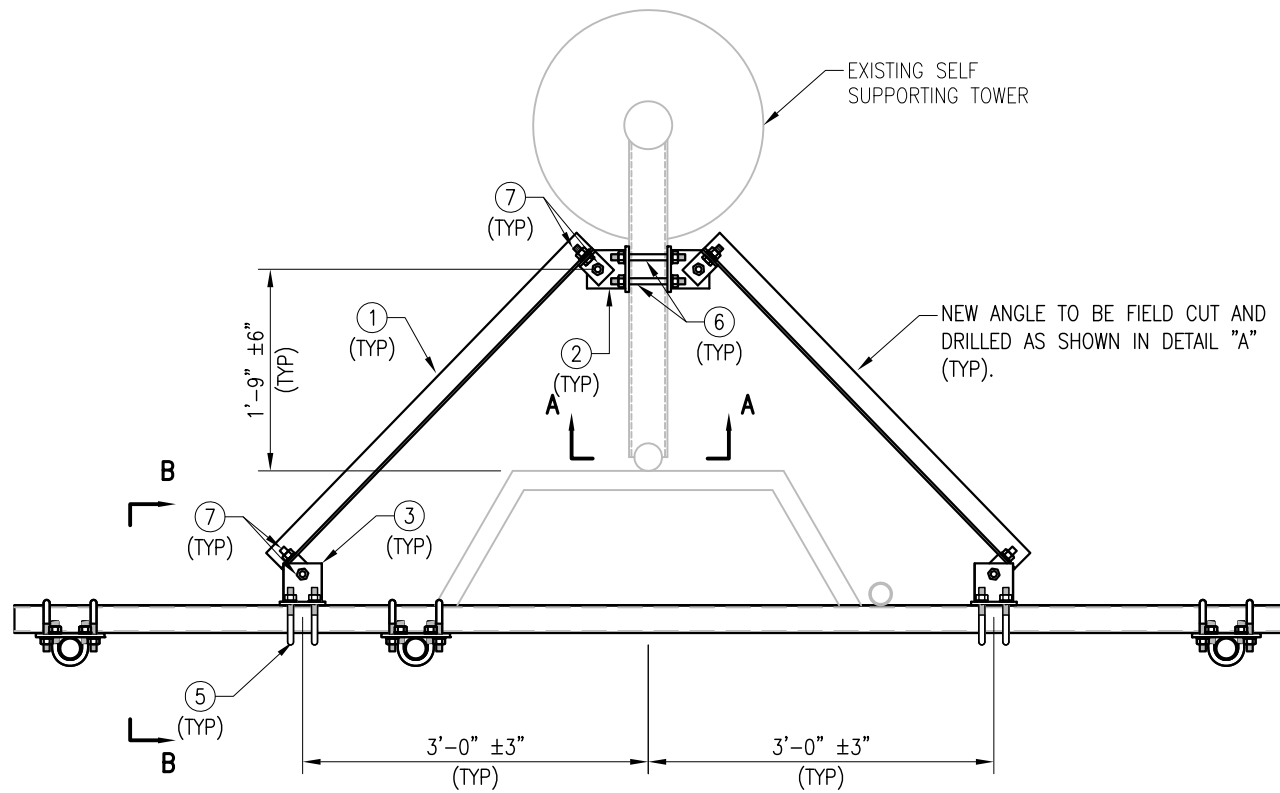
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1	FIRST ISSUE	CAH	01/29/21

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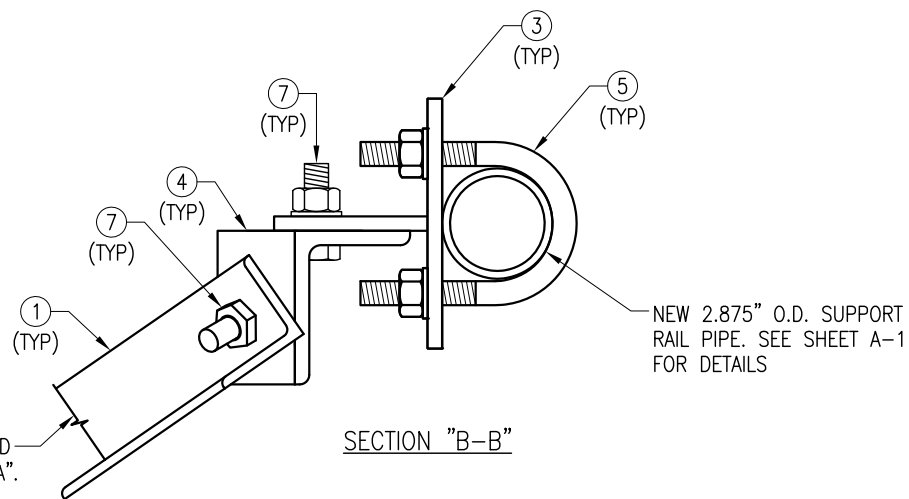
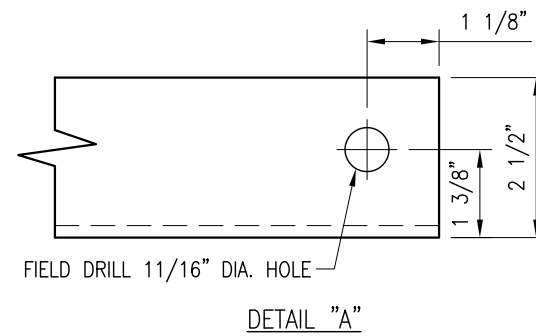
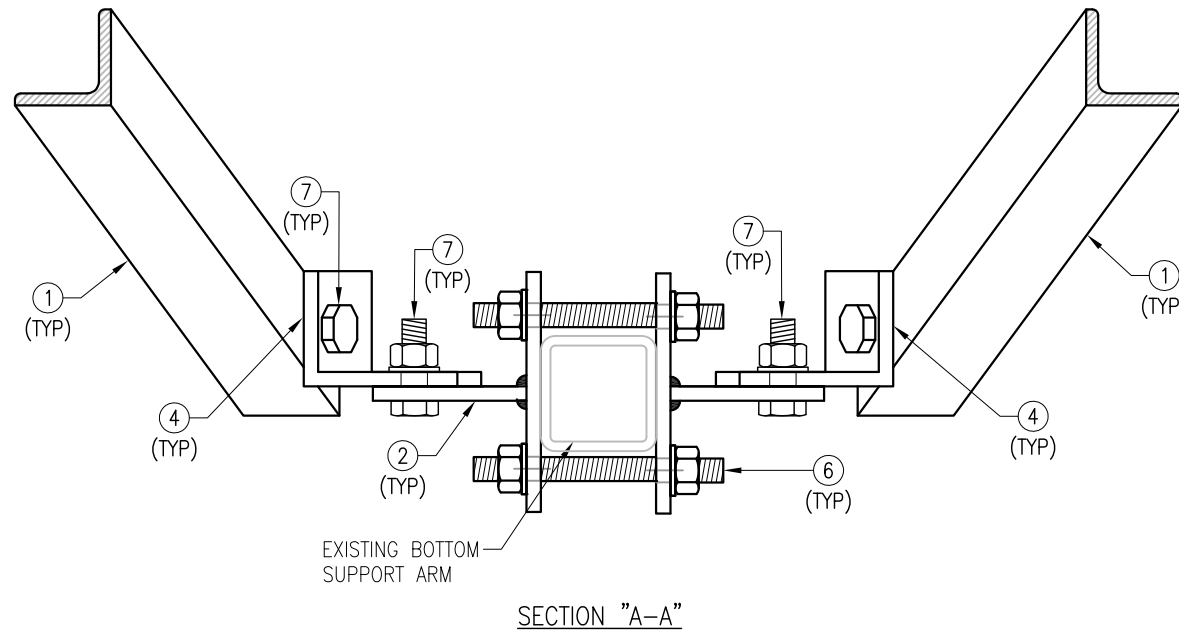
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SHEET NUMBER: **D-2** | REV #: **0**



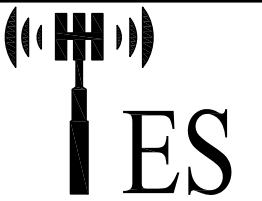
1  
D-2  
DETAIL



FIELD CUT AND FIELD DRILL PER DETAIL "A".

- NOTES:**
- HOT-DIPPED GALVANIZED PER ASTM A123.
  - ALL HOLES ARE 11/16" DIA. U.N.O

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	6	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36
2	6	BRKW-4S	BRACKET WELDMENT
3	6	BRKW-25S	BRACKET WELDMENT
4	12	AL-1	L 4" X 3" X 3/8" X 0'-3" A36
5	12	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)
6	12	---	THREADED ROD 5/8" X 10" A36
7	24	---	BOLT 5/8" X 2" A325



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IRVING, TX 75038  
PH: (972) 483-0607



5900 BROKEN SOUND PARKWAY, NW  
BOCA RATON, FL 33487  
(800)-487-SITE

TES JOB NO:  
101515

CUSTOMER SITE NO:  
CT01725-A-SBA  
CUSTOMER SITE NAME:  
BLOOMFIELD  
1021 BLUE HILLS AVENUE  
BLOOMFIELD, CT 06002

DRAWN BY: CAH | CHECKED BY: MF/BT

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	01/29/21

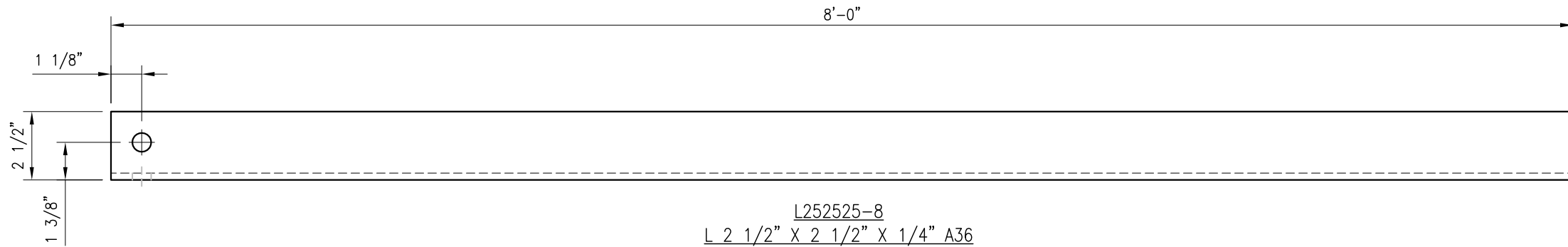
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STANDARD DETAILS

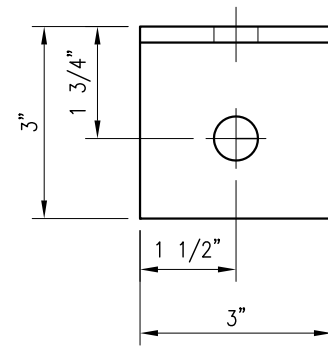
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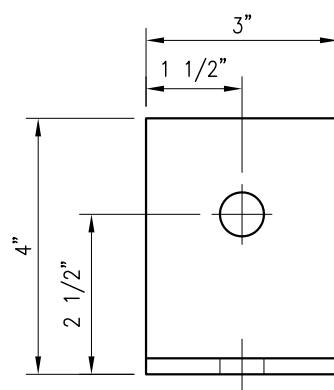
D-3 | 0



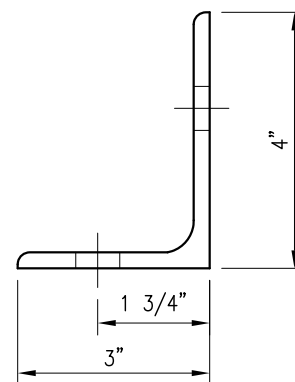
L252525-8  
L 2 1/2" X 2 1/2" X 1/4" A36  
(33.5 LBS)



TOP VIEW



FRONT VIEW

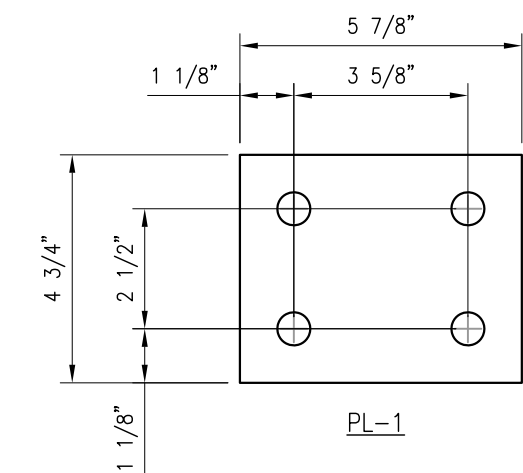


SIDE VIEW

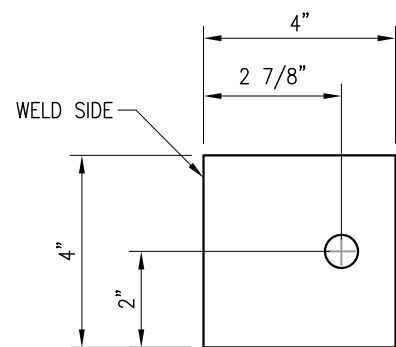
AL-1  
L 4" X 3" X 3/8" X 0'-3" A36  
(2.15 LBS)

NOTES:

- HOT-DIPPED GALVANIZED PER ASTM A123.
- ALL HOLES ARE 11/16" DIA. U.N.O



PL-1

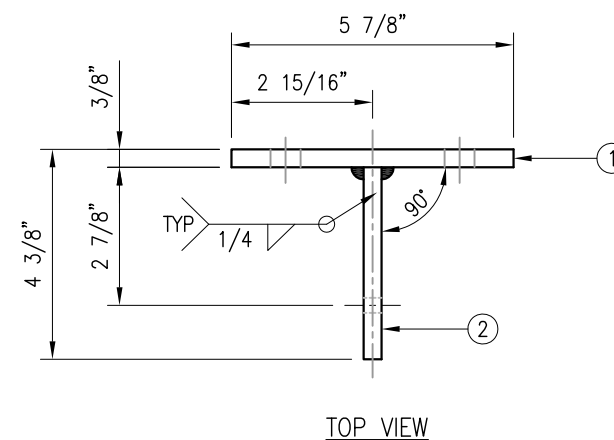


PL-2

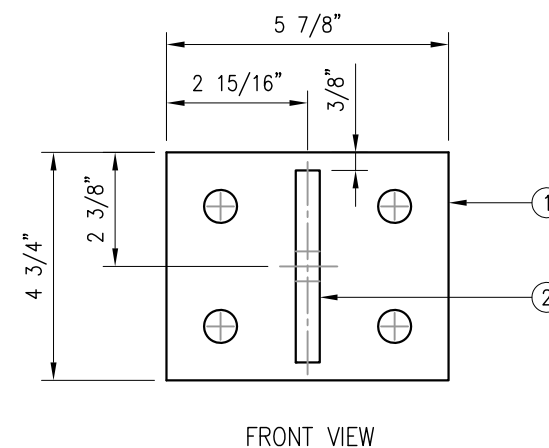
NOTES:  
1. ALL HOLES ARE 11/16" DIA. U.N.O

NOTES:  
1. WELD TYPE: E70XX.  
2. HOT-DIPPED GALVANIZED PER ASTM A123.

BRKW-25S WELDMENT						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	WT	
1	1	PL-1	PL 3/8" X 4 3/4" X 0'-5 7/8"	A36	3.01	
2	1	PL-2	PL 3/8" X 4" X 0'-4"	A36	1.8	
					BLACK WT	4.8
					GALVANIZED WT	5.1



TOP VIEW



FRONT VIEW



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BOCA RATON, FL 33487  
(800)-487-SITE

TES JOB NO:  
101515

CUSTOMER SITE NO:  
CT01725-A-SBA  
CUSTOMER SITE NAME:  
BLOOMFIELD  
1021 BLUE HILLS AVENUE  
BLOOMFIELD, CT 06002

DRAWN BY: CAH | CHECKED BY: MF/BT

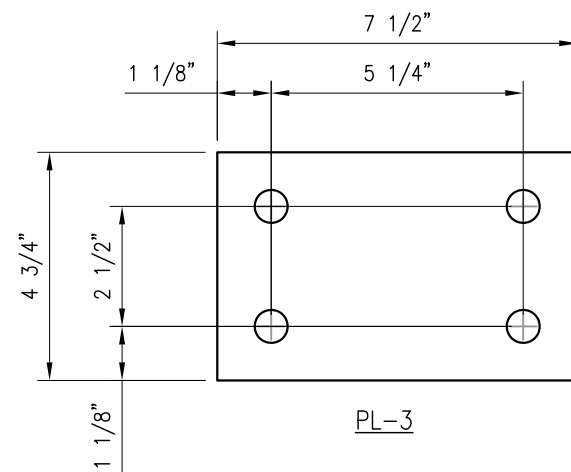
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	01/29/21

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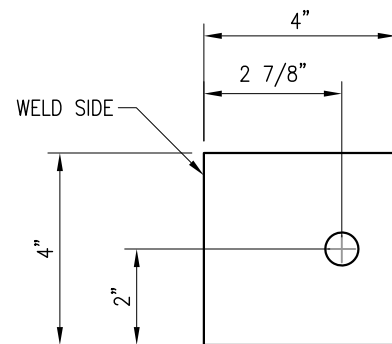
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SHEET NUMBER: D-4 | REV #: 0



PL-3



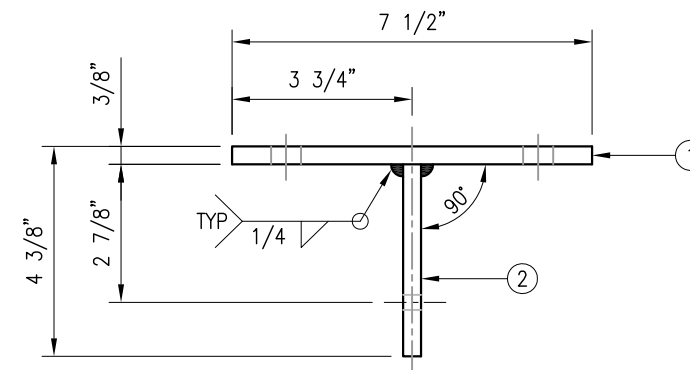
PL-2

NOTES:  
1. ALL HOLES ARE 11/16" DIA. U.N.O

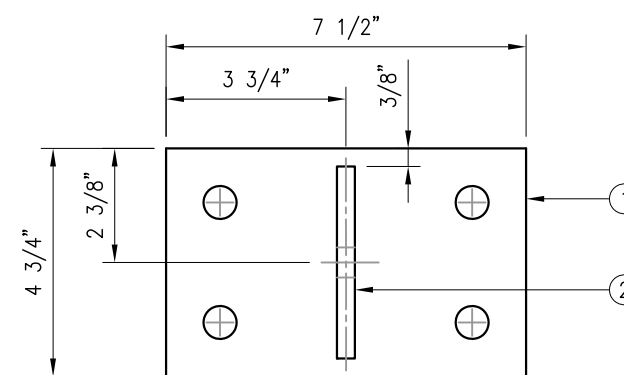
NOTES:  
1. WELD TYPE: E70XX.  
2. HOT-DIPPED GALVANIZED PER ASTM A123.

BRKW-4S WELDMENT

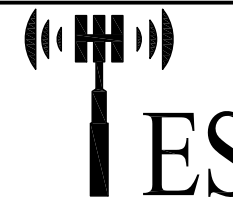
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	WT
1	1	PL-3	PL 3/8" X 4 3/4" X 0'-7 1/2"	A36	3.9
2	1	PL-2	PL 3/8" X 4" X 0'-4"	A36	1.7
BLACK WT					5.6
GALVANIZED WT					5.9



TOP VIEW



FRONT VIEW



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BLOOMFIELD, CT 06002

DRAWN BY: CAH | CHECKED BY: MF/BT

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	CAH	01/29/21

SHEET TITLE:

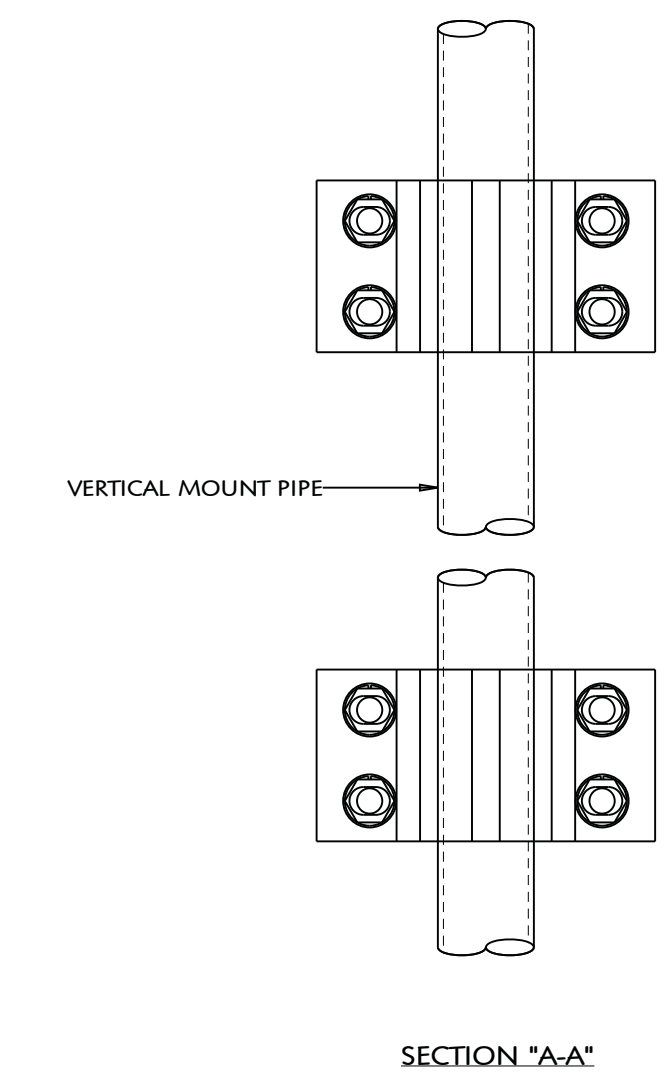
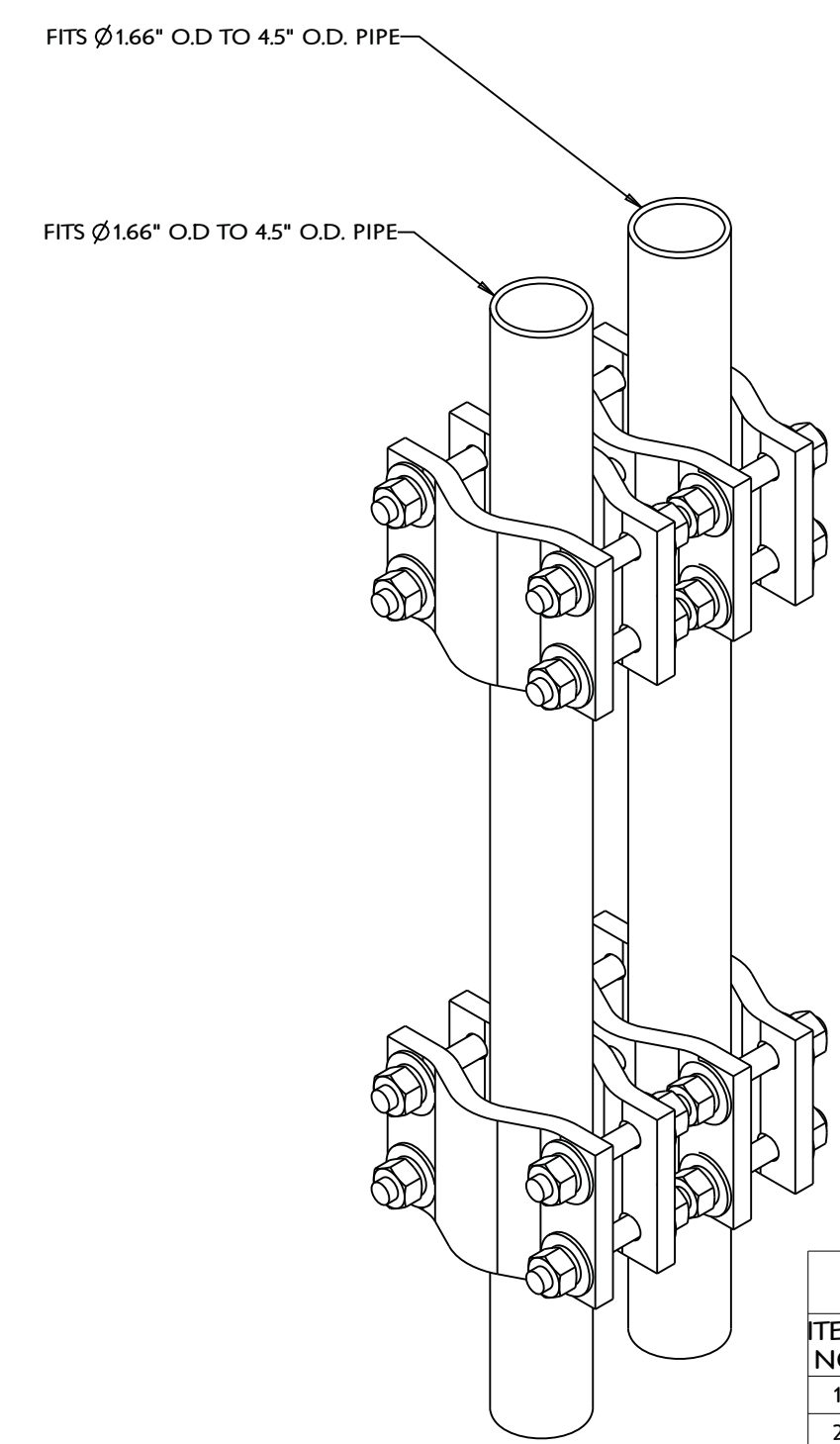
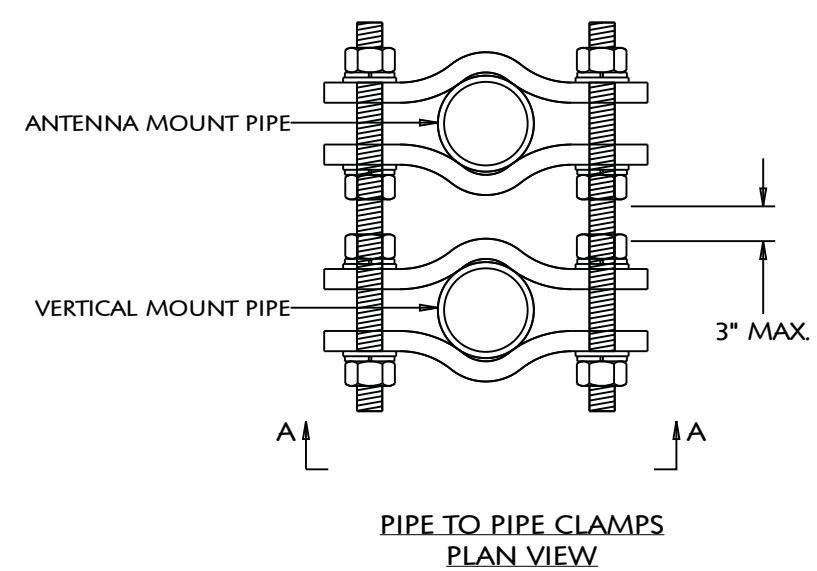
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SHEET NUMBER: D-5 | REV #: 0

THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY  
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	X	X



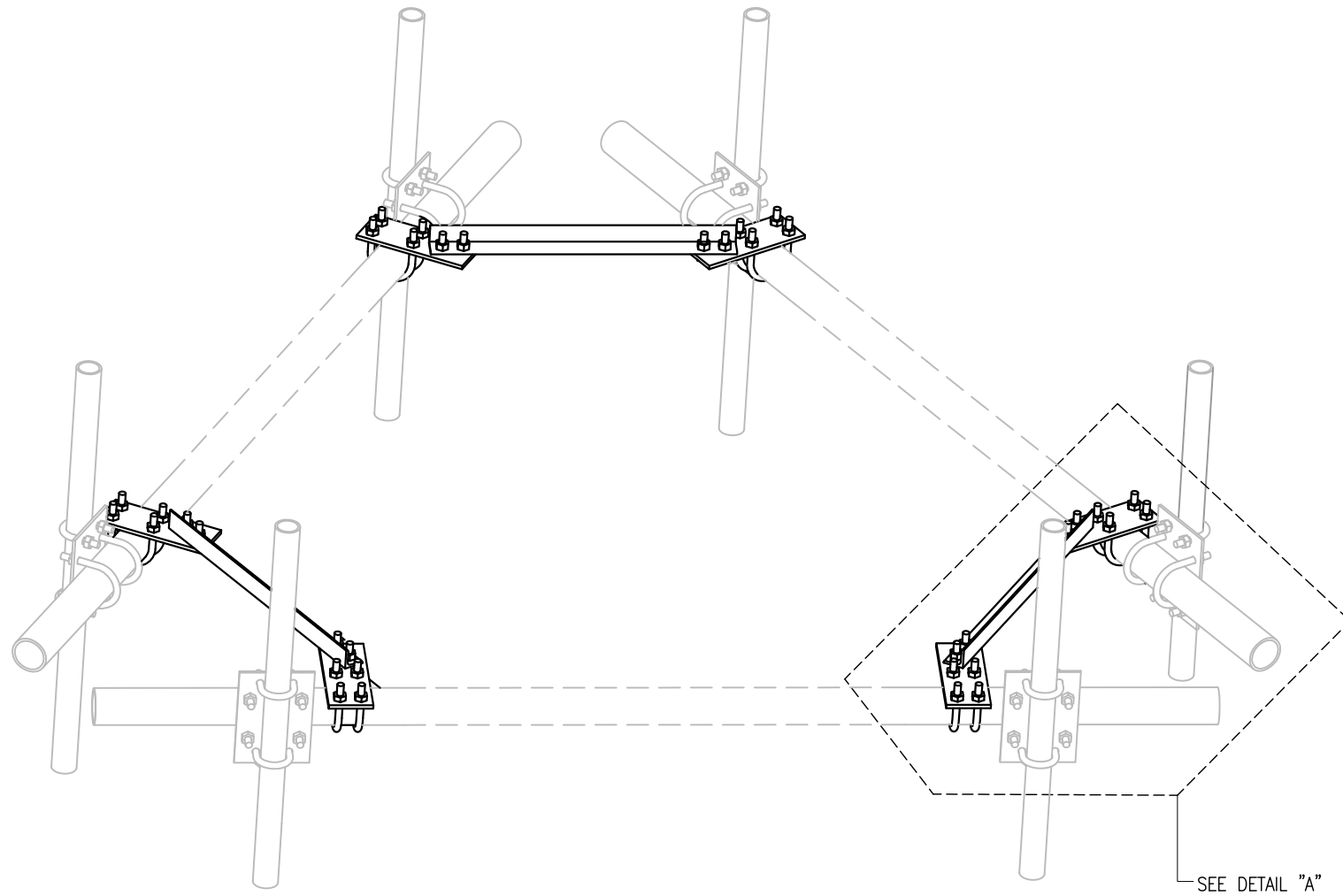
VZWSMART-MSK3D (PIPE TO PIPE CLAMPS)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	8	V-CLAMP	PL 1/2" X 4 1/4" X 8 5/8" A36 BEND PLATE	MSK3D-F1	
2	8	---	THREADED ROD 5/8" DIA X 1'-0" F1554-36 HDG	---	--
3	32	FW-625	5/8" HDG USS FLAT WASHER	---	
4	32	LW-625	5/8" HDG LOCK WASHER	---	
5	32	NUT-625	5/8" HDG HEX NUT	---	
GALVANIZED WT					

- NOTES:**
- ALL HOLES ARE 11/16" DIA. U.N.O
  - HOT-DIPPED GALVANIZED PER ASTM A123.
  - FIT UP TO 4.5" O.D. PIPE

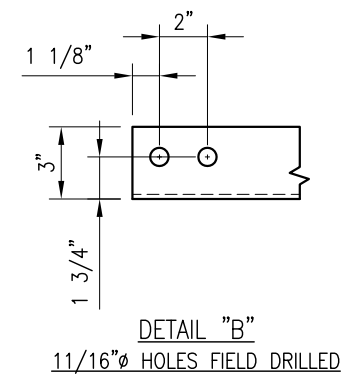
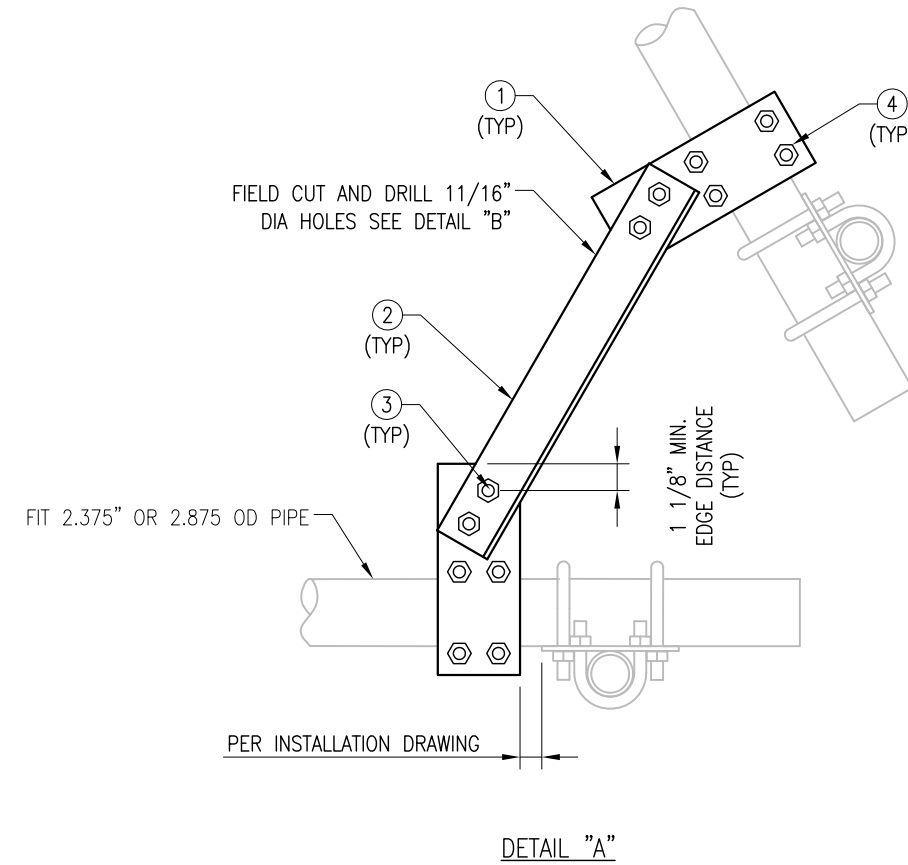
THIRD ANGLE PROJECTION			METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529
CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		TITLE <b>PIPE TO PIPE CLAMPS</b>	
STANDARD SHEET TOLERANCES DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005		APPROVAL / SIGNATURES DATE May-26-20	
ANGLES ± 1° FRACTIONS ± 1/32		SIZE DWG NO <b>D MSK3D</b>	
DRAWN BY XXX REVIEWED XXX APPROVED XXX		SCALE SHEET 1 OF 1	

NOTE:

- 1) FITS 2 3/8" DIA. TO 2 7/8" DIA. PIPE.
- 2) ALL HOLES ARE 11/16" DIA. U.N.O
- 3) HOT-DIPPED GALVANIZED PER ASTM A123



MS-HR2875-33ECP						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	6	PL375-425105	PL 3/8" X 4 1/4" X 0'-10 1/2"	A36	BK-1	28.2
2	3	AL-33C	L 3" X 3" X 1/4" X 3'-6"	A36	ECP-1	54.0
3	12	--	BOLT 5/8" X 2" A325 W/ HHN & LKW	A325	--	--
4	12	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
GALVANIZED WT						82



THIRD ANGLE PROJECTION				METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH				CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		TITLE <b>MS-HR2875-33ECP</b> <b>SUPPORT RAIL END CONNECTION KIT</b>	
STANDARD SHEET TOLERANCES		APPROVAL / SIGNATURES		DATE			
DECIMALS	ANGLES	DRAWN BY XXX		05/12/17			
.X ± 0.1	± 1°					REVIEWED XXX	
.XX ± 0.02	FRACTIONS						
.XXX ± 0.005	± 1/32	APPROVED XXX		SHEET 1 OF 1			
						B MS-HR2875-33ECP	

# EXHIBIT 9





**Tower Engineering Solutions**

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

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## **Post-Mod Antenna Mount Analysis Report**

**Existing 125-Ft Self Support Tower**  
**Customer Name: SBA Communications Corp**  
**Customer Site Number: CT01725-A-SBA / Bloomfield**  
**Customer Site Name: Bloomfield**  
**Carrier Name: T-Mobile (App#: 141277, V1)**  
**Carrier Site ID / Name: CT11162B / Bluehills/Jn of RT-187\_1**  
**Site Location: 1021 Blue Hills Avenue**  
**Bloomfield, Connecticut**  
**Hartford County**  
**Latitude: 41.820119**  
**Longitude: -72.696514**

**Analysis Result:**

**Max Structural Usage: 90.6% [Pass]**

**Report Prepared By : Mariana Franco**



## **Introduction**

The purpose of this report is to summarize the analysis results on the (1) Modified Platform at 125.00' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

## **Sources of Information**

Mount Drawings	Mapping by ProVertic
Antenna Loading	Provided by SBA Application #: 141277, v1 11/17/20
Existing Modification	Drawings by Hudson Design Group LLC Provided by SBA
Proposed Modification	TES Project No. 101515

## **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

Exposure Category: B

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

## **Mount Information**

(1) Modified Platform at 125.00' elevation

## **Final Antenna Configuration**

- 3 Ericsson AIR6449 B41
- 3 RFS APXVAARR24\_43-U-NA20 (Octa)
- 3 Ericsson AIR32 KRD901146-1\_B66A
- 3 Ericsson KRY 112 144/2
- 3 Commscope SDX1926Q-43
- 3 Ericsson Radio 4449 B71 + B85
- 3 Ericsson 4415 B25

## **Analysis Results**

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 90.6%, 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 Before Modification
2. Antenna Placement Diagram
3. 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.



Structure: CT01725-A-SBA - Bloomfield

Sector: **A**

1/21/2021

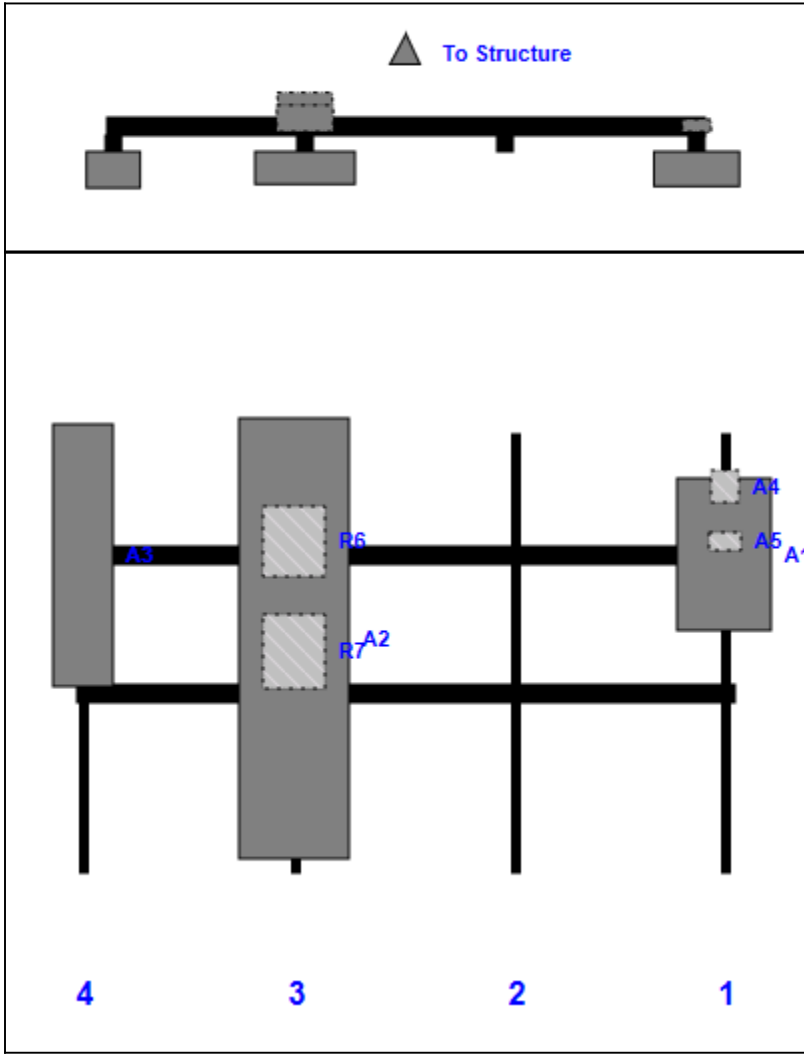
Structure Type: Self Support

Mount Elev: 125.00

Page: 1



Plan View



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	142.00	1	a	Front	27.00			
A4	KRY 112 144/2	6.90	6.10	142.00	1	a	Behind	12.00			
A5	SDX1926Q-43	4.10	6.90	142.00	1	a	Behind	24.00			
A2	APXVAARR24_43-U-NA20 (Octa)	95.90	24.00	48.00	3	a	Front	45.00			
R6	Radio 4449 B71 + B85	15.00	13.20	48.00	3	a	Behind	24.00			
R7	4415 B25	16.50	13.50	48.00	3	a	Behind	48.00			
A3	AIR32 KRD901146-1_B66A	57.00	12.90	2.00	4	a	Front	27.00			

Structure: CT01725-A-SBA - Bloomfield

Sector: **B**

1/21/2021

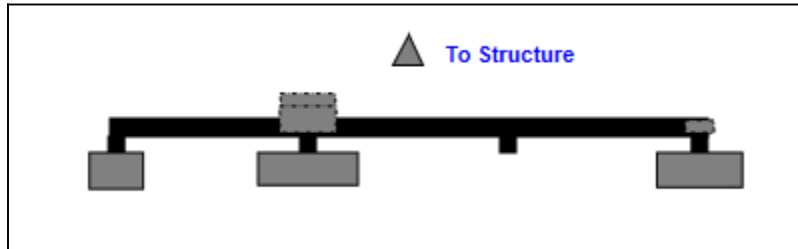
Structure Type: Self Support

Mount Elev: 125.00

Page: 2

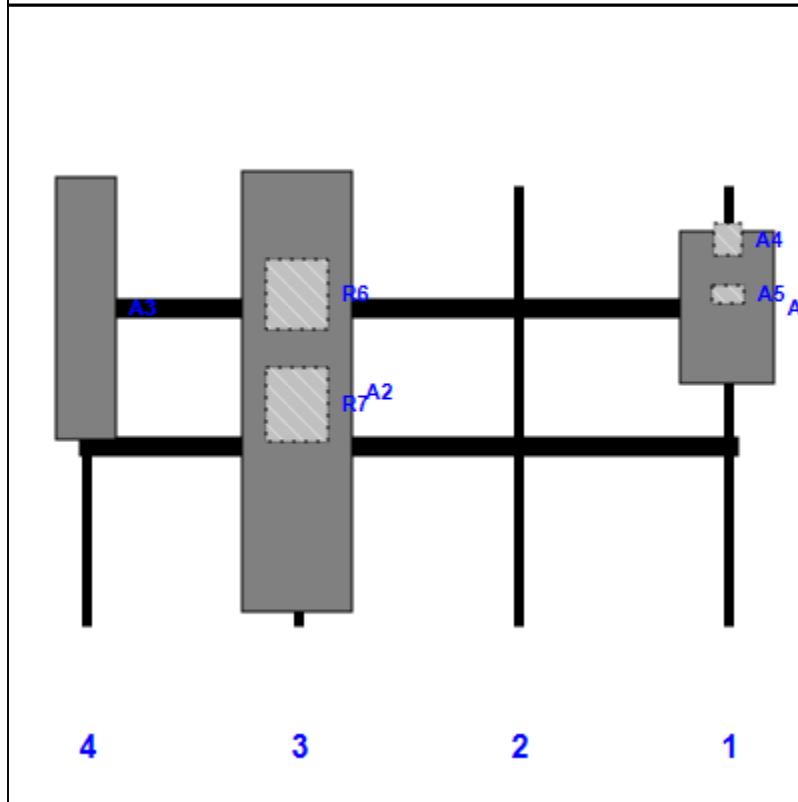


Plan View



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	AIR6449 B41	33.10	20.50	142.00	1	a	Front	27.00			
A4	KRY 112 144/2	6.90	6.10	142.00	1	a	Behind	12.00			
A5	SDX1926Q-43	4.10	6.90	142.00	1	a	Behind	24.00			
A2	APXVAARR24_43-U-NA20 (Octa)	95.90	24.00	48.00	3	a	Front	45.00			
R6	Radio 4449 B71 + B85	15.00	13.20	48.00	3	a	Behind	24.00			
R7	4415 B25	16.50	13.50	48.00	3	a	Behind	48.00			
A3	AIR32 KRD901146-1_B66A	57.00	12.90	2.00	4	a	Front	27.00			

Structure: CT01725-A-SBA - Bloomfield

Sector: C

1/21/2021

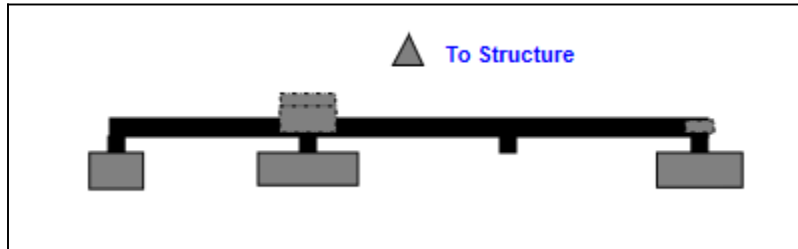
Structure Type: Self Support

Mount Elev: 125.00

Page: 3

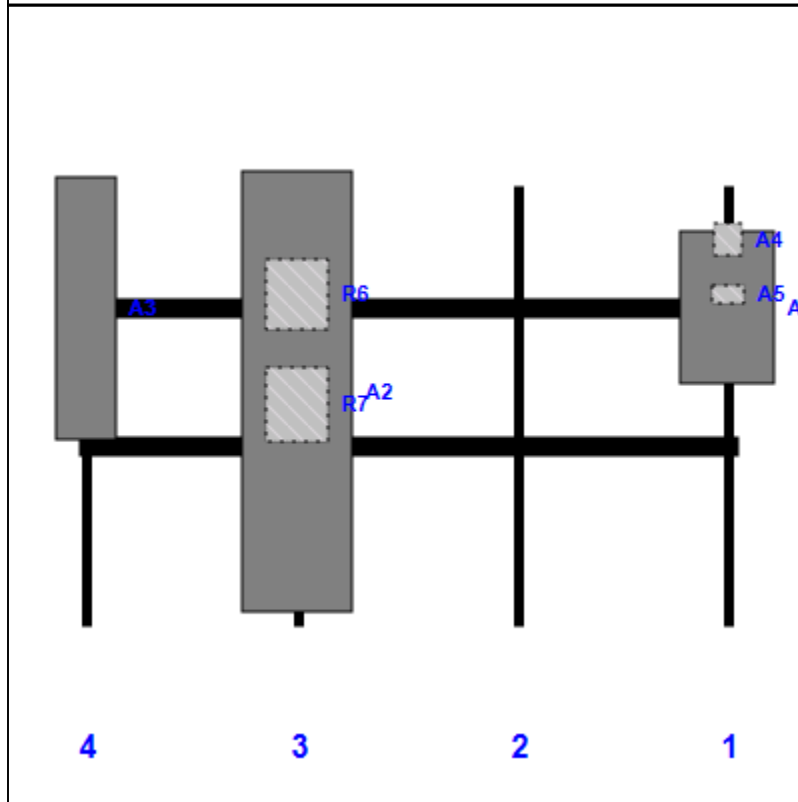


Plan View



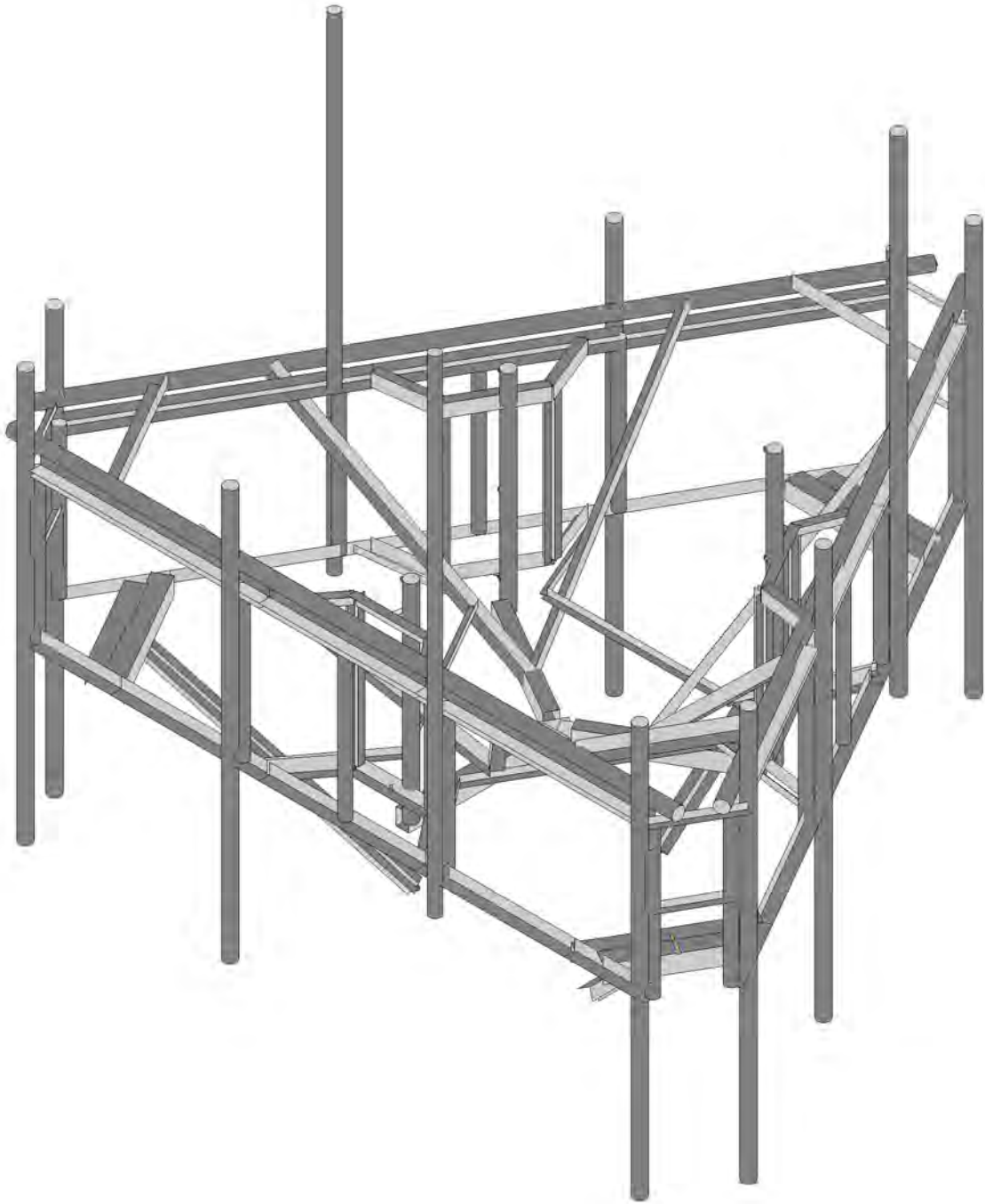
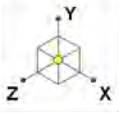
Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	142.00	1	a	Front	27.00			
A4	KRY 112 144/2	6.90	6.10	142.00	1	a	Behind	12.00			
A5	SDX1926Q-43	4.10	6.90	142.00	1	a	Behind	24.00			
A2	APXVAARR24_43-U-NA20 (Octa)	95.90	24.00	48.00	3	a	Front	45.00			
R6	Radio 4449 B71 + B85	15.00	13.20	48.00	3	a	Behind	24.00			
R7	4415 B25	16.50	13.50	48.00	3	a	Behind	48.00			
A3	AIR32 KRD901146-1_B66A	57.00	12.90	2.00	4	a	Front	27.00			





Tower Engineering Solutio...

CT01725-A-SBA\_MT\_LO\_Loads Only\_G

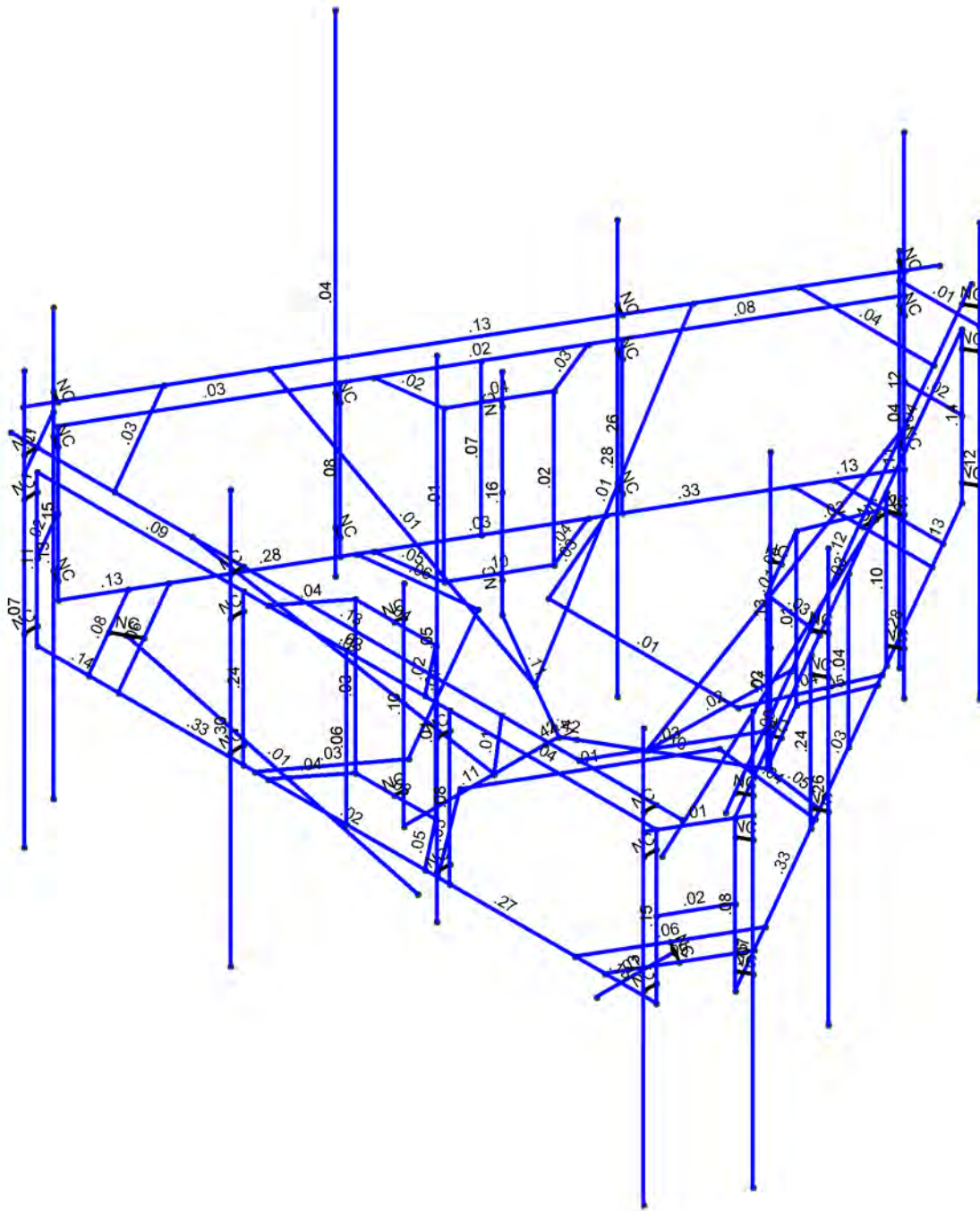
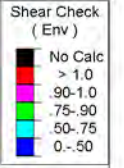
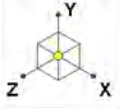
SK - 1

Jan 22, 2021 at 10:47 AM

TES Project No. 101515

CT01725-A-SBA\_101515\_G\_RISA\_...





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

Tower Engineering Solutio...

CT01725-A-SBA\_MT\_LO\_Loads Only\_G

SK - 3

Jan 22, 2021 at 10:48 AM

TES Project No. 101515

CT01725-A-SBA\_101515\_G\_RISA\_...











0{ }a^ K V[, ^/A) \* a^i a \* A[ r q ) • EŠŠO  
 O• a } ^ K  
 F a A { a : K VÒUÁU[ b & a b [ E F F Í F Í  
 T [ a | A p æ ^ K Ò V E F Í G E E U Ó E T V ' Š U ' Š [ a a • Á U ] r ' Ó

R a g Á G Š Ó E G F  
 F e k J Á B F  
 Ó @ & ^ a Á Ó K ' ' ' '

>c]bh7ccfX]bUHyg'UbX'HYa dYUhi fYg'f7cb]bi YXL

	Š a a ^	Y A š c a	Y A š c a	Z A š c a	V ^   A š c a	Ö c a a & a b [ { A a a j E E
FFJ	bFFJ	Ě Ě Í J H Í	€	HĚ U F F Í H	€	
FGE	bFGE	Ě Ě Í J H Í	GĚ F Í Í Í	Ě Ě ě	€	
FGF	bFGF	Ě Ě Í J H Í	€	Ě Ě ě	€	
FGG	bFGG	Ě Ě G G Í	GĚ F Í Í Í	Ě Ě Í H Í	€	
FGH	bFGH	Ě Ě G G Í	€	Ě Ě Í H Í	€	
FGI	bFGI	Ě Ě H Í Ě Í	GĚ F Í Í Í	Ě Ě Í G	€	
FGJ	bFGJ	Ě Ě H Í Ě Í	€	Ě Ě Í G	€	
FGK	bFGK	Ě Ě Í J H Í	GĚ F Í Í Í	Ě Ě G W I J	€	
FL	bFL	Ě Ě Í J H Í	€	Ě Ě G W I J	€	
FLM	bFLM	Ě Ě Í J H Í	GĚ F Í Í Í	Ě Ě H Ě F	€	
FN	bFN	Ě Ě Í J H Í	€	Ě Ě H Ě F	€	
FO	bFO	Ě Ě Í Í Í F	I Ě Í	HĚ Í F Í G	€	
FOA	bFOA	Ě Ě Í Í Í F	Ě Ě	HĚ Í F Í G	€	
FOB	bFOB	Ě Ě Í Í Í F	HĚ	Ě Ě G F Í G	€	
FOC	bFOC	Ě Ě Í Í Í F	Ě Ě	Ě Ě G F Í G	€	
FOE	bFOE	Ě Ě Í Í Í F	I Ě Í	Ě Ě Í G Ě F	€	
FOF	bFOF	Ě Ě Í Í Í F	Ě Ě	Ě Ě Í G Ě F	€	
FOG	bFOG	Ě Ě Í J H Í	FĚ Í Í Í Í	HĚ U F F Í H	€	
FOH	bFOH	Ě Ě Í J H Í	FĚ Í Í Í Í	Ě Ě F F Í G	€	
FOI	bFOI	Ě Ě Í Í Í F	Ě H	Ě Ě Í G Ě F	€	
FOJ	bFOJ	Ě Ě J Ě Í	FĚ Í Í Í Í	Ě Ě	€	
FOK	bFOK	Ě Ě J Ě Í	GĚ F Í Í Í	Ě Ě	€	
FOA	bFOA	Ě Ě J Ě Í	€	Ě Ě	€	
FOB	bFOB	Ě Ě J Ě Í	HĚ J J Í Í	Ě Ě	€	
FOC	bFOC	Ě Ě J Ě Í	Ě Ě I H H	Ě Ě	€	
FOE	bFOE	Ě Ě F Í ě	Ě Ě I H H	Ě G	€	
FOF	bFOF	Ě Ě Í J H Í	Ě H H	Ě Ě F F Í G	€	
FOG	bFOG	Ě Ě Í J H Í	Ě H H	HĚ U F F Í H	€	
FOH	bFOH	Ě Ě Í J H Í	GĚ Í H Í Í	Ě Ě F F Í G	€	
FOI	bFOI	Ě Ě Í J H Í	GĚ Í H Í Í	HĚ U F F Í H	€	
FOJ	bFOJ	Ě Ě Í Í Í F	Ě H H	Ě Ě G F Í G	€	
FOK	bFOK	Ě Ě Í Í Í F	Ě H H	HĚ Í F Í G	€	
FOA	bFOA	Ě Ě Í Í Í F	GĚ Í H Í Í	Ě Ě G F Í G	€	
FOB	bFOB	Ě Ě Í Í Í F	GĚ Í H Í Í	HĚ Í F Í G	€	
FOC	bFOC	Ě Ě Í J H Í	Ě H	Ě Ě H Ě F	€	
FOE	bFOE	Ě Ě Í J H Í	GĚ Í H Í Í	Ě Ě G W I J	€	
FOF	bFOF	Ě Ě Í J H Í	GĚ Í H Í Í	Ě Ě H Ě F	€	
FOG	bFOG	Ě Ě Í J H Í	Ě H H	Ě Ě G W I J	€	
FOH	bFOH	Ě Ě Í Í Í F	GĚ Í Í Í Í	Ě Ě Í G Ě F	€	
FOI	bFOI	Ě Ě Í Í Í F	J	Ě Ě J Í J I J	€	
FOJ	bFOJ	Ě Ě Í Í Í F	Ě	Ě Ě J Í J I J	€	
FOK	bFOK	Ě Ě Í Í Í F	Ě H H	Ě Ě J Í J I J	€	
FOA	bFOA	Ě Ě Í Í Í F	GĚ Í H Í Í	Ě Ě J Í J I J	€	
FOB	bFOB	Ě Ě Í Í Í F	H	HĚ Í F Í G	€	
FOC	bFOC	Ě Ě Í Í Í F	H	Ě Ě G F Í G	€	
FOE	bFOE	Ě	€	I Ě Í	€	
FOF	bFOF	Í	€	I Ě Í	€	
FOG	bFOG	Í Ě Í J H Í	€	GĚ G F G	€	
FOH	bFOH	FĚ Í J H Í	€	Ě Ě H F G	€	
FOI	bFOI	Ě Ě Í J H Í	€	Ě Ě H F G	€	
FOJ	bFOJ	Ě Ě Í J H Í	€	GĚ G F G	€	
FOK	bFOK	FĚ Í F	€	I Ě Í	€	

































Ô{ }a^ K V[, ^/A) \* a^Aia \* A{[r q) • EESSO  
 Ô• a) ^ K  
 R aA^ { a^ K VOUA{[ b&aP ] EEFÍ FÍ  
 T [ a^/A a^ ^ K ÔVEFÍ G EEUÓCE TV ' SÚ ' S{ a• AÚ } r ' Ó

Ra^ ÁGGÁOEGF  
 Fek JÁBF  
 Ô@&^aÁO'K''''

**9bj YcdYA Ya Vyf GYV]cb: cfWVg f7 cbh]bi YXL**

	T^ { a^	U^&	OrapZaa	SÔ	^A@aeZaa	SÔ	: A@aeZaa	SÔ	V{ : ^Z EEE SÔ	^E A{ ] { ^EE SÔ	: E A{ ] { ^EE SÔ				
GE			{ a	E FÉJ I	I	E FÉJ E	I	E FÉJ G	F	€	F	E FÉJ	G	E FÉJ	I
GEJ		I	{ a	€	F	E H	I	E I	G	€	F	€	F	€	F
GE€			{ a	€	F	E I	I	E FEG	I	€	F	€	F	€	F
GEF	T UHOE	F	{ a	€	F	E H	I	E I	F	€	F	€	F	€	F
GEFG			{ a	€	F	E I G	I	E E I	I	€	F	€	F	€	F
GEH		G	{ a	I H E I I	G	F J H E I I	H	H F E I H	I	E I I	I	E I I	I	E I I	I
GEI			{ a	E F G E J F	F	E F I E I J	I	E U I E I I	H	E F I	H	E H I	H	E F I	F
GEJ		H	{ a	F F J H E J I	G	G I E I I	I	F I F E I I	F	E F H	G	E I	F	E F I	H
GEJ€			{ a	E H G F E F G	F	E F E I I	F	E F H E I I	G	E E I	F	E H I	G	E E J I	I
GEJF		I	{ a	E J E I I	F€	F H E G H	H	H F H E I I	G	€	F	E F I	F	E H I	H
GEJG			{ a	E E H E J I	I	E H E F I	I	E H F E J	F	€	F	E F I	G	E H I	I
GEJH		I	{ a	€	F	E J I	I	E J I	I	€	F	€	F	€	F
GEJ€			{ a	€	F	E F	I	E G	F	€	F	€	F	€	F
GEJF	T U I O E	F	{ a	€	F	E F	I	E E I	F	€	F	€	F	€	F
GEJG			{ a	€	F	E G I	I	E H F	I	€	F	€	F	€	F
GEJH		G	{ a	I I E I G	I	I I H E I F	G	H F E I I	I	E H I	F	E I I	F	E H	G
GEJ€			{ a	E G I E H H	H	E I I E H	F	E G E F J	F	E F I	I	E G I	G	E E G F	F
GEJF		H	{ a	G F E I I	G	F E E I I	G	I G E I G	G	E I	J	E G	I	E	I
GEJG			{ a	E I I E I I	I	E F G E I I	J	E I E I	F	E E I	F	E E	F	E E J	H
GEJH		I	{ a	E H E I I	G	F I E I	H	F I E H H	G	€	F	E F I	F	E F I	H
GEJ€			{ a	E F E I I	I	E F I F I	I	E I E G	F	€	F	E F I	G	E F I	I
GEJF		I	{ a	€	F	E I	H	E G	I	€	F	€	F	€	F
GEJG			{ a	€	F	E H	I	E E	F	€	F	€	F	€	F
GEJH	T H G	F	{ a	G G E I I	I	H U I E F I	I	F I E J I	I	E G I	H	€	F	E E I	I
GEJ€			{ a	E F I G E G	H	E G E H F	H	E I I E G	H	E E J F	I	€	F	E F I	H
GEJF		G	{ a	G G E I I	I	H U I E F I	I	F I E J I	I	E G I	H	E E I	I	E I I	I
GEJG			{ a	E F I G E G	H	E G E H F	H	E I I E G	H	E E J F	I	E E I	H	E E J I	H
GEJH		H	{ a	G G E I I	I	H U I E F I	I	F I E J I	I	E G I	H	E F G	I	E I G	I
GEJ€			{ a	E F I G E G	H	E G E H F	H	E I I E G	H	E E J F	I	E F I	H	E E	H
GEJF		I	{ a	G G E I I	I	H U I E F I	I	F I E J I	I	E G I	H	E F I	I	E I I	I
GEJG			{ a	E F I G E G	H	E G E H F	H	E I I E G	H	E E J F	I	E E G G	H	E E H	H
GEJH		I	{ a	G G E I I	I	H U I E F I	I	F I E J I	I	E G I	H	E G	I	E I	I
GEJ€			{ a	E F I G E G	H	E G E H F	H	E I I E G	H	E E J F	I	E E G	H	E E I	H
GEJF	T H H	F	{ a	F F I E I	F	I E E I I	G	F E H E H	H	E I	F	€	F	E	G
GEJG			{ a	E I I E F I	G	E I I E F I	F	E F H E I I	I	E E J I	G	€	F	E I G	F
GEJH		G	{ a	F F I E I	F	I E E I I	G	F E H E H	H	E I	F	E G	H	E H	G
GEJ€			{ a	E I I E F I	G	E I I E F I	F	E F H E I I	I	E E J I	G	E E I	I	E H I	F
GEJF		H	{ a	F F I E I	F	I E E I I	G	F E H E H	H	E I	F	E I	H	E I	G
GEJG			{ a	E I I E F I	G	E I I E F I	F	E F H E I I	I	E E J I	G	E E G	I	E E I	F
GEJH		I	{ a	F F I E I	F	I E E I I	G	F E H E H	H	E I	F	E G	H	E I	G
GEJ€			{ a	E I I E F I	G	E I I E F I	F	E F H E I I	I	E E J I	G	E H I	I	E E J	F
GEJF		I	{ a	F F I E I	F	I E E I I	G	F E H E H	H	E I	F	E I I	H	E H I	G
GEJG			{ a	E I I E F I	G	E I I E F I	F	E F H E I I	I	E E J I	G	E E I	I	E E G	F
GEJH	T H G E	F	{ a	H E G E H I	F	F I F E G	F	G F G E I	H	E I	H	I E I I	I	E I I	G
GEJ€			{ a	E F I E F H	G	E E F E I I	G	E I J E I I	I	E E I	I	E E I I	H	E E F	F
GEJF		G	{ a	H E G E H I	F	F I E F I	F	G J J E G	H	E I	H	E E J	I	E I I	G
GEJG			{ a	E F I E F H	G	E E E I I	G	E I I E H	I	E E I	I	E E H I	H	E E I I	F
GEJH		H	{ a	F H E I I	F	H I I E G	I	J E G H	H	E H	H	F E I I	I	F E I F	G
GEJ€			{ a	E E F E G	G	E I E H U	H	E J I E I J	I	E E I	I	E E H	H	E E E	F
GEJF		I	{ a	F H E I I	F	H I I E H	I	I J I E I F	H	E H	H	E I I	I	E I I	G
GEJG			{ a	E E F E G	G	E I F E G	H	E I E E I	I	E E I	I	E F I	H	E E G	F
GEJH		I	{ a	F H E I I	F	H I J E I I	I	I I E J J	H	E H	H	E E	I	E F I	G



























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 Ô• a} ^ K  
 R a A^ { a^ K VÔUÂU[ b & a b | Ê Ê F F F F  
 T { a^ / A a^ ^ K Ô V Ê F F G Ê Ê U Ô Ê F F F F ' S U ' S { a a • Â U } r ' Ô

R a ^ A G G A G E F  
 F e K J A B  
 Ô @ & ^ a A O K ' ' ' '

**9bj YcdYA Ya Vyf GYWJcb: cfWwg fT cbhpi YXL**

T^ { a^ }	U^ &	Ô a a a	SÔ	^ Â U @ a a a	SÔ	: Â U @ a a a	SÔ	V [ ' ' ^ Z Ê Ê SÔ	^ Ê A [ { ^ Ê Ê SÔ	: Ê A [ { ^ Ê Ê SÔ				
Î Î Î		{ a	Ê U F Ê F Î	H	Ê G Ê F H	I	Ê Î Î Ê Î Î	H	Ê Ê Î	F	Ê Ê J J	I	Ê Ê H G	H
Î Î Î		I { æ	I F Î Ê H G	I	J Ê Ê Î Î	H	G H Ê J J	I	Ê Ê Î	G	Ê Ê G	H	Ê Ê G	I
Î Î Î		{ a	Ê U F Ê F Î	H	Ê G Ê F H	I	Ê Î Î Ê Î Î	H	Ê Ê Î	F	Ê Ê Î	I	Ê Ê J	H
Î Î J		Í { æ	I F Î Ê H G	I	J Ê Ê Î Î	H	G H Ê J J	I	Ê Ê Î	G	Ê Ê Ê	H	Ê Ê G	I
Î Î €		{ a	Ê U F Ê F Î	H	Ê G Ê F H	I	Ê Î Î Ê Î Î	H	Ê Ê Î	F	Ê Ê J	I	Ê Ê Î	H
Î Î F	T Î F	F { æ	I G Ê Ê Î Î	H	Î Î Ê Ê Î Î	G	F J Î Ê Î	G	Ê Ê F F	G	Ê Ê H	I	Ê Ê Î	I
Î Î G		{ a	Ê Ê H G Î	I	Ê Ê F Ê Î Î	F	Ê Ê Î Ê Ê F	F	Ê Ê Î G	F	Ê Ê Î	H	Ê Ê J Î	H
Î Î H		G { æ	I G Ê Ê Î Î	H	Î Î Ê Ê Î Î	G	F J Î Ê Î	G	Ê Ê F F	G	Ê Ê Î	G	Ê Ê G	I
Î Î Î		{ a	Ê Ê H G Î	I	Ê Ê F Ê Î Î	F	Ê Ê Î Ê Ê F	F	Ê Ê Î G	F	Ê Ê H	F	Ê Ê F Î	H
Î Î Î		H { æ	I G Ê Ê Î Î	H	Î Î Ê Ê Î Î	G	F J Î Ê Î	G	Ê Ê F F	G	Ê Ê J Î	G	Ê Ê Î	I
Î Î Î		{ a	Ê Ê H G Î	I	Ê Ê F Ê Î Î	F	Ê Ê Î Ê Ê F	F	Ê Ê Î G	F	Ê Ê J G	F	Ê Ê Î	H
Î Î Î		I { æ	I G Ê Ê Î Î	H	Î Î Ê Ê Î Î	G	F J Î Ê Î	G	Ê Ê F F	G	Ê Ê F	G	Ê Ê F H	I
Î Î Î		{ a	Ê Ê H G Î	I	Ê Ê F Ê Î Î	F	Ê Ê Î Ê Ê F	F	Ê Ê Î G	F	Ê Ê F	F	Ê Ê Î	H
Î Î J		Í { æ	I G Ê Ê Î Î	H	Î Î Ê Ê Î Î	G	F J Î Ê Î	G	Ê Ê F F	G	Ê Ê G G	G	Ê Ê H	I
Î J €		{ a	Ê Ê H G Î	I	Ê Ê F Ê Î Î	F	Ê Ê Î Ê Ê F	F	Ê Ê Î G	F	Ê Ê F	F	Ê Ê Î	H
Î J F	T Î G	F { æ	€	F	Ê G F	I	Ê E J I	Í	€	F	€	F	€	F
Î J G		{ a	€	F	Ê G I	Í	Ê E J H	Í	€	F	€	F	€	F
Î J H		G { æ	I J Ê G H	Í	G Ê G Î	I	G Ê G	F	€	F	Ê G	F	Ê G	H
Î J I		{ a	F Î Ê F I	F	Ê Ê G Î	H	Ê Ê F J J	G	€	F	Ê G	G	Ê G	I
Î J Î		H { æ	J J Ê Î Î	Í	I Ê G H	I	I Ê G	F	€	F	Ê J	F	Ê J	H
Î J Î		{ a	H F Ê G	F	Ê Ê G H	H	Ê Ê G	G	€	F	Ê Ê J	G	Ê Ê J	I
Î J Î		I { æ	G Ê Ê J G	Í	F Î Ê J	Í	G H Ê J Î	Í	Ê F Î	G	Ê Ê Î	F	Ê Ê F	H
Î J Î		{ a	Ê G Ê F I	Í	Ê Ê H Î	Í	Ê Ê H Î	Í	Ê Ê J	F	Ê Ê G	G	Ê Ê G	I
Î J J		Í { æ	€	F	Ê H H	Í	Ê F J	Í	€	F	€	F	€	F
Î € €		{ a	€	F	Ê G	Í	Ê F Î	Í	€	F	€	F	€	F
Î € F	T Î H	F { æ	Î Ê F Î	I	F Î Ê Î Î	I	F H Ê J J	I	Ê G Î	Í	Ê Ê F	F	Ê Ê F	H
Î € G		{ a	Ê G F Î	H	Ê Ê Î Ê Î	H	Ê Ê J Ê Î	Í	Ê Ê Î	Í	Ê Ê Î	G	Ê Ê Î	I
Î € H		G { æ	Î Ê F Î	I	F Î Ê Î Î	I	F H Ê J J	I	Ê G Î	Í	Ê Ê H	F	Ê Ê	H
Î €		{ a	Ê G F Î	H	Ê Ê Î Ê Î	H	Ê Ê J Ê Î	Í	Ê Ê Î	Í	Ê Ê Î	G	Ê Ê Î	I
Î €		H { æ	Î Ê F Î	I	F Î Ê Î Î	I	F H Ê J J	I	Ê G Î	Í	Ê Ê Î	F	Ê Ê J	H
Î €		{ a	Ê G F Î	H	Ê Ê Î Ê Î	H	Ê Ê J Ê Î	Í	Ê Ê Î	Í	Ê Ê J	G	Ê Ê Î	I
Î €		I { æ	Î Ê F Î	I	F Î Ê Î Î	I	F H Ê J J	I	Ê G Î	Í	Ê Ê Î	F	Ê Ê Î	H
Î €		{ a	Ê G F Î	H	Ê Ê Î Ê Î	H	Ê Ê J Ê Î	Í	Ê Ê Î	Í	Ê Ê F	G	Ê Ê Î	I
Î € J		Í { æ	Î Ê F Î	I	F Î Ê Î Î	I	F H Ê J J	I	Ê G Î	Í	Ê Ê J	F	Ê Ê J	H
Î € €		{ a	Ê G F Î	H	Ê Ê Î Ê Î	H	Ê Ê J Ê Î	Í	Ê Ê Î	Í	Ê Ê F	G	Ê Ê J	I
Î F F	T Î Î	F { æ	G Ê Ê F	H	G J Ê Î G	Í	G Î Ê Î Î	Í	Ê F G	Í	Ê Ê J	G	Ê Ê G	Í
Î F G		{ a	Ê Ê Ê F	I	Ê Ê Ê J	Í	Ê Ê J	Í	Ê Ê F	Í	Ê Ê J	F	Ê Ê Ê	Í
Î F H		G { æ	G Ê Ê F	H	G J Ê Î G	Í	G Î Ê Î Î	Í	Ê F G	Í	Ê Ê	G	Ê Ê G	Í
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# EXHIBIT 10

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

T-Mobile Existing Facility

Site ID: CT11162B

Bluehills/ Jn of Rt-187\_I  
1021 Blue Hills Avenue  
Bloomfield, Connecticut 06002

**February 18, 2021**

**EBI Project Number: 6221000594**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>38.61%</b>

February 18, 2021

T-Mobile

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

Emissions Analysis for Site: CT11162B - Bluehills/ Jn of Rt-187\_1

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1021 Blue Hills Avenue in Bloomfield, 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 1021 Blue Hills Avenue in Bloomfield, 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 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 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.



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- 13) The antenna mounting height centerline of the proposed antennas is 125 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 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):	125 feet	Height (AGL):	125 feet	Height (AGL):	125 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 A1 MPE %:	8.85%	Antenna B1 MPE %:	8.85%	Antenna C1 MPE %:	8.85%
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):	125 feet	Height (AGL):	125 feet	Height (AGL):	125 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 %:	3.84%	Antenna B2 MPE %:	3.84%	Antenna C2 MPE %:	3.84%
Antenna #:	3	Antenna #:	3	Antenna #:	3
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):	125 feet	Height (AGL):	125 feet	Height (AGL):	125 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 A3 MPE %:	2.95%	Antenna B3 MPE %:	2.95%	Antenna C3 MPE %:	2.95%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	15.65%
AT&T	8.35%
Verizon	7.16%
Metro PCS	2.55%
Clearwire	0.15%
Sprint	2.32%
Nextel	0.44%
XM Sat Radio	0.16%
Page Net	0.08%
Blue Hills FD	1.75%
<b>Site Total MPE % :</b>	<b>38.61%</b>

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	15.65%
T-Mobile Sector B Total:	15.65%
T-Mobile Sector C Total:	15.65%
Site Total MPE % :	38.61%

### 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 2500 MHz LTE	1	19238.94	125.0	44.27	2500 MHz LTE	1000	4.43%
T-Mobile 2500 MHz NR	1	19238.94	125.0	44.27	2500 MHz NR	1000	4.43%
T-Mobile 600 MHz LTE	2	591.73	125.0	2.72	600 MHz LTE	400	0.68%
T-Mobile 600 MHz LTE	1	1577.94	125.0	3.63	600 MHz LTE	400	0.91%
T-Mobile 700 MHz LTE	2	648.82	125.0	2.99	700 MHz LTE	467	0.64%
T-Mobile 1900 MHz LTE	2	2203.69	125.0	10.14	1900 MHz LTE	1000	1.01%
T-Mobile 2100 MHz UMTS	2	1294.56	125.0	5.96	2100 MHz UMTS	1000	0.60%
T-Mobile 1900 MHz GSM	4	1028.30	125.0	9.46	1900 MHz GSM	1000	0.95%
T-Mobile 1900 MHz LTE	2	2056.61	125.0	9.46	1900 MHz LTE	1000	0.95%
T-Mobile 2100 MHz LTE	2	2307.55	125.0	10.62	2100 MHz LTE	1000	1.06%
						<b>Total:</b>	<b>15.65%</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:	15.65%
Sector B:	15.65%
Sector C:	15.65%
T-Mobile Maximum MPE % (Sector A):	15.65%
Site Total:	38.61%
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **38.61%** 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.