STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

August 31, 2022

Denise Sabo
Northeast Site Solutions
54 Main Street, Unit 3
Sturbridge, MA 01566
denise@northeastsitesolutions.com

RE: **EM-T-MOBILE-011-220708** – T-Mobile notice of intent to modify an existing telecommunications facility located at 12 Burr Road, Bloomfield, Connecticut.

Dear Ms. Sabo:

The Connecticut Siting Council (Council) is in receipt of your correspondence of August 30, 2022 submitted in response to the Council's July 25, 2022 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/IN/emr

From: Deborah Chase <deborah@northeastsitesolutions.com>
Sent: Tuesday, August 30, 2022 8:36 AM
To: CSC-DL Siting Council <Siting.Council@ct.gov>; Bachman, Melanie <Melanie.Bachman@ct.gov>; Fontaine, Lisa <Lisa.Fontaine@ct.gov>; Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: Denise <denise@northeastsitesolutions.com>
Subject: EM-T-MOBILE-011-220708- INCOMPLETE LETTER FOR 12 BURR ROAD BLOOMFIELD CT 06002 T-MOBILE EM APPLICATION (CTHA145B_SBA_TMO)

Siting Council
Please see attached updated application for the above referenced site.
The application contains the Construction Drawing that shows T-Arm mount instead of platform mount per the incomplete letter.
I have sent a hard copy- see attached postal scan.
Please let us know if this renders the application complete and processed for further review.
Thank you very much

Deborah Chase
Senior Project Coordinator & Analyst
Mobile: 860-490-8839
Save a tree. Refuse.Reduce. Reuse. Recycle.

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

June 29, 2022

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

RE: Exempt Modification Application
12 Burr Road, Bloomfield, CT 06002
Latitude: 41.817833
Longitude: -72.764555
Site #: CT13548-S_CTHA145B_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 12 Burr Road, Bloomfield, CT 06002. T-Mobile currently maintains nine (9) antennas at the 130-foot level of the existing 140-foot self-support tower. The property is owned by Maple Hill Farms and the tower is owned by SBA. T-Mobile now intends to remove (3) antennas and replace (3) antennas. The new antennas would be installed at the 130-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable. Antenna mount modifications will be completed as per the attached TES mount analysis dated May 25, 2022.

T-Mobile Planned Modifications:
Remove:
(2) Coax – 1-5/8"
(1) Hybrid Lines – 1-1/4"

Remove and Replace:
(3) ERICSSON AIR21 Antennas (REMOVE) - (3) ERICSSON AIR6449 B41 Antennas (REPLACE)

Install New:
(3) ERICSSON 4460 B25+B66 RRU
(2) HCS Fiber Cable 1.9"

Existing to Remain:
(3) RFS APXVAAR24-43-U-NA20 Antennas
(3) ERICSSON 4449 B71+B85 RRU
(3) ERICSSON AIR32 Antennas *
(1) Hybrid Lines – 1-1/4"
(15) Coax – 1-5/8" *
(3) Ericsson KRY 112 144/2 TMAs *

*Equipment listed for entitlement purposed only

NORTHEAST SITE SOLUTIONS

Turnkey Wireless Development

The facility was approved by the Connecticut Siting Council, Docket No. 379 on October 8, 2009. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Mayor Danielle Wong and Jose Giner, Land Use Director for the Town of Bloomfield, as well as the property owner and the tower owner.

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

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

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

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

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

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

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

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Mayor Danielle Wong
Town of Bloomfield
800 Bloomfield Avenue
Bloomfield, CT 06002-0337

Jose Giner - Land Use Director
Town of Bloomfield
800 Bloomfield Avenue
Bloomfield, CT 06002-0337

Maple Hill Farms – Property Owner
30 Burr Road
Bloomfield, CT 06002

SBA - Tower Owner

Exhibit A

Original Facility Approval

DOCKET NO. 379 – SBA Towers II, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility at 12 Burr Road, Bloomfield, Connecticut.	}	Connecticut
	}	Siting
	}	Council

October 8, 2009

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to SBA Towers II, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility located at 12 Burr Road, Bloomfield, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile, Verizon, and other entities, both public and private, but such tower shall not exceed a height of 130 feet above ground level. Antennas installed on the tower shall utilize flush mounts or T-arm mounts. No platforms shall be permitted on the tower.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Bloomfield for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and

    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Bloomfield public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

8. At least one wireless telecommunications carrier shall install their equipment and shall become operational not later than 120 days after the tower is erected. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

9. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Bloomfield. Any proposed modifications to this Decision and Order shall likewise be so served.

10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the erection of the tower, the completion of site construction, and the commencement of wireless service operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Hartford Courant.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
SBA Towers II, LLC One Research Drive, Suite 200C Westborough, MA 01581	Carrie L. Larson, Esq. Pullman and Comley, LLC 90 State House Square Hartford, CT 06103
Intervenor	**Its Representative**
Cellco Partnership d/b/a Verizon Wireless 99 East River Drive East Hartford, CT 06108	Joey Lee Miranda, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, Connecticut 06103-3597
Thomas Midney 13 Burr Street Bloomfield, CT 06002	
Elizabeth Schiro Auerbach 25 Brookside Boulevard West Hartford, CT 06107	

Exhibit B

Property Card

Town of Bloomfield, CT

Property Listing Report

Map Block Lot	85-1-126-213	Building #	1	PID	4360	Account	R04478

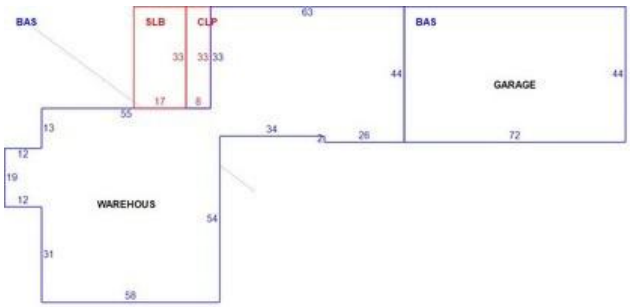
Property Information

Property Location	12 BURR RD
Owner	MAPLE HILL FARMS INC
Co-Owner	
Mailing Address	30 BURR RD BLOOMFIELD CT 06002
Land Use	300 Industrial
Land Class	I
Zoning Code	R-40
Census Tract	4714

Site Index	C
Acreage	9.6
Utilities	
Lot Setting/Desc	
Fire District	C
Book / Page	2048/46

Photo

Sketch



Primary Construction Details

Year Built	1961
Building Desc.	Industrial
Building Style	Warehouse - Storage
Building Grade	D
Stories	1
Occupancy	1.00
Exterior Walls	T111
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Arch Shingles
Interior Walls	Average
Interior Walls 2	
Interior Floors 1	Concrete
Interior Floors 2	

Heating Fuel	Gas
Heating Type	Forced Air
AC Type	43
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	Industrial
Building Condition	F
Sprinkler %	0
Heat / AC	None
Frame Type	Wood Frame
Baths / Plumbing	Average
Ceiling / Wall	Ceil & Wall
Rooms / Prtns	Average
Wall Height	11.00
First Floor Use	
Foundation	POURED CONC.

Report Created On 9/20/2021

Town of Bloomfield, CT

Property Listing Report

Map Block Lot	85-1-126-213	Building #	1	PID	4360	Account	R04478

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	499800	349860
Extras	8400	5880
Improvements		
Outbuildings	89200	62440
Land	353500	247450
Total	950900	665630

Outbuilding and Extra Features

Type	Description
Ovhd 8'	8 UNITS
Load Leveller	2 Units
Cell Shed	288 S.F.
Cell Shed	288 S.F.
Fence	280 L.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	9721	9721
Covered Loading Platform	264	0
Slab	561	0
Total Area	10546	9721

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
MAPLE HILL FARMS INC	2048/46	2020-09-18	325000
MAPLE HILL FARMS INC	0079/0335	1957-05-09	0

Report Created On 9/20/2021

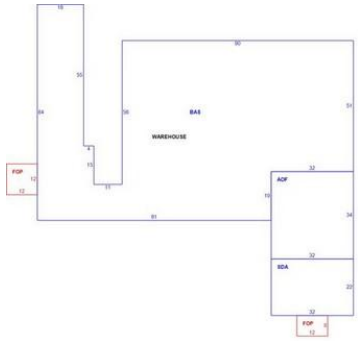
Town of Bloomfield, CT

Property Listing Report

Map Block Lot	85-1-126-213	Building #	2	PID	4360	Account	R04478

Photo

Sketch



Primary Construction Details

Year Built	2005
Building Desc.	Industrial
Building Style	Warehouse - Storage
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Pre-finsh Metl
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Metal/Tin
Interior Walls	Minimum
Interior Walls 2	Drywall
Interior Floors 1	Concrete
Interior Floors 2	Laminate Flr

Heating Fuel	Gas
Heating Type	Hot Air-No Duc
AC Type	20
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 Room Area	0
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Industrial
Building Condition	A
Sprinkler %	0
Heat / AC	None
Frame Type	Steel
Baths / Plumbing	Average
Ceiling / Wall	Ceil & Wall
Rooms / Prtns	Average
Wall Height	13.00
First Floor Use	
Foundation	POURED CONC.

Sub Areas

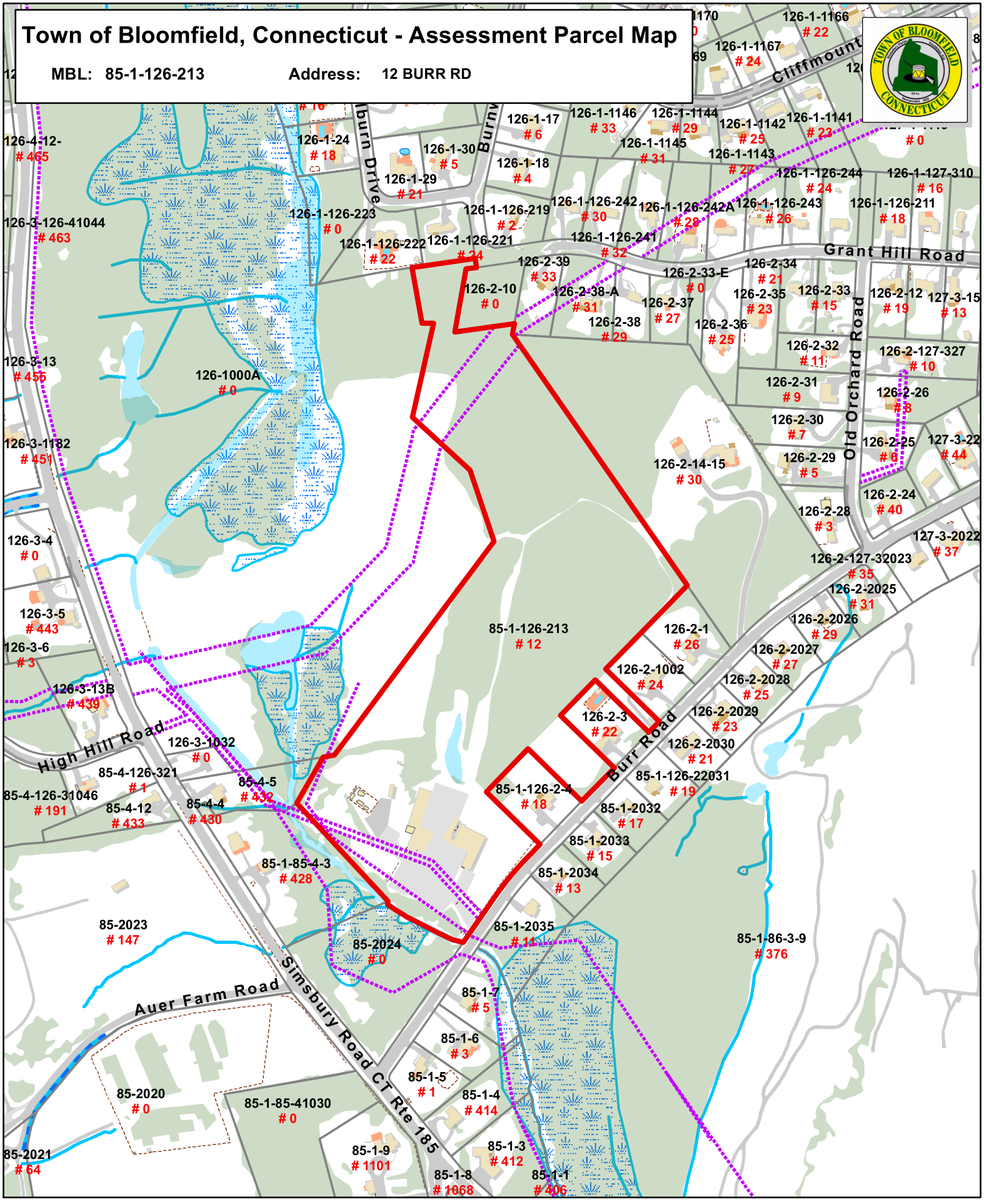
Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office Area	1088	1088
First Floor	7474	7474
Covered Loading Platform	144	0
Finished Open Porch	96	0
Store Display Area	704	704

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	9506	9266

Report Created On 9/20/2021

Town of Bloomfield, Connecticut - Assessment Parcel Map

MBL: 85-1-126-213 **Address:** 12 BURR RD



Approximate Scale:

1 inch = 400 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 C

Construction Drawings

CTHA145B / MAPLE HILL FARMS

12 BURR ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

SITE NO.: CTHA145B

SITE TYPE: 140'± MONOPOLE

RF DESIGN GUIDELINE: 67D5A998E OUTDOOR

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

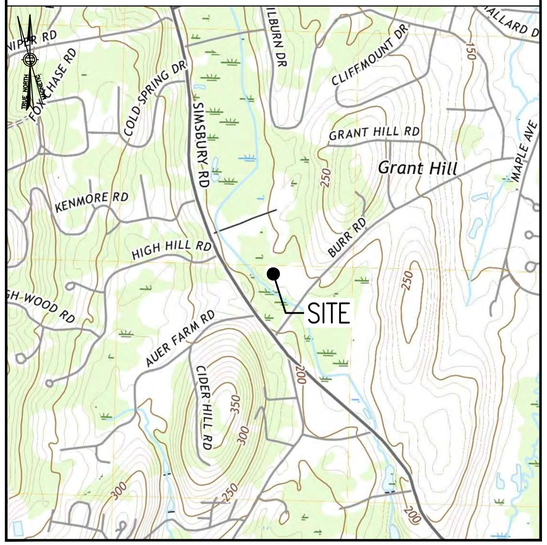
GENERAL NOTES

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

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

VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

FROM COMMERCE WAY GET ON I-495 N FROM SOUTH WASHINGTON ST. FOLLOW I-495 N, I-90 W AND I-84 TO CT-218 W IN WINDSOR. TAKE EXIT 1 FROM I-291 W. CONTINUE ON CT-218 W. DESTINATION WILL BE ON THE RIGHT

SHEET INDEX

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

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.

SCOPE OF WORK

REMOVE:
- 6 ANTENNAS
- 3 TMAS
- ALL COAX CABLES
- 1 RBS 6131 EQUIPMENT CABINET

INSTALL:
- 3 ANTENNAS
- 3 RADIOS
- 2 HYBRID CABLES
- 1 6160 EQUIPMENT CABINET
- 1 B160 BATTERY CABINET
- 1 AAV EQUIPMENT CABINET
- 1 SLACKBOX
- 3 HANDRAILS & REINFORCEMENT KITS

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - 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.

PROJECT SUMMARY

SITE NUMBER:	CTHA145B
SITE NAME:	CTHA145B / MAPLE HILL FARMS
SBA SITE NUMBER:	CT13548-S
SBA SITE NAME:	BLOOMFIELD 4
SITE ADDRESS:	12 BURR ROAD BLOOMFIELD, CT 06002
PROPERTY OWNER:	MAPLE HILL FARMS, INC. BONEE WEINTRAUB, LLC – ATTORNEY JAY WEINTRAUB WEST HARTFORD, CT 06107
TOWER OWNER:	SBA TOWERS II, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	HARTFORD
ZONING DISTRICT:	R-40, RESIDENTIAL DISTRICT
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	140'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
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: 41.81785833° N41°49'04.29" LONGITUDE: -72.76451110° W72°45'52.24"

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).

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
8/29/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/25/22	CONSTRUCTION REVISED	BDJ
0	01/14/22	ISSUED FOR CONSTRUCTION	BDJ

SITE NUMBER:
CTHA145B
SITE ADDRESS:
12 BURR ROAD
BOOMFIELD, CT 06002

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.388

GENERAL NOTES:

1. 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

2. 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.

3. 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.

4. 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.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. 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.

10. 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.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. 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.

14. 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.

15. CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.

16. 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.

17. 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.

18. 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:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. 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.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. 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.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. 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.

9. 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.

10. 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.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. 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.

4. 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 .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. 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.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. 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.

9. 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:

1. 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".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. 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.

4. 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.

5. 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:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. 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:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. 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.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

5. 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.

6. 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.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. 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.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. 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.

14. 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).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. 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.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. 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.

21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. 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.

26. 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.

27. 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.

28. 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.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. 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.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
8/24/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/25/22	CONSTRUCTION REVISED	BDJ
0	01/14/22	ISSUED FOR CONSTRUCTION	BDJ

SITE NUMBER:
CTHA145B
SITE ADDRESS:
12 BURR ROAD
BOOMFIELD, CT 06002

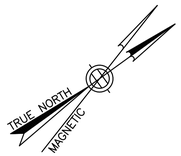
SHEET TITLE
GENERAL NOTES

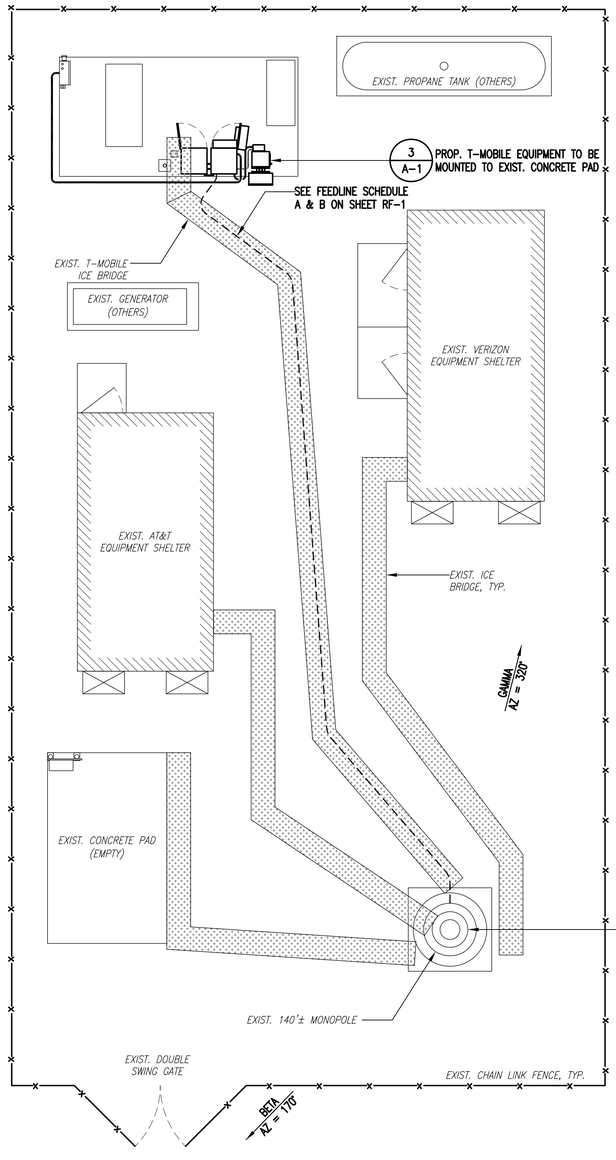
SHEET NUMBER
GN-1

1815.388

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.

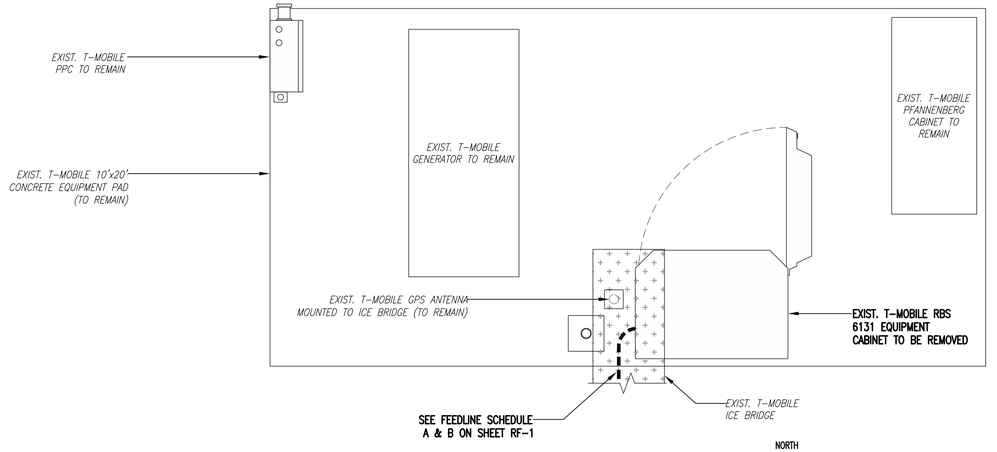
SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED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



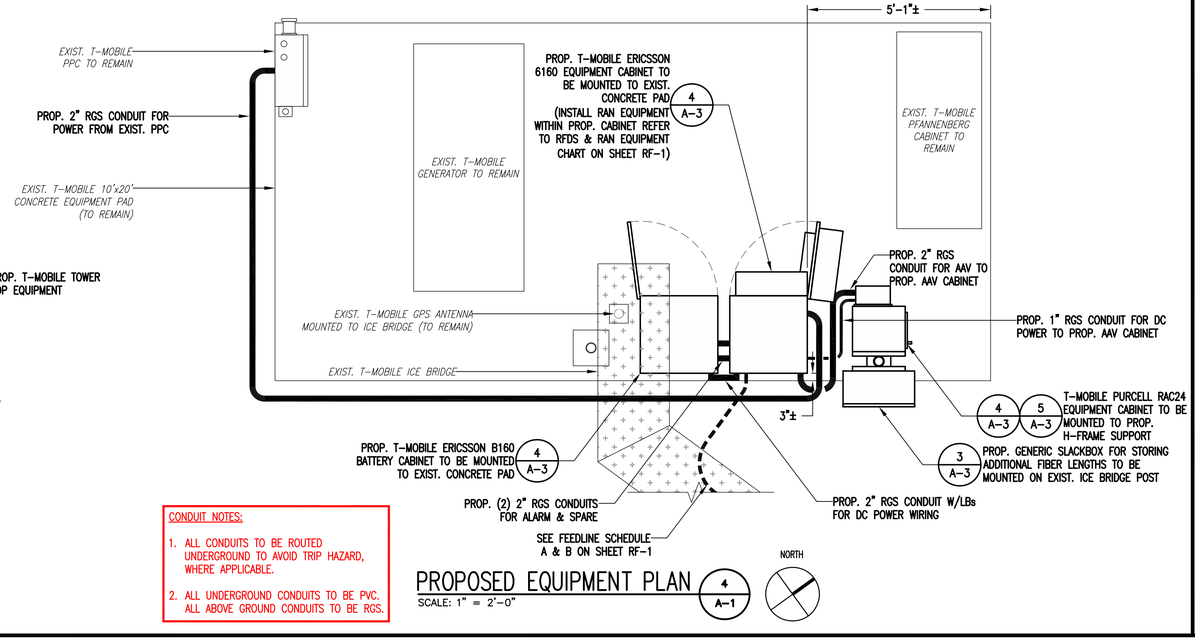


COMPOUND PLAN
SCALE: 1" = 5'-0"
1
A-1

EXISTING EQUIPMENT PHOTO DETAIL
SCALE: NTS
2
A-1



EXISTING EQUIPENT PLAN
SCALE: 1" = 2'-0"
3
A-1
NORTH



PROPOSED EQUIPMENT PLAN
SCALE: 1" = 2'-0"
4
A-1
NORTH

CONDUIT NOTES:

1. ALL CONDUITS TO BE ROUTED UNDERGROUND TO AVOID TRIP HAZARD, WHERE APPLICABLE.
2. ALL UNDERGROUND CONDUITS TO BE PVC. ALL ABOVE GROUND CONDUITS TO BE RGS.

T-MOBILE NORTHEAST LLC
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www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/25/22	CONSTRUCTION REVISED	BDJ
0	01/14/22	ISSUED FOR CONSTRUCTION	BDJ

SITE NUMBER:

CTHA145B

SITE ADDRESS:
12 BURR ROAD
BOOMFIELD, CT 06002

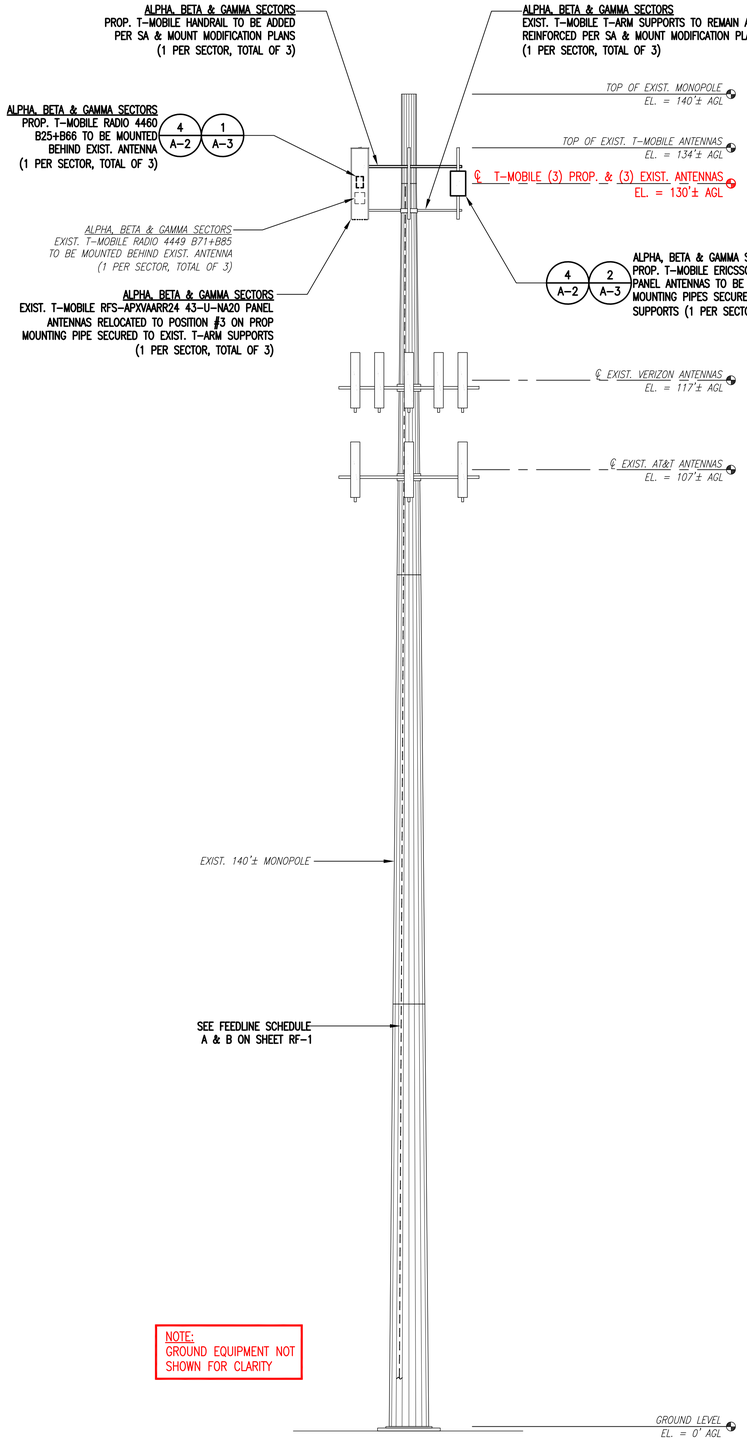
SHEET TITLE

COMPOUND & EQUIPMENT PLANS

SHEET NUMBER

A-1

1815.388



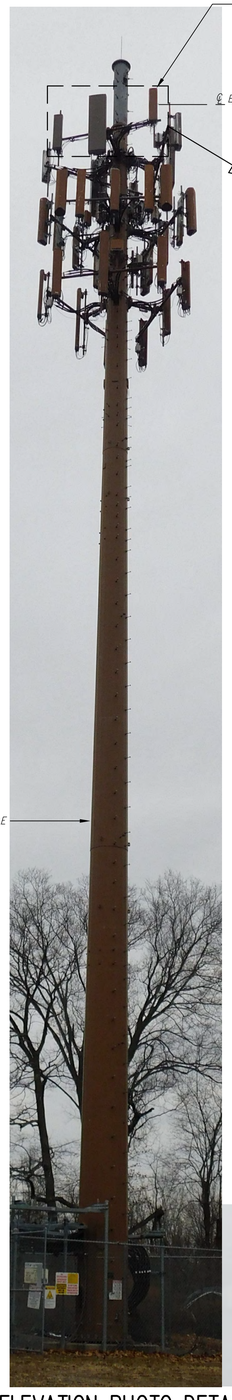
NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

SCALE: 1" = 8'-0"

0 4' 8' 16' 24'

(1 / A-2)



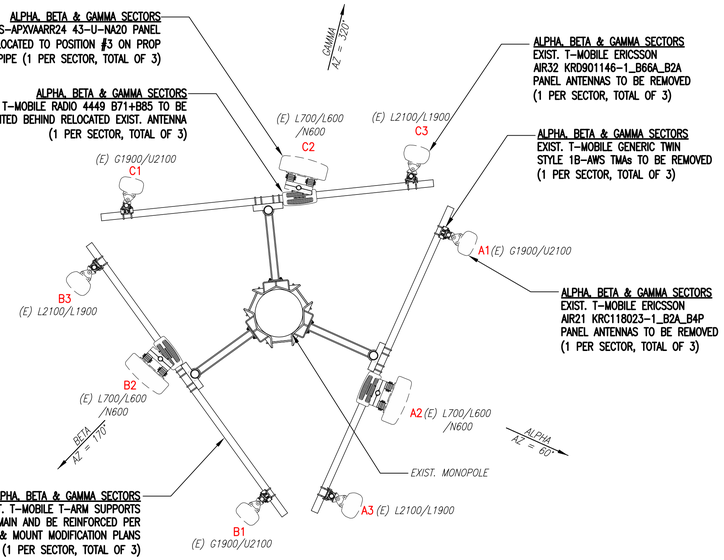
EXISTING ELEVATION PHOTO DETAIL

SCALE: NTS

(2 / A-2)

EXISTING ANTENNA ARRAY

SCALE: N.T.S.



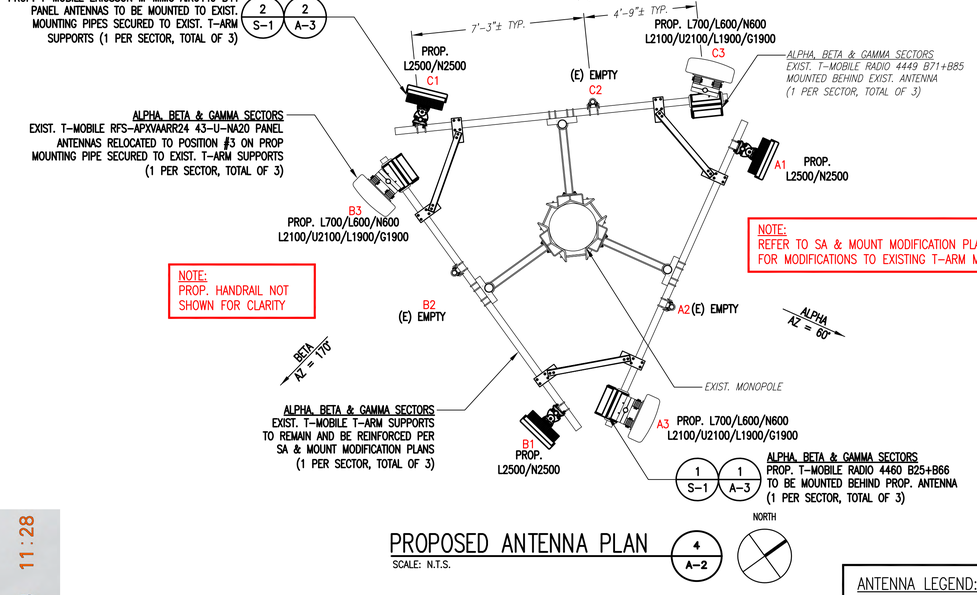
EXISTING ANTENNA PLAN

SCALE: N.T.S.

(3 / A-2)

NORTH

NOTE:
HORIZONTAL ANTENNA SEPARATION SHOWN IS APPLICABLE TO EACH SECTOR (REF. ONLY)



PROPOSED ANTENNA PLAN

SCALE: N.T.S.

(4 / A-2)

ANTENNA LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING

(P) – INSTALL

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

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SHEET TITLE

ELEVATION & ANTENNA PLANS

SHEET NUMBER

A-2

1815.388

ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAIL
SCALE: N.T.S.
1 / A-3

ERICSSON M-MIMO AIR6449 B41 ANTENNA

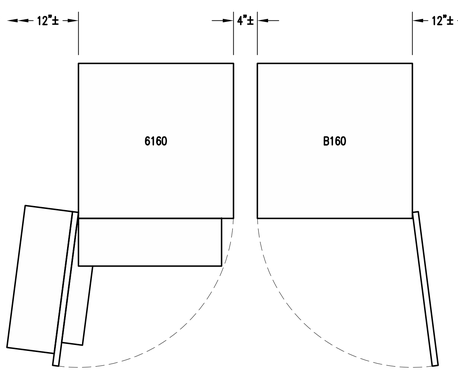
DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAIL
SCALE: N.T.S.
2 / A-3

SLACKBOX – HOFFMAN 32FH91 NEMA 3R ENCLOSURE

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS
SCALE: N.T.S.
3 / A-3



ERICSSON 6161 SITE SUPPORT CABINET

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

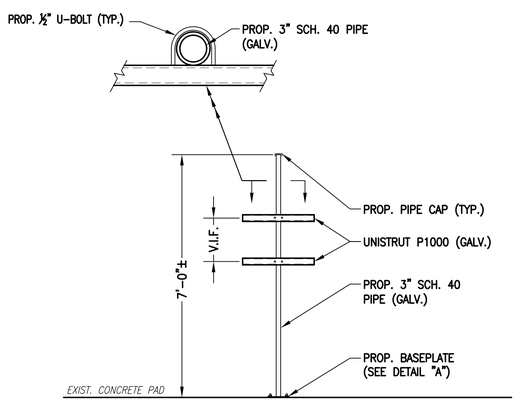
ERICSSON B160 BATTERY CABINET

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

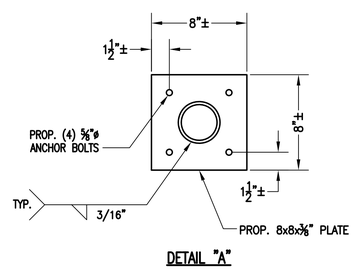
PURCELL SITE SUPPORT CABINET RAC24

DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL
SCALE: N.T.S.
4 / A-3



H-FRAME DETAIL
SCALE: N.T.S.
5 / A-3



DETAIL "A"

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SITE DETAILS

SHEET NUMBER
A-3

1815.388

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**	**130'-0"± AGL**	**60°**	**0°**	**0°**	**L2500/N2500**	**–**	
	A2 *EMPTY*							
	A3 *RFS APXVAARR24_43-U-NA20*	*130'-0"± AGL*	*60°*	*0°*	*0°*	**L700/L600/N600**	*ERICSSON RADIO 4449 B71+B85*	
						U2100/L2100/L1900/G1900	**ERICSSON RADIO 4460 B25+B66**	
BETA	B1 **ERICSSON M-MIMO AIR6449 B41**	**130'-0"± AGL**	**170°**	**0°**	**0°**	**L2500/N2500**	**–**	
	B2 *EMPTY*							
	B3 *RFS APXVAARR24_43-U-NA20*	*130'-0"± AGL*	*170°*	*0°*	*0°*	**L700/L600/N600**	*ERICSSON RADIO 4449 B71+B85*	**(P) (2) 1-¾" (6x24) HCS FIBER CABLES** *(E) (1) 1-1/4" (6x12) HCS FIBER CABLE*
						U2100/L2100/L1900/G1900	**ERICSSON RADIO 4460 B25+B66**	
GAMMA	C1 **ERICSSON M-MIMO AIR6449 B41**	**130'-0"± AGL**	**320°**	**0°**	**0°**	**L2500/N2500**	**–**	
	C2 *EMPTY*							
	C3 *RFS APXVAARR24_43-U-NA20*	*130'-0"± AGL*	*320°*	*0°*	*0°*	**L700/L600/N600**	*ERICSSON RADIO 4449 B71+B85*	
						U2100/L2100/L1900/G1900	**ERICSSON RADIO 4460 B25+B66**	

CABLE NOTE: EXISTING T-MOBILE COAX CABLES TO BE REMOVED AS NECESSARY, ANY REMAINING TO BE DISCONNECTED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV5 – 09/16/21

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* *(1) 1-¼" (6x12) HCS FIBER CABLE* *(1) ½" COAX CABLE FOR GPS ANTENNA*	**ROUTED PER STRUCTURAL ANALYSIS**
	EXISTING TO BE REMOVED: *ALL 1-⅝" COAX CABLES*	
B	**PROPOSED:** **(2) 1-¾" (6x24) HCS FIBER CABLES**	

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

RAN EQUIPMENT

CABINET	EXISTING	PROPOSED
ERICSSON RBS6131	*(2) DUW30* *(1) DUG20* *(2) BB 6630* *(6) RU22*	*N/A*
ERICSSON 6160	*N/A*	**(1) BB 6648 / (2) BB 6630** **(1) DUW30 / (1) DUG20** **(2) RBS 6601** **(1) PSU 4813 vR4A** **(1) CSR IXRe V2**

NOTE:
RAN EQUIPMENT IS BASED ON RFDS REV5 DATED 09/16/21

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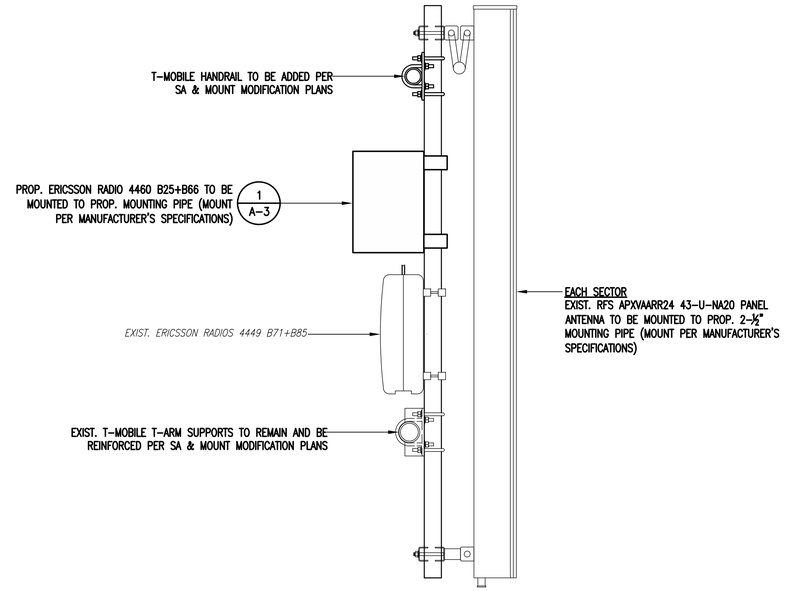
SHEET TITLE
RF DATA

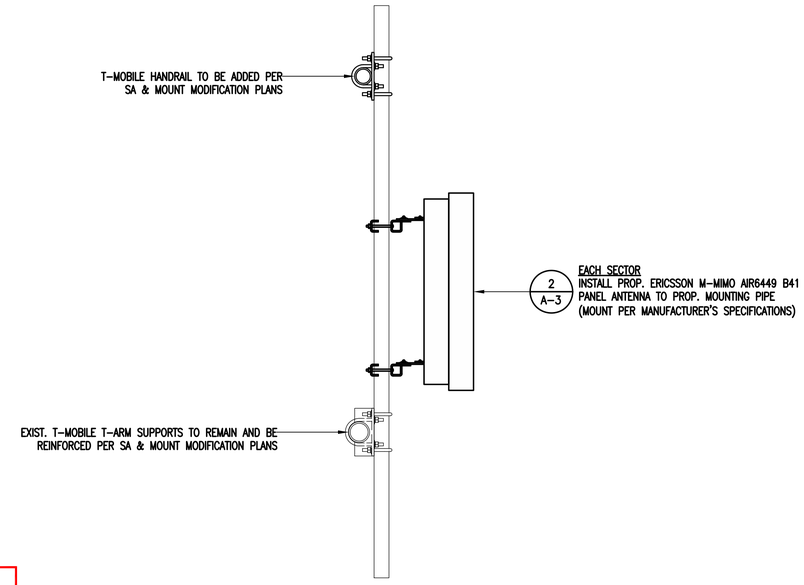
SHEET NUMBER
RF-1

1815.388



ANTENNA & RADIO MOUNT DETAIL (1 / S-1)
SCALE: N.T.S.

NOTE:
REFER TO SA & MOUNT MODIFICATION PLANS FOR MODIFICATIONS TO EXISTING T-ARM MOUNT



ANTENNA MOUNT DETAIL (2 / S-1)
SCALE: N.T.S.

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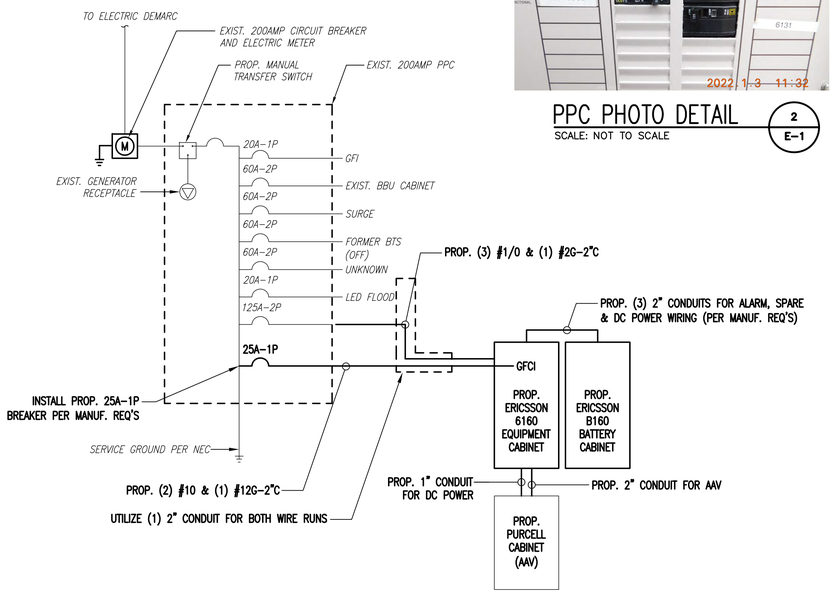
SHEET TITLE
ANTENNA MOUNTING DETAILS

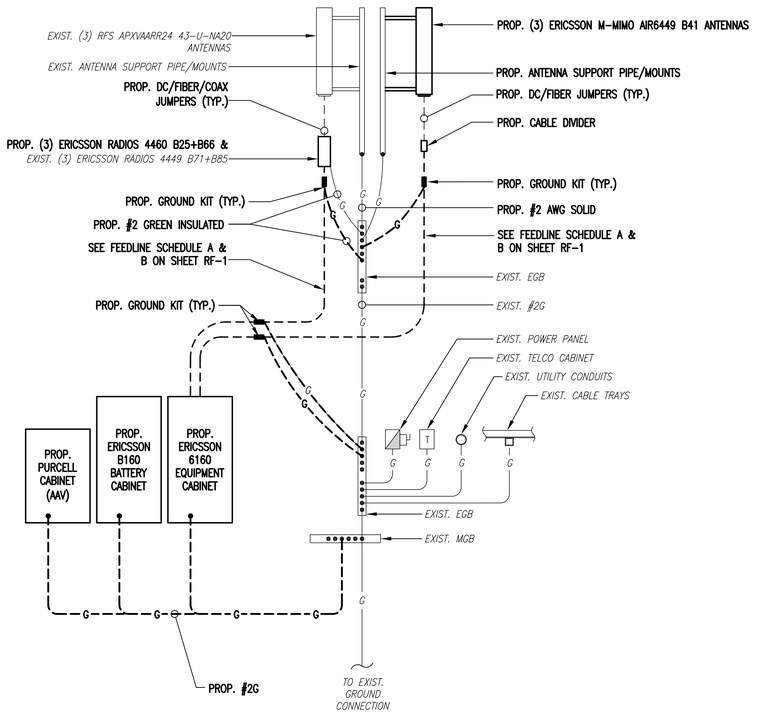
SHEET NUMBER
S-1

1815.388

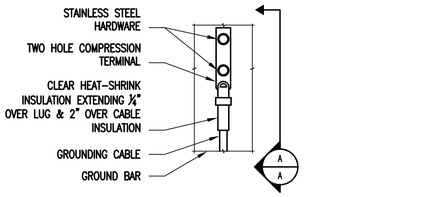
PPC PHOTO DETAIL (2 / E-1)
SCALE: NOT TO SCALE



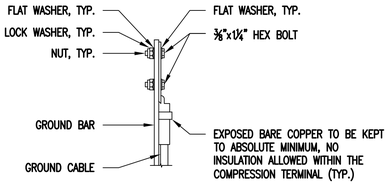
ONE LINE DIAGRAM (1 / E-1)
SCALE: NOT TO SCALE



GROUNDING RISER DIAGRAM (3 / E-1)
SCALE: NOT TO SCALE



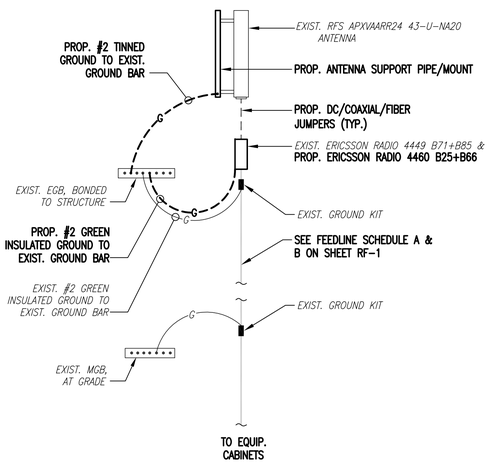
ELEVATION



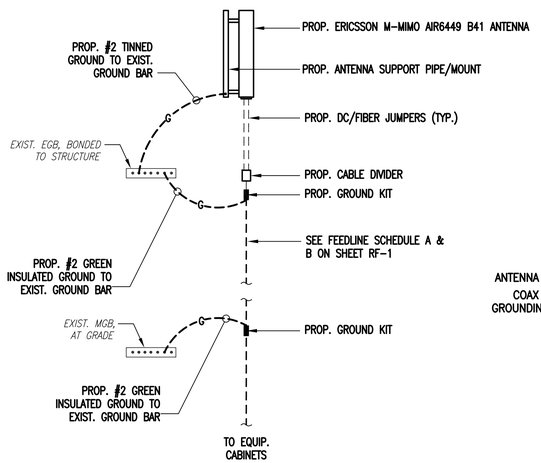
SECTION A-A

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

TYPICAL GROUND BAR CONNECTIONS DETAIL (4 / E-1)
SCALE: NOT TO SCALE

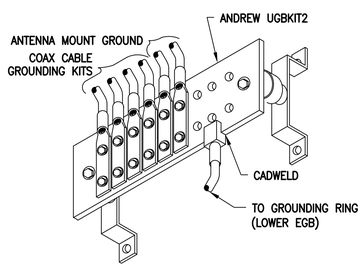


L700/L600/N600 & L2100/U2100/L1900/G1900 ANTENNA



L2500/N2500 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (5 / E-1)
SCALE: NOT TO SCALE



GROUND BAR (EGB) (6 / E-1)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHNINSULATION.
8. 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.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. 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.
16. 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.
17. 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.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

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SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.388

Exhibit D

Structural Analysis Report

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

Structural Analysis Report

Existing 140 ft Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13548-S

Customer Site Name: Bloomfield 4

Carrier Name: T-Mobile (App#: 182180, V2)

Carrier Site ID / Name: CTHA145B / Maple Hill Farms

Site Location: 12 Burr Road

Bloomfield, Connecticut

Hartford County

Latitude: 41.817858

Longitude: -72.764511

Analysis Result:

Max Structural Usage: 76.9% [Pass]

Max Foundation Usage: 65.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: +1.9%

Report Prepared By : Anita Lama

Tower Engineering Solutions
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1320 Greenway Drive, Suite 600, Irving, Texas 75038

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Report Prepared By : Anita Lama

Introduction

The purpose of this report is to summarize the analysis results on the 140 ft Rohn Monopole 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

Tower Drawings	Monopole original structural design report & shaft section data prepared by ROHN. Dated 12-02-2009. Drawing No 606820-01-D1. File No 0606820. Monopole previous structural report prepared by FDH Engineering, Inc. Dated 08-22-2014. Project No 146ASY1400.
Foundation Drawing	Monopole original foundation calculations & Drawings prepared by ROHN. Dated 12-02-2009. Drawing No 606820-01-F1 & 606820-01-F2. File No 0606820.
Geotechnical Report	Monopole geotechnical report prepared by Tower Engineering Professionals, Inc. Dated 03-01-2010. Project No 093184.01 Rev 1.
Modification Drawings	Monopole previous modifications by FDH Engineering, Inc. Dated 06-26-2012. Project No 12-02719E S1. Modification inspection report prepared by FDH Engineering, Inc. Dated 08-30-2012. Project No 1206095TC1.
Mount Analysis	MA by TES, Project Number: 128029 dated 5/5/2022

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 **TESPoles,** 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.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	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
-	130.0	3	Ericsson AIR 21 B2A/B4P - Panel	(3) T-Arms	(17) 1 5/8"; (2) 1 1/4" Hybrid	T-Mobile
-		3	RFS APXVAARR24_43-U-NA20 (Octa) - Panel			
-		3	Ericsson AIR32 KRD901146-1_B66A (Octa) - Panel			
-		3	Ericsson KRY 112 144/2 TMA's			
-		3	Ericsson Radio 4449 B71 + B12			
7	117.0	6	Antel LPA-80063/6CF_5 - Panel	(3) T-Arms w/ (3) Commscope BSAMNT-SBS-1-2, 12'-6" long 2.0" STD Pipe & SitePro1 PRK-1245 kit	(6) 1 5/8" Coax; (2) 1 5/8" Hybrid	Verizon
8		3	Samsung XXDWMM-12.5-65-8TCBRS_Port1_3550_8D T integrated antenna with RRH RT4401 - Panel			
9		6	Andrew SBNHH-1D65B w/ 126 Mount Pipe - Panel			
10		3	Samsung MT6407-77A - Panel			
11		3	Samsung B2/B66A RRHBR049 (RFV01UD1A) RRU's			
12		3	Samsung B5/B13 RRHBR04C (RFV01UD2A) RRU's			
13		3	Samsung CBRS RRH - RT4401-48A RRU's			
14		1	Commscope FE-16148-OVP-B12 OVP			
15	107.0	1	Andrew SBNH-1D6565C - Panel	Platform w/ Hand Rails	(12) 1 5/8"; (1) 1/2"; [(1) Fiber + (2) DC Cables inside (1) 3" Conduit]*	AT&T
16		1	KMW AM-X-CD-16-65-00T-RET - Panel			
17		12	Powerwave 7020.00			
18		9	Powerwave P65-16-XLH-RR - Panel			
19		1	Powerwave P65-17-XLH-RR - Panel			
20		12	Powerwave TT08-19DB111-001			
21	106.0	6	Andrew RRUS11 RRUs	(1) Valmont LWRM Ring Mount		
22		1	Raycap DC6-48-60-18-8F			

* Existing (1) Fiber + (2) DC Power lines installed inside (1) 3" Conduit running outside of the pole shaft and exposed to wind.

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
1	130.0	3	RFS APXVAARR24_43-U-NA20 (Octa) - Panel	(3) Modified T-Arms	(1) 1 1/4" Hybrid (15) 1 5/8" (2) 1.9" Hybrid	T-Mobile
2		3	Ericsson AIR32 KRD901146-1_B66A (Octa) - Panel			
3		3	Ericsson KRY 112 144/2 TMA's			
4		3	Ericsson AIR6449 B41 - Panel			
5		3	Ericsson 4449 B71 + B85			
6		3	Ericsson 4460 B25 + B66			

All transmission lines are considered running inside of the pole shafts.

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:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**71.1%**	**76.9%**	**67.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Analysis Reactions	2993.5	29.9

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.2694 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.

Usage Diagram - Max Ratio 71.14% at 48.0ft

Structure:	CT13548-S-SBA	**Code:**	EIA/TIA-222-G	5/18/2022
Site Name:	Bloomfield 4	**Exposure:**	C	
Height:	140.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

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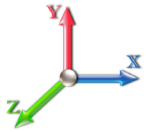
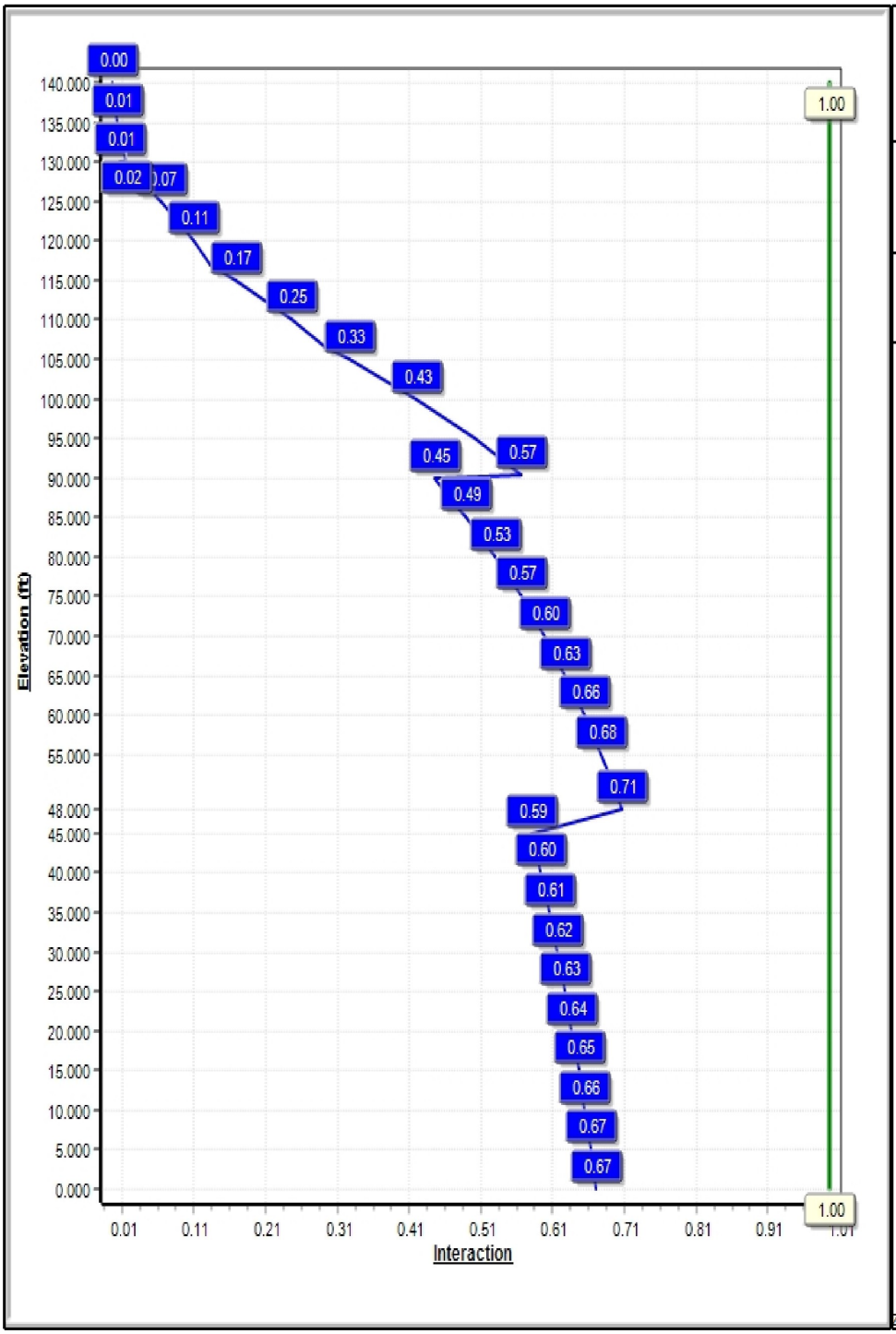
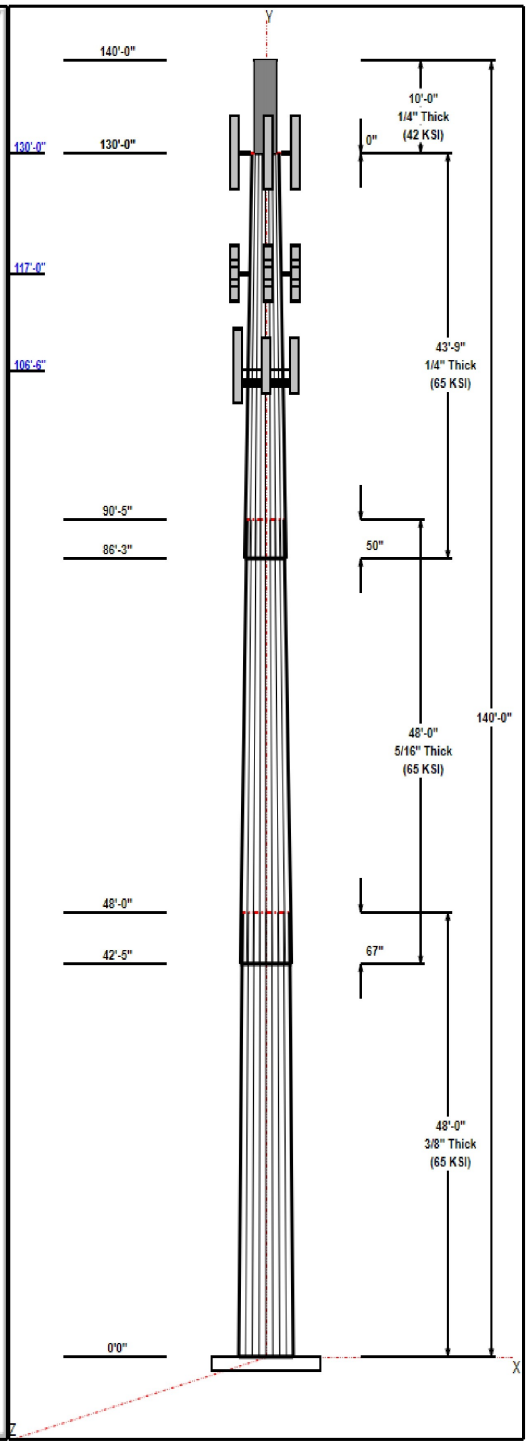
Dead Load Factor:	1.20	**Iterations:**	23
Wind Load Factor:	1.60		

Load Case : 1.2D + 1.6W 97 mph Wind







Structure: CT13548-S-SBA

Type: Custom
Site Name: Bloomfield 4
Height: 140.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.25788

5/18/2022

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	40.62	53.00	0.375		0.25788	65
2	48.00	30.31	42.69	0.313	Slip	0.25788	65
3	43.75	20.60	31.88	0.250	Slip	0.25788	65
4	10.00	20.00	20.00	0.250	Butt	0.00000	42

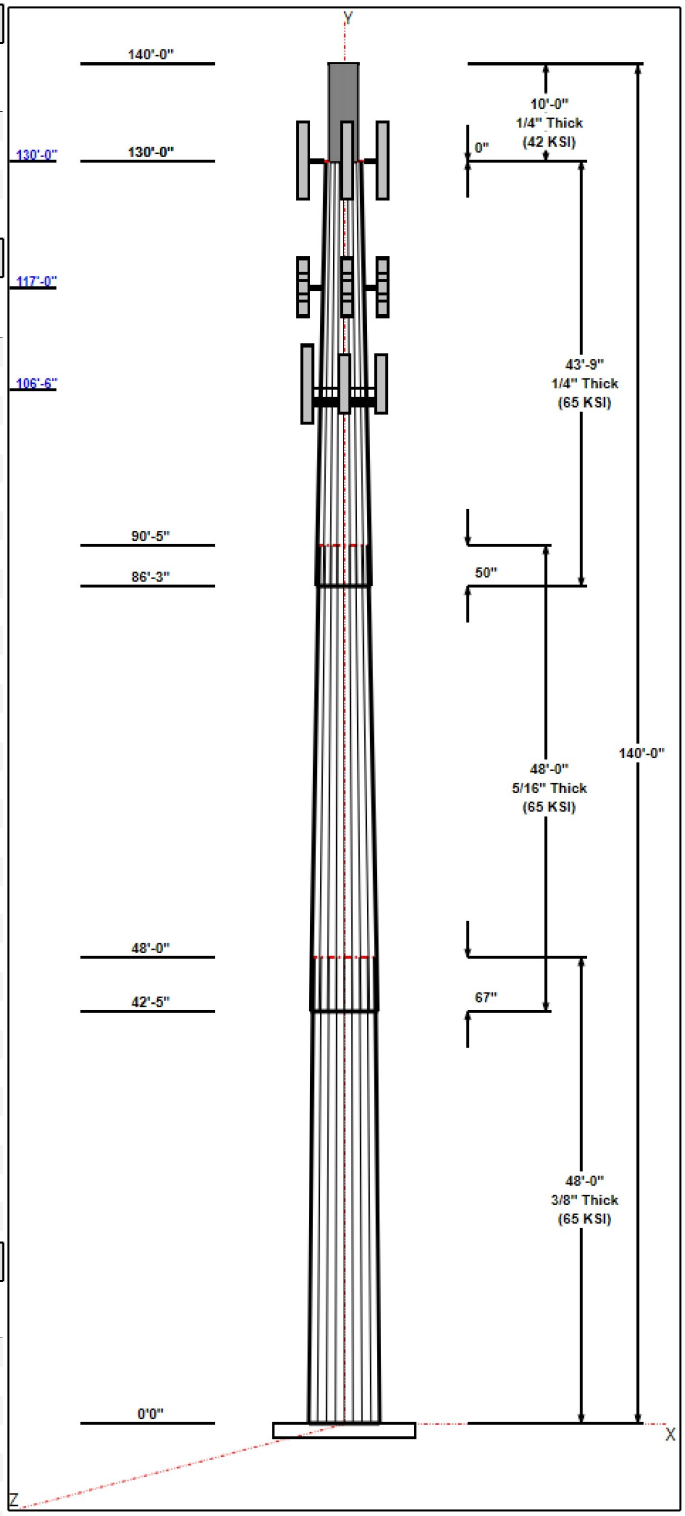
Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
140.00	143.50	1	Lightning Rod	---
130.00	130.00	3	RFS	T-Mobile
130.00	130.00	3	Ericsson AIR32	T-Mobile
130.00	130.00	3	T-Arms	T-Mobile
130.00	130.00	3	Ericsson KRY 112 144/2	T-Mobile
130.00	130.00	3	Ericsson AIR6449 B41	T-Mobile
130.00	130.00	3	Ericsson 4449 B71 + B85	T-Mobile
130.00	130.00	3	Ericsson 4460 B25 + B66	T-Mobile
130.00	130.00	1	MS-HRECP	T-Mobile
117.00	117.00	6	Antel LPA-80063/6CF_5	Verizon
117.00	117.00	3	Samsung	Verizon
117.00	117.00	6	Andrew SBNHH-1D65B w/	Verizon
117.00	117.00	3	Samsung MT6407-77A	Verizon
117.00	117.00	3	Commscope	Verizon
117.00	117.00	3	Samsung B2/B66A	Verizon
117.00	117.00	3	Samsung B5/B13	Verizon
117.00	117.00	3	Samsung CBRS RRH -	Verizon
117.00	117.00	1	Commscope	Verizon
117.00	117.00	3	T-Arms	Verizon
117.00	113.67	1	12'-6" long 2.0" STD Pipe	Verizon
117.00	119.00	1	SitePro1 PRK-1245 kit	Verizon
106.50	107.00	12	Powerwave	AT&T
106.50	107.00	12	Powerwave 7020.00	AT&T
106.50	106.50	1	Platform w/ Hand Rails	AT&T
106.50	107.00	9	Powerwave	AT&T
106.50	107.00	1	Powerwave	AT&T
106.50	107.00	1	Andrew SBNH-1D6565C	AT&T
106.50	107.00	1	KMW	AT&T
105.00	106.00	6	Andrew RRUS11 RRUs	AT&T
105.00	106.00	1	Raycap DC6-48-60-18-8F	AT&T
105.00	105.00	1	Valmont LWRM Ring	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	130.00	Inside	1 1/4" Fiber	T-Mobile
3.00	130.00	Inside	1 5/8" Coax	T-Mobile
3.00	130.00	Inside	1.9" Hybrid	T-Mobile
3.00	117.00	Inside	1 5/8" Coax	Verizon
3.00	117.00	Inside	1 5/8" Hybrid	Verizon
3.00	106.50	Inside	1 5/8" Coax	AT&T
3.00	106.50	Inside	1/2" Coax	AT&T
3.00	106.50	Outside	3" Conduit	AT&T

Anchor Bolts



Qty	Specifications	Grade (ksi)	Arrangement
24	1.5" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	62.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	2993.5	29.9	40.5
0.9D + 1.6W 97 mph Wind	2963.8	29.9	30.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	880.4	8.7	71.1
1.2D + 1.0E	120.5	1.2	40.6
0.9D + 1.0E	119.2	1.2	30.4
1.0D + 1.0W 60 mph Wind	711.9	7.2	33.8

Structure: CT13548-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Bloomfield 4
Height: 140.00 (ft)

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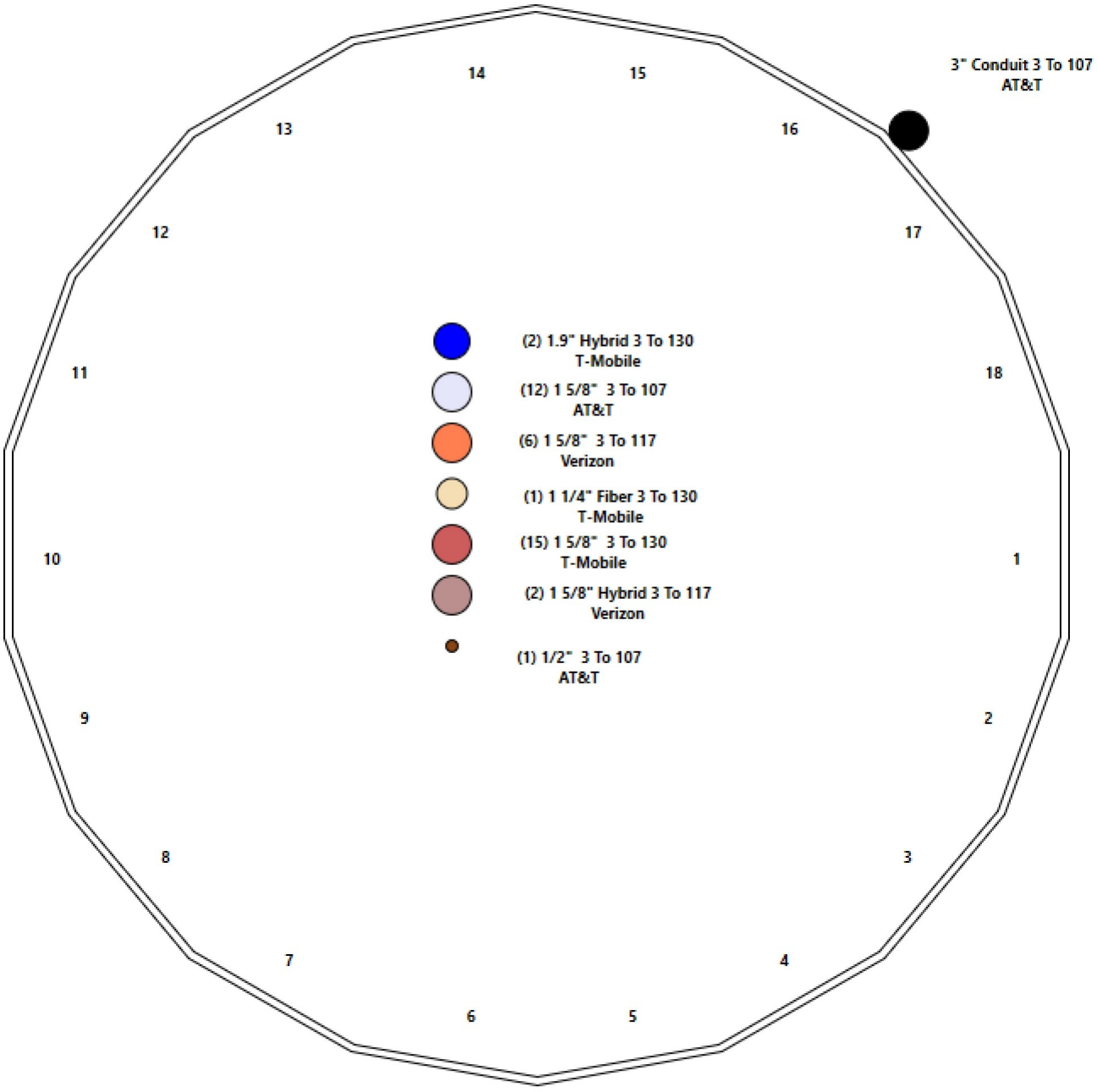

Shaft Properties

Structure:	CT13548-S-SBA		**Code:**	TIA-222-G	5/18/2022
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3750	65		0.00	9,027
2	18	48.000	0.3125	65	Slip	67.00	5,862
3	18	43.750	0.2500	65	Slip	50.00	3,070
4	R	10.000	0.2500	42	Flange	0.00	528
					Total Shaft Weight:		**18,487**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	53.00	0.00	62.63	21915.53	23.51	141.33	40.62	48.00	47.90	9803.05	17.69	108.3	0.257885
2	42.69	42.42	42.03	9534.32	22.68	136.60	30.31	90.42	29.75	3381.89	15.69	96.99	0.257885
3	31.88	86.25	25.10	3173.09	21.08	127.53	20.60	130.00	16.15	844.85	13.12	82.40	0.257885
4	20.00	130.0	15.51	756.89	0.00	80.00	20.00	140.00	15.51	756.89	0.00	80.00	0.000000

Load Summary

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

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Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	140.00	Lightning Rod	1	35.00	1.05	1.00	76.60	4.193	1.00	0.00	3.50
2	130.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.72	716.14	22.767	0.72	0.00	0.00
3	130.00	Ericsson AIR32 KRD901146-1_B66A	3	132.20	6.51	0.86	388.68	8.075	0.86	0.00	0.00
4	130.00	T-Arms	3	350.00	8.00	0.75	671.14	17.176	0.75	0.00	0.00
5	130.00	Ericsson KRY 112 144/2 TMA's	3	11.02	0.35	0.67	25.22	0.883	0.67	0.00	0.00
6	130.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	283.23	6.899	0.71	0.00	0.00
7	130.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	149.10	2.718	0.67	0.00	0.00
8	130.00	Ericsson 4460 B25 + B66	3	109.00	2.85	0.67	203.51	3.736	0.67	0.00	0.00
9	130.00	MS-HRECP	1	514.00	12.25	1.00	1315.76	27.986	1.00	0.00	0.00
10	117.00	Antel LPA-80063/6CF_5	6	27.00	9.59	0.95	362.72	13.151	0.95	0.00	0.00
11	117.00	Samsung XXDWMM-12.5-65	3	23.10	1.54	0.75	63.49	1.951	0.75	0.00	0.00
12	117.00	Andrew SBNHH-1D65B w/ 126	6	40.00	8.16	0.83	319.58	9.886	0.83	0.00	0.00
13	117.00	Samsung MT6407-77A	3	87.10	4.71	0.70	252.57	5.939	0.70	0.00	0.00
14	117.00	Commscope BSAMNT-SBS-1-2	3	67.40	0.09	0.60	128.60	0.172	0.60	0.00	0.00
15	117.00	Samsung B2/B66A RRHBR049	3	84.00	1.88	0.67	150.35	2.597	0.67	0.00	0.00
16	117.00	Samsung B5/B13 RRHBR04C	3	73.30	1.88	0.67	139.25	2.597	0.67	0.00	0.00
17	117.00	Samsung CBRS RRH - RT4401-48A	3	23.14	1.53	0.67	45.35	2.236	0.67	0.00	0.00
18	117.00	Commscope FE-16148-OVP-B12	1	15.10	1.87	0.67	66.91	3.143	0.67	0.00	0.00
19	117.00	T-Arms	3	350.00	8.00	0.75	667.78	17.079	0.75	0.00	0.00
20	117.00	12'-6" long 2.0" STD Pipe	1	261.72	6.75	1.00	665.68	15.330	1.00	0.00	-3.33
21	117.00	SitePro1 PRK-1245 kit	1	464.91	9.50	1.00	887.02	22.438	1.00	0.00	2.00
22	106.50	Powerwave TT08-19DB111-001	12	22.00	0.92	0.60	56.29	1.872	0.60	0.00	0.50
23	106.50	Powerwave 7020.00	12	2.20	0.40	0.60	15.38	1.024	0.60	0.00	0.50
24	106.50	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4698.33	66.983	1.00	0.00	0.00
25	106.50	Powerwave P65-16-XLH-RR	9	53.00	8.16	0.80	265.66	11.771	0.80	0.00	0.50
26	106.50	Powerwave P65-17-XLH-RR	1	59.00	11.44	0.80	338.08	15.607	0.80	0.00	0.50
27	106.50	Andrew SBNH-1D6565C	1	66.10	11.47	0.80	362.30	15.659	0.80	0.00	0.50
28	106.50	KMW AM-X-CD-16-65-00T-RET	1	48.50	8.02	0.78	257.58	11.620	0.78	0.00	0.50
29	105.00	Andrew RRUS11 RRUs	6	50.70	2.52	0.67	173.03	3.379	0.67	0.00	1.00
30	105.00	Raycap DC6-48-60-18-8F	1	32.80	1.47	0.67	112.34	2.370	0.67	0.00	1.00
31	105.00	Valmont LWRM Ring Mount	1	350.00	5.00	0.80	727.23	9.491	0.80	0.00	0.00
		Totals:	**104**	**10,164.11**			**29,544.00**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	130.00	(1) 1 1/4" Fiber	0.00	Inside
3.00	130.00	(15) 1 5/8" Coax	0.00	Inside
3.00	130.00	(2) 1.9" Hybrid	0.00	Inside
3.00	117.00	(6) 1 5/8" Coax	0.00	Inside
3.00	117.00	(2) 1 5/8" Hybrid	0.00	Inside
3.00	106.50	(12) 1 5/8" Coax	0.00	Inside
3.00	106.50	(1) 1/2" Coax	0.00	Inside
3.00	106.50	(1) 3" Conduit	0.00	Outside

Shaft Section Properties

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	53.000	62.635	21915.5	23.51	141.33	73.7	814.4	0.0
5.00		0.3750	51.711	61.100	20343.7	22.90	137.89	74.5	774.9	1052.6
10.00		0.3750	50.421	59.565	18849.0	22.30	134.46	75.2	736.3	1026.5
15.00		0.3750	49.132	58.031	17429.3	21.69	131.02	75.9	698.7	1000.4
20.00		0.3750	47.842	56.496	16082.7	21.09	127.58	76.6	662.1	974.3
25.00		0.3750	46.553	54.961	14807.4	20.48	124.14	77.3	626.5	948.2
30.00		0.3750	45.263	53.427	13601.3	19.87	120.70	78.0	591.9	922.0
35.00		0.3750	43.974	51.892	12462.5	19.27	117.26	78.7	558.2	895.9
40.00		0.3750	42.685	50.357	11389.2	18.66	113.83	79.5	525.5	869.8
42.42	Bot - Section 2	0.3750	42.061	49.615	10893.3	18.37	112.16	79.8	510.1	411.1
45.00		0.3750	41.395	48.823	10379.3	18.05	110.39	80.2	493.9	799.2
48.00	Top - Section 1	0.3125	41.247	40.600	8595.0	21.86	131.99	0.0	0.0	912.1
50.00		0.3125	40.731	40.088	8274.2	21.57	130.34	76.0	400.1	274.6
55.00		0.3125	39.441	38.810	7507.3	20.84	126.21	76.9	374.9	671.2
60.00		0.3125	38.152	37.531	6789.3	20.12	122.09	77.7	350.5	649.4
65.00		0.3125	36.862	36.252	6118.7	19.39	117.96	78.6	326.9	627.7
70.00		0.3125	35.573	34.973	5493.7	18.66	113.83	79.5	304.2	605.9
75.00		0.3125	34.284	33.694	4912.8	17.93	109.71	80.3	282.2	584.1
80.00		0.3125	32.994	32.415	4374.3	17.21	105.58	81.2	261.1	562.4
85.00		0.3125	31.705	31.136	3876.7	16.48	101.46	82.0	240.8	540.6
86.25	Bot - Section 3	0.3125	31.382	30.816	3758.5	16.30	100.42	82.2	235.9	131.8
90.00		0.3125	30.415	29.857	3418.4	15.75	97.33	82.5	221.4	702.5
90.42	Top - Section 2	0.2500	30.808	24.247	2860.6	20.32	123.23	0.0	0.0	76.7
95.00		0.2500	29.626	23.309	2541.3	19.48	118.50	78.5	169.0	370.8
100.00		0.2500	28.337	22.286	2221.2	18.58	113.35	79.6	154.4	387.9
105.00		0.2500	27.047	21.263	1929.1	17.67	108.19	80.6	140.5	370.5
106.50		0.2500	26.660	20.956	1846.7	17.39	106.64	80.9	136.4	107.7
110.00		0.2500	25.758	20.240	1663.8	16.76	103.03	81.7	127.2	245.3
115.00		0.2500	24.468	19.217	1424.0	15.85	97.87	82.5	114.6	335.7
117.00		0.2500	23.952	18.807	1335.0	15.48	95.81	82.5	109.8	129.4
120.00		0.2500	23.179	18.193	1208.5	14.94	92.72	82.5	102.7	188.9
125.00		0.2500	21.889	17.170	1015.8	14.03	87.56	82.5	91.4	300.8
130.00	Top - Section 3	0.2500	20.600	16.147	844.8	13.12	82.40	82.5	80.8	283.4
130.00	Bot - Section 4	0.2500	20.000	15.512	756.9	13.12	82.40	41.7	75.7	
135.00		0.2500	20.000	15.512	756.9	0.00	80.00	41.7	75.7	263.9
140.00		0.2500	20.000	15.512	756.9	0.00	80.00	41.7	75.7	263.9
										18487.1

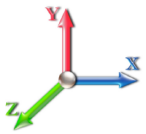
Wind Loading - Shaft

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	401.07	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	391.32	0.650	0.000	5.00	22.151	14.40	492.9	0.0	1263.1
10.00		1.00	0.85	19.450	21.40	381.56	0.650	0.000	5.00	21.606	14.04	480.8	0.0	1231.8
15.00		1.00	0.85	19.450	21.40	371.80	0.650	0.000	5.00	21.060	13.69	468.6	0.0	1200.5
20.00		1.00	0.90	20.638	22.70	372.93	0.650	0.000	5.00	20.515	13.33	484.3	0.0	1169.1
25.00		1.00	0.95	21.630	23.79	371.50	0.650	0.000	5.00	19.969	12.98	494.1	0.0	1137.8
30.00		1.00	0.98	22.477	24.72	368.21	0.650	0.000	5.00	19.423	12.63	499.4	0.0	1106.5
35.00		1.00	1.01	23.218	25.54	363.57	0.650	0.000	5.00	18.878	12.27	501.4	0.0	1075.1
40.00		1.00	1.04	23.880	26.27	357.91	0.650	0.000	5.00	18.332	11.92	500.8	0.0	1043.8
42.42	Bot - Section 2	1.00	1.06	24.177	26.59	354.87	0.650	0.000	2.42	8.665	5.63	239.7	0.0	493.3
45.00		1.00	1.07	24.479	26.93	351.43	0.650	0.000	2.58	9.258	6.02	259.3	0.0	959.0
48.00	Top - Section 1	1.00	1.08	24.814	27.30	347.21	0.650	0.000	3.00	10.569	6.87	300.0	0.0	1094.5
50.00		1.00	1.09	25.029	27.53	349.64	0.650	0.000	2.00	6.937	4.51	198.6	0.0	329.5
55.00		1.00	1.12	25.536	28.09	341.99	0.650	0.000	5.00	16.960	11.02	495.5	0.0	805.4
60.00		1.00	1.14	26.008	28.61	333.85	0.650	0.000	5.00	16.415	10.67	488.4	0.0	779.3
65.00		1.00	1.16	26.450	29.09	325.30	0.650	0.000	5.00	15.869	10.31	480.2	0.0	753.2
70.00		1.00	1.17	26.866	29.55	316.38	0.650	0.000	5.00	15.324	9.96	471.0	0.0	727.1
75.00		1.00	1.19	27.259	29.98	307.13	0.650	0.000	5.00	14.778	9.61	460.8	0.0	701.0
80.00		1.00	1.21	27.632	30.39	297.60	0.650	0.000	5.00	14.232	9.25	449.9	0.0	674.9
85.00		1.00	1.22	27.987	30.79	287.80	0.650	0.000	5.00	13.687	8.90	438.2	0.0	648.8
86.25	Bot - Section 3	1.00	1.23	28.073	30.88	285.31	0.650	0.000	1.25	3.336	2.17	107.2	0.0	158.1
90.00		1.00	1.24	28.325	31.16	277.76	0.650	0.000	3.75	9.964	6.48	322.9	0.0	843.0
90.42	Top - Section 2	1.00	1.24	28.353	31.19	276.91	0.650	0.000	0.42	1.088	0.71	35.3	0.0	92.0
95.00		1.00	1.25	28.650	31.51	272.09	0.650	0.000	4.58	11.719	7.62	384.1	0.0	445.0
100.00		1.00	1.27	28.961	31.86	261.66	0.650	0.000	5.00	12.262	7.97	406.2	0.0	465.4
105.00	Appurtenance(s)	1.00	1.28	29.260	32.19	251.04	0.650	0.000	5.00	11.716	7.62	392.2	0.0	444.6
106.50	Appurtenance(s)	1.00	1.28	29.347	32.28	247.82	0.650	0.000	1.50	3.408	2.22	114.4	0.0	129.3
110.00		1.00	1.29	29.548	32.50	240.25	0.650	0.000	3.50	7.762	5.05	262.4	0.0	294.4
115.00		1.00	1.30	29.826	32.81	229.29	0.650	0.000	5.00	10.625	6.91	362.5	0.0	402.8
117.00	Appurtenance(s)	1.00	1.31	29.934	32.93	224.86	0.650	0.000	2.00	4.097	2.66	140.3	0.0	155.3
120.00		1.00	1.32	30.094	33.10	218.18	0.650	0.000	3.00	5.982	3.89	206.0	0.0	226.6
125.00		1.00	1.33	30.354	33.39	206.93	0.650	0.000	5.00	9.534	6.20	331.1	0.0	361.0
130.00	Top - Section 3	1.00	1.34	30.605	33.67	195.55	0.650	0.000	5.00	8.989	5.84	314.7	0.0	340.1
135.00		1.00	1.35	30.850	33.93	187.71	0.600	0.000	5.00	8.333	5.00	271.5	0.0	316.7
140.00	Appurtenance(s)	1.00	1.36	31.087	34.20	188.43	0.600	0.000	5.00	8.333	5.00	273.6	0.0	316.7
								Totals:	**140.00**			**12,128.2**		**22,184.5**

Discrete Appurtenance Forces

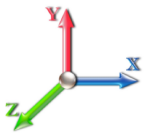
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	140.00	Lightning Rod	1	31.249	34.374	1.00	1.00	1.05	42.00	0.000	3.500	57.75	0.00	202.12
2	130.00	Ericsson KRY 112 144/2	3	30.605	33.666	0.54	0.80	0.56	39.67	0.000	0.000	30.32	0.00	0.00
3	130.00	RFS	3	30.605	33.666	0.58	0.80	34.97	460.80	0.000	0.000	1883.93	0.00	0.00
4	130.00	T-Arms	3	30.605	33.666	0.56	0.75	13.50	1260.00	0.000	0.000	727.18	0.00	0.00
5	130.00	Ericsson AIR32	3	30.605	33.666	0.69	0.80	13.44	475.92	0.000	0.000	723.77	0.00	0.00
6	130.00	Ericsson AIR6449 B41	3	30.605	33.666	0.57	0.80	9.63	370.80	0.000	0.000	518.60	0.00	0.00
7	130.00	Ericsson 4449 B71 + B85	3	30.605	33.666	0.54	0.80	3.17	263.52	0.000	0.000	170.63	0.00	0.00
8	130.00	Ericsson 4460 B25 + B66	3	30.605	33.666	0.54	0.80	4.58	392.40	0.000	0.000	246.85	0.00	0.00
9	130.00	MS-HRECP	1	30.605	33.666	1.00	1.00	12.25	616.80	0.000	0.000	659.85	0.00	0.00
10	117.00	SitePro1 PRK-1245 kit	1	30.041	33.045	0.75	0.75	7.13	557.89	0.000	2.000	376.71	0.00	753.43
11	117.00	12'-6" long 2.0" STD Pipe	1	29.753	32.728	0.75	0.75	5.06	314.06	0.000	-3.330	265.10	0.00	-882.77
12	117.00	T-Arms	3	29.934	32.927	0.56	0.75	13.50	1260.00	0.000	0.000	711.23	0.00	0.00
13	117.00	Commscope	1	29.934	32.927	0.54	0.80	1.00	18.12	0.000	0.000	52.81	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	29.934	32.927	0.54	0.80	2.46	83.30	0.000	0.000	129.61	0.00	0.00
15	117.00	Samsung B5/B13	3	29.934	32.927	0.54	0.80	3.02	263.88	0.000	0.000	159.27	0.00	0.00
16	117.00	Samsung B2/B66A	3	29.934	32.927	0.54	0.80	3.02	302.40	0.000	0.000	159.27	0.00	0.00
17	117.00	Samsung MT6407-77A	3	29.934	32.927	0.56	0.80	7.91	313.56	0.000	0.000	416.88	0.00	0.00
18	117.00	Andrew SBNHH-1D65B w/	6	29.934	32.927	0.66	0.80	32.51	288.00	0.000	0.000	1712.72	0.00	0.00
19	117.00	Samsung	3	29.934	32.927	0.60	0.80	2.77	83.16	0.000	0.000	146.04	0.00	0.00
20	117.00	Antel LPA-80063/6CF_5	6	29.934	32.927	0.76	0.80	43.73	194.40	0.000	0.000	2303.89	0.00	0.00
21	117.00	Commscope	3	29.934	32.927	0.48	0.80	0.13	242.64	0.000	0.000	6.83	0.00	0.00
22	106.50	Platform w/ Hand Rails	1	29.347	32.282	1.00	1.00	40.00	2400.00	0.000	0.000	2066.05	0.00	0.00
23	106.50	Powerwave	12	29.376	32.314	0.45	0.75	4.97	316.80	0.000	0.500	256.86	0.00	128.43
24	106.50	Powerwave 7020.00	12	29.376	32.314	0.45	0.75	2.16	31.68	0.000	0.500	111.68	0.00	55.84
25	106.50	Powerwave	1	29.376	32.314	0.60	0.75	6.86	70.80	0.000	0.500	354.88	0.00	177.44
26	106.50	Powerwave	9	29.376	32.314	0.60	0.75	44.06	572.40	0.000	0.500	2278.20	0.00	1139.10
27	106.50	Andrew SBNH-1D6565C	1	29.376	32.314	0.60	0.75	6.88	79.32	0.000	0.500	355.81	0.00	177.91
28	106.50	KMW	1	29.376	32.314	0.58	0.75	4.69	58.20	0.000	0.500	242.57	0.00	121.29
29	105.00	Valmont LWRM Ring	1	29.260	32.186	0.64	0.80	3.20	420.00	0.000	0.000	164.79	0.00	0.00
30	105.00	Raycap DC6-48-60-18-8F	1	29.318	32.250	0.54	0.80	0.79	39.36	0.000	1.000	40.66	0.00	40.66
31	105.00	Andrew RRUS11 RRUs	6	29.318	32.250	0.54	0.80	8.10	365.04	0.000	1.000	418.18	0.00	418.18
							Totals:		**12,196.93**			**17,748.92**		

Total Applied Force Summary

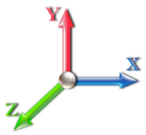
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		492.89	1369.42	0.00	0.00
10.00		480.75	1497.53	0.00	0.00
15.00		468.61	1466.20	0.00	0.00
20.00		484.34	1434.87	0.00	0.00
25.00		494.13	1403.53	0.00	0.00
30.00		499.44	1372.20	0.00	0.00
35.00		501.42	1340.87	0.00	0.00
40.00		500.82	1309.53	0.00	0.00
42.42		239.66	621.71	0.00	0.00
45.00		259.28	1096.34	0.00	0.00
48.00		300.03	1253.93	0.00	0.00
50.00		198.62	435.77	0.00	0.00
55.00		495.46	1071.16	0.00	0.00
60.00		488.38	1045.05	0.00	0.00
65.00		480.18	1018.93	0.00	0.00
70.00		470.96	992.82	0.00	0.00
75.00		460.84	966.71	0.00	0.00
80.00		449.90	940.60	0.00	0.00
85.00		438.21	914.49	0.00	0.00
86.25		107.15	224.54	0.00	0.00
90.00		322.86	1042.30	0.00	0.00
90.42		35.29	114.18	0.00	0.00
95.00		384.10	688.61	0.00	0.00
100.00		406.25	731.19	0.00	0.00
105.00	(8) attachments	1015.81	1534.70	0.00	458.84
106.50	(37) attachments	5780.49	3738.22	0.00	1800.00
110.00		262.38	420.54	0.00	0.00
115.00		362.54	583.02	0.00	0.00
117.00	(36) attachments	6580.66	4148.78	0.00	-129.34
120.00		205.96	304.39	0.00	0.00
125.00		331.07	490.60	0.00	0.00
130.00	(22) attachments	5275.85	4349.63	0.00	0.00
135.00		271.48	316.70	0.00	0.00
140.00	(1) attachments	331.31	358.70	0.00	202.12
	Totals:	**29,877.10**	**40,597.75**	**0.00**	**2,331.62**

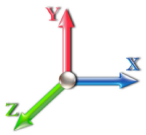
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	3.86
10.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	9.66
15.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	9.66
20.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.638	0.00	9.66
25.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.630	0.00	9.66
30.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.477	0.00	9.66
35.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.218	0.00	9.66
40.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.880	0.00	9.66
42.42	3" Conduit	Yes	2.42	0.000	0.00	0.00	0.00	0.000	0.000	24.177	0.00	4.67
45.00	3" Conduit	Yes	2.58	0.000	0.00	0.00	0.00	0.000	0.000	24.479	0.00	4.99
48.00	3" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	24.814	0.00	5.80
50.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.029	0.00	3.86
55.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.536	0.00	9.66
60.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.008	0.00	9.66
65.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.450	0.00	9.66
70.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.866	0.00	9.66
75.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.259	0.00	9.66
80.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.632	0.00	9.66
85.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.987	0.00	9.66
86.25	3" Conduit	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	28.073	0.00	2.42
90.00	3" Conduit	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	28.325	0.00	7.25
90.42	3" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	28.353	0.00	0.81
95.00	3" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	28.650	0.00	8.85
100.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.961	0.00	9.66
105.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.260	0.00	9.66
106.50	3" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	29.347	0.00	2.90
										Totals:	**0.0**	**200.0**

Calculated Forces

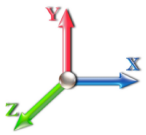
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-40.55	-29.95	0.00	-2993.4	0.00	2993.48	4157.29	2078.64	8996.15	4504.76	0.00	0.000	0.000	0.674
5.00	-39.08	-29.58	0.00	-2843.7	0.00	2843.76	4094.64	2047.32	8641.94	4327.39	0.10	-0.189	0.000	0.667
10.00	-37.48	-29.22	0.00	-2695.8	0.00	2695.86	4030.02	2015.01	8290.37	4151.35	0.40	-0.383	0.000	0.659
15.00	-35.92	-28.87	0.00	-2549.7	0.00	2549.75	3963.43	1981.72	7941.76	3976.78	0.91	-0.581	0.000	0.650
20.00	-34.39	-28.49	0.00	-2405.4	0.00	2405.43	3894.87	1947.44	7596.41	3803.85	1.63	-0.783	0.000	0.641
25.00	-32.89	-28.09	0.00	-2262.9	0.00	2262.99	3824.34	1912.17	7254.65	3632.72	2.56	-0.990	0.000	0.632
30.00	-31.43	-27.68	0.00	-2122.5	0.00	2122.54	3751.84	1875.92	6916.79	3463.54	3.71	-1.200	0.000	0.621
35.00	-30.00	-27.26	0.00	-1984.1	0.00	1984.13	3677.38	1838.69	6583.15	3296.47	5.08	-1.415	0.000	0.610
40.00	-28.62	-26.81	0.00	-1847.8	0.00	1847.81	3600.94	1800.47	6254.04	3131.67	6.68	-1.634	0.000	0.598
42.42	-27.96	-26.61	0.00	-1783.0	0.00	1783.01	3563.29	1781.64	6096.69	3052.87	7.54	-1.743	0.000	0.592
45.00	-26.81	-26.37	0.00	-1714.2	0.00	1714.28	3522.53	1761.26	5929.77	2969.29	8.52	-1.861	0.000	0.585
48.00	-25.52	-26.08	0.00	-1635.1	0.00	1635.16	2765.58	1382.79	4652.71	2329.81	9.73	-1.999	0.000	0.711
50.00	-25.01	-25.95	0.00	-1582.9	0.00	1582.99	2743.08	1371.54	4556.27	2281.52	10.59	-2.093	0.000	0.703
55.00	-23.84	-25.52	0.00	-1453.2	0.00	1453.25	2685.46	1342.73	4317.17	2161.80	12.92	-2.354	0.000	0.681
60.00	-22.70	-25.09	0.00	-1325.6	0.00	1325.65	2625.87	1312.94	4081.16	2043.62	15.53	-2.617	0.000	0.658
65.00	-21.59	-24.66	0.00	-1200.1	0.00	1200.19	2564.31	1282.15	3848.56	1927.14	18.41	-2.881	0.000	0.632
70.00	-20.51	-24.24	0.00	-1076.8	0.00	1076.87	2500.78	1250.39	3619.69	1812.53	21.57	-3.146	0.000	0.603
75.00	-19.47	-23.81	0.00	-955.69	0.00	955.69	2435.28	1217.64	3394.85	1699.95	25.00	-3.409	0.000	0.571
80.00	-18.45	-23.39	0.00	-836.65	0.00	836.65	2367.81	1183.90	3174.36	1589.54	28.71	-3.669	0.000	0.535
85.00	-17.51	-22.94	0.00	-719.72	0.00	719.72	2298.37	1149.18	2958.55	1481.47	32.69	-3.922	0.000	0.494
86.25	-17.24	-22.85	0.00	-691.05	0.00	691.05	2280.70	1140.35	2905.36	1454.84	33.73	-3.987	0.000	0.483
90.00	-16.18	-22.48	0.00	-605.36	0.00	605.36	2218.24	1109.12	2736.97	1370.52	36.93	-4.171	0.000	0.449
90.42	-16.02	-22.47	0.00	-595.99	0.00	595.99	1691.27	845.64	2122.94	1063.05	37.30	-4.191	0.000	0.571
95.00	-15.28	-22.10	0.00	-492.99	0.00	492.99	1646.42	823.21	1986.06	994.50	41.42	-4.401	0.000	0.506
100.00	-14.49	-21.70	0.00	-382.49	0.00	382.49	1595.61	797.80	1839.56	921.15	46.16	-4.646	0.000	0.425
105.00	-13.00	-20.58	0.00	-273.56	0.00	273.56	1542.83	771.41	1696.33	849.43	51.14	-4.857	0.000	0.331
106.50	-9.75	-14.52	0.00	-240.89	0.00	240.89	1526.61	763.30	1654.04	828.25	52.68	-4.914	0.000	0.298
110.00	-9.32	-14.24	0.00	-190.06	0.00	190.06	1488.07	744.04	1556.67	779.49	56.32	-5.030	0.000	0.250
115.00	-8.75	-13.84	0.00	-118.84	0.00	118.84	1427.69	713.85	1417.28	709.69	61.66	-5.162	0.000	0.174
117.00	-5.21	-6.92	0.00	-91.15	0.00	91.15	1397.29	698.64	1357.25	679.64	63.83	-5.204	0.000	0.138
120.00	-4.92	-6.69	0.00	-70.40	0.00	70.40	1351.68	675.84	1269.65	635.77	67.11	-5.255	0.000	0.114
125.00	-4.46	-6.32	0.00	-36.94	0.00	36.94	1275.66	637.83	1130.14	565.91	72.65	-5.319	0.000	0.069
130.00	-0.62	-0.66	0.00	-5.33	0.00	5.33	1199.65	599.83	998.75	500.12	78.23	-5.348	0.000	0.011
130.00	-0.62	-0.66	0.00	-5.33	0.00	5.33	582.69	291.35	473.23	281.02	78.23	-5.348	0.000	0.020
135.00	-0.33	-0.36	0.00	-2.02	0.00	2.02	582.69	291.35	473.23	281.02	83.82	-5.354	0.000	0.008
140.00	0.00	-0.33	0.00	-0.20	0.00	0.20	582.69	291.35	473.23	281.02	89.42	-5.357	0.000	0.001

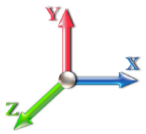
Wind Loading - Shaft

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	401.07	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	391.32	0.650	0.000	5.00	22.151	14.40	492.9	0.0	947.3
10.00		1.00	0.85	19.450	21.40	381.56	0.650	0.000	5.00	21.606	14.04	480.8	0.0	923.8
15.00		1.00	0.85	19.450	21.40	371.80	0.650	0.000	5.00	21.060	13.69	468.6	0.0	900.3
20.00		1.00	0.90	20.638	22.70	372.93	0.650	0.000	5.00	20.515	13.33	484.3	0.0	876.8
25.00		1.00	0.95	21.630	23.79	371.50	0.650	0.000	5.00	19.969	12.98	494.1	0.0	853.3
30.00		1.00	0.98	22.477	24.72	368.21	0.650	0.000	5.00	19.423	12.63	499.4	0.0	829.8
35.00		1.00	1.01	23.218	25.54	363.57	0.650	0.000	5.00	18.878	12.27	501.4	0.0	806.3
40.00		1.00	1.04	23.880	26.27	357.91	0.650	0.000	5.00	18.332	11.92	500.8	0.0	782.8
42.42	Bot - Section 2	1.00	1.06	24.177	26.59	354.87	0.650	0.000	2.42	8.665	5.63	239.7	0.0	370.0
45.00		1.00	1.07	24.479	26.93	351.43	0.650	0.000	2.58	9.258	6.02	259.3	0.0	719.3
48.00	Top - Section 1	1.00	1.08	24.814	27.30	347.21	0.650	0.000	3.00	10.569	6.87	300.0	0.0	820.9
50.00		1.00	1.09	25.029	27.53	349.64	0.650	0.000	2.00	6.937	4.51	198.6	0.0	247.1
55.00		1.00	1.12	25.536	28.09	341.99	0.650	0.000	5.00	16.960	11.02	495.5	0.0	604.1
60.00		1.00	1.14	26.008	28.61	333.85	0.650	0.000	5.00	16.415	10.67	488.4	0.0	584.5
65.00		1.00	1.16	26.450	29.09	325.30	0.650	0.000	5.00	15.869	10.31	480.2	0.0	564.9
70.00		1.00	1.17	26.866	29.55	316.38	0.650	0.000	5.00	15.324	9.96	471.0	0.0	545.3
75.00		1.00	1.19	27.259	29.98	307.13	0.650	0.000	5.00	14.778	9.61	460.8	0.0	525.7
80.00		1.00	1.21	27.632	30.39	297.60	0.650	0.000	5.00	14.232	9.25	449.9	0.0	506.1
85.00		1.00	1.22	27.987	30.79	287.80	0.650	0.000	5.00	13.687	8.90	438.2	0.0	486.6
86.25	Bot - Section 3	1.00	1.23	28.073	30.88	285.31	0.650	0.000	1.25	3.336	2.17	107.2	0.0	118.6
90.00		1.00	1.24	28.325	31.16	277.76	0.650	0.000	3.75	9.964	6.48	322.9	0.0	632.2
90.42	Top - Section 2	1.00	1.24	28.353	31.19	276.91	0.650	0.000	0.42	1.088	0.71	35.3	0.0	69.0
95.00		1.00	1.25	28.650	31.51	272.09	0.650	0.000	4.58	11.719	7.62	384.1	0.0	333.8
100.00		1.00	1.27	28.961	31.86	261.66	0.650	0.000	5.00	12.262	7.97	406.2	0.0	349.1
105.00	Appurtenance(s)	1.00	1.28	29.260	32.19	251.04	0.650	0.000	5.00	11.716	7.62	392.2	0.0	333.4
106.50	Appurtenance(s)	1.00	1.28	29.347	32.28	247.82	0.650	0.000	1.50	3.408	2.22	114.4	0.0	97.0
110.00		1.00	1.29	29.548	32.50	240.25	0.650	0.000	3.50	7.762	5.05	262.4	0.0	220.8
115.00		1.00	1.30	29.826	32.81	229.29	0.650	0.000	5.00	10.625	6.91	362.5	0.0	302.1
117.00	Appurtenance(s)	1.00	1.31	29.934	32.93	224.86	0.650	0.000	2.00	4.097	2.66	140.3	0.0	116.4
120.00		1.00	1.32	30.094	33.10	218.18	0.650	0.000	3.00	5.982	3.89	206.0	0.0	170.0
125.00		1.00	1.33	30.354	33.39	206.93	0.650	0.000	5.00	9.534	6.20	331.1	0.0	270.8
130.00	Top - Section 3	1.00	1.34	30.605	33.67	195.55	0.650	0.000	5.00	8.989	5.84	314.7	0.0	255.1
135.00		1.00	1.35	30.850	33.93	187.71	0.600	0.000	5.00	8.333	5.00	271.5	0.0	237.5
140.00	Appurtenance(s)	1.00	1.36	31.087	34.20	188.43	0.600	0.000	5.00	8.333	5.00	273.6	0.0	237.5
								Totals:	**140.00**			**12,128.2**		**16,638.4**

Discrete Appurtenance Forces

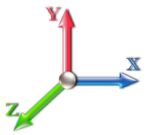
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	140.00	Lightning Rod	1	31.249	34.374	1.00	1.00	1.05	31.50	0.000	3.500	57.75	0.00	202.12
2	130.00	Ericsson KRY 112 144/2	3	30.605	33.666	0.54	0.80	0.56	29.75	0.000	0.000	30.32	0.00	0.00
3	130.00	RFS	3	30.605	33.666	0.58	0.80	34.97	345.60	0.000	0.000	1883.93	0.00	0.00
4	130.00	T-Arms	3	30.605	33.666	0.56	0.75	13.50	945.00	0.000	0.000	727.18	0.00	0.00
5	130.00	Ericsson AIR32	3	30.605	33.666	0.69	0.80	13.44	356.94	0.000	0.000	723.77	0.00	0.00
6	130.00	Ericsson AIR6449 B41	3	30.605	33.666	0.57	0.80	9.63	278.10	0.000	0.000	518.60	0.00	0.00
7	130.00	Ericsson 4449 B71 + B85	3	30.605	33.666	0.54	0.80	3.17	197.64	0.000	0.000	170.63	0.00	0.00
8	130.00	Ericsson 4460 B25 + B66	3	30.605	33.666	0.54	0.80	4.58	294.30	0.000	0.000	246.85	0.00	0.00
9	130.00	MS-HRECP	1	30.605	33.666	1.00	1.00	12.25	462.60	0.000	0.000	659.85	0.00	0.00
10	117.00	SitePro1 PRK-1245 kit	1	30.041	33.045	0.75	0.75	7.13	418.42	0.000	2.000	376.71	0.00	753.43
11	117.00	12'-6" long 2.0" STD Pipe	1	29.753	32.728	0.75	0.75	5.06	235.55	0.000	-3.330	265.10	0.00	-882.77
12	117.00	T-Arms	3	29.934	32.927	0.56	0.75	13.50	945.00	0.000	0.000	711.23	0.00	0.00
13	117.00	Commscope	1	29.934	32.927	0.54	0.80	1.00	13.59	0.000	0.000	52.81	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	29.934	32.927	0.54	0.80	2.46	62.48	0.000	0.000	129.61	0.00	0.00
15	117.00	Samsung B5/B13	3	29.934	32.927	0.54	0.80	3.02	197.91	0.000	0.000	159.27	0.00	0.00
16	117.00	Samsung B2/B66A	3	29.934	32.927	0.54	0.80	3.02	226.80	0.000	0.000	159.27	0.00	0.00
17	117.00	Samsung MT6407-77A	3	29.934	32.927	0.56	0.80	7.91	235.17	0.000	0.000	416.88	0.00	0.00
18	117.00	Andrew SBNHH-1D65B w/	6	29.934	32.927	0.66	0.80	32.51	216.00	0.000	0.000	1712.72	0.00	0.00
19	117.00	Samsung	3	29.934	32.927	0.60	0.80	2.77	62.37	0.000	0.000	146.04	0.00	0.00
20	117.00	Antel LPA-80063/6CF_5	6	29.934	32.927	0.76	0.80	43.73	145.80	0.000	0.000	2303.89	0.00	0.00
21	117.00	Commscope	3	29.934	32.927	0.48	0.80	0.13	181.98	0.000	0.000	6.83	0.00	0.00
22	106.50	Platform w/ Hand Rails	1	29.347	32.282	1.00	1.00	40.00	1800.00	0.000	0.000	2066.05	0.00	0.00
23	106.50	Powerwave	12	29.376	32.314	0.45	0.75	4.97	237.60	0.000	0.500	256.86	0.00	128.43
24	106.50	Powerwave 7020.00	12	29.376	32.314	0.45	0.75	2.16	23.76	0.000	0.500	111.68	0.00	55.84
25	106.50	Powerwave	1	29.376	32.314	0.60	0.75	6.86	53.10	0.000	0.500	354.88	0.00	177.44
26	106.50	Powerwave	9	29.376	32.314	0.60	0.75	44.06	429.30	0.000	0.500	2278.20	0.00	1139.10
27	106.50	Andrew SBNH-1D6565C	1	29.376	32.314	0.60	0.75	6.88	59.49	0.000	0.500	355.81	0.00	177.91
28	106.50	KMW	1	29.376	32.314	0.58	0.75	4.69	43.65	0.000	0.500	242.57	0.00	121.29
29	105.00	Valmont LWRM Ring	1	29.260	32.186	0.64	0.80	3.20	315.00	0.000	0.000	164.79	0.00	0.00
30	105.00	Raycap DC6-48-60-18-8F	1	29.318	32.250	0.54	0.80	0.79	29.52	0.000	1.000	40.66	0.00	40.66
31	105.00	Andrew RRUS11 RRUs	6	29.318	32.250	0.54	0.80	8.10	273.78	0.000	1.000	418.18	0.00	418.18
							Totals:		**9,147.70**			**17,748.92**		

Total Applied Force Summary

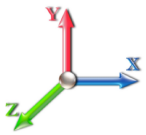
Structure:	CT13548-S-SBA		**Code:**	TIA-222-G	5/18/2022
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		492.89	1027.07	0.00	0.00
10.00		480.75	1123.15	0.00	0.00
15.00		468.61	1099.65	0.00	0.00
20.00		484.34	1076.15	0.00	0.00
25.00		494.13	1052.65	0.00	0.00
30.00		499.44	1029.15	0.00	0.00
35.00		501.42	1005.65	0.00	0.00
40.00		500.82	982.15	0.00	0.00
42.42		239.66	466.28	0.00	0.00
45.00		259.28	822.26	0.00	0.00
48.00		300.03	940.45	0.00	0.00
50.00		198.62	326.83	0.00	0.00
55.00		495.46	803.37	0.00	0.00
60.00		488.38	783.78	0.00	0.00
65.00		480.18	764.20	0.00	0.00
70.00		470.96	744.62	0.00	0.00
75.00		460.84	725.03	0.00	0.00
80.00		449.90	705.45	0.00	0.00
85.00		438.21	685.87	0.00	0.00
86.25		107.15	168.41	0.00	0.00
90.00		322.86	781.72	0.00	0.00
90.42		35.29	85.63	0.00	0.00
95.00		384.10	516.45	0.00	0.00
100.00		406.25	548.39	0.00	0.00
105.00	(8) attachments	1015.81	1151.02	0.00	458.84
106.50	(37) attachments	5780.49	2803.66	0.00	1800.00
110.00		262.38	315.41	0.00	0.00
115.00		362.54	437.27	0.00	0.00
117.00	(36) attachments	6580.66	3111.58	0.00	-129.34
120.00		205.96	228.29	0.00	0.00
125.00		331.07	367.95	0.00	0.00
130.00	(22) attachments	5275.85	3262.22	0.00	0.00
135.00		271.48	237.52	0.00	0.00
140.00	(1) attachments	331.31	269.02	0.00	202.12
	Totals:	**29,877.10**	**30,448.31**	**0.00**	**2,331.62**

Linear Appurtenance Segment Forces (Factored)

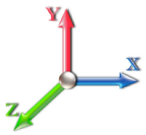
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	2.90
10.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	7.25
15.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	19.450	0.00	7.25
20.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.638	0.00	7.25
25.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.630	0.00	7.25
30.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.477	0.00	7.25
35.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.218	0.00	7.25
40.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.880	0.00	7.25
42.42	3" Conduit	Yes	2.42	0.000	0.00	0.00	0.00	0.000	0.000	24.177	0.00	3.50
45.00	3" Conduit	Yes	2.58	0.000	0.00	0.00	0.00	0.000	0.000	24.479	0.00	3.74
48.00	3" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	24.814	0.00	4.35
50.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	25.029	0.00	2.90
55.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.536	0.00	7.25
60.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.008	0.00	7.25
65.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.450	0.00	7.25
70.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.866	0.00	7.25
75.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.259	0.00	7.25
80.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.632	0.00	7.25
85.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.987	0.00	7.25
86.25	3" Conduit	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	28.073	0.00	1.81
90.00	3" Conduit	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	28.325	0.00	5.43
90.42	3" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	28.353	0.00	0.60
95.00	3" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	28.650	0.00	6.64
100.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.961	0.00	7.25
105.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.260	0.00	7.25
106.50	3" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	29.347	0.00	2.17
										Totals:	**0.0**	**150.0**

Calculated Forces

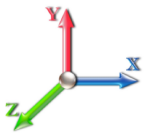
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-30.40	-29.93	0.00	-2963.7	0.00	2963.76	4157.29	2078.64	8996.15	4504.76	0.00	0.000	0.000	0.665
5.00	-29.27	-29.53	0.00	-2814.1	0.00	2814.12	4094.64	2047.32	8641.94	4327.39	0.10	-0.188	0.000	0.658
10.00	-28.06	-29.14	0.00	-2666.4	0.00	2666.48	4030.02	2015.01	8290.37	4151.35	0.40	-0.379	0.000	0.649
15.00	-26.86	-28.75	0.00	-2520.7	0.00	2520.78	3963.43	1981.72	7941.76	3976.78	0.90	-0.575	0.000	0.641
20.00	-25.69	-28.35	0.00	-2377.0	0.00	2377.01	3894.87	1947.44	7596.41	3803.85	1.61	-0.775	0.000	0.632
25.00	-24.54	-27.93	0.00	-2235.2	0.00	2235.28	3824.34	1912.17	7254.65	3632.72	2.53	-0.979	0.000	0.622
30.00	-23.42	-27.49	0.00	-2095.6	0.00	2095.65	3751.84	1875.92	6916.79	3463.54	3.67	-1.187	0.000	0.612
35.00	-22.33	-27.05	0.00	-1958.1	0.00	1958.18	3677.38	1838.69	6583.15	3296.47	5.03	-1.399	0.000	0.600
40.00	-21.29	-26.59	0.00	-1822.9	0.00	1822.92	3600.94	1800.47	6254.04	3131.67	6.61	-1.615	0.000	0.588
42.42	-20.78	-26.37	0.00	-1758.6	0.00	1758.67	3563.29	1781.64	6096.69	3052.87	7.45	-1.723	0.000	0.582
45.00	-19.90	-26.13	0.00	-1690.5	0.00	1690.54	3522.53	1761.26	5929.77	2969.29	8.42	-1.839	0.000	0.575
48.00	-18.92	-25.84	0.00	-1612.1	0.00	1612.14	2765.58	1382.79	4652.71	2329.81	9.62	-1.975	0.000	0.699
50.00	-18.52	-25.69	0.00	-1560.4	0.00	1560.46	2743.08	1371.54	4556.27	2281.52	10.47	-2.067	0.000	0.691
55.00	-17.63	-25.24	0.00	-1432.0	0.00	1432.03	2685.46	1342.73	4317.17	2161.80	12.77	-2.324	0.000	0.669
60.00	-16.75	-24.80	0.00	-1305.8	0.00	1305.83	2625.87	1312.94	4081.16	2043.62	15.34	-2.583	0.000	0.646
65.00	-15.90	-24.35	0.00	-1181.8	0.00	1181.86	2564.31	1282.15	3848.56	1927.14	18.19	-2.844	0.000	0.620
70.00	-15.07	-23.91	0.00	-1060.1	0.00	1060.10	2500.78	1250.39	3619.69	1812.53	21.31	-3.105	0.000	0.591
75.00	-14.27	-23.48	0.00	-940.54	0.00	940.54	2435.28	1217.64	3394.85	1699.95	24.70	-3.364	0.000	0.560
80.00	-13.49	-23.04	0.00	-823.17	0.00	823.17	2367.81	1183.90	3174.36	1589.54	28.36	-3.619	0.000	0.524
85.00	-12.78	-22.59	0.00	-707.95	0.00	707.95	2298.37	1149.18	2958.55	1481.47	32.28	-3.868	0.000	0.484
86.25	-12.57	-22.50	0.00	-679.71	0.00	679.71	2280.70	1140.35	2905.36	1454.84	33.30	-3.932	0.000	0.473
90.00	-11.77	-22.15	0.00	-595.32	0.00	595.32	2218.24	1109.12	2736.97	1370.52	36.46	-4.113	0.000	0.440
90.42	-11.64	-22.13	0.00	-586.10	0.00	586.10	1691.27	845.64	2122.94	1063.05	36.82	-4.133	0.000	0.559
95.00	-11.07	-21.75	0.00	-484.67	0.00	484.67	1646.42	823.21	1986.06	994.50	40.89	-4.340	0.000	0.495
100.00	-10.47	-21.35	0.00	-375.91	0.00	375.91	1595.61	797.80	1839.56	921.15	45.57	-4.580	0.000	0.415
105.00	-9.36	-20.26	0.00	-268.72	0.00	268.72	1542.83	771.41	1696.33	849.43	50.47	-4.787	0.000	0.323
106.50	-7.03	-14.27	0.00	-236.54	0.00	236.54	1526.61	763.30	1654.04	828.25	51.99	-4.843	0.000	0.291
110.00	-6.71	-14.00	0.00	-186.57	0.00	186.57	1488.07	744.04	1556.67	779.49	55.58	-4.957	0.000	0.244
115.00	-6.29	-13.61	0.00	-116.57	0.00	116.57	1427.69	713.85	1417.28	709.69	60.84	-5.087	0.000	0.169
117.00	-3.77	-6.78	0.00	-89.35	0.00	89.35	1397.29	698.64	1357.25	679.64	62.98	-5.128	0.000	0.134
120.00	-3.56	-6.56	0.00	-69.00	0.00	69.00	1351.68	675.84	1269.65	635.77	66.21	-5.179	0.000	0.111
125.00	-3.21	-6.20	0.00	-36.20	0.00	36.20	1275.66	637.83	1130.14	565.91	71.66	-5.240	0.000	0.067
130.00	-0.45	-0.65	0.00	-5.21	0.00	5.21	1199.65	599.83	998.75	500.12	77.16	-5.269	0.000	0.011
130.00	-0.45	-0.65	0.00	-5.21	0.00	5.21	582.69	291.35	473.23	281.02	77.16	-5.269	0.000	0.019
135.00	-0.24	-0.35	0.00	-1.98	0.00	1.98	582.69	291.35	473.23	281.02	82.68	-5.275	0.000	0.007
140.00	0.00	-0.33	0.00	-0.20	0.00	0.20	582.69	291.35	473.23	281.02	88.20	-5.278	0.000	0.001

Wind Loading - Shaft

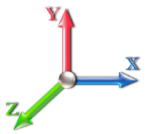
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	23.531	28.24	160.5	547.9	1811.1
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	23.085	27.70	157.5	574.4	1806.2
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	22.600	27.12	154.2	584.2	1784.6
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	22.100	26.52	160.0	586.6	1755.8
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	21.590	25.91	163.8	584.8	1722.6
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	21.074	25.29	166.1	580.2	1686.6
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	20.554	24.67	167.4	573.5	1648.6
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	20.031	24.04	167.8	565.2	1609.0
42.42	Bot - Section 2	1.00	1.06	6.424	7.07	0.00	1.200	2.051	2.42	9.491	11.39	80.5	271.0	764.3
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	2.58	10.147	12.18	87.1	291.3	1250.3
48.00	Top - Section 1	1.00	1.08	6.593	7.25	0.00	1.200	2.076	3.00	11.607	13.93	101.0	334.5	1429.0
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	2.00	7.632	9.16	67.0	221.3	550.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	18.714	22.46	167.6	542.0	1347.4
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	18.184	21.82	165.9	530.0	1309.3
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	17.653	21.18	163.8	517.4	1270.6
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	17.120	20.54	161.3	504.2	1231.3
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	16.587	19.90	158.6	490.5	1191.5
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	16.053	19.26	155.6	476.4	1151.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	5.00	15.519	18.62	152.3	461.9	1110.6
86.25	Bot - Section 3	1.00	1.23	7.459	8.20	0.00	1.200	2.202	1.25	3.795	4.55	37.4	114.5	272.7
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	3.75	11.345	13.61	112.7	340.4	1183.4
90.42	Top - Section 2	1.00	1.24	7.533	8.29	0.00	1.200	2.212	0.42	1.242	1.49	12.3	37.7	129.8
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	4.58	13.417	16.10	134.8	402.2	847.2
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	14.124	16.95	143.5	423.3	888.7
105.00	Appurtenance(s)	1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	13.587	16.30	139.4	407.5	852.1
106.50	Appurtenance(s)	1.00	1.28	7.798	8.58	0.00	1.200	2.249	1.50	3.971	4.76	40.9	120.8	250.1
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	3.50	9.078	10.89	94.1	274.1	568.4
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	12.513	15.02	130.9	375.3	778.1
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	2.270	2.00	4.854	5.82	51.0	147.5	302.7
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	3.00	7.120	8.54	75.2	215.3	441.9
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	5.00	11.438	13.73	121.8	342.1	703.1
130.00	Top - Section 3	1.00	1.34	8.132	8.95	0.00	1.200	2.294	5.00	10.900	13.08	117.0	325.3	665.4
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	5.00	10.252	12.30	110.9	313.7	630.4
140.00	Appurtenance(s)	1.00	1.36	8.260	9.09	0.00	1.200	2.311	5.00	10.259	12.31	111.9	315.0	631.7
								Totals:	**140.00**			**4,191.5**		**35,576.4**

Discrete Appurtenance Forces

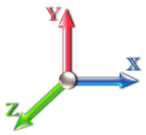
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	140.00	Lightning Rod	1	8.303	9.133	1.00	1.00	4.19	74.60	0.000	3.500	38.29	0.00	134.03
2	130.00	Ericsson KRY 112 144/2	3	8.132	8.945	0.54	0.80	1.42	73.02	0.000	0.000	12.70	0.00	0.00
3	130.00	RFS	3	8.132	8.945	0.58	0.80	39.34	2225.21	0.000	0.000	351.91	0.00	0.00
4	130.00	T-Arms	3	8.132	8.945	0.56	0.75	28.98	2013.43	0.000	0.000	259.26	0.00	0.00
5	130.00	Ericsson AIR32	3	8.132	8.945	0.69	0.80	16.67	1245.36	0.000	0.000	149.08	0.00	0.00
6	130.00	Ericsson AIR6449 B41	3	8.132	8.945	0.57	0.80	11.76	816.38	0.000	0.000	105.16	0.00	0.00
7	130.00	Ericsson 4449 B71 + B85	3	8.132	8.945	0.54	0.80	4.37	316.01	0.000	0.000	39.10	0.00	0.00
8	130.00	Ericsson 4460 B25 + B66	3	8.132	8.945	0.54	0.80	6.01	624.94	0.000	0.000	53.74	0.00	0.00
9	130.00	MS-HRECP	1	8.132	8.945	1.00	1.00	27.99	1932.56	0.000	0.000	250.34	0.00	0.00
10	117.00	SitePro1 PRK-1245 kit	1	7.982	8.780	0.75	0.75	16.83	884.91	0.000	2.000	147.76	0.00	295.52
11	117.00	12'-6" long 2.0" STD Pipe	1	7.905	8.696	0.75	0.75	11.50	314.06	0.000	-3.330	99.98	0.00	-332.94
12	117.00	T-Arms	3	7.954	8.749	0.56	0.75	28.82	2003.34	0.000	0.000	252.16	0.00	0.00
13	117.00	Commscope	1	7.954	8.749	0.54	0.80	1.68	49.93	0.000	0.000	14.74	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	7.954	8.749	0.54	0.80	3.59	48.05	0.000	0.000	31.45	0.00	0.00
15	117.00	Samsung B5/B13	3	7.954	8.749	0.54	0.80	4.18	435.94	0.000	0.000	36.53	0.00	0.00
16	117.00	Samsung B2/B66A	3	7.954	8.749	0.54	0.80	4.18	394.66	0.000	0.000	36.53	0.00	0.00
17	117.00	Samsung MT6407-77A	3	7.954	8.749	0.56	0.80	9.98	809.97	0.000	0.000	87.30	0.00	0.00
18	117.00	Andrew SBNHH-1D65B w/	6	7.954	8.749	0.66	0.80	39.38	1965.46	0.000	0.000	344.57	0.00	0.00
19	117.00	Samsung	3	7.954	8.749	0.60	0.80	3.51	-51.86	0.000	0.000	30.73	0.00	0.00
20	117.00	Antel LPA-80063/6CF_5	6	7.954	8.749	0.76	0.80	59.97	1765.35	0.000	0.000	524.67	0.00	0.00
21	117.00	Commscope	3	7.954	8.749	0.48	0.80	0.25	373.43	0.000	0.000	2.16	0.00	0.00
22	106.50	Platform w/ Hand Rails	1	7.798	8.577	1.00	1.00	66.98	4498.33	0.000	0.000	574.54	0.00	0.00
23	106.50	Powerwave	12	7.805	8.586	0.45	0.75	10.11	637.11	0.000	0.500	86.81	0.00	43.41
24	106.50	Powerwave 7020.00	12	7.805	8.586	0.45	0.75	5.53	155.02	0.000	0.500	47.47	0.00	23.73
25	106.50	Powerwave	1	7.805	8.586	0.60	0.75	9.36	287.88	0.000	0.500	80.40	0.00	40.20
26	106.50	Powerwave	9	7.805	8.586	0.60	0.75	63.56	2061.52	0.000	0.500	545.75	0.00	272.87
27	106.50	Andrew SBNH-1D6565C	1	7.805	8.586	0.60	0.75	9.40	309.62	0.000	0.500	80.67	0.00	40.33
28	106.50	KMW	1	7.805	8.586	0.58	0.75	6.80	220.78	0.000	0.500	58.36	0.00	29.18
29	105.00	Valmont LWRM Ring	1	7.774	8.552	0.64	0.80	6.07	697.23	0.000	0.000	51.95	0.00	0.00
30	105.00	Raycap DC6-48-60-18-8F	1	7.790	8.569	0.54	0.80	1.27	101.20	0.000	1.000	10.89	0.00	10.89
31	105.00	Andrew RRUS11 RRUs	6	7.790	8.569	0.54	0.80	10.87	1099.00	0.000	1.000	93.13	0.00	93.13
							Totals:		**28,382.44**			**4,498.15**		

Total Applied Force Summary

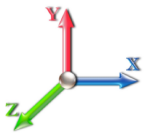
Structure:	CT13548-S-SBA		**Code:**	TIA-222-G	5/18/2022
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 20

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		160.52	1929.88	0.00	0.00
10.00		157.48	2106.61	0.00	0.00
15.00		154.17	2087.29	0.00	0.00
20.00		159.96	2060.07	0.00	0.00
25.00		163.79	2028.27	0.00	0.00
30.00		166.13	1993.42	0.00	0.00
35.00		167.38	1956.38	0.00	0.00
40.00		167.77	1917.67	0.00	0.00
42.42		80.48	913.68	0.00	0.00
45.00		87.12	1410.18	0.00	0.00
48.00		101.02	1614.96	0.00	0.00
50.00		66.99	674.86	0.00	0.00
55.00		167.61	1658.27	0.00	0.00
60.00		165.87	1620.77	0.00	0.00
65.00		163.76	1582.60	0.00	0.00
70.00		161.32	1543.84	0.00	0.00
75.00		158.58	1504.56	0.00	0.00
80.00		155.58	1464.82	0.00	0.00
85.00		152.33	1424.66	0.00	0.00
86.25		37.37	351.19	0.00	0.00
90.00		112.71	1419.25	0.00	0.00
90.42		12.35	155.96	0.00	0.00
95.00		134.82	1135.81	0.00	0.00
100.00		143.46	1203.99	0.00	0.00
105.00	(8) attachments	295.40	3065.18	0.00	104.02
106.50	(37) attachments	1514.87	8515.11	0.00	449.73
110.00		94.08	694.60	0.00	0.00
115.00		130.90	958.30	0.00	0.00
117.00	(36) attachments	1659.55	9368.08	0.00	-37.42
120.00		75.15	519.67	0.00	0.00
125.00		121.77	832.74	0.00	0.00
130.00	(22) attachments	1338.31	10041.89	0.00	0.00
135.00		110.93	630.39	0.00	0.00
140.00	(1) attachments	150.15	706.25	0.00	134.03
	Totals:	**8,689.67**	**71,091.23**	**0.00**	**650.36**

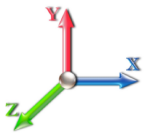
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	16.39
10.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	44.38
15.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	46.58
20.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	48.23
25.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	49.57
30.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	50.71
35.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	51.70
40.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	52.58
42.42	3" Conduit	Yes	2.42	0.000	0.00	0.00	0.00	0.000	0.000	6.424	0.00	25.60
45.00	3" Conduit	Yes	2.58	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	27.58
48.00	3" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	6.593	0.00	32.29
50.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	21.64
55.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	54.76
60.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	55.38
65.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	55.96
70.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	56.50
75.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	57.01
80.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	57.49
85.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	57.95
86.25	3" Conduit	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.459	0.00	14.52
90.00	3" Conduit	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	43.79
90.42	3" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	7.533	0.00	4.87
95.00	3" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	53.91
100.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	59.21
105.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	59.59
106.50	3" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	7.798	0.00	17.91
										Totals:	**0.0**	**1,116.1**

Calculated Forces

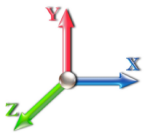
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-71.09	-8.72	0.00	-880.39	0.00	880.39	4157.29	2078.64	8996.15	4504.76	0.00	0.000	0.000	0.213
5.00	-69.15	-8.63	0.00	-836.77	0.00	836.77	4094.64	2047.32	8641.94	4327.39	0.03	-0.056	0.000	0.210
10.00	-67.03	-8.54	0.00	-793.62	0.00	793.62	4030.02	2015.01	8290.37	4151.35	0.12	-0.113	0.000	0.208
15.00	-64.94	-8.45	0.00	-750.93	0.00	750.93	3963.43	1981.72	7941.76	3976.78	0.27	-0.171	0.000	0.205
20.00	-62.87	-8.34	0.00	-708.70	0.00	708.70	3894.87	1947.44	7596.41	3803.85	0.48	-0.231	0.000	0.202
25.00	-60.83	-8.24	0.00	-666.98	0.00	666.98	3824.34	1912.17	7254.65	3632.72	0.75	-0.291	0.000	0.200
30.00	-58.83	-8.12	0.00	-625.80	0.00	625.80	3751.84	1875.92	6916.79	3463.54	1.09	-0.354	0.000	0.196
35.00	-56.87	-8.01	0.00	-585.19	0.00	585.19	3677.38	1838.69	6583.15	3296.47	1.50	-0.417	0.000	0.193
40.00	-54.95	-7.87	0.00	-545.16	0.00	545.16	3600.94	1800.47	6254.04	3131.67	1.97	-0.481	0.000	0.189
42.42	-54.03	-7.81	0.00	-526.14	0.00	526.14	3563.29	1781.64	6096.69	3052.87	2.22	-0.514	0.000	0.188
45.00	-52.61	-7.75	0.00	-505.95	0.00	505.95	3522.53	1761.26	5929.77	2969.29	2.51	-0.549	0.000	0.185
48.00	-50.99	-7.66	0.00	-482.71	0.00	482.71	2765.58	1382.79	4652.71	2329.81	2.87	-0.589	0.000	0.226
50.00	-50.31	-7.63	0.00	-467.39	0.00	467.39	2743.08	1371.54	4556.27	2281.52	3.12	-0.617	0.000	0.223
55.00	-48.65	-7.51	0.00	-429.23	0.00	429.23	2685.46	1342.73	4317.17	2161.80	3.81	-0.694	0.000	0.217
60.00	-47.02	-7.39	0.00	-391.67	0.00	391.67	2625.87	1312.94	4081.16	2043.62	4.57	-0.772	0.000	0.210
65.00	-45.43	-7.27	0.00	-354.72	0.00	354.72	2564.31	1282.15	3848.56	1927.14	5.43	-0.850	0.000	0.202
70.00	-43.88	-7.14	0.00	-318.39	0.00	318.39	2500.78	1250.39	3619.69	1812.53	6.36	-0.928	0.000	0.193
75.00	-42.37	-7.01	0.00	-282.69	0.00	282.69	2435.28	1217.64	3394.85	1699.95	7.37	-1.006	0.000	0.184
80.00	-40.90	-6.89	0.00	-247.63	0.00	247.63	2367.81	1183.90	3174.36	1589.54	8.47	-1.083	0.000	0.173
85.00	-39.47	-6.74	0.00	-213.20	0.00	213.20	2298.37	1149.18	2958.55	1481.47	9.64	-1.158	0.000	0.161
86.25	-39.11	-6.72	0.00	-204.78	0.00	204.78	2280.70	1140.35	2905.36	1454.84	9.95	-1.177	0.000	0.158
90.00	-37.69	-6.60	0.00	-179.59	0.00	179.59	2218.24	1109.12	2736.97	1370.52	10.89	-1.231	0.000	0.148
90.42	-37.53	-6.60	0.00	-176.84	0.00	176.84	1691.27	845.64	2122.94	1063.05	11.00	-1.237	0.000	0.189
95.00	-36.39	-6.49	0.00	-146.58	0.00	146.58	1646.42	823.21	1986.06	994.50	12.22	-1.300	0.000	0.170
100.00	-35.19	-6.36	0.00	-114.15	0.00	114.15	1595.61	797.80	1839.56	921.15	13.62	-1.373	0.000	0.146
105.00	-32.13	-6.01	0.00	-82.26	0.00	82.26	1542.83	771.41	1696.33	849.43	15.10	-1.436	0.000	0.118
106.50	-23.65	-4.29	0.00	-72.80	0.00	72.80	1526.61	763.30	1654.04	828.25	15.55	-1.453	0.000	0.103
110.00	-22.95	-4.19	0.00	-57.79	0.00	57.79	1488.07	744.04	1556.67	779.49	16.63	-1.488	0.000	0.090
115.00	-22.00	-4.05	0.00	-36.82	0.00	36.82	1427.69	713.85	1417.28	709.69	18.21	-1.529	0.000	0.067
117.00	-12.68	-2.14	0.00	-28.73	0.00	28.73	1397.29	698.64	1357.25	679.64	18.85	-1.542	0.000	0.051
120.00	-12.16	-2.05	0.00	-22.31	0.00	22.31	1351.68	675.84	1269.65	635.77	19.83	-1.558	0.000	0.044
125.00	-11.33	-1.91	0.00	-12.04	0.00	12.04	1275.66	637.83	1130.14	565.91	21.47	-1.578	0.000	0.030
130.00	-1.33	-0.30	0.00	-2.47	0.00	2.47	1199.65	599.83	998.75	500.12	23.13	-1.588	0.000	0.006
130.00	-1.33	-0.30	0.00	-2.47	0.00	2.47	582.69	291.35	473.23	281.02	23.13	-1.588	0.000	0.011
135.00	-0.70	-0.17	0.00	-0.98	0.00	0.98	582.69	291.35	473.23	281.02	24.80	-1.591	0.000	0.005
140.00	0.00	-0.15	0.00	-0.13	0.00	0.13	582.69	291.35	473.23	281.02	26.46	-1.592	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	20
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.04	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1052.6	0.00	0.03	0.02	19.17	
10.00		1026.4	0.01	0.05	0.03	26.98	
15.00		1000.3	0.02	0.06	0.04	30.17	
20.00		974.27	0.04	0.07	0.04	31.29	
25.00		948.16	0.06	0.07	0.04	31.55	
30.00		922.05	0.09	0.07	0.04	31.55	
35.00		895.94	0.12	0.07	0.03	31.45	
40.00		869.83	0.15	0.07	0.03	31.19	
42.42	Bot - Section 2	411.06	0.17	0.07	0.03	14.83	
45.00		799.20	0.20	0.06	0.02	28.88	
48.00	Top - Section 1	912.07	0.22	0.06	0.02	32.69	
50.00		274.56	0.24	0.06	0.02	9.71	
55.00		671.18	0.29	0.05	0.01	21.99	
60.00		649.42	0.35	0.03	0.01	17.87	
65.00		627.66	0.41	0.02	0.01	11.95	
70.00		605.90	0.47	-0.01	0.01	4.52	
75.00		584.14	0.54	-0.03	0.01	-3.46	
80.00		562.39	0.62	-0.06	0.02	-10.53	
85.00		540.63	0.70	-0.09	0.03	-15.37	
86.25	Bot - Section 3	131.76	0.72	-0.09	0.03	-3.97	
90.00		702.49	0.78	-0.11	0.05	-23.38	
90.42	Top - Section 2	76.69	0.79	-0.11	0.05	-2.56	
95.00		370.84	0.87	-0.12	0.08	-12.03	
100.00		387.87	0.96	-0.12	0.11	-9.97	
105.00	Appurtenance(s)	1057.4	1.06	-0.09	0.17	-13.84	
106.50	Appurtenance(s)	3048.7	1.09	-0.07	0.18	-24.86	
110.00		245.31	1.17	-0.02	0.23	1.32	
115.00		335.65	1.28	0.09	0.31	9.98	
117.00	Appurtenance(s)	3397.2	1.32	0.15	0.35	139.63	
120.00		188.86	1.39	0.26	0.42	11.32	
125.00		300.84	1.51	0.52	0.55	28.94	
130.00	Top - Section 3	3516.6	1.63	0.87	0.71	487.20	
135.00		263.91	1.76	1.35	0.91	49.39	
140.00	Appurtenance(s)	298.91	1.89	1.98	1.14	72.39	
	Totals:	**28,651.2**				**1,056.0**	**Total Wind:** **29,877.1**

Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case:	1.2D + 1.0E							**Iterations**	20
Gust Response Factor	1.10			**Sds**	0.19			**Ss**	0.18
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**SA**	0.04	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-40.60	-1.18	0.00	-120.49	0.00	120.49	4157.29	2078.64	8996.15	4504.76		0.00	0.00	0.037
5.00	-39.23	-1.16	0.00	-114.60	0.00	114.60	4094.64	2047.32	8641.94	4327.39		0.00	-0.01	0.036
10.00	-37.73	-1.14	0.00	-108.78	0.00	108.78	4030.02	2015.01	8290.37	4151.35		0.02	-0.02	0.036
15.00	-36.26	-1.12	0.00	-103.07	0.00	103.07	3963.43	1981.72	7941.76	3976.78		0.04	-0.02	0.035
20.00	-34.83	-1.09	0.00	-97.49	0.00	97.49	3894.87	1947.44	7596.41	3803.85		0.07	-0.03	0.035
25.00	-33.43	-1.06	0.00	-92.05	0.00	92.05	3824.34	1912.17	7254.65	3632.72		0.10	-0.04	0.034
30.00	-32.05	-1.03	0.00	-86.74	0.00	86.74	3751.84	1875.92	6916.79	3463.54		0.15	-0.05	0.034
35.00	-30.71	-1.01	0.00	-81.57	0.00	81.57	3677.38	1838.69	6583.15	3296.47		0.21	-0.06	0.033
40.00	-29.40	-0.98	0.00	-76.54	0.00	76.54	3600.94	1800.47	6254.04	3131.67		0.27	-0.07	0.033
42.42	-28.78	-0.96	0.00	-74.18	0.00	74.18	3563.29	1781.64	6096.69	3052.87		0.31	-0.07	0.032
45.00	-27.68	-0.94	0.00	-71.69	0.00	71.69	3522.53	1761.26	5929.77	2969.29		0.34	-0.08	0.032
48.00	-26.43	-0.90	0.00	-68.88	0.00	68.88	2765.58	1382.79	4652.71	2329.81		0.39	-0.08	0.039
50.00	-25.99	-0.90	0.00	-67.07	0.00	67.07	2743.08	1371.54	4556.27	2281.52		0.43	-0.09	0.039
55.00	-24.92	-0.88	0.00	-62.59	0.00	62.59	2685.46	1342.73	4317.17	2161.80		0.53	-0.10	0.038
60.00	-23.88	-0.86	0.00	-58.19	0.00	58.19	2625.87	1312.94	4081.16	2043.62		0.63	-0.11	0.038
65.00	-22.86	-0.85	0.00	-53.88	0.00	53.88	2564.31	1282.15	3848.56	1927.14		0.75	-0.12	0.037
70.00	-21.87	-0.85	0.00	-49.61	0.00	49.61	2500.78	1250.39	3619.69	1812.53		0.88	-0.13	0.036
75.00	-20.90	-0.85	0.00	-45.35	0.00	45.35	2435.28	1217.64	3394.85	1699.95		1.03	-0.14	0.035
80.00	-19.96	-0.86	0.00	-41.08	0.00	41.08	2367.81	1183.90	3174.36	1589.54		1.19	-0.16	0.034
85.00	-19.04	-0.86	0.00	-36.79	0.00	36.79	2298.37	1149.18	2958.55	1481.47		1.36	-0.17	0.033
86.25	-18.82	-0.86	0.00	-35.72	0.00	35.72	2280.70	1140.35	2905.36	1454.84		1.40	-0.17	0.033
90.00	-17.78	-0.86	0.00	-32.51	0.00	32.51	2218.24	1109.12	2736.97	1370.52		1.54	-0.18	0.032
90.42	-17.66	-0.86	0.00	-32.15	0.00	32.15	1691.27	845.64	2122.94	1063.05		1.56	-0.18	0.041
95.00	-16.97	-0.86	0.00	-28.22	0.00	28.22	1646.42	823.21	1986.06	994.50		1.74	-0.20	0.039
100.00	-16.24	-0.86	0.00	-23.92	0.00	23.92	1595.61	797.80	1839.56	921.15		1.95	-0.21	0.036
105.00	-14.71	-0.86	0.00	-19.61	0.00	19.61	1542.83	771.41	1696.33	849.43		2.18	-0.22	0.033
106.50	-10.97	-0.84	0.00	-18.33	0.00	18.33	1526.61	763.30	1654.04	828.25		2.25	-0.23	0.029
110.00	-10.55	-0.84	0.00	-15.37	0.00	15.37	1488.07	744.04	1556.67	779.49		2.42	-0.24	0.027
115.00	-9.97	-0.83	0.00	-11.16	0.00	11.16	1427.69	713.85	1417.28	709.69		2.68	-0.25	0.023
117.00	-5.82	-0.67	0.00	-9.49	0.00	9.49	1397.29	698.64	1357.25	679.64		2.78	-0.25	0.018
120.00	-5.51	-0.66	0.00	-7.47	0.00	7.47	1351.68	675.84	1269.65	635.77		2.94	-0.26	0.016
125.00	-5.02	-0.63	0.00	-4.15	0.00	4.15	1275.66	637.83	1130.14	565.91		3.22	-0.26	0.011
130.00	-0.67	-0.12	0.00	-0.99	0.00	0.99	1199.65	599.83	998.75	500.12		3.50	-0.27	0.003
130.00	-0.67	-0.12	0.00	-0.99	0.00	0.99	582.69	291.35	473.23	281.02		3.50	-0.27	0.005
135.00	-0.36	-0.07	0.00	-0.37	0.00	0.37	582.69	291.35	473.23	281.02		3.78	-0.27	0.002
140.00	0.00	-0.07	0.00	0.00	0.00	0.00	582.69	291.35	473.23	281.02		4.06	-0.27	0.000

Seismic Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	20
Gust Response Factor	1.10				**Sds**	0.19		**Ss**	0.18
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37		**SA**	0.04	**Seismic Importance Factor**		1.00

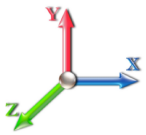
Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1052.6	0.00	0.03	0.02	19.17	
10.00		1026.4	0.01	0.05	0.03	26.98	
15.00		1000.3	0.02	0.06	0.04	30.17	
20.00		974.27	0.04	0.07	0.04	31.29	
25.00		948.16	0.06	0.07	0.04	31.55	
30.00		922.05	0.09	0.07	0.04	31.55	
35.00		895.94	0.12	0.07	0.03	31.45	
40.00		869.83	0.15	0.07	0.03	31.19	
42.42	Bot - Section 2	411.06	0.17	0.07	0.03	14.83	
45.00		799.20	0.20	0.06	0.02	28.88	
48.00	Top - Section 1	912.07	0.22	0.06	0.02	32.69	
50.00		274.56	0.24	0.06	0.02	9.71	
55.00		671.18	0.29	0.05	0.01	21.99	
60.00		649.42	0.35	0.03	0.01	17.87	
65.00		627.66	0.41	0.02	0.01	11.95	
70.00		605.90	0.47	-0.01	0.01	4.52	
75.00		584.14	0.54	-0.03	0.01	-3.46	
80.00		562.39	0.62	-0.06	0.02	-10.53	
85.00		540.63	0.70	-0.09	0.03	-15.37	
86.25	Bot - Section 3	131.76	0.72	-0.09	0.03	-3.97	
90.00		702.49	0.78	-0.11	0.05	-23.38	
90.42	Top - Section 2	76.69	0.79	-0.11	0.05	-2.56	
95.00		370.84	0.87	-0.12	0.08	-12.03	
100.00		387.87	0.96	-0.12	0.11	-9.97	
105.00	Appurtenance(s)	1057.4	1.06	-0.09	0.17	-13.84	
106.50	Appurtenance(s)	3048.7	1.09	-0.07	0.18	-24.86	
110.00		245.31	1.17	-0.02	0.23	1.32	
115.00		335.65	1.28	0.09	0.31	9.98	
117.00	Appurtenance(s)	3397.2	1.32	0.15	0.35	139.63	
120.00		188.86	1.39	0.26	0.42	11.32	
125.00		300.84	1.51	0.52	0.55	28.94	
130.00	Top - Section 3	3516.6	1.63	0.87	0.71	487.20	
135.00		263.91	1.76	1.35	0.91	49.39	
140.00	Appurtenance(s)	298.91	1.89	1.98	1.14	72.39	
	Totals:	**28,651.2**				**1,056.0**	**Total Wind:** **29,877.1**

Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

IES Tower Engineering Solutions

Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.19			**Iterations**	20
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.37	**SA**	0.04			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-30.45	-1.18	0.00	-119.21	0.00	119.21	4157.29	2078.64	8996.15	4504.76		0.00	0.00	0.034
5.00	-29.42	-1.16	0.00	-113.32	0.00	113.32	4094.64	2047.32	8641.94	4327.39		0.00	-0.01	0.033
10.00	-28.30	-1.14	0.00	-107.51	0.00	107.51	4030.02	2015.01	8290.37	4151.35		0.02	-0.02	0.033
15.00	-27.20	-1.11	0.00	-101.82	0.00	101.82	3963.43	1981.72	7941.76	3976.78		0.04	-0.02	0.032
20.00	-26.12	-1.08	0.00	-96.26	0.00	96.26	3894.87	1947.44	7596.41	3803.85		0.06	-0.03	0.032
25.00	-25.07	-1.06	0.00	-90.84	0.00	90.84	3824.34	1912.17	7254.65	3632.72		0.10	-0.04	0.032
30.00	-24.04	-1.03	0.00	-85.57	0.00	85.57	3751.84	1875.92	6916.79	3463.54		0.15	-0.05	0.031
35.00	-23.03	-1.00	0.00	-80.44	0.00	80.44	3677.38	1838.69	6583.15	3296.47		0.20	-0.06	0.031
40.00	-22.05	-0.97	0.00	-75.45	0.00	75.45	3600.94	1800.47	6254.04	3131.67		0.27	-0.07	0.030
42.42	-21.59	-0.95	0.00	-73.11	0.00	73.11	3563.29	1781.64	6096.69	3052.87		0.30	-0.07	0.030
45.00	-20.76	-0.93	0.00	-70.64	0.00	70.64	3522.53	1761.26	5929.77	2969.29		0.34	-0.07	0.030
48.00	-19.82	-0.89	0.00	-67.86	0.00	67.86	2765.58	1382.79	4652.71	2329.81		0.39	-0.08	0.036
50.00	-19.50	-0.89	0.00	-66.08	0.00	66.08	2743.08	1371.54	4556.27	2281.52		0.42	-0.08	0.036
55.00	-18.69	-0.87	0.00	-61.65	0.00	61.65	2685.46	1342.73	4317.17	2161.80		0.52	-0.10	0.035
60.00	-17.91	-0.85	0.00	-57.31	0.00	57.31	2625.87	1312.94	4081.16	2043.62		0.62	-0.11	0.035
65.00	-17.14	-0.84	0.00	-53.06	0.00	53.06	2564.31	1282.15	3848.56	1927.14		0.74	-0.12	0.034
70.00	-16.40	-0.84	0.00	-48.85	0.00	48.85	2500.78	1250.39	3619.69	1812.53		0.87	-0.13	0.034
75.00	-15.67	-0.84	0.00	-44.66	0.00	44.66	2435.28	1217.64	3394.85	1699.95		1.02	-0.14	0.033
80.00	-14.97	-0.84	0.00	-40.46	0.00	40.46	2367.81	1183.90	3174.36	1589.54		1.17	-0.15	0.032
85.00	-14.28	-0.84	0.00	-36.25	0.00	36.25	2298.37	1149.18	2958.55	1481.47		1.34	-0.17	0.031
86.25	-14.11	-0.84	0.00	-35.20	0.00	35.20	2280.70	1140.35	2905.36	1454.84		1.38	-0.17	0.030
90.00	-13.33	-0.84	0.00	-32.04	0.00	32.04	2218.24	1109.12	2736.97	1370.52		1.52	-0.18	0.029
90.42	-13.25	-0.84	0.00	-31.69	0.00	31.69	1691.27	845.64	2122.94	1063.05		1.54	-0.18	0.038
95.00	-12.73	-0.84	0.00	-27.83	0.00	27.83	1646.42	823.21	1986.06	994.50		1.72	-0.19	0.036
100.00	-12.18	-0.85	0.00	-23.61	0.00	23.61	1595.61	797.80	1839.56	921.15		1.93	-0.21	0.033
105.00	-11.03	-0.84	0.00	-19.38	0.00	19.38	1542.83	771.41	1696.33	849.43		2.15	-0.22	0.030
106.50	-8.23	-0.83	0.00	-18.12	0.00	18.12	1526.61	763.30	1654.04	828.25		2.22	-0.22	0.027
110.00	-7.91	-0.83	0.00	-15.20	0.00	15.20	1488.07	744.04	1556.67	779.49		2.39	-0.23	0.025
115.00	-7.47	-0.82	0.00	-11.05	0.00	11.05	1427.69	713.85	1417.28	709.69		2.64	-0.24	0.021
117.00	-4.36	-0.67	0.00	-9.40	0.00	9.40	1397.29	698.64	1357.25	679.64		2.74	-0.25	0.017
120.00	-4.13	-0.66	0.00	-7.40	0.00	7.40	1351.68	675.84	1269.65	635.77		2.90	-0.25	0.015
125.00	-3.77	-0.63	0.00	-4.12	0.00	4.12	1275.66	637.83	1130.14	565.91		3.17	-0.26	0.010
130.00	-0.51	-0.12	0.00	-0.99	0.00	0.99	1199.65	599.83	998.75	500.12		3.45	-0.26	0.002
130.00	-0.51	-0.12	0.00	-0.99	0.00	0.99	582.69	291.35	473.23	281.02		3.45	-0.26	0.004
135.00	-0.27	-0.07	0.00	-0.37	0.00	0.37	582.69	291.35	473.23	281.02		3.73	-0.27	0.002
140.00	0.00	-0.07	0.00	0.00	0.00	0.00	582.69	291.35	473.23	281.02		4.01	-0.27	0.000

Wind Loading - Shaft

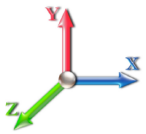
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	248.09	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	242.05	0.650	0.000	5.00	22.151	14.40	117.9	0.0	1052.6
10.00		1.00	0.85	7.442	8.19	236.02	0.650	0.000	5.00	21.606	14.04	115.0	0.0	1026.5
15.00		1.00	0.85	7.442	8.19	229.98	0.650	0.000	5.00	21.060	13.69	112.1	0.0	1000.4
20.00		1.00	0.90	7.896	8.69	230.68	0.650	0.000	5.00	20.515	13.33	115.8	0.0	974.3
25.00		1.00	0.95	8.276	9.10	229.80	0.650	0.000	5.00	19.969	12.98	118.2	0.0	948.2
30.00		1.00	0.98	8.600	9.46	227.76	0.650	0.000	5.00	19.423	12.63	119.4	0.0	922.0
35.00		1.00	1.01	8.883	9.77	224.89	0.650	0.000	5.00	18.878	12.27	119.9	0.0	895.9
40.00		1.00	1.04	9.137	10.05	221.39	0.650	0.000	5.00	18.332	11.92	119.8	0.0	869.8
42.42	Bot - Section 2	1.00	1.06	9.250	10.18	219.51	0.650	0.000	2.42	8.665	5.63	57.3	0.0	411.1
45.00		1.00	1.07	9.366	10.30	217.38	0.650	0.000	2.58	9.258	6.02	62.0	0.0	799.2
48.00	Top - Section 1	1.00	1.08	9.494	10.44	214.77	0.650	0.000	3.00	10.569	6.87	71.7	0.0	912.1
50.00		1.00	1.09	9.576	10.53	216.27	0.650	0.000	2.00	6.937	4.51	47.5	0.0	274.6
55.00		1.00	1.12	9.770	10.75	211.54	0.650	0.000	5.00	16.960	11.02	118.5	0.0	671.2
60.00		1.00	1.14	9.951	10.95	206.51	0.650	0.000	5.00	16.415	10.67	116.8	0.0	649.4
65.00		1.00	1.16	10.120	11.13	201.22	0.650	0.000	5.00	15.869	10.31	114.8	0.0	627.7
70.00		1.00	1.17	10.279	11.31	195.70	0.650	0.000	5.00	15.324	9.96	112.6	0.0	605.9
75.00		1.00	1.19	10.430	11.47	189.98	0.650	0.000	5.00	14.778	9.61	110.2	0.0	584.1
80.00		1.00	1.21	10.572	11.63	184.08	0.650	0.000	5.00	14.232	9.25	107.6	0.0	562.4
85.00		1.00	1.22	10.708	11.78	178.02	0.650	0.000	5.00	13.687	8.90	104.8	0.0	540.6
86.25	Bot - Section 3	1.00	1.23	10.741	11.82	176.48	0.650	0.000	1.25	3.336	2.17	25.6	0.0	131.8
90.00		1.00	1.24	10.838	11.92	171.81	0.650	0.000	3.75	9.964	6.48	77.2	0.0	702.5
90.42	Top - Section 2	1.00	1.24	10.848	11.93	171.29	0.650	0.000	0.42	1.088	0.71	8.4	0.0	76.7
95.00		1.00	1.25	10.962	12.06	168.31	0.650	0.000	4.58	11.719	7.62	91.9	0.0	370.8
100.00		1.00	1.27	11.081	12.19	161.85	0.650	0.000	5.00	12.262	7.97	97.1	0.0	387.9
105.00	Appurtenance(s)	1.00	1.28	11.195	12.31	155.28	0.650	0.000	5.00	11.716	7.62	93.8	0.0	370.5
106.50	Appurtenance(s)	1.00	1.28	11.229	12.35	153.29	0.650	0.000	1.50	3.408	2.22	27.4	0.0	107.7
110.00		1.00	1.29	11.305	12.44	148.61	0.650	0.000	3.50	7.762	5.05	62.7	0.0	245.3
115.00		1.00	1.30	11.412	12.55	141.83	0.650	0.000	5.00	10.625	6.91	86.7	0.0	335.7
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	139.09	0.650	0.000	2.00	4.097	2.66	33.6	0.0	129.4
120.00		1.00	1.32	11.514	12.67	134.96	0.650	0.000	3.00	5.982	3.89	49.3	0.0	188.9
125.00		1.00	1.33	11.614	12.78	128.00	0.650	0.000	5.00	9.534	6.20	79.2	0.0	300.8
130.00	Top - Section 3	1.00	1.34	11.710	12.88	120.96	0.650	0.000	5.00	8.989	5.84	75.3	0.0	283.4
135.00		1.00	1.35	11.803	12.98	116.11	0.600	0.000	5.00	8.333	5.00	64.9	0.0	263.9
140.00	Appurtenance(s)	1.00	1.36	11.894	13.08	116.56	0.600	0.000	5.00	8.333	5.00	65.4	0.0	263.9
								Totals:	**140.00**			**2,900.2**		**18,487.1**

Discrete Appurtenance Forces

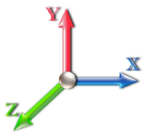
Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	140.00	Lightning Rod	1	11.956	13.152	1.00	1.00	1.05	35.00	0.000	3.500	13.81	0.00	48.33
2	130.00	Ericsson KRY 112 144/2	3	11.710	12.881	0.54	0.80	0.56	33.06	0.000	0.000	7.25	0.00	0.00
3	130.00	RFS	3	11.710	12.881	0.58	0.80	34.97	384.00	0.000	0.000	450.51	0.00	0.00
4	130.00	T-Arms	3	11.710	12.881	0.56	0.75	13.50	1050.00	0.000	0.000	173.89	0.00	0.00
5	130.00	Ericsson AIR32	3	11.710	12.881	0.69	0.80	13.44	396.60	0.000	0.000	173.08	0.00	0.00
6	130.00	Ericsson AIR6449 B41	3	11.710	12.881	0.57	0.80	9.63	309.00	0.000	0.000	124.01	0.00	0.00
7	130.00	Ericsson 4449 B71 + B85	3	11.710	12.881	0.54	0.80	3.17	219.60	0.000	0.000	40.80	0.00	0.00
8	130.00	Ericsson 4460 B25 + B66	3	11.710	12.881	0.54	0.80	4.58	327.00	0.000	0.000	59.03	0.00	0.00
9	130.00	MS-HRECP	1	11.710	12.881	1.00	1.00	12.25	514.00	0.000	0.000	157.79	0.00	0.00
10	117.00	SitePro1 PRK-1245 kit	1	11.494	12.643	0.75	0.75	7.13	464.91	0.000	2.000	90.08	0.00	180.17
11	117.00	12'-6" long 2.0" STD Pipe	1	11.384	12.522	0.75	0.75	5.06	261.72	0.000	-3.330	63.39	0.00	-211.10
12	117.00	T-Arms	3	11.453	12.598	0.56	0.75	13.50	1050.00	0.000	0.000	170.08	0.00	0.00
13	117.00	Commscope	1	11.453	12.598	0.54	0.80	1.00	15.10	0.000	0.000	12.63	0.00	0.00
14	117.00	Samsung CBRS RRH -	3	11.453	12.598	0.54	0.80	2.46	69.42	0.000	0.000	31.00	0.00	0.00
15	117.00	Samsung B5/B13	3	11.453	12.598	0.54	0.80	3.02	219.90	0.000	0.000	38.09	0.00	0.00
16	117.00	Samsung B2/B66A	3	11.453	12.598	0.54	0.80	3.02	252.00	0.000	0.000	38.09	0.00	0.00
17	117.00	Samsung MT6407-77A	3	11.453	12.598	0.56	0.80	7.91	261.30	0.000	0.000	99.69	0.00	0.00
18	117.00	Andrew SBNHH-1D65B w/	6	11.453	12.598	0.66	0.80	32.51	240.00	0.000	0.000	409.57	0.00	0.00
19	117.00	Samsung	3	11.453	12.598	0.60	0.80	2.77	69.30	0.000	0.000	34.92	0.00	0.00
20	117.00	Antel LPA-80063/6CF_5	6	11.453	12.598	0.76	0.80	43.73	162.00	0.000	0.000	550.93	0.00	0.00
21	117.00	Commscope	3	11.453	12.598	0.48	0.80	0.13	202.20	0.000	0.000	1.63	0.00	0.00
22	106.50	Platform w/ Hand Rails	1	11.229	12.351	1.00	1.00	40.00	2000.00	0.000	0.000	494.06	0.00	0.00
23	106.50	Powerwave	12	11.240	12.364	0.45	0.75	4.97	264.00	0.000	0.500	61.42	0.00	30.71
24	106.50	Powerwave 7020.00	12	11.240	12.364	0.45	0.75	2.16	26.40	0.000	0.500	26.71	0.00	13.35
25	106.50	Powerwave	1	11.240	12.364	0.60	0.75	6.86	59.00	0.000	0.500	84.86	0.00	42.43
26	106.50	Powerwave	9	11.240	12.364	0.60	0.75	44.06	477.00	0.000	0.500	544.79	0.00	272.40
27	106.50	Andrew SBNH-1D6565C	1	11.240	12.364	0.60	0.75	6.88	66.10	0.000	0.500	85.09	0.00	42.54
28	106.50	KMW	1	11.240	12.364	0.58	0.75	4.69	48.50	0.000	0.500	58.01	0.00	29.00
29	105.00	Valmont LWRM Ring	1	11.195	12.315	0.64	0.80	3.20	350.00	0.000	0.000	39.41	0.00	0.00
30	105.00	Raycap DC6-48-60-18-8F	1	11.218	12.339	0.54	0.80	0.79	32.80	0.000	1.000	9.72	0.00	9.72
31	105.00	Andrew RRUS11 RRUs	6	11.218	12.339	0.54	0.80	8.10	304.20	0.000	1.000	100.00	0.00	100.00
							Totals:		**10,164.11**			**4,244.35**		

Total Applied Force Summary

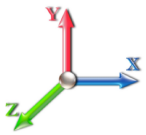
Structure:	CT13548-S-SBA		**Code:**	TIA-222-G	5/18/2022
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 29

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		117.87	1141.18	0.00	0.00
10.00		114.96	1247.94	0.00	0.00
15.00		112.06	1221.83	0.00	0.00
20.00		115.82	1195.72	0.00	0.00
25.00		118.16	1169.61	0.00	0.00
30.00		119.43	1143.50	0.00	0.00
35.00		119.91	1117.39	0.00	0.00
40.00		119.76	1091.28	0.00	0.00
42.42		57.31	518.09	0.00	0.00
45.00		62.00	913.62	0.00	0.00
48.00		71.75	1044.94	0.00	0.00
50.00		47.50	363.14	0.00	0.00
55.00		118.48	892.63	0.00	0.00
60.00		116.79	870.87	0.00	0.00
65.00		114.83	849.11	0.00	0.00
70.00		112.62	827.35	0.00	0.00
75.00		110.20	805.59	0.00	0.00
80.00		107.59	783.84	0.00	0.00
85.00		104.79	762.08	0.00	0.00
86.25		25.62	187.12	0.00	0.00
90.00		77.21	868.58	0.00	0.00
90.42		8.44	95.15	0.00	0.00
95.00		91.85	573.84	0.00	0.00
100.00		97.15	609.32	0.00	0.00
105.00	(8) attachments	242.91	1278.92	0.00	109.72
106.50	(37) attachments	1382.30	3115.18	0.00	430.44
110.00		62.74	350.45	0.00	0.00
115.00		86.69	485.85	0.00	0.00
117.00	(36) attachments	1573.65	3457.32	0.00	-30.93
120.00		49.25	253.66	0.00	0.00
125.00		79.17	408.84	0.00	0.00
130.00	(22) attachments	1261.63	3624.69	0.00	0.00
135.00		64.92	263.91	0.00	0.00
140.00	(1) attachments	79.23	298.91	0.00	48.33
	Totals:	**7,144.59**	**33,831.46**	**0.00**	**557.57**

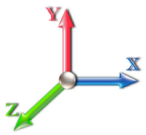
Linear Appurtenance Segment Forces (Factored)

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	3.22
10.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	8.05
15.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	8.05
20.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	8.05
25.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	8.05
30.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	8.05
35.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	8.05
40.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	8.05
42.42	3" Conduit	Yes	2.42	0.000	0.00	0.00	0.00	0.000	0.000	9.250	0.00	3.89
45.00	3" Conduit	Yes	2.58	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	4.16
48.00	3" Conduit	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	9.494	0.00	4.83
50.00	3" Conduit	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	3.22
55.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	8.05
60.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	8.05
65.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	8.05
70.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	8.05
75.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	8.05
80.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	8.05
85.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	8.05
86.25	3" Conduit	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	10.741	0.00	2.01
90.00	3" Conduit	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	6.04
90.42	3" Conduit	Yes	0.42	0.000	0.00	0.00	0.00	0.000	0.000	10.848	0.00	0.67
95.00	3" Conduit	Yes	4.58	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	7.38
100.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	8.05
105.00	3" Conduit	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	8.05
106.50	3" Conduit	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	11.229	0.00	2.42
										Totals:	**0.0**	**166.6**

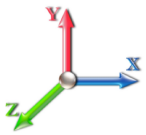
Calculated Forces

Structure:	CT13548-S-SBA	**Code:**	TIA-222-G	5/18/2022	
Site Name:	Bloomfield 4	**Exposure:**	C		
Height:	140.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-33.83	-7.16	0.00	-711.92	0.00	711.92	4157.29	2078.64	8996.15	4504.76	0.00	0.000	0.000	0.166
5.00	-32.68	-7.07	0.00	-676.13	0.00	676.13	4094.64	2047.32	8641.94	4327.39	0.02	-0.045	0.000	0.164
10.00	-31.43	-6.97	0.00	-640.81	0.00	640.81	4030.02	2015.01	8290.37	4151.35	0.10	-0.091	0.000	0.162
15.00	-30.20	-6.89	0.00	-605.94	0.00	605.94	3963.43	1981.72	7941.76	3976.78	0.22	-0.138	0.000	0.160
20.00	-29.00	-6.79	0.00	-571.51	0.00	571.51	3894.87	1947.44	7596.41	3803.85	0.39	-0.186	0.000	0.158
25.00	-27.82	-6.69	0.00	-537.56	0.00	537.56	3824.34	1912.17	7254.65	3632.72	0.61	-0.235	0.000	0.155
30.00	-26.68	-6.59	0.00	-504.10	0.00	504.10	3751.84	1875.92	6916.79	3463.54	0.88	-0.285	0.000	0.153
35.00	-25.55	-6.49	0.00	-471.14	0.00	471.14	3677.38	1838.69	6583.15	3296.47	1.21	-0.336	0.000	0.150
40.00	-24.46	-6.38	0.00	-438.70	0.00	438.70	3600.94	1800.47	6254.04	3131.67	1.59	-0.388	0.000	0.147
42.42	-23.94	-6.33	0.00	-423.29	0.00	423.29	3563.29	1781.64	6096.69	3052.87	1.79	-0.414	0.000	0.145
45.00	-23.02	-6.27	0.00	-406.94	0.00	406.94	3522.53	1761.26	5929.77	2969.29	2.02	-0.442	0.000	0.144
48.00	-21.97	-6.20	0.00	-388.13	0.00	388.13	2765.58	1382.79	4652.71	2329.81	2.31	-0.475	0.000	0.175
50.00	-21.61	-6.17	0.00	-375.72	0.00	375.72	2743.08	1371.54	4556.27	2281.52	2.52	-0.497	0.000	0.173
55.00	-20.71	-6.06	0.00	-344.89	0.00	344.89	2685.46	1342.73	4317.17	2161.80	3.07	-0.559	0.000	0.167
60.00	-19.83	-5.96	0.00	-314.57	0.00	314.57	2625.87	1312.94	4081.16	2043.62	3.69	-0.622	0.000	0.162
65.00	-18.98	-5.86	0.00	-284.78	0.00	284.78	2564.31	1282.15	3848.56	1927.14	4.37	-0.684	0.000	0.155
70.00	-18.15	-5.75	0.00	-255.50	0.00	255.50	2500.78	1250.39	3619.69	1812.53	5.13	-0.747	0.000	0.148
75.00	-17.34	-5.65	0.00	-226.74	0.00	226.74	2435.28	1217.64	3394.85	1699.95	5.94	-0.810	0.000	0.141
80.00	-16.55	-5.55	0.00	-198.49	0.00	198.49	2367.81	1183.90	3174.36	1589.54	6.82	-0.871	0.000	0.132
85.00	-15.78	-5.44	0.00	-170.75	0.00	170.75	2298.37	1149.18	2958.55	1481.47	7.77	-0.931	0.000	0.122
86.25	-15.60	-5.42	0.00	-163.94	0.00	163.94	2280.70	1140.35	2905.36	1454.84	8.01	-0.946	0.000	0.120
90.00	-14.73	-5.34	0.00	-143.61	0.00	143.61	2218.24	1109.12	2736.97	1370.52	8.78	-0.990	0.000	0.111
90.42	-14.63	-5.33	0.00	-141.39	0.00	141.39	1691.27	845.64	2122.94	1063.05	8.86	-0.995	0.000	0.142
95.00	-14.05	-5.24	0.00	-116.95	0.00	116.95	1646.42	823.21	1986.06	994.50	9.84	-1.045	0.000	0.126
100.00	-13.44	-5.15	0.00	-90.73	0.00	90.73	1595.61	797.80	1839.56	921.15	10.97	-1.103	0.000	0.107
105.00	-12.16	-4.89	0.00	-64.88	0.00	64.88	1542.83	771.41	1696.33	849.43	12.15	-1.153	0.000	0.084
106.50	-9.07	-3.44	0.00	-57.12	0.00	57.12	1526.61	763.30	1654.04	828.25	12.52	-1.166	0.000	0.075
110.00	-8.72	-3.38	0.00	-45.06	0.00	45.06	1488.07	744.04	1556.67	779.49	13.38	-1.194	0.000	0.064
115.00	-8.24	-3.29	0.00	-28.16	0.00	28.16	1427.69	713.85	1417.28	709.69	14.65	-1.225	0.000	0.045
117.00	-4.82	-1.64	0.00	-21.59	0.00	21.59	1397.29	698.64	1357.25	679.64	15.17	-1.235	0.000	0.035
120.00	-4.56	-1.59	0.00	-16.68	0.00	16.68	1351.68	675.84	1269.65	635.77	15.95	-1.247	0.000	0.030
125.00	-4.16	-1.50	0.00	-8.75	0.00	8.75	1275.66	637.83	1130.14	565.91	17.26	-1.262	0.000	0.019
130.00	-0.56	-0.16	0.00	-1.26	0.00	1.26	1199.65	599.83	998.75	500.12	18.59	-1.269	0.000	0.003
130.00	-0.56	-0.16	0.00	-1.26	0.00	1.26	582.69	291.35	473.23	281.02	18.59	-1.269	0.000	0.005
135.00	-0.30	-0.09	0.00	-0.48	0.00	0.48	582.69	291.35	473.23	281.02	19.92	-1.271	0.000	0.002
140.00	0.00	-0.08	0.00	-0.05	0.00	0.05	582.69	291.35	473.23	281.02	21.25	-1.271	0.000	0.000

Final Analysis Summary

Structure:	CT13548-S-SBA		**Code:**	TIA-222-G	5/18/2022
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 32

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	29.9	0.00	40.55	0.00	0.00	2993.48
0.9D + 1.6W 97 mph Wind	29.9	0.00	30.40	0.00	0.00	2963.76
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.7	0.00	71.09	0.00	0.00	880.39
1.2D + 1.0E	1.2	0.00	40.60	0.00	0.00	120.49
0.9D + 1.0E	1.2	0.00	30.45	0.00	0.00	119.21
1.0D + 1.0W 60 mph Wind	7.2	0.00	33.83	0.00	0.00	711.92

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-25.52	-26.08	0.00	-1635.1	0.00	-1635.1	2765.58	1382.7	4652.71	2329.81	48.00	0.711
0.9D + 1.6W 97 mph Wind	-18.92	-25.84	0.00	-1612.1	0.00	-1612.1	2765.58	1382.7	4652.71	2329.81	48.00	0.699
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-50.99	-7.66	0.00	-482.71	0.00	-482.71	2765.58	1382.7	4652.71	2329.81	48.00	0.226
1.2D + 1.0E	-17.66	-0.86	0.00	-32.15	0.00	-32.15	1691.27	845.64	2122.94	1063.05	90.42	0.041
0.9D + 1.0E	-13.25	-0.84	0.00	-31.69	0.00	-31.69	1691.27	845.64	2122.94	1063.05	90.42	0.038
1.0D + 1.0W 60 mph Wind	-21.97	-6.20	0.00	-388.13	0.00	-388.13	2765.58	1382.7	4652.71	2329.81	48.00	0.175

Base Plate Summary

Structure:	CT13548-S-SB		**Code:**	TIA-222-G	5/18/2022
Site Name:	Bloomfield 4		**Exposure:**	C	
Height:	140.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Tower Engineering Solutions

Reactions	
Original Design	
Moment (kip-ft):	2825.90
Axial (kip):	51.34
Shear (kip):	27.29
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	2993.48
Axial (kip):	40.55
Shear (kip):	29.95

Base Plate	
Yield (ksi):	50.00
Width (in):	62.00
Style:	Round
Polygon Sides:	0.00
Clip Length (in):	0.00
Effective Len (in):	9.02
Moment (kip-in):	271.77
Allow Stress (ksi):	67.50
Applied Stress (ksi):	45.23
Stress Ratio:	0.67

Anchor Bolts	
Bolt Circle:	58.13
Number Bolts:	24.00
Bolt Type:	1.5" F1554 105
Bolt Diameter (in):	1.50
Yield (ksi):	105.00
Ultimate (ksi):	125.00
Arrangement:	Radial
Cluster Dist (in):	0.00
Start Angle (deg):	0.00
Compression	
Force (kip):	105.95
Allowable (kip):	141.00
Ratio:	0.77
Tension	
Force (kip):	100.03
Allowable (kip):	141.00
Ratio:	0.73

Pier Foundation Design For Monopole

				Date
				5/18/2022
	Customer Name:	**T-Mobile**	**EIA/TIA Standard:**	TIA-222-G
	Site Name:		**Structure Height (Ft.):**	140
	Site Number:	CT13548-S-SBA	**Engineer Name:**	J. Kong
	Engr. Number:	129258	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

Acceptable overstress (5.0%

Base Reactions (Factored):

Axial Load (Kips):	40.5	Shear Force (Kips):	29.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2993.5

Foundation Geometries:

Diameter of Pier (ft.):	7.0	Depth of Base B. G. S. :	30.0	ft.
Pier Height A. G. (ft.):	0.50			

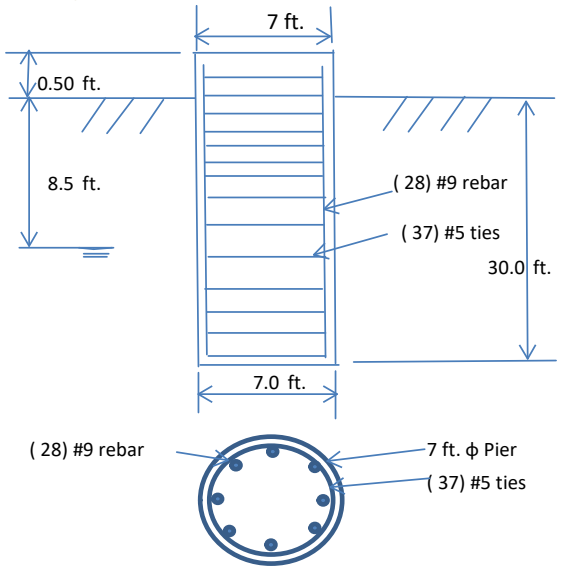
Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60	ksi
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	28	Tie Spacing:	12.0	in.
Concrete Cover (in.):	5	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	8.5	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)

Skin Frictions are to be obtained from: Soil Report



Monopole Pier Foundation

Depth of Layers (ft) Top	Depth of Layers (ft) Bottom	γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types
0.0	4.0	110	25	0	0	0	Silt
4.0	8.0	115	33	0	400	0	Sand
8.0	15.0	115	33	0	550	0	Sand
15.0	26.0	115	33	0	800	0	Sand
26.0	31.0	115	33	0	1100	6000	Sand

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75	
Total Dry Soil Volume from Conical Failure (cu. Ft.):	8715	Dry Soil Weight from Conical Failure:	982	Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	6404	Buoyant Soil Weight from Conical Failure (Ki	447	Kips
Total Dry Concrete Volume (cu. Ft.):	346	Total Dry Concrete Weight:	52.0	Kips
Total Buoyant Concrete Volume (cu. Ft.):	827.4	Total Buoyant Concrete Weight:	72.48	Kips
Total Effective Concrete Weight (Kips):	124.4	Total Effective Soil Weight:	1429.1	Kips
Total Effective Vertical Load on Base (Kips):	70.3			

Check Soil Capacities:

					Usage	
Allowable Foundation Overturning Resistance (kips-ft.):	10436.1	>	Design Factored Momont (kips-ft):	3587	0.34	OK!
Factor of Safety of Passive Soil Resistance against Moment:	2.91	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 compresion):	0.65	Wind Load Factor on Concrete Design:	1.00

Reinforcing Concrete Pier:

					Usage	
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	4778.1	>	Design Factored Moment (Mu, K-Ft):	3105.4	0.65	OK!
Calculated Shear Capacity (Kips):	967.1	>	Design Factored Shear (Kips):	233.7	0.24	OK!
Calculated Tension Capacity (Tn, Kips):	1512.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9748	>	Design Factored Axial Load (Pu Kips):	40.5	0.00	OK!
Moment & Axial Strength Combination:	0.65	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.	
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is too small			

Monopole Mat Foundation Design

				Date
				5/18/2022
	Customer Name:	T-Mobile	**TIA Standard:**	TIA-222-G
	Site Name:		**Structure Height (Ft.):**	140
	Site Number:	CT13548-S-SBA	**Engineer Name:**	J. Kong
	Engr. Number:	129258	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

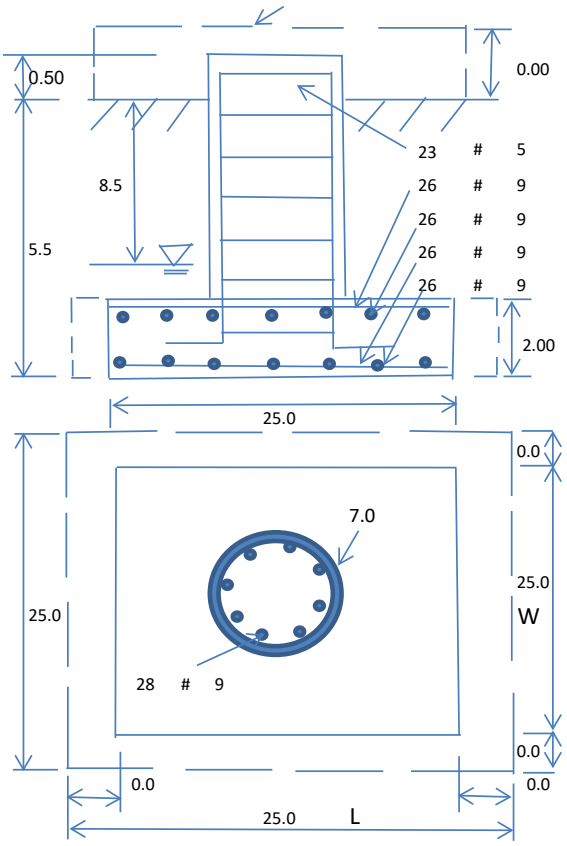
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	40.5	Shear Force (Kips):	29.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2993.5
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	28	Tie Spacing (in):	3.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	6	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	8.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	6000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	2052.80	Total Dry Soil Weight (Kips):	236.07
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	236.07	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1403.94	Total Dry Concrete Weight (Kips):	210.59
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	210.59	Total Vertical Load on Base (Kips):	487.16

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2135	<	Allowable Factored Soil Bearing (psf):	4500	0.47	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5531.2	>	Design Factored Momont (kips-ft):	3085	0.56	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.79	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 compresion):	0.65	Wind Load Factor on Concrete Design:	1.00			
				Load/ Capacity Ratio		
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	4809.3	>	Design Factored Moment (Mu, Kips-F	3113.1	0.65	OK!
Calculated Shear Capacity (Kips):	1359.0	>	Design Factored Shear (Kips):	29.9	0.02	OK!
Calculated Tension Capacity (Tn, Kips):	1512.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9748.3	>	Design Factored Axial Load (Pu Kips):	40.5	0.00	OK!
Moment & Axial Strength Combination:	0.65	OK!	Check Tie Spacing (Design/Required):		0.25	OK!
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	496.3	>	One-Way Factored Shear (L-D. Kips):	210.6	0.42	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	496.3	>	One-Way Factored Shear (W-D., Kips)	210.6	0.42	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	505.2	>	One-Way Factored Shear (C-C, Kips):	210.6	0.42	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0050	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0050		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	1950.7	>	Moment at Bottom (L-Dir. K-Ft):	1036.2	0.53	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	1950.7	>	Moment at Bottom (W-Dir. K-Ft):	1036.2	0.53	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	2727.5	>	Moment at Bottom (C-C Dir. K-Ft):	1465.4	0.54	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0050	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0050		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	1950.7	>	Moment at the top (L-Dir K-Ft):	476.1	0.24	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	1950.7	>	Moment at the top (W-Dir K-Ft):	476.1	0.24	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	2727.5	>	Moment at the top (C-C Dir. K-Ft):	446.7	0.16	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1197.4	k-ft.	Max. factored shear stress v_{u_CD}:		2.8	Psi
Max. factored shear stress v_{u_AB}:	15.3	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	15.3	Psi	Check Usage of Punching Shear Capacity:		0.08	OK!

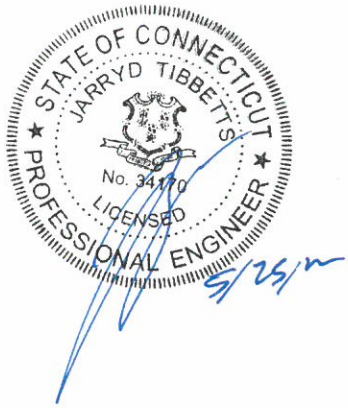
Exhibit E

Mount Analysis

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

Post-Mod Antenna Mount Analysis Report

Existing 130-Ft Monopole Tower
Customer Name: SBA Communications Corp
Customer Site Number: CT13548-S-SBA / Bloomfield 4
Customer Site Name: Bloomfield 4
Carrier Name: T-Mobile (App#: 182180, V2)
Carrier Site ID / Name: CTHA145B / Maple Hill Farms
Site Location: 12 Burr Road
Bloomfield, Connecticut
Hartford County
Latitude: 41.817858
Longitude: -72.764511



Analysis Result:

Max Structural Usage: 70.2% [Pass]

Report Prepared By : Prakash Koirala

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

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Customer Site Name: Bloomfield 4

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Site Location: 12 Burr Road

Bloomfield, Connecticut

Hartford County

Latitude: 41.817858

Longitude: -72.764511

Analysis Result:

Max Structural Usage: 70.2% [Pass]

Report Prepared By : Prakash Koirala

Introduction

The purpose of this report is to summarize the analysis results on the (3) T-Arms at 130.00' 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	Mount mapping by SGS Towers; dated 06/26/2018
Antenna Loading	Provided by SBA; Application #: 182180, v2; dated 5/4/2022
Existing Modification	N/A
Previous Mount Analysis Report	TES Project No. 128029, dated 05/05/2022
Proposed Modification	TES Project No. 129273

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 125 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: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G
Exposure Category: C
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

(3) T-Arms at 130.00' elevation

Final Antenna Configuration

3 Ericsson AIR6449 B41
3 RFS APXVAARR24_43-U-NA20 (Octa)
3 Ericsson AIR32 KRD901146-1_B66A (Octa)
3 Ericsson KRY 112 144/2
3 Ericsson 4449 B71 + B85
3 Ericsson 4460 B25 + B66

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 70.2%, which occurs in the standoff arm. 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. Mount Mapping Information
4. Analysis Calculations
5. Connection Check

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.

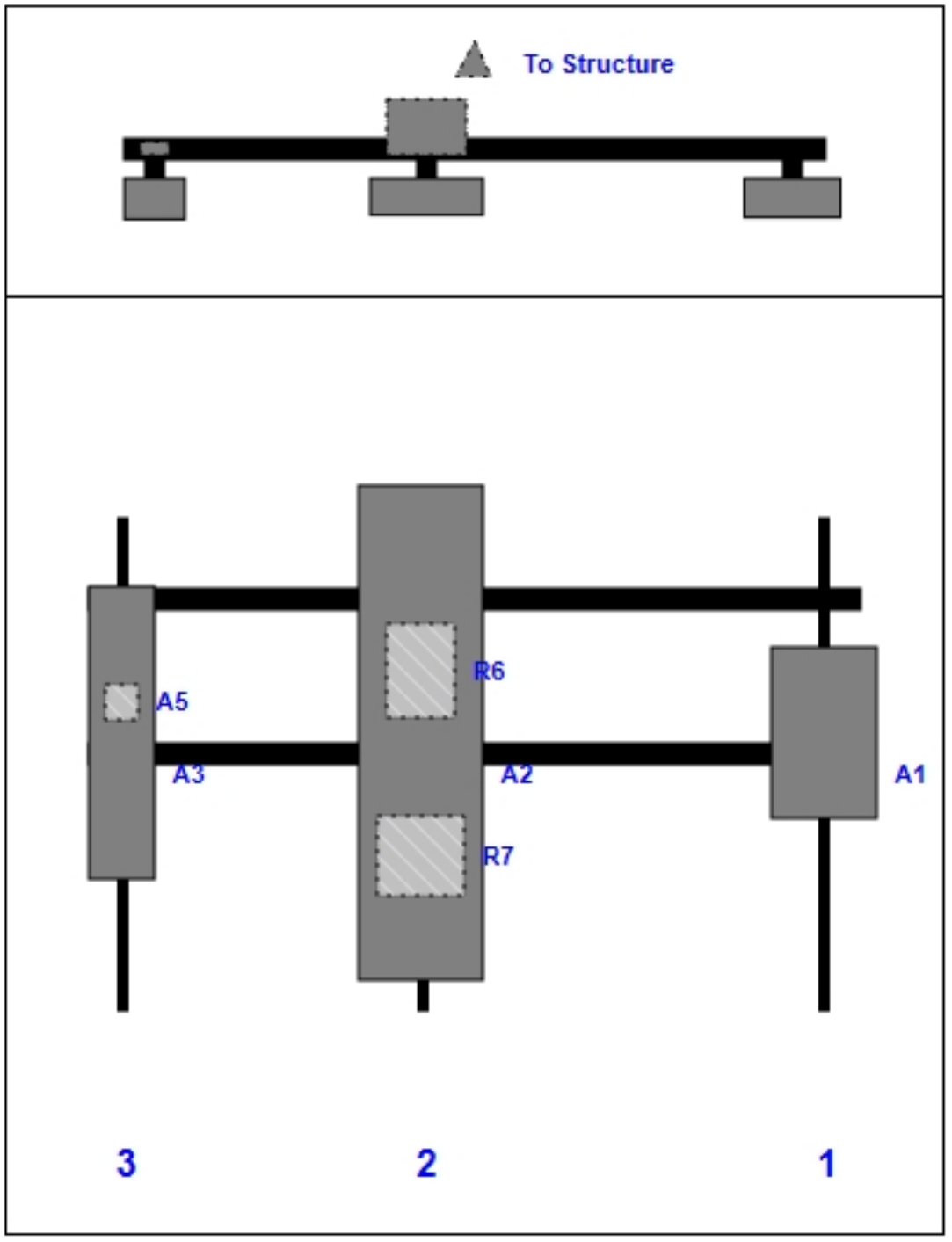

06/26/2018 13:05

Sector: A
Structure Type: Monopole
Mount Elev: 130.00

5/25/2022

Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure

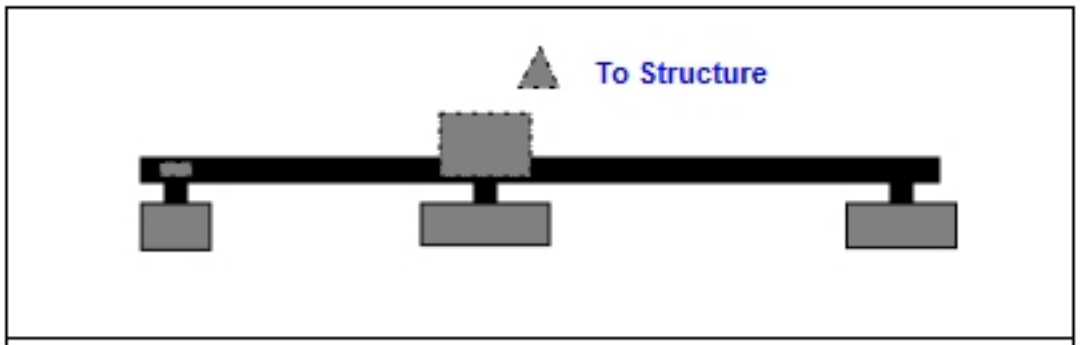
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	143.00	1	a	Front	42.00			
A2	APXVAARR24_43-U-NA20 (Octa)	95.90	24.00	65.00	2	a	Front	42.00			
R6	4449 B71 + B85	17.90	13.20	65.00	2	a	Behind	30.00			
R7	4460 B25 + B66	15.10	17.00	65.00	2	a	Behind	66.00			
A3	AIR32 KRD901146-1_B66A (Octa)	56.60	12.90	7.00	3	a	Front	42.00			
A5	KRY 112 144/2	6.90	6.10	7.00	3	a	Behind	36.00			

Sector: B
Structure Type: Monopole
Mount Elev: 130.00

5/25/2022

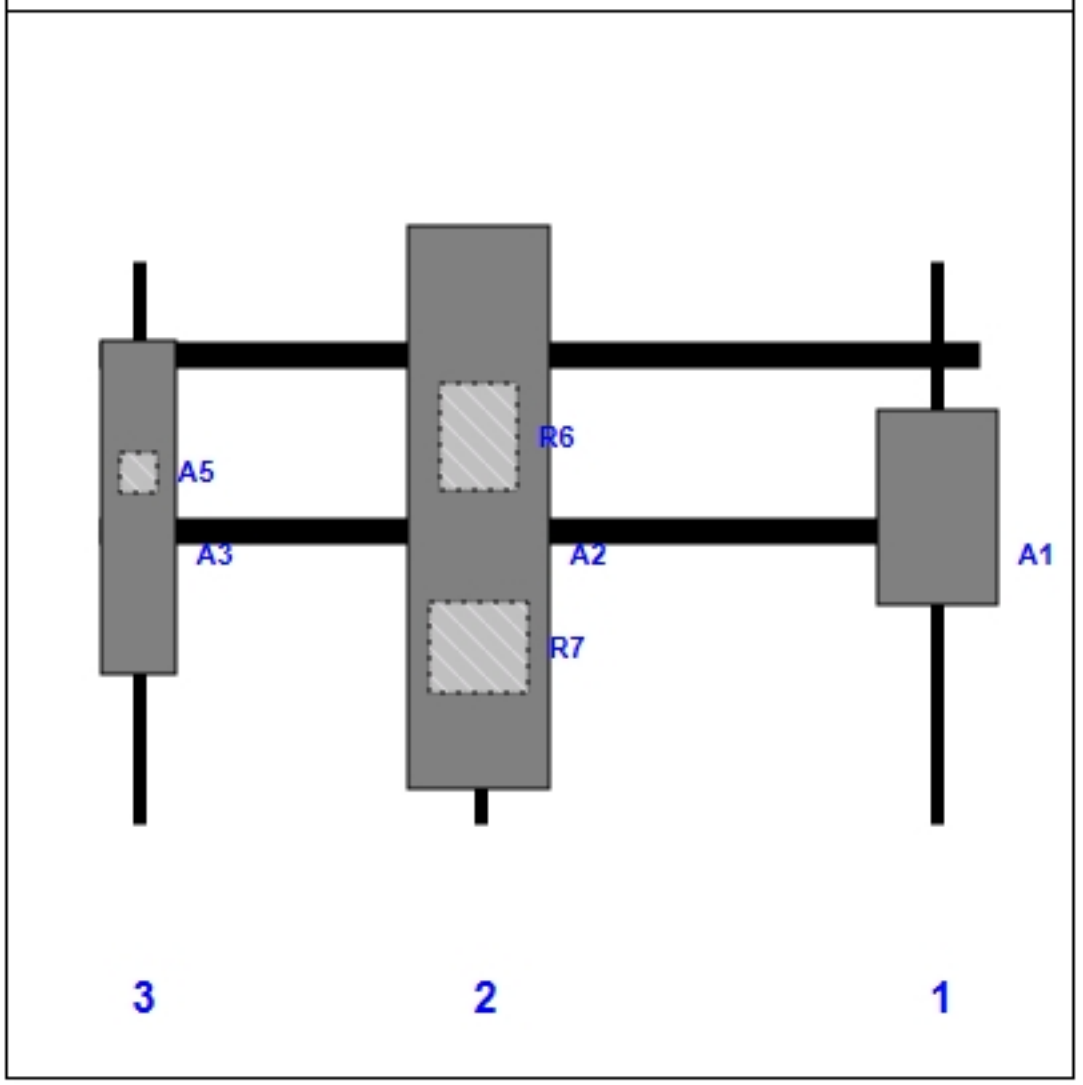
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure



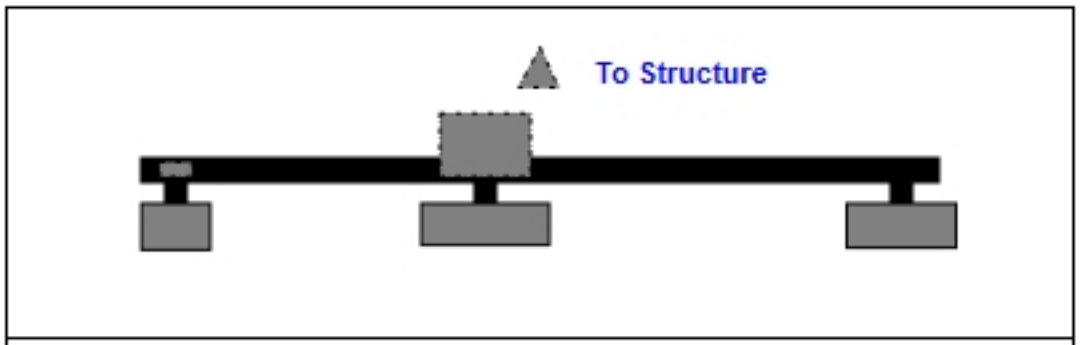
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	143.00	1	a	Front	42.00			
A2	APXVAARR24_43-U-NA20 (Octa)	95.90	24.00	65.00	2	a	Front	42.00			
R6	4449 B71 + B85	17.90	13.20	65.00	2	a	Behind	30.00			
R7	4460 B25 + B66	15.10	17.00	65.00	2	a	Behind	66.00			
A3	AIR32 KRD901146-1_B66A (Octa)	56.60	12.90	7.00	3	a	Front	42.00			
A5	KRY 112 144/2	6.90	6.10	7.00	3	a	Behind	36.00			

Sector: C
Structure Type: Monopole
Mount Elev: 130.00

5/25/2022

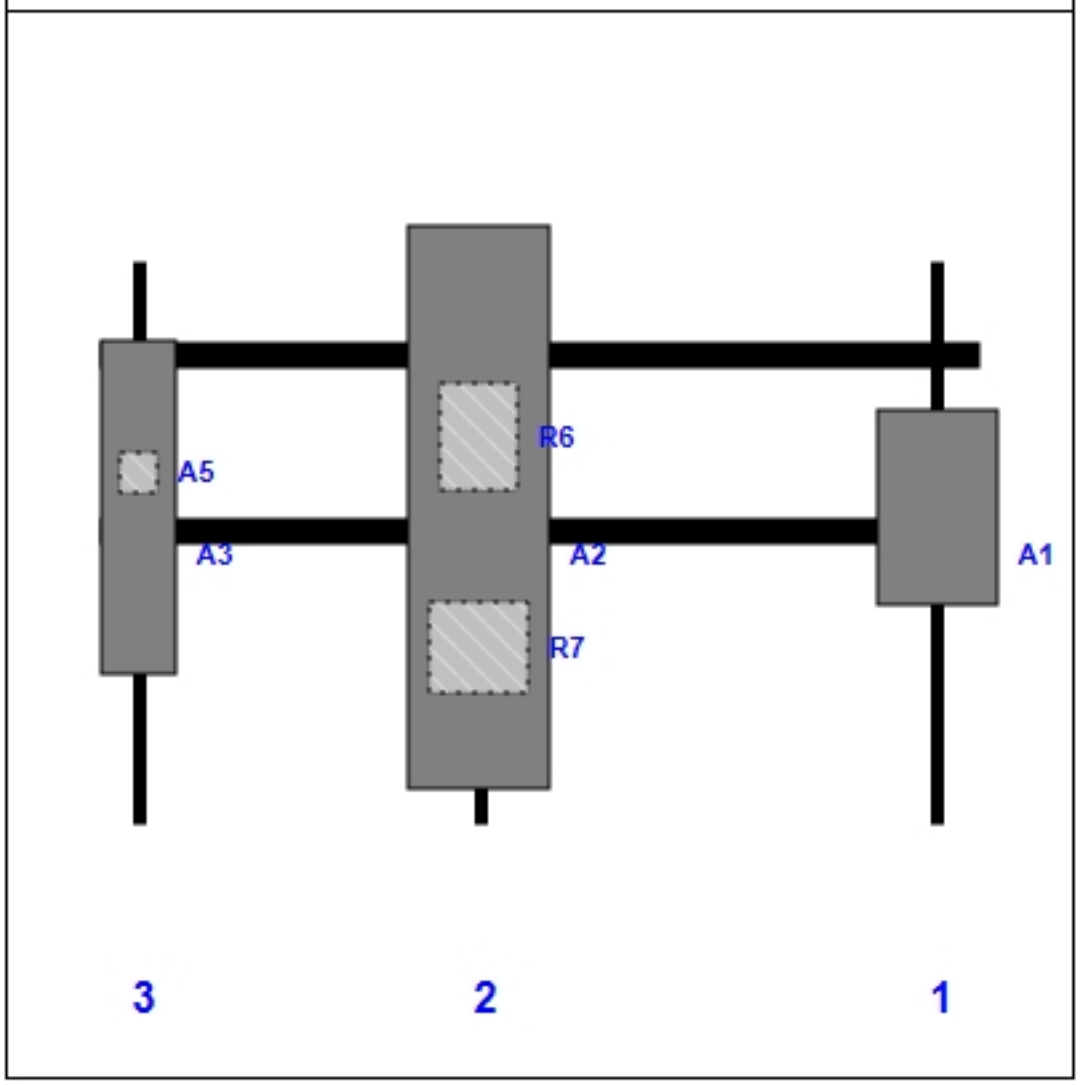
Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure

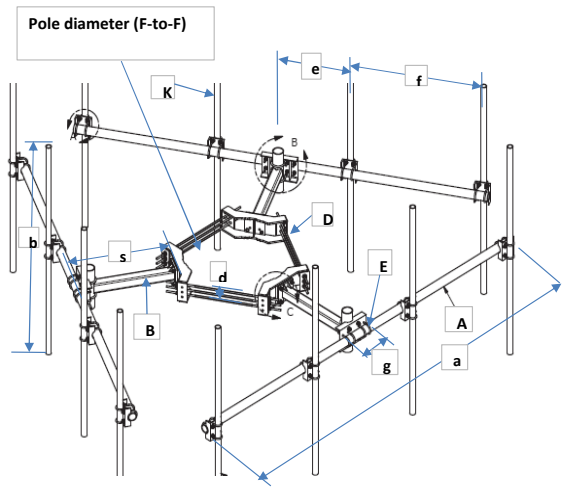


Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	143.00	1	a	Front	42.00			
A2	APXVAARR24_43-U-NA20 (Octa)	95.90	24.00	65.00	2	a	Front	42.00			
R6	4449 B71 + B85	17.90	13.20	65.00	2	a	Behind	30.00			
R7	4460 B25 + B66	15.10	17.00	65.00	2	a	Behind	66.00			
A3	AIR32 KRD901146-1_B66A (Octa)	56.60	12.90	7.00	3	a	Front	42.00			
A5	KRY 112 144/2	6.90	6.10	7.00	3	a	Behind	36.00			

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

FCC # 1274290

Tower Owner:	SBA	**Mapping Date:**	6/26/18
Site Name:	Bloomfield-4	**Structure Type:**	Monopole
Site Number or ID:	CT13548-S	**Structure Height (Ft.):**	140
Mapping Contractor:	SGS Towers	**Mount Height (Ft.):**	126



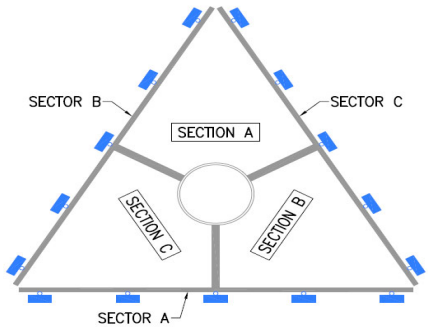
Geometries (Unit: inches)									
a	150	**e**	10	**j**		**o**		**s**	36
b	96	**f**	58	**k**		**p**		**t**	3.5
c		**g**	11	**m**		**q**		**u ***	46
d	6	**h**		**n**		**r**		**v ***	96

Members/Bolts (Unit: inches) — * - See Ant. Layout for "u", "v" and member "K" (pipe)

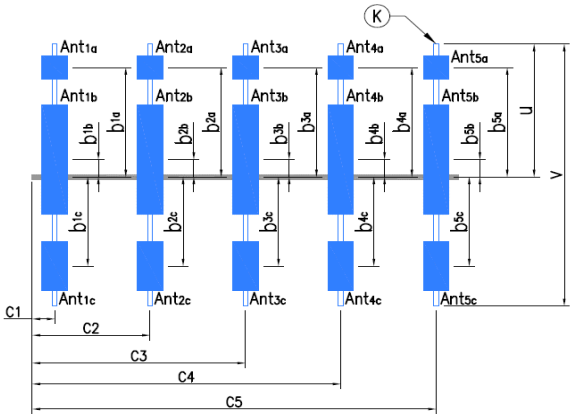
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	**F**				
B	Tubing 4x4x1/4	4	4	0.25	**G**				
C					**H**				
D	5/8" Bolt				**J**				
E	1/2" Bolt				**K* (pipe)**	2.375 OD x 0.154 Pipe	2.375	2.067	0.154

Please enter the infomation below if members can't be found from the drop down lists

There are only 3 antenna pipes (member "K") on the mount face.



Climbing ladder is , at 140 Degree Azimuth



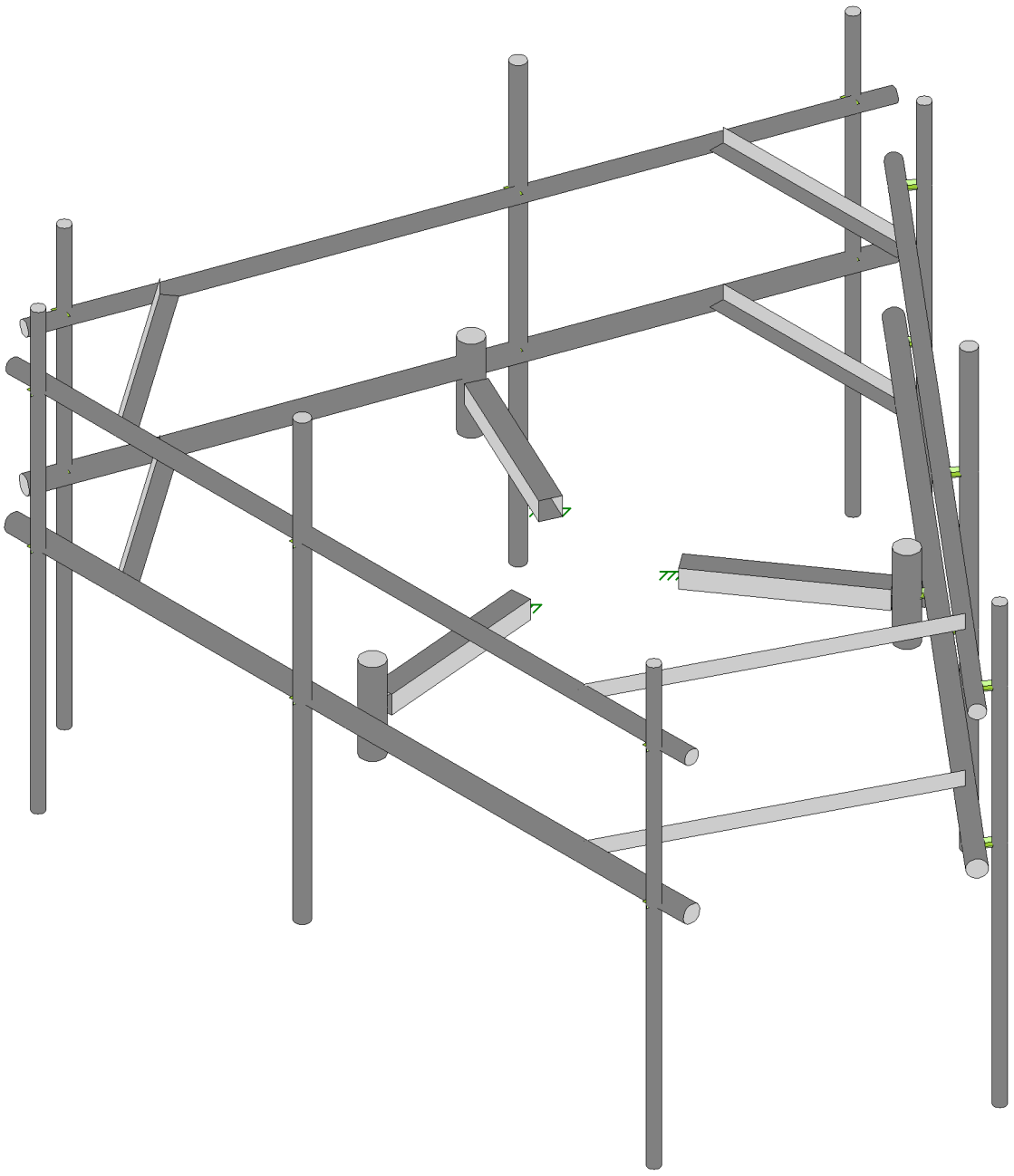
Antenna Layout

Ants. Items	Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (In.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C_1, C_2, C_3, C_4, C_5" (in.)	Photo Numbers
Sector A									
Ant_{1a}	Kathrein 81010020R3A				(1) 1 5/8	24	20	7	
Ant_{1b}		4.5	3	7		13	3		
Ant_{1c}	RRUS 11 B12				(1) 1 5/8	24	20		
Ant_{2a}	LNX-6515DS-A1M				(1) 1 5/8	12	6	65	
Ant_{2b}									
Ant_{2c}									
Ant_{3a}	Kathrein 81010020R3A				(1) 1 5/8	24	20	143	
Ant_{3b}	Kathrein 81010020R3A				(1) 1 5/8	24	20	143	
Ant_{3c}									
Ant_{4a}									
Ant_{4b}									
Ant_{4c}									
Ant_{5a}									
Ant_{5b}									
Ant_{5c}									
Are Ant same as sector A?	Yes	**Antennas on Sector B are the same as Sector A**							

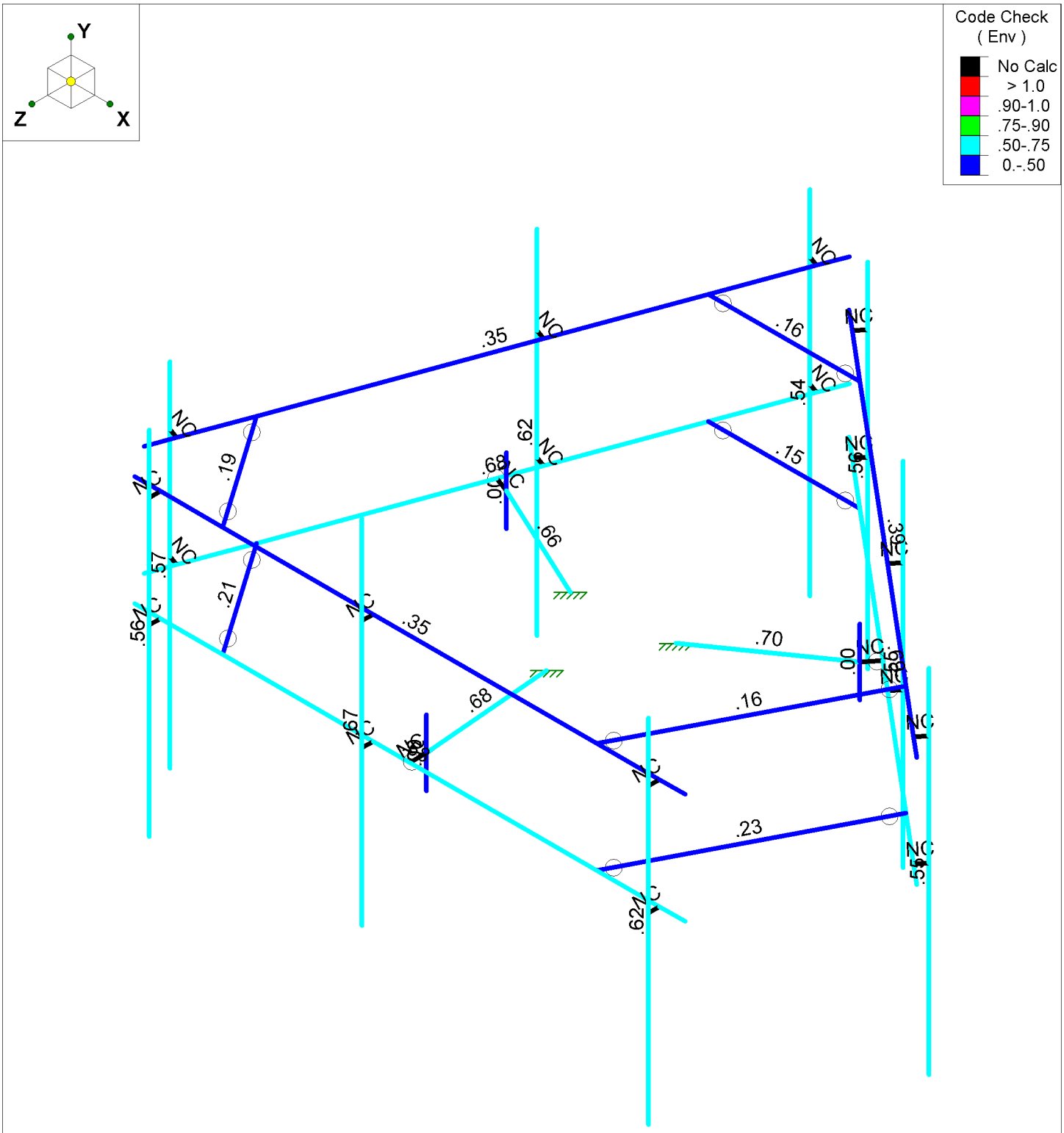
Azimuth (Degree) of Each Sector and Climbing Information

Sector A:	30	Deg	
Sector B:	150	Deg	
Sector C:	270	Deg	
Climbing	140	Deg	
Climbing Facility	Corrosion Type:	Good condition	
	Access:	Climbing path was unobstructed.	
	Condition:	N/A	

Are Ant same as sector A/B?	Same As A	**Antennas on Sector C are the same as Sector A**

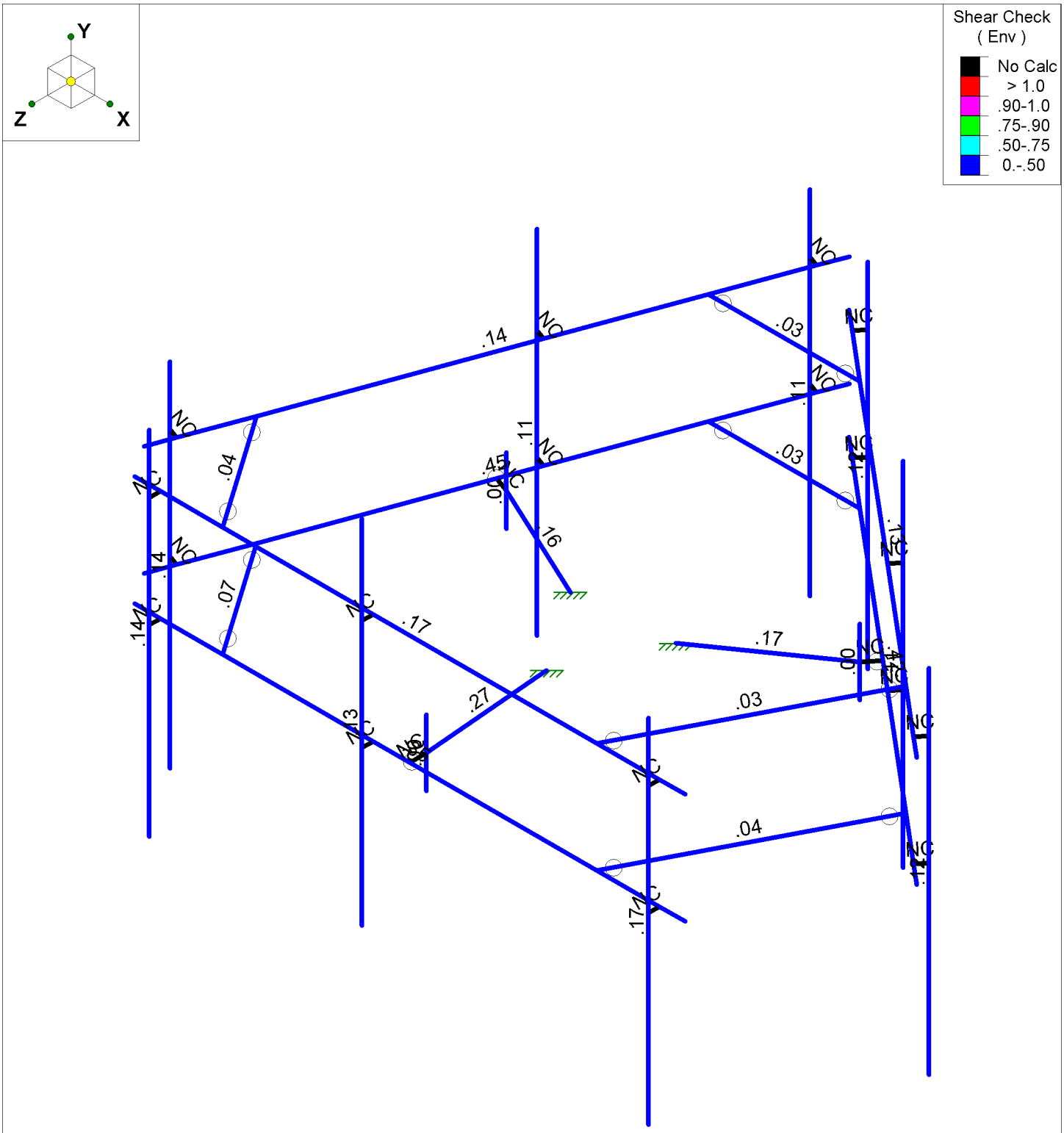


Tower Engineering Solutio...	CT13548-S-SBA_MT_LO_Loads Only_G	SK - 1
Progesh Roka		May 25, 2022 at 10:28 AM
TES Project No. 129273		CT13548-S-SBA_129273_G_RISA_...



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

Tower Engineering Solutio...	CT13548-S-SBA_MT_LO_Loads Only_G	SK - 2
Progesh Roka		May 25, 2022 at 10:28 AM
TES Project No. 129273		CT13548-S-SBA_129273_G_RISA_...



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

Tower Engineering Solutio...	CT13548-S-SBA_MT_LO_Loads Only_G	SK - 3
Progesh Roka		May 25, 2022 at 10:28 AM
TES Project No. 129273		CT13548-S-SBA_129273_G_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					27			
2	Antenna Di	None					27			
3	Antenna W Front	None					27			
4	Antenna Wi Front	None					27			
5	Antenna W Side	None					27			
6	Antenna Wi Side	None					27			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1						
10	Structure Di	None						27		
11	Structure W Front	None						27		
12	Structure Wi Front	None						27		
13	Structure W Side	None						27		
14	Structure Wi Side	None						27		

Load Combinations

	Description	Solve	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.6W (Front)	Yes	Y		1	1.2	9	1.2	3	1.6	11	1.6												
2	1.2D+1.6W (Back)	Yes	Y		1	1.2	9	1.2	3	-1.6	11	-1.6												
3	1.2D+1.6W (Left)	Yes	Y		1	1.2	9	1.2	5	1.6	13	1.6												
4	1.2D+1.6W (Right)	Yes	Y		1	1.2	9	1.2	5	-1.6	13	-1.6												
5	1.2D+1.0Di+1.0Wi (...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1								
6	1.2D+1.0Di+1.0Wi (...	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1								
7	1.2D+1.0Di+1.0Wi (...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1								
8	1.2D+1.0Di+1.0Wi (...	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1								
9	1.2D+1.5L1+.16W (...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16										
10	1.2D+1.5L2+.16W (...	Yes	Y		1	1.2	9	1.2	8	1.5	3	.16	11	.16										
11	1.4D	Yes	Y		1	1.4	9	1.4																

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0.111124	0	1.270148	0	
2	N2	0.372591	0	4.258732	0	
3	N3	-5.877409	0	4.633732	0	
4	N4	6.622591	0	4.633732	0	
5	N5	-5.294076	3.833333	4.883732	0	
6	N6	-5.294076	-4.166667	4.883732	0	
7	N7	-0.460743	4.500333	4.883732	0	
8	N8	-0.460743	-3.499667	4.883732	0	
9	N9	6.039257	3.833333	4.883732	0	
10	N10	6.039257	-4.166667	4.883732	0	
11	N11	0.372591	.75	4.258732	0	
12	N12	0.372591	-.75	4.258732	0	
13	N13	-5.294076	0	4.883732	0	
14	N14	-0.460743	0	4.883732	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
15	N15	6.039257	0	4.883732	0	
16	N16	0.372591	0	4.633732	0	
17	N17	0.074809	0	0.855067	0	
18	N18	-5.294076	0	4.633732	0	
19	N19	-0.460743	0	4.633732	0	
20	N20	6.039257	0	4.633732	0	
21	COG	0	0	0	0	
22	N22	-5.877409	2.5	4.633732	0	
23	N23	6.622591	2.5	4.633732	0	
24	N24	-5.294076	2.5	4.883732	0	
25	N25	-0.460743	2.5	4.883732	0	
26	N26	6.039257	2.5	4.883732	0	
27	N27	-5.294076	2.5	4.633732	0	
28	N28	-0.460743	2.5	4.633732	0	
29	N29	6.039257	2.5	4.633732	0	
30	N30	-3.877409	2.5	4.633732	0	
31	N31	4.622591	2.5	4.633732	0	
32	N32	1.044419	0	-0.73131	0	
33	N33	3.501875	0	-2.452039	0	
34	N34	8.530698	0	1.278117	0	
35	N35	-1.044857	0	-6.756728	0	
36	N36	8.244536	3.833333	0.711646	0	
37	N37	8.244536	-4.166667	0.711646	0	
38	N38	4.541988	4.500333	-2.395161	0	
39	N39	4.541988	-3.499667	-2.395161	0	
40	N40	-0.437301	3.833333	-6.57328	0	
41	N41	-0.437301	-4.166667	-6.57328	0	
42	N42	3.501875	.75	-2.452039	0	
43	N43	3.501875	-.75	-2.452039	0	
44	N44	8.244536	0	0.711646	0	
45	N45	4.541988	0	-2.395161	0	
46	N46	-0.437301	0	-6.57328	0	
47	N47	3.74292	0	-2.739306	0	
48	N48	8.083839	0	0.903157	0	
49	N49	4.381291	0	-2.20365	0	
50	N50	-0.597998	0	-6.381769	0	
51	N52	8.530698	2.5	1.278117	0	
52	N53	-1.044857	2.5	-6.756728	0	
53	N54	8.244536	2.5	0.711646	0	
54	N55	4.541988	2.5	-2.395161	0	
55	N56	-0.437301	2.5	-6.57328	0	
56	N57	8.083839	2.5	0.903157	0	
57	N58	4.381291	2.5	-2.20365	0	
58	N59	-0.597998	2.5	-6.381769	0	
59	N60	6.998609	2.5	-0.007459	0	
60	N61	0.487231	2.5	-5.471153	0	
61	N62	-1.155542	0	-0.538838	0	
62	N63	-3.874466	0	-1.806693	0	
63	N64	-2.089225	0	-7.80803	0	
64	N65	-6.364476	0	3.938128	0	
65	N66	-2.52366	3.833333	-7.345381	0	
66	N67	-2.52366	-4.166667	-7.345381	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
67	N68	-4.176757	4.500333	-2.803533	0	
68	N69	-4.176757	-3.499667	-2.803533	0	
69	N70	-6.399888	3.833333	3.304469	0	
70	N71	-6.399888	-4.166667	3.304469	0	
71	N72	-3.874466	.75	-1.806693	0	
72	N73	-3.874466	-.75	-1.806693	0	
73	N74	-2.52366	0	-7.345381	0	
74	N75	-4.176757	0	-2.803533	0	
75	N76	-6.399888	0	3.304469	0	
76	N77	-4.226851	0	-1.934951	0	
77	N78	-2.288736	0	-7.259875	0	
78	N79	-3.941834	0	-2.718028	0	
79	N80	-6.164965	0	3.389974	0	
80	N82	-2.089225	2.5	-7.80803	0	
81	N83	-6.364476	2.5	3.938128	0	
82	N84	-2.52366	2.5	-7.345381	0	
83	N85	-4.176757	2.5	-2.803533	0	
84	N86	-6.399888	2.5	3.304469	0	
85	N87	-2.288736	2.5	-7.259875	0	
86	N88	-3.941834	2.5	-2.718028	0	
87	N89	-6.164965	2.5	3.389974	0	
88	N91	-5.680436	2.5	2.058743	0	
89	N90A	-2.944275	2.5	-5.458798	0	
90	N90	-3.877409	0	4.633732	0	
91	N91A	4.622591	0	4.633732	0	
92	N92	6.998609	0	-0.007459	0	
93	N93	0.487231	0	-5.471153	0	
94	N94	-5.680436	0	2.058743	0	
95	N95	-2.944275	0	-5.458798	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in...	Izz [in...	J [in4]
1	Face Horizontal	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Mount Pipe 1	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Mount Pipe 2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	Mast Pipe	PIPE_4.0	Beam	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
5	Standoff	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
6	New Support Rail	PIPE_2.5	Beam	Pipe	A36 Gr.36	Typical	1.61	1.45	1.45	2.89
7	New End Conection	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N2			Standoff	Beam	SquareTube	A500 Gr.B Rect	Typical
2	MP3A	N5	N6			Mount Pipe 1	Beam	Pipe	A53 Gr.B	Typical
3	MP2A	N7	N8			Mount Pipe 2	Beam	Pipe	A53 Gr.B	Typical
4	MP1A	N9	N10			Mount Pipe 1	Beam	Pipe	A53 Gr.B	Typical
5	M5	N11	N12			Mast Pipe	Beam	Pipe	A53 Gr.B	Typical
6	M6	N3	N4			Face Horizo...	Beam	Pipe	A53 Gr.B	Typical
7	M7	N16	N2			RIGID	Beam	None	RIGID	DR1
8	M9	N13	N18			RIGID	Beam	None	RIGID	DR1
9	M10	N14	N19			RIGID	Beam	None	RIGID	DR1
10	M11	N15	N20			RIGID	Beam	None	RIGID	DR1
11	M11A	N24	N27			RIGID	Beam	None	RIGID	DR1
12	M12	N25	N28			RIGID	Beam	None	RIGID	DR1
13	M13	N26	N29			RIGID	Beam	None	RIGID	DR1
14	M14	N22	N23			New Support...	Beam	Pipe	A36 Gr.36	Typical
15	M15	N32	N33			Standoff	Beam	SquareTube	A500 Gr.B Rect	Typical
16	MP3C	N36	N37			Mount Pipe 1	Beam	Pipe	A53 Gr.B	Typical
17	MP2C	N38	N39			Mount Pipe 2	Beam	Pipe	A53 Gr.B	Typical
18	MP1C	N40	N41			Mount Pipe 1	Beam	Pipe	A53 Gr.B	Typical
19	M19	N42	N43			Mast Pipe	Beam	Pipe	A53 Gr.B	Typical
20	M20	N34	N35			Face Horizo...	Beam	Pipe	A53 Gr.B	Typical
21	M21	N47	N33			RIGID	Beam	None	RIGID	DR1
22	M22	N44	N48			RIGID	Beam	None	RIGID	DR1
23	M23	N45	N49			RIGID	Beam	None	RIGID	DR1
24	M24	N46	N50			RIGID	Beam	None	RIGID	DR1
25	M25	N54	N57			RIGID	Beam	None	RIGID	DR1
26	M26	N55	N58			RIGID	Beam	None	RIGID	DR1
27	M27	N56	N59			RIGID	Beam	None	RIGID	DR1
28	M28	N52	N53			New Support...	Beam	Pipe	A36 Gr.36	Typical
29	M29	N62	N63			Standoff	Beam	SquareTube	A500 Gr.B Rect	Typical
30	MP3B	N66	N67			Mount Pipe 1	Beam	Pipe	A53 Gr.B	Typical
31	MP2B	N68	N69			Mount Pipe 2	Beam	Pipe	A53 Gr.B	Typical
32	MP1B	N70	N71			Mount Pipe 1	Beam	Pipe	A53 Gr.B	Typical
33	M33	N72	N73			Mast Pipe	Beam	Pipe	A53 Gr.B	Typical
34	M34	N64	N65			Face Horizo...	Beam	Pipe	A53 Gr.B	Typical
35	M35	N77	N63			RIGID	Beam	None	RIGID	DR1
36	M36	N74	N78			RIGID	Beam	None	RIGID	DR1
37	M37	N75	N79			RIGID	Beam	None	RIGID	DR1
38	M38	N76	N80			RIGID	Beam	None	RIGID	DR1
39	M39	N84	N87			RIGID	Beam	None	RIGID	DR1
40	M40	N85	N88			RIGID	Beam	None	RIGID	DR1
41	M41	N86	N89			RIGID	Beam	None	RIGID	DR1
42	M42	N82	N83			New Support...	Beam	Pipe	A36 Gr.36	Typical
43	M43	N30	N91			New End Co...	Beam	Single Angle	A36 Gr.36	Typical
44	M44	N90A	N61			New End Co...	Beam	Single Angle	A36 Gr.36	Typical
45	M45	N60	N31			New End Co...	Beam	Single Angle	A36 Gr.36	Typical
46	M46	N90	N94			New End Co...	Beam	Single Angle	A36 Gr.36	Typical
47	M47	N95	N93			New End Co...	Beam	Single Angle	A36 Gr.36	Typical
48	M48	N92	N91A			New End Co...	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1				2.25		Yes				None
2	MP3A						Yes		-z		None
3	MP2A						Yes		-z		None
4	MP1A						Yes		-z		None
5	M5						Yes				None
6	M6						Yes				None
7	M7		OOOOOO				Yes				None
8	M9						Yes				None
9	M10						Yes				None
10	M11						Yes				None
11	M11A						Yes				None
12	M12						Yes				None
13	M13						Yes				None
14	M14						Yes				None
15	M15				2.25		Yes				None
16	MP3C						Yes		-z		None
17	MP2C						Yes		-z		None
18	MP1C						Yes		-z		None
19	M19						Yes				None
20	M20						Yes				None
21	M21		OOOOOO				Yes				None
22	M22						Yes				None
23	M23						Yes				None
24	M24						Yes				None
25	M25						Yes				None
26	M26						Yes				None
27	M27						Yes				None
28	M28						Yes				None
29	M29				2.25		Yes				None
30	MP3B						Yes		-z		None
31	MP2B						Yes		-z		None
32	MP1B						Yes		-z		None
33	M33						Yes				None
34	M34						Yes				None
35	M35		OOOOOO				Yes				None
36	M36						Yes				None
37	M37						Yes				None
38	M38						Yes				None
39	M39						Yes				None
40	M40						Yes				None
41	M41						Yes				None
42	M42						Yes				None
43	M43	OOOOXO	OOOOXO				Yes				None
44	M44	OOOOXO	OOOOXO				Yes				None
45	M45	OOOOXO	OOOOXO				Yes				None
46	M46	OOOOXO	OOOOXO				Yes				None
47	M47	OOOOXO	OOOOXO				Yes				None
48	M48	OOOOXO	OOOOXO				Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Standoff	3			Lbyy						Lateral
2	MP3A	Mount Pipe 1	8			Lbyy						Lateral
3	MP2A	Mount Pipe 2	8			Lbyy						Lateral
4	MP1A	Mount Pipe 1	8			Lbyy						Lateral
5	M5	Mast Pipe	1.5			Lbyy						Gravity
6	M6	Face Horizo...	12.5			Lbyy						Lateral
7	M14	New Suppor...	12.5			Lbyy						Lateral
8	M15	Standoff	3			Lbyy						Lateral
9	MP3C	Mount Pipe 1	8			Lbyy						Lateral
10	MP2C	Mount Pipe 2	8			Lbyy						Lateral
11	MP1C	Mount Pipe 1	8			Lbyy						Lateral
12	M19	Mast Pipe	1.5			Lbyy						Gravity
13	M20	Face Horizo...	12.5			Lbyy						Lateral
14	M28	New Suppor...	12.5			Lbyy						Lateral
15	M29	Standoff	3			Lbyy						Lateral
16	MP3B	Mount Pipe 1	8			Lbyy						Lateral
17	MP2B	Mount Pipe 2	8			Lbyy						Lateral
18	MP1B	Mount Pipe 1	8			Lbyy						Lateral
19	M33	Mast Pipe	1.5			Lbyy						Gravity
20	M34	Face Horizo...	12.5			Lbyy						Lateral
21	M42	New Suppor...	12.5			Lbyy						Lateral
22	M43	New End C...	3.143			Lbyy						Lateral
23	M44	New End C...	3.432			Lbyy						Lateral
24	M45	New End C...	5.214			Lbyy						Lateral
25	M46	New End C...	3.143			Lbyy						Lateral
26	M47	New End C...	3.432			Lbyy						Lateral
27	M48	New End C...	5.214			Lbyy						Lateral

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2...
No Data to Print ...			

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N17						
3	COG						
4	N32	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N62	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1948.369	4	3470.658	6	2519.741	1	-1.154	1	5.671	4	2.736	10
2		min	-1902.083	3	501.607	1	-2328.299	2	-9.881	6	-5.579	3	-2.675	9
3	N32	max	2883.989	4	3433.341	7	2017.782	1	4.849	5	5.307	3	8.622	7
4		min	-2705.349	3	637.93	4	-2109.049	2	.548	2	-5.459	4	1.065	4

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
5	N62	max	2014.699	4	3422.664	8	2224.181	1	4.696	5	5.914	1	-.743	3
6		min	-2239.611	3	561.052	3	-2324.335	2	.835	2	-5.937	2	-8.151	8
7	Totals:	max	6847.057	4	9907.069	5	6761.704	1						
8		min	-6847.043	3	3230.657	2	-6761.683	2						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
1	N1	max	0	11	0	11	0	11	0	11	0	11	0	11
2		min	0	1	0	1	0	1	0	1	0	1	0	1
3	N2	max	.162	3	-.028	1	.014	4	1.142e-2	6	6.571e-3	3	8.291e-3	9
4		min	-.164	4	-.28	6	-.014	3	1.067e-3	1	-6.681e-3	4	-7.014e-3	10
5	N3	max	.185	3	.386	10	.691	9	5.758e-3	9	1.021e-2	9	1.788e-2	9
6		min	-.175	4	-1.405	9	-.442	10	6.539e-4	2	-6.541e-3	10	-8.76e-3	10
7	N4	max	.184	3	.573	9	.444	10	6.022e-3	10	1.151e-2	1	1.178e-2	9
8		min	-.175	4	-1.344	10	-.716	9	-5.959e-4	2	-7.558e-3	2	-1.618e-2	10
9	N5	max	.404	10	.319	10	.719	9	4.589e-3	2	8.7e-3	9	1.54e-2	9
10		min	-.604	9	-1.302	9	-.375	10	-5.611e-3	1	-6.144e-3	10	-8.193e-3	10
11	N6	max	.942	9	.32	10	.614	2	7.845e-3	1	1.021e-2	9	1.781e-2	9
12		min	-.458	10	-1.297	9	-.556	1	-4.931e-3	2	-6.543e-3	10	-8.725e-3	10
13	N7	max	.533	10	-.065	1	.726	2	1.562e-2	2	9.825e-3	9	1.392e-2	9
14		min	-.687	9	-.42	6	-.627	1	-1.551e-2	1	-7.139e-3	10	-1.091e-2	10
15	N8	max	.574	9	-.036	1	-.041	2	9.125e-3	5	8.182e-3	9	1.262e-2	9
16		min	-.321	10	-.412	6	-.343	8	7.833e-4	2	-5.362e-3	10	-7.219e-3	10
17	N9	max	.454	10	.487	9	.574	10	3.417e-3	10	9.303e-3	9	1.143e-2	9
18		min	-.537	9	-1.252	10	-.651	1	-1.909e-3	1	-5.762e-3	10	-1.107e-2	10
19	N10	max	.637	9	.487	9	.511	2	6.256e-3	10	1.15e-2	1	1.174e-2	9
20		min	-.83	10	-1.248	10	-.876	1	-3.139e-3	2	-7.557e-3	2	-1.612e-2	10
21	N11	max	.154	3	-.028	1	.104	6	1.142e-2	6	6.571e-3	3	8.291e-3	9
22		min	-.174	4	-.28	6	.005	1	1.066e-3	1	-6.681e-3	4	-7.014e-3	10
23	N12	max	.169	3	-.028	1	-.014	1	1.142e-2	6	6.571e-3	3	8.291e-3	9
24		min	-.155	4	-.28	6	-.102	7	1.068e-3	1	-6.681e-3	4	-7.014e-3	10
25	N13	max	.196	3	.32	10	.619	9	5.758e-3	9	1.021e-2	9	1.788e-2	9
26		min	-.177	4	-1.297	9	-.396	10	6.539e-4	2	-6.541e-3	10	-8.761e-3	10
27	N14	max	.198	3	-.043	1	.082	9	9.833e-3	6	8.179e-3	9	1.266e-2	9
28		min	-.179	4	-.41	6	-.055	10	-2.599e-4	1	-5.36e-3	10	-7.24e-3	10
29	N15	max	.198	3	.486	9	.396	10	6.022e-3	10	1.15e-2	1	1.178e-2	9
30		min	-.177	4	-1.249	10	-.643	9	-5.959e-4	2	-7.557e-3	2	-1.618e-2	10
31	N16	max	.184	3	-.033	1	.014	4	1.142e-2	6	8.028e-3	9	8.291e-3	9
32		min	-.174	4	-.332	6	-.014	3	1.067e-3	1	-5.223e-3	10	-7.014e-3	10
33	N17	max	0	11	0	11	0	11	0	11	0	11	0	11
34		min	0	1	0	1	0	1	0	1	0	1	0	1
35	N18	max	.185	3	.324	10	.619	9	5.758e-3	9	1.021e-2	9	1.788e-2	9
36		min	-.175	4	-1.28	9	-.396	10	6.539e-4	2	-6.541e-3	10	-8.761e-3	10
37	N19	max	.184	3	-.044	1	.082	9	9.833e-3	6	8.179e-3	9	1.266e-2	9
38		min	-.174	4	-.381	6	-.055	10	-2.599e-4	1	-5.36e-3	10	-7.24e-3	10
39	N20	max	.184	3	.49	9	.396	10	6.022e-3	10	1.15e-2	1	1.178e-2	9
40		min	-.175	4	-1.231	10	-.643	9	-5.959e-4	2	-7.557e-3	2	-1.618e-2	10
41	COG	max	0	11	0	11	0	11	0	11	0	11	0	11
42		min	0	1	0	1	0	1	0	1	0	1	0	1
43	N22	max	.292	10	.379	10	.761	9	4.441e-3	2	8.699e-3	9	1.539e-2	9

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
44		min	-.384	9	-1.406	9	-.432	10	-5.462e-3	1	-6.143e-3	10	-8.189e-3	10
45	N23	max	.294	10	.571	9	.56	10	3.422e-3	10	9.303e-3	9	1.143e-2	9
46		min	-.382	9	-1.319	10	-.694	9	-1.859e-3	1	-5.762e-3	10	-1.107e-2	10
47	N24	max	.273	10	.319	10	.7	9	4.441e-3	2	8.699e-3	9	1.539e-2	9
48		min	-.358	9	-1.302	9	-.389	10	-5.462e-3	1	-6.143e-3	10	-8.19e-3	10
49	N25	max	.271	10	-.062	1	.367	2	1.29e-2	2	9.825e-3	9	1.391e-2	9
50		min	-.353	9	-.421	6	-.27	1	-1.279e-2	1	-7.139e-3	10	-1.09e-2	10
51	N26	max	.277	10	.487	9	.519	10	3.422e-3	10	9.303e-3	9	1.143e-2	9
52		min	-.354	9	-1.252	10	-.629	9	-1.859e-3	1	-5.762e-3	10	-1.107e-2	10
53	N27	max	.292	10	.322	10	.7	9	4.441e-3	2	8.699e-3	9	1.539e-2	9
54		min	-.384	9	-1.299	9	-.389	10	-5.462e-3	1	-6.143e-3	10	-8.19e-3	10
55	N28	max	.293	10	-.1	1	.367	2	1.29e-2	2	9.825e-3	9	1.391e-2	9
56		min	-.383	9	-.412	6	-.27	1	-1.279e-2	1	-7.139e-3	10	-1.09e-2	10
57	N29	max	.294	10	.491	9	.519	10	3.422e-3	10	9.303e-3	9	1.143e-2	9
58		min	-.382	9	-1.241	10	-.629	9	-1.859e-3	1	-5.762e-3	10	-1.107e-2	10
59	N30	max	.292	10	.195	10	.548	9	5.555e-3	2	9.002e-3	9	1.816e-2	9
60		min	-.383	9	-1.011	9	-.286	10	-6.202e-3	1	-6.154e-3	10	-7.177e-3	10
61	N31	max	.294	10	.316	9	.414	10	3.891e-3	2	8.988e-3	9	9.58e-3	9
62		min	-.382	9	-1.025	10	-.53	1	-2.427e-3	1	-6.526e-3	10	-1.407e-2	10
63	N32	max	0	11	0	11	0	11	0	11	0	11	0	11
64		min	0	1	0	1	0	1	0	1	0	1	0	1
65	N33	max	.09	3	-.037	4	.126	3	4.451e-4	2	6.47e-3	4	-6.859e-4	4
66		min	-.092	4	-.28	7	-.13	4	-4.339e-3	5	-6.29e-3	3	-1.091e-2	7
67	N34	max	.449	3	.076	4	.343	2	6.031e-3	3	8.514e-3	3	4.233e-4	4
68		min	-.326	4	-1.148	7	-.52	1	-2.979e-3	4	-6.013e-3	4	-8.938e-3	7
69	N35	max	.123	10	.137	2	.376	2	1.692e-3	2	6.537e-3	6	1.097e-3	4
70		min	-.287	9	-.352	5	-.188	1	-3.203e-3	5	-2.185e-3	1	-3.705e-3	6
71	N36	max	.67	3	.058	4	.547	2	8.323e-3	7	7.127e-3	9	3.564e-3	4
72		min	-.45	4	-1.076	7	-.527	1	-4.76e-4	1	-6.09e-3	10	-6.74e-3	3
73	N37	max	.302	3	.054	4	.463	2	6.75e-3	1	8.513e-3	3	-7.545e-4	3
74		min	-.478	4	-1.08	7	-.787	1	-3.632e-3	2	-6.013e-3	4	-9.049e-3	8
75	N38	max	.7	3	-.035	4	.599	2	1.024e-2	2	5.698e-3	9	1.052e-2	4
76		min	-.529	4	-.423	7	-.531	1	-7.642e-3	1	-4.227e-3	10	-1.296e-2	3
77	N39	max	-.023	2	-.041	4	.177	2	2.213e-3	9	7.367e-3	9	-2.509e-3	2
78		min	-.48	5	-.427	7	-.218	1	-1.18e-3	2	-4.423e-3	10	-1.08e-2	5
79	N40	max	.383	3	.116	2	.542	2	4.782e-3	2	4.108e-3	6	3.4e-3	4
80		min	-.402	4	-.359	5	-.308	1	-3.434e-3	1	-1.456e-3	10	-6.086e-3	3
81	N41	max	.131	10	.11	2	.434	6	1.37e-3	3	6.534e-3	6	6.524e-4	1
82		min	-.443	8	-.363	5	-.097	1	-3.155e-3	8	-2.184e-3	1	-3.668e-3	6
83	N42	max	.144	3	-.037	4	.127	2	4.464e-4	2	6.47e-3	4	-6.847e-4	4
84		min	-.086	4	-.28	7	-.15	1	-4.339e-3	5	-6.29e-3	3	-1.091e-2	7
85	N43	max	.061	2	-.037	4	.136	3	4.439e-4	2	6.47e-3	4	-6.871e-4	4
86		min	-.123	1	-.28	7	-.118	4	-4.339e-3	5	-6.29e-3	3	-1.091e-2	7
87	N44	max	.391	3	.054	4	.327	2	6.031e-3	3	8.514e-3	3	4.238e-4	4
88		min	-.285	4	-1.08	7	-.495	1	-2.979e-3	4	-6.013e-3	4	-8.937e-3	7
89	N45	max	.096	3	-.041	4	.153	2	1.969e-3	2	7.368e-3	9	3.41e-4	4
90		min	-.097	4	-.427	7	-.19	1	-1.887e-3	1	-4.422e-3	10	-1.161e-2	7
91	N46	max	.12	10	.113	2	.332	2	1.692e-3	2	6.536e-3	6	1.096e-3	4
92		min	-.278	9	-.364	5	-.172	1	-3.202e-3	5	-2.184e-3	1	-3.706e-3	6
93	N47	max	.091	2	-.044	4	.128	2	4.451e-4	2	6.82e-3	9	-6.859e-4	4
94		min	-.102	1	-.325	7	-.137	1	-4.339e-3	5	-3.948e-3	10	-1.091e-2	7
95	N48	max	.41	3	.06	4	.318	2	6.031e-3	3	8.514e-3	3	4.238e-4	4

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
96		min	-.299	4	-1.075	7	-.481	1	-2.979e-3	4	-6.013e-3	4	-8.937e-3	7
97	N49	max	.108	3	-.039	4	.147	2	1.969e-3	2	7.368e-3	9	3.41e-4	4
98		min	-.103	4	-.404	7	-.178	1	-1.887e-3	1	-4.422e-3	10	-1.161e-2	7
99	N50	max	.116	10	.114	2	.344	2	1.692e-3	2	6.536e-3	6	1.096e-3	4
100		min	-.267	9	-.351	5	-.177	1	-3.202e-3	5	-2.184e-3	1	-3.706e-3	6
101	N52	max	.601	3	.069	4	.463	2	8.317e-3	7	7.127e-3	9	3.422e-3	4
102		min	-.417	4	-1.153	7	-.534	1	-3.488e-4	1	-6.09e-3	10	-6.598e-3	3
103	N53	max	.284	3	.135	2	.486	2	4.731e-3	2	4.108e-3	6	3.351e-3	4
104		min	-.352	4	-.329	5	-.254	1	-3.385e-3	1	-1.456e-3	10	-6.036e-3	3
105	N54	max	.563	3	.058	4	.456	2	8.315e-3	7	7.127e-3	9	3.423e-3	4
106		min	-.393	4	-1.076	7	-.52	1	-3.494e-4	1	-6.09e-3	10	-6.597e-3	3
107	N55	max	.401	3	-.035	4	.362	2	8.693e-3	2	5.698e-3	9	8.19e-3	4
108		min	-.289	4	-.423	7	-.356	1	-6.097e-3	1	-4.226e-3	10	-1.063e-2	3
109	N56	max	.285	3	.116	2	.466	2	4.732e-3	2	4.108e-3	6	3.35e-3	4
110		min	-.348	4	-.359	5	-.254	1	-3.384e-3	1	-1.456e-3	10	-6.036e-3	3
111	N57	max	.576	3	.051	4	.452	2	8.315e-3	7	7.127e-3	9	3.423e-3	4
112		min	-.401	4	-1.084	7	-.512	1	-3.494e-4	1	-6.09e-3	10	-6.597e-3	3
113	N58	max	.411	3	-.058	4	.36	2	8.693e-3	2	5.698e-3	9	8.19e-3	4
114		min	-.293	4	-.42	7	-.349	1	-6.097e-3	1	-4.226e-3	10	-1.063e-2	3
115	N59	max	.287	3	.107	2	.471	2	4.732e-3	2	4.108e-3	6	3.35e-3	4
116		min	-.344	4	-.353	5	-.254	1	-3.384e-3	1	-1.456e-3	10	-6.036e-3	3
117	N60	max	.519	3	.021	4	.43	2	9.693e-3	7	6.085e-3	9	2.543e-3	4
118		min	-.367	4	-.889	7	-.462	1	1.018e-3	4	-5.939e-3	10	-8.546e-3	7
119	N61	max	.298	3	.05	2	.44	2	4.306e-3	2	3.791e-3	6	2.338e-3	4
120		min	-.327	4	-.39	5	-.255	1	-4.355e-3	1	-1.42e-3	10	-4.137e-3	3
121	N62	max	0	11	0	11	0	11	0	11	0	11	0	11
122		min	0	1	0	1	0	1	0	1	0	1	0	1
123	N63	max	.072	1	-.03	3	.157	2	-7.23e-4	10	7.008e-3	2	8.402e-3	8
124		min	-.073	2	-.261	8	-.156	1	-6.619e-3	5	-6.98e-3	1	-1.26e-4	3
125	N64	max	.158	3	-.052	2	.21	2	1.503e-4	2	5.462e-3	4	1.081e-3	2
126		min	-.333	4	-.936	5	-.259	1	-8.092e-3	7	-3.428e-3	3	-2.154e-3	1
127	N65	max	.631	9	.263	3	.253	2	4.138e-3	4	1.005e-2	3	4.169e-3	9
128		min	-.371	4	-.49	8	-.167	10	-5.048e-3	3	-6.283e-3	4	-2.705e-3	10
129	N66	max	.422	3	-.056	2	.322	2	2.225e-3	2	3.655e-3	1	4.015e-3	4
130		min	-.436	4	-.879	5	-.479	1	-5.7e-3	5	-1.546e-3	2	-7.937e-3	3
131	N67	max	.31	3	-.064	2	.41	6	-2.433e-4	10	5.46e-3	4	4.431e-3	3
132		min	-.527	4	-.88	5	-.154	1	-8.334e-3	6	-3.427e-3	3	-5.511e-3	4
133	N68	max	.654	3	-.059	3	.385	2	5.338e-3	2	4.192e-3	9	1.265e-2	4
134		min	-.612	4	-.37	8	-.522	1	-7.706e-3	1	-1.869e-3	10	-1.486e-2	3
135	N69	max	.152	5	-.063	3	.382	6	-4.203e-4	10	5.748e-3	9	4.205e-3	7
136		min	-.042	4	-.375	8	-.05	1	-7.882e-3	6	-2.747e-3	10	-4.013e-4	4
137	N70	max	.64	3	.226	3	.353	2	2.646e-3	10	8.033e-3	9	6.435e-3	9
138		min	-.448	4	-.491	8	-.387	1	-3.827e-3	1	-4.876e-3	10	-6.552e-3	10
139	N71	max	.768	9	.224	3	.387	3	4.124e-3	4	1.005e-2	3	4.518e-3	7
140		min	-.424	10	-.488	8	-.32	10	-5.031e-3	3	-6.282e-3	4	-2.696e-3	10
141	N72	max	.045	1	-.03	3	.15	2	-7.232e-4	10	7.008e-3	2	8.403e-3	8
142		min	-.09	2	-.261	8	-.188	1	-6.62e-3	5	-6.98e-3	1	-1.272e-4	3
143	N73	max	.1	1	-.03	3	.164	2	-7.229e-4	10	7.008e-3	2	8.402e-3	8
144		min	-.055	2	-.261	8	-.125	1	-6.619e-3	5	-6.98e-3	1	-1.247e-4	3
145	N74	max	.139	3	-.059	2	.196	2	1.509e-4	2	5.461e-3	4	1.081e-3	2
146		min	-.302	4	-.882	5	-.235	1	-8.091e-3	7	-3.427e-3	3	-2.154e-3	1
147	N75	max	.052	10	-.063	3	.161	2	-3.012e-4	2	5.748e-3	9	4.896e-3	8

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
148		min	-.079	2	-.375	8	-.151	1	-8.253e-3	5	-2.747e-3	10	-1.754e-3	3
149	N76	max	.56	9	.224	3	.255	2	4.138e-3	4	1.005e-2	3	4.169e-3	9
150		min	-.323	4	-.488	8	-.169	10	-5.048e-3	3	-6.282e-3	4	-2.705e-3	10
151	N77	max	.071	1	-.034	3	.163	2	-7.23e-4	10	6.688e-3	9	8.402e-3	8
152		min	-.075	2	-.306	8	-.152	1	-6.619e-3	5	-3.889e-3	10	-1.26e-4	3
153	N78	max	.135	3	-.056	2	.204	2	1.509e-4	2	5.461e-3	4	1.081e-3	2
154		min	-.297	4	-.878	5	-.248	1	-8.091e-3	7	-3.427e-3	3	-2.154e-3	1
155	N79	max	.052	1	-.065	3	.162	2	-3.012e-4	2	5.748e-3	9	4.896e-3	8
156		min	-.079	2	-.354	8	-.159	1	-8.253e-3	5	-2.747e-3	10	-1.754e-3	3
157	N80	max	.57	9	.23	3	.242	2	4.138e-3	4	1.005e-2	3	4.169e-3	9
158		min	-.33	4	-.478	8	-.156	10	-5.048e-3	3	-6.282e-3	4	-2.705e-3	10
159	N82	max	.297	3	-.051	2	.295	2	2.097e-3	2	3.656e-3	1	3.874e-3	4
160		min	-.387	4	-.941	5	-.409	1	-5.656e-3	5	-1.546e-3	2	-7.794e-3	3
161	N83	max	.634	3	.252	3	.324	2	2.652e-3	10	8.033e-3	9	6.435e-3	9
162		min	-.414	4	-.475	8	-.326	1	-3.776e-3	1	-4.876e-3	10	-6.552e-3	10
163	N84	max	.295	3	-.056	2	.287	2	2.098e-3	2	3.655e-3	1	3.874e-3	4
164		min	-.372	4	-.879	5	-.39	1	-5.653e-3	5	-1.546e-3	2	-7.794e-3	3
165	N85	max	.31	3	-.059	3	.265	2	3.794e-3	2	4.192e-3	9	1.032e-2	4
166		min	-.321	4	-.37	8	-.346	1	-6.161e-3	1	-1.869e-3	10	-1.253e-2	3
167	N86	max	.594	3	.226	3	.325	2	2.651e-3	10	8.033e-3	9	6.435e-3	9
168		min	-.391	4	-.491	8	-.325	1	-3.777e-3	1	-4.876e-3	10	-6.552e-3	10
169	N87	max	.294	3	-.062	2	.291	2	2.098e-3	2	3.655e-3	1	3.874e-3	4
170		min	-.369	4	-.889	5	-.4	1	-5.653e-3	5	-1.546e-3	2	-7.794e-3	3
171	N88	max	.311	3	-.074	10	.266	2	3.794e-3	2	4.192e-3	9	1.032e-2	4
172		min	-.321	4	-.371	5	-.351	1	-6.161e-3	1	-1.869e-3	10	-1.253e-2	3
173	N89	max	.599	3	.222	3	.319	2	2.651e-3	10	8.033e-3	9	6.435e-3	9
174		min	-.395	4	-.484	8	-.326	1	-3.777e-3	1	-4.876e-3	10	-6.552e-3	10
175	N91	max	.525	3	.152	3	.309	2	3.199e-3	10	6.974e-3	9	6.603e-3	9
176		min	-.354	4	-.479	8	-.328	1	-3.361e-3	3	-3.957e-3	10	-5.164e-3	10
177	N90A	max	.296	3	-.067	2	.281	2	1.259e-4	2	2.605e-3	1	3.789e-3	4
178		min	-.327	4	-.68	5	-.374	1	-8.829e-3	5	-1.276e-3	2	-7.714e-3	3
179	N90	max	.185	3	.183	10	.448	9	6.805e-3	9	1.016e-2	9	1.878e-2	9
180		min	-.175	4	-.962	9	-.285	10	1.745e-3	3	-6.424e-3	10	-7.82e-3	10
181	N91A	max	.184	3	.302	9	.282	10	6.777e-3	10	1.122e-2	1	1.037e-2	9
182		min	-.175	4	-.935	10	-.463	9	-2.182e-4	2	-7.133e-3	2	-1.79e-2	10
183	N92	max	.316	3	.023	4	.26	2	5.931e-3	3	8.66e-3	3	2.743e-4	4
184		min	-.232	4	-.879	7	-.387	1	-2.955e-3	4	-6.065e-3	10	-1.139e-2	7
185	N93	max	.099	10	.062	2	.264	2	1.069e-3	2	6.566e-3	6	1.16e-3	1
186		min	-.218	9	-.33	5	-.148	1	-5.373e-3	5	-2.147e-3	1	-3.028e-3	6
187	N94	max	.417	9	.151	3	.216	2	5.151e-3	4	9.91e-3	3	5.482e-3	8
188		min	-.23	4	-.426	8	-.153	1	-4.956e-3	3	-6.039e-3	4	-1.248e-3	10
189	N95	max	.1	10	-.064	2	.183	2	-2.64e-4	2	4.831e-3	1	1.453e-3	2
190		min	-.219	9	-.662	5	-.211	1	-1.053e-2	5	-2.472e-3	2	-1.492e-3	1

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	She...	Loc[ft]	.....		phi*P...	phi*P...	phi*...	phi*...	Cb	Eqn
1	M34	PIPE_3.0	.678	6.25	5	.455	6.25		7	2825...	65205	5.749	5.749	1.813	H3-6
2	M20	PIPE_3.0	.692	6.25	7	.416	6.25		6	2825...	65205	5.749	5.749	1.809	H3-6
3	M6	PIPE_3.0	.578	6.25	6	.345	6.25		5	2825...	65205	5.749	5.749	1.813	H1-...
4	M1	HSS4X4X4	.679	0	8	.270	0	y	9	1349...	1395...	16.181	16.181	1.658	H1-...

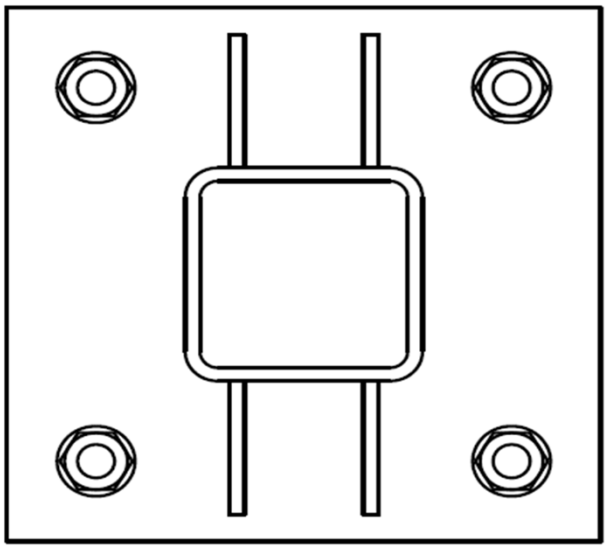
Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	She...	Loc[ft]	.....		phi*P...	phi*P...	phi*...	phi*...	Cb	Eqn
5	MP1A	PIPE_2.0	.620	3.833	8	.171	1.333		2	1491...	32130	1.872	1.872	3.488	H1-...
6	M15	HSS4X4X4	.702	0	5	.169	0	y	7	1349...	1395...	16.181	16.181	1.648	H1-...
7	M14	PIPE_2.5	.349	5.339	7	.166	5.339		2	1455...	52164	3.699	3.699	2.21	H1-...
8	M29	HSS4X4X4	.665	0	5	.159	0	y	7	1349...	1395...	16.181	16.181	1.696	H1-...
9	M42	PIPE_2.5	.353	5.339	8	.143	5.339		4	1455...	52164	3.699	3.699	2.205	H1-...
10	MP1B	PIPE_2.0	.566	3.833	5	.141	3.833		7	1491...	32130	1.872	1.872	3.928	H1-...
11	MP3A	PIPE_2.0	.559	3.833	7	.135	1.333		2	1491...	32130	1.872	1.872	3.101	H1-...
12	M28	PIPE_2.5	.386	5.339	5	.135	5.339		3	1455...	52164	3.699	3.699	2.397	H1-...
13	MP2A	PIPE_2.5	.673	4.5	1	.129	4.5		1	3003...	50715	3.596	3.596	2.441	H1-...
14	MP3C	PIPE_2.0	.548	3.833	5	.123	3.833		1	1491...	32130	1.872	1.872	3.717	H1-...
15	MP1C	PIPE_2.0	.559	3.833	7	.121	3.833		6	1491...	32130	1.872	1.872	3.055	H1-...
16	MP2B	PIPE_2.5	.622	4.5	3	.111	4.5		4	3003...	50715	3.596	3.596	1.792	H1-...
17	MP2C	PIPE_2.5	.550	4.5	8	.109	4.5		1	3003...	50715	3.596	3.596	2.118	H1-...
18	MP3B	PIPE_2.0	.538	3.833	6	.108	3.833		4	1491...	32130	1.872	1.872	3.343	H1-...
19	M46	L3X3X4	.212	0	9	.069	3.143	y	9	3748...	46656	1.688	3.756	2.164	H2-1
20	M43	L3X3X4	.192	3.143	7	.043	0	y	9	3748...	46656	1.688	3.756	1.571	H2-1
21	M48	L3X3X4	.227	5.214	2	.037	0	y	...	2554...	46656	1.688	3.756	2.22	H2-1
22	M44	L3X3X4	.161	3.432	6	.035	0	y	8	3594...	46656	1.688	3.695	1.27	H2-1
23	M45	L3X3X4	.158	5.214	1	.029	0	y	5	2554...	46656	1.688	3.756	2.168	H2-1
24	M47	L3X3X4	.147	3.432	3	.027	3.432	y	7	3594...	46656	1.688	3.756	2.288	H2-1
25	M19	PIPE_4.0	.001	.75	3	.001	.75		3	9257...	93240	10.631	10.631	1.562	H1-...
26	M5	PIPE_4.0	.001	.75	2	.001	.75		2	9257...	93240	10.631	10.631	1	H1-...
27	M33	PIPE_4.0	.001	.75	4	.001	.75		4	9257...	93240	10.631	10.631	1.562	H1-...

TES Tower Engineering Solutions	Standoff Arm Flange Connection Check			Date: 5/25/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-G
	Carrier:	T-Mobile	Mount Elev. [ft]:	130
	Site Name:	Bloomfield 4	Engineer Name:	P. Koirala
	Site Number:	CT13548-S-SBA	Project #:	129273

NOTE: The calculations shown below are for a single representative load combination for example purposes. The results for all load combinations are presented in the Results Summary Table.

RISA Member Label =	M29	
I or J End?	I	
Load Combination # =	1	
Plate Width, Wp =	8	[In]
Plate Height, Hp =	8	[In]
Plate Thickness, tp =	0.625	[In]
Plate Fy =	36	[KSI]
Bolt Diameter, db =	0.75	[In]
Bolt Fu =	120	[KSI]
Bolt Horizontal Spacing, Sbh =	6	[In]
Bolt Vertical Spacing, Sbv =	6	[In]
Standoff Member Shape =	Rect Tube	
Member Width, Wm =	4	[In]
Member Depth, Dm =	4	[In]
Member Thickness, tm =	0.25	[In]
Standoff Weld Size =	0.375	[In]
# Standoff Welds =	1	
Length of Stiffener, Ls =	1.75	[In]
Width of Stiffener, Ws =	2	[In]
Width of Notch, Wn =	0.5	[In]
Stiffener Dim 1, ds1 =	0	[In]
Stiffener Dim 2, ds2 =	0.5	[In]
Stiffener Fy =	36	[KSI]
Stiffener Weld Size =	0.3	[In]
# Stiffener Welds =	2	



Typical Connection Detail

NOTES
Standoff and Stiffener welds are assumed 0.1875 in.

Capacity Checks:

Max Bolt Shear =	1.068	[Kips]
Bolt Shear Capacity =	19.88	[Kips]
Max Bolt Shear Usage =	5.4%	PASS
Max Bolt Tension =	9.83	[Kips]
Bolt Tension Capacity =	30.10	[Kips]
Max Bolt Tension Usage =	32.6%	PASS
Max Bolt Interaction =	32.9%	PASS
Max Plate Bending Moment =	12.25	[Kip-In]
Length of Yield Line =	7.48	[In]
Plate Moment Capacity =	23.68	[Kip-In]
Max Plate Usage =	51.7%	PASS
Max Weld Usage =	39.3%	PASS

	Standoff Arm Flange Connection Check		Date
			5/25/2022
Customer:	SBA	TIA Standard:	ANSI/TIA-222-G
Carrier:	T-Mobile	Mount Elev. [ft]:	130
Site Name:	Bloomfield 4	Engineer Name:	P. Koirala
Site Number:	CT13548-S-SBA	Project #:	129273

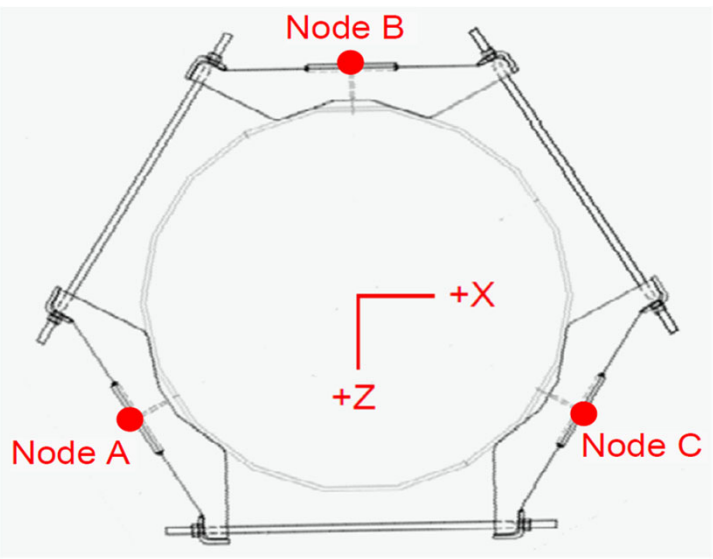
Results Summary Table

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
M1	I	1	0.4281	1.7736	2.2%	5.9%	6.1%	7.5%	7.2%
M1	I	2	0.7525	6.7653	3.8%	22.5%	22.6%	28.6%	22.2%
M1	I	3	0.8452	8.7571	4.3%	29.1%	29.2%	46.9%	26.0%
M1	I	4	0.8635	8.4046	4.3%	27.9%	28.2%	47.4%	35.0%
M1	I	5	1.5512	8.7699	7.8%	29.1%	30.1%	37.0%	27.6%
M1	I	6	1.6186	10.3087	8.1%	34.2%	34.4%	43.5%	32.4%
M1	I	7	1.6653	10.7851	8.4%	35.8%	36.7%	45.5%	29.1%
M1	I	8	1.6008	10.8556	8.1%	36.1%	36.3%	45.8%	36.6%
M1	I	9	2.5278	5.2118	12.7%	17.3%	19.9%	22.0%	18.7%
M1	I	10	1.9678	6.0234	9.9%	20.0%	21.2%	25.4%	18.0%
M1	I	11	0.6297	3.5190	3.2%	11.7%	11.8%	14.9%	11.1%
M15	I	1	0.5662	9.5798	2.8%	31.8%	32.0%	45.9%	24.7%
M15	I	2	0.9345	6.7466	4.7%	22.4%	22.8%	40.9%	30.4%
M15	I	3	1.2174	10.3768	6.1%	34.5%	34.8%	49.0%	39.7%
M15	I	4	0.6422	6.3388	3.2%	21.1%	21.3%	41.2%	26.5%
M15	I	5	1.3993	11.3175	7.0%	37.6%	38.2%	47.8%	29.7%
M15	I	6	1.4650	10.2596	7.4%	34.1%	34.3%	43.3%	34.5%
M15	I	7	1.5408	11.0629	7.8%	36.8%	36.9%	46.7%	36.0%
M15	I	8	1.3128	10.2652	6.6%	34.1%	34.7%	43.4%	27.9%
M15	I	9	0.7746	3.6004	3.9%	12.0%	12.4%	15.2%	8.0%
M15	I	10	0.4821	3.9367	2.4%	13.1%	13.3%	16.6%	11.4%
M15	I	11	0.5500	3.5657	2.8%	11.8%	12.2%	15.1%	11.0%
M29	I	1	1.0675	9.8273	5.4%	32.6%	32.9%	51.7%	39.3%
M29	I	2	0.5728	7.6756	2.9%	25.5%	25.7%	47.5%	28.1%
M29	I	3	0.9089	3.7935	4.6%	12.6%	13.2%	21.7%	19.1%
M29	I	4	0.6389	7.9692	3.2%	26.5%	26.6%	33.7%	14.9%
M29	I	5	1.4427	10.6916	7.3%	35.5%	35.7%	45.2%	35.6%
M29	I	6	1.3259	10.1428	6.7%	33.7%	34.3%	42.8%	27.0%
M29	I	7	1.4361	9.0320	7.2%	30.0%	30.2%	38.1%	30.2%
M29	I	8	1.2789	10.1419	6.4%	33.7%	34.3%	42.8%	28.7%
M29	I	9	0.4996	4.1028	2.5%	13.6%	13.7%	17.3%	13.8%
M29	I	10	0.2622	3.1297	1.3%	10.4%	10.5%	13.2%	11.1%
M29	I	11	0.5349	3.3306	2.7%	11.1%	11.3%	14.1%	10.5%

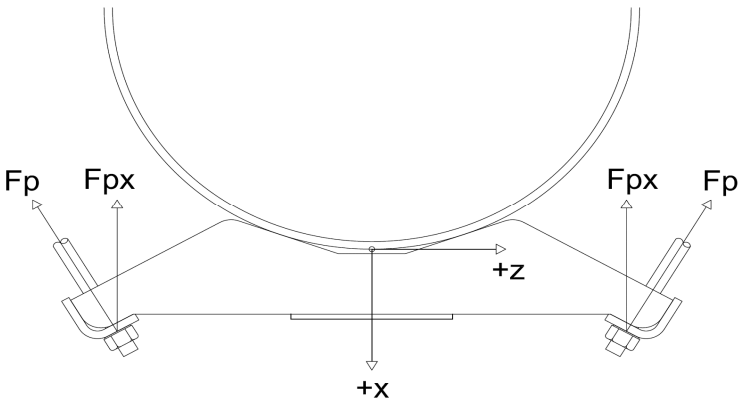
TES Tower Engineering Solutions	**Collar Mount Calculations**		Date: 5/25/2022
Customer:	SBA	TIA Standard:	ANSI/TIA-222-G
Carrier:	T-MOBILE	Mount Elev. [ft]:	130
Site Name:	Bloomfield 4	Engineer Name:	P.Koirala
Site Number:	CT13548-S-SBA	TES Project #:	129273

NOTE: The results for all load combinations are presented in the Results Summary Table.

Collar # =	1	
RISA Joint Label =	N1	
Load Combination # =	6	
Collar Configuration # =	1	
Applied Axial Force, Fx =	-0.290	[Kips]
Applied Moment, M_{UY} =	0.356	[Kip-Ft]
Applied Moment, M_{UZ} =	6.421	[Kip-Ft]
Collar Height, H=	9	[Inches]
# of Rows of Thread Rod, nrows =	3	
Diameter of Thread Rod, db =	0.625	[Inches]
Thread Rod Vert. Spacing, Sv =	2.5	[Inches]
Thread Rod Horiz. Spacing, Sh =	20	[Inches]
Thread Rod Fy =	36	[KSI]
Thread Rod Fu =	58	[KSI]
Thread Rod Pretension, Fp =	6.136	[K/bolt]
Fpx =	5.314	[K/bolt]
ϕ =	1.0	



Typical Collar Mount Configuration



Local Coordinates

Check Sliding:

$$\varphi Rns = (2 \cdot nrows \cdot Fpx - T) \cdot \mu$$

Applied Tension, T =	0.290	
Coefficient of Friction, μ =	0.30	
Applied Vertical Shear, Vy =	3.471	[Kips]
ϕRns =	9.478	
Max Usage (Vy/ϕRns):	36.6%	PASS

Check Rotation:

$$\varphi Mny = (2 \cdot nrows \cdot Fpx + Fx) \cdot (Sh/4)$$

Applied Moment, M_{UY} =	0.356	[Kip-Ft]
ϕMny =	13.164	[Kip-Ft]
Max Usage (Muy/ϕMny):	2.7%	PASS

Check Tilting:

$$\varphi Mnz = \sum_{i=1}^{nrows} (2 \cdot Fpx \cdot y_i) - \left(\frac{T \cdot H}{2}\right)$$

Applied Moment, M_{UZ} =	6.421	
ϕMnz =	11.848	
Max Usage (Muz/ϕMnz):	54.2%	PASS

Check Interaction:

$$\sqrt{\left(\frac{Vy}{\varphi Rns}\right)^2 + \left(\frac{Muy}{\varphi Mny}\right)^2 + \left(\frac{Muz}{\varphi Mnz}\right)^2} \leq 1$$

Interaction Check:	65.5%	PASS

TES Tower Engineering Solutions	Collar Mount Calculations		Date
			5/25/2022
	Customer: SBA	TIA Standard:	ANSI/TIA-222-G
	Carrier: T-MOBILE	Mount Elev. [ft]:	130
	Site Name: Bloomfield 4	Engineer Name:	P.Koirala
	Site Number: CT13548-S-SBA	TES Project #:	129273

Results Summary Table

Collar #	Joint Label	Load Combo #	Tension [K]	Muy [K-Ft]	Muz [K-Ft]	Sliding Check	Rotation Check	Tilting Check	Interaction Check
1	N1	1	0.0000	0.5869	0.9824	5.2%	4.2%	8.2%	10.6%
1	N1	2	1.3784	0.7081	3.0657	18.1%	5.6%	26.8%	32.8%
1	N1	3	0.0000	5.8367	2.1222	12.0%	41.6%	17.7%	46.8%
1	N1	4	1.6994	5.9888	1.9401	11.1%	47.6%	17.1%	51.8%
1	N1	5	0.0000	0.0322	5.9019	32.9%	0.2%	49.4%	59.3%
1	N1	6	0.2897	0.3563	6.4213	36.6%	2.7%	54.2%	65.5%
1	N1	7	0.0000	1.5177	6.2393	34.9%	11.2%	52.2%	63.8%
1	N1	8	0.4071	1.9091	6.0849	34.8%	14.6%	51.6%	63.9%
1	N1	9	0.0193	0.7286	5.3707	17.5%	5.5%	44.9%	48.6%
1	N1	10	0.0000	0.6939	0.7804	18.0%	5.2%	6.5%	19.8%
1	N1	11	0.0000	0.0820	2.3733	13.2%	0.6%	19.9%	23.8%
1	N32	1	0.0000	5.7556	2.2251	14.7%	41.8%	18.6%	48.0%
1	N32	2	1.0865	5.7557	1.6716	8.2%	44.9%	14.5%	47.8%
1	N32	3	2.4917	4.9420	3.2642	17.2%	40.4%	29.6%	52.9%
1	N32	4	0.0000	5.0394	0.6165	6.7%	35.1%	5.2%	36.1%
1	N32	5	0.0000	1.7671	6.0011	35.7%	13.1%	50.2%	63.0%
1	N32	6	0.1757	1.6461	5.8367	33.8%	12.5%	49.1%	60.9%
1	N32	7	0.5079	1.2437	6.2548	36.5%	9.5%	53.2%	65.2%
1	N32	8	0.0000	1.3719	5.5807	33.4%	10.1%	46.7%	58.3%
1	N32	9	0.0000	1.1850	2.0522	9.8%	8.8%	17.2%	21.7%
1	N32	10	0.0000	0.2617	2.2335	14.1%	2.0%	18.7%	23.5%
1	N32	11	0.0000	0.0266	2.2784	13.2%	0.2%	19.1%	23.2%
1	N62	1	2.2242	5.9172	2.6175	14.9%	47.9%	23.5%	55.4%
1	N62	2	0.0000	5.8669	1.1088	8.6%	41.2%	9.3%	43.1%
1	N62	3	0.0923	3.8225	1.5090	5.9%	28.9%	12.7%	32.1%
1	N62	4	0.0000	3.6946	2.2247	16.6%	27.6%	18.6%	37.2%
1	N62	5	0.4814	1.7695	5.8108	35.5%	13.5%	49.3%	62.3%
1	N62	6	0.0000	1.5444	5.4776	33.6%	11.3%	45.8%	58.0%
1	N62	7	0.0000	1.1364	5.5665	32.8%	8.5%	46.6%	57.6%
1	N62	8	0.0000	0.9051	5.7219	35.8%	6.8%	47.9%	60.1%
1	N62	9	0.0000	0.5892	2.2781	14.2%	4.4%	19.1%	24.2%
1	N62	10	0.3864	0.9664	1.1665	9.6%	7.4%	9.9%	15.6%
1	N62	11	0.0000	0.0489	2.1840	13.1%	0.4%	18.3%	22.5%

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CTHA145B

Maple Hill Farms
12 Burr Road
Bloomfield, Connecticut 06002

June 16, 2022

EBI Project Number: 6222003963

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**32.05%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

June 16, 2022

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

Emissions Analysis for Site: CTHA145B - Maple Hill Farms

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **12 Burr Road** 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. 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 12 Burr Road 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 power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

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) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts per Channel.

4) 1 GSM channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 10 Watts per Channel.

5) 1 LTE channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 160 Watts per Channel.

6) 1 UMTS channel (AWS Band - 2100 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 10 Watts per Channel.

7) 1 LTE channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 160 Watts per Channel.

8) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

9) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

10) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

11) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

12) 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.

13) 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.

14) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 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.

15) The antenna mounting height centerline of the proposed antennas is 130 feet above ground level (AGL).

16) 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.

17) 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 / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.35 dBd / 17.3 dBd / 22.35 dBd / 17.3 dBd	Gain:	22.35 dBd / 17.3 dBd / 22.35 dBd / 17.3 dBd	Gain:	22.35 dBd / 17.3 dBd / 22.35 dBd / 17.3 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	34,144.54	ERP (W):	34,144.54	ERP (W):	34,144.54
Antenna A1 MPE %:	**7.98%**	Antenna B1 MPE %:	**7.98%**	Antenna C1 MPE %:	**7.98%**
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 / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd / 16.35 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	7	Channel Count:	7	Channel Count:	7
Total TX Power (W):	500.00 Watts	Total TX Power (W):	500.00 Watts	Total TX Power (W):	500.00 Watts
ERP (W):	16,811.62	ERP (W):	16,811.62	ERP (W):	16,811.62
Antenna A2 MPE %:	**4.99%**	Antenna B2 MPE %:	**4.99%**	Antenna C2 MPE %:	**4.99%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	12.98%
Clearwire	0.22%
Verizon	15.02%
AT&T	3.37%
Metro PCS	0.46%
Site Total MPE % :	32.05%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	12.98%
T-Mobile Sector B Total:	12.98%
T-Mobile Sector C Total:	12.98%
Site Total MPE % :	32.05%

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 (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	10307.45	130.0	24.10	2500 MHz LTE 1C & 2C Traffic	1000	2.41%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	1074.06	130.0	2.51	2500 MHz LTE 1C & 2C Broadcast	1000	0.25%
T-Mobile 2500 MHz NR Traffic	1	20614.90	130.0	48.20	2500 MHz NR Traffic	1000	4.82%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	130.0	5.02	2500 MHz NR Broadcast	1000	0.50%
T-Mobile 600 MHz LTE	1	788.97	130.0	1.84	600 MHz LTE	400	0.46%
T-Mobile 600 MHz NR	1	1577.94	130.0	3.69	600 MHz NR	400	0.92%
T-Mobile 700 MHz LTE	1	865.09	130.0	2.02	700 MHz LTE	467	0.43%
T-Mobile 1900 MHz GSM	1	367.28	130.0	0.86	1900 MHz GSM	1000	0.09%
T-Mobile 1900 MHz LTE	1	5876.52	130.0	13.74	1900 MHz LTE	1000	1.37%
T-Mobile 2100 MHz UMTS	1	431.52	130.0	1.01	2100 MHz UMTS	1000	0.10%
T-Mobile 2100 MHz LTE	1	6904.31	130.0	16.14	2100 MHz LTE	1000	1.61%
						Total:	**12.98%**

• 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:

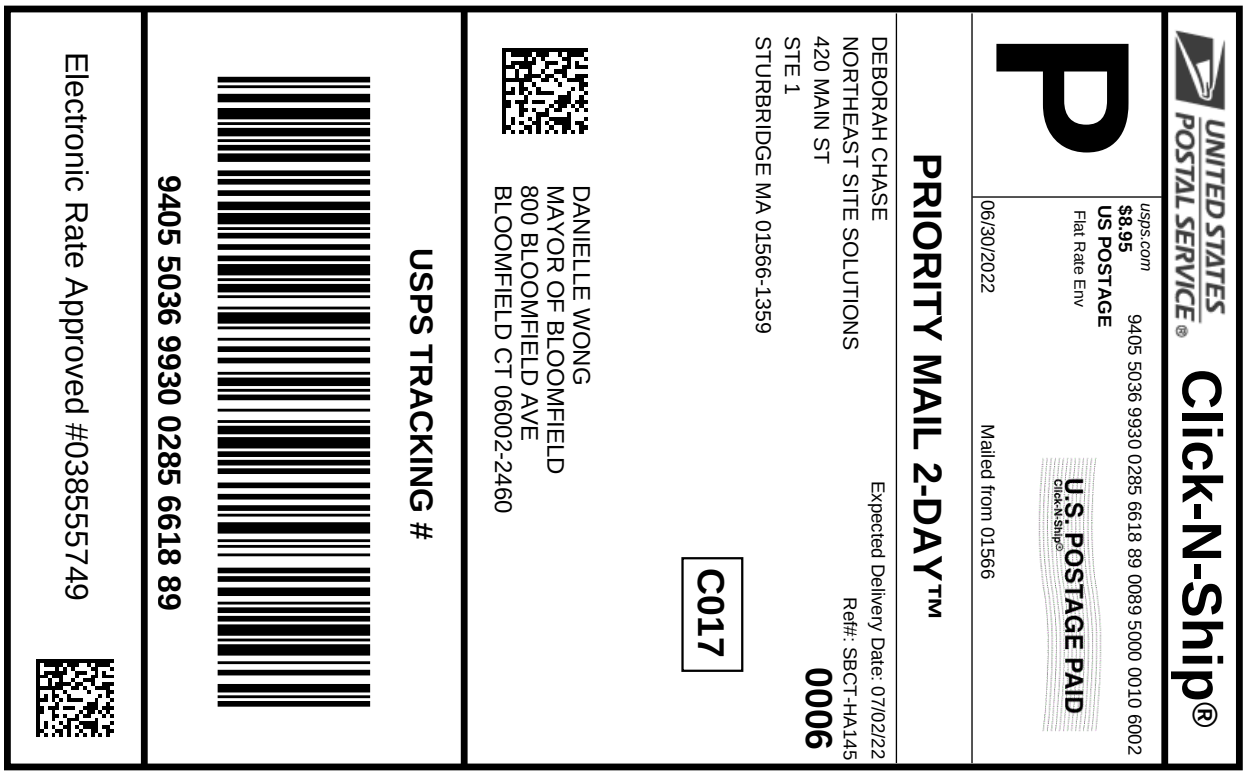
T-Mobile Sector	Power Density Value (%)
Sector A:	12.98%
Sector B:	12.98%
Sector C:	12.98%
T-Mobile Maximum MPE % (Sector A):	12.98%
Site Total:	32.05%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **32.05%** 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.

Exhibit G

Recipient Mailings



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4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
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Trans. #:	566659314
Print Date:	06/30/2022
Ship Date:	06/30/2022
Expected Delivery Date:	07/02/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBCT-HA145

To: DANIELLE WONG
MAYOR OF BLOOMFIELD
800 BLOOMFIELD AVE
BLOOMFIELD CT 06002-2460

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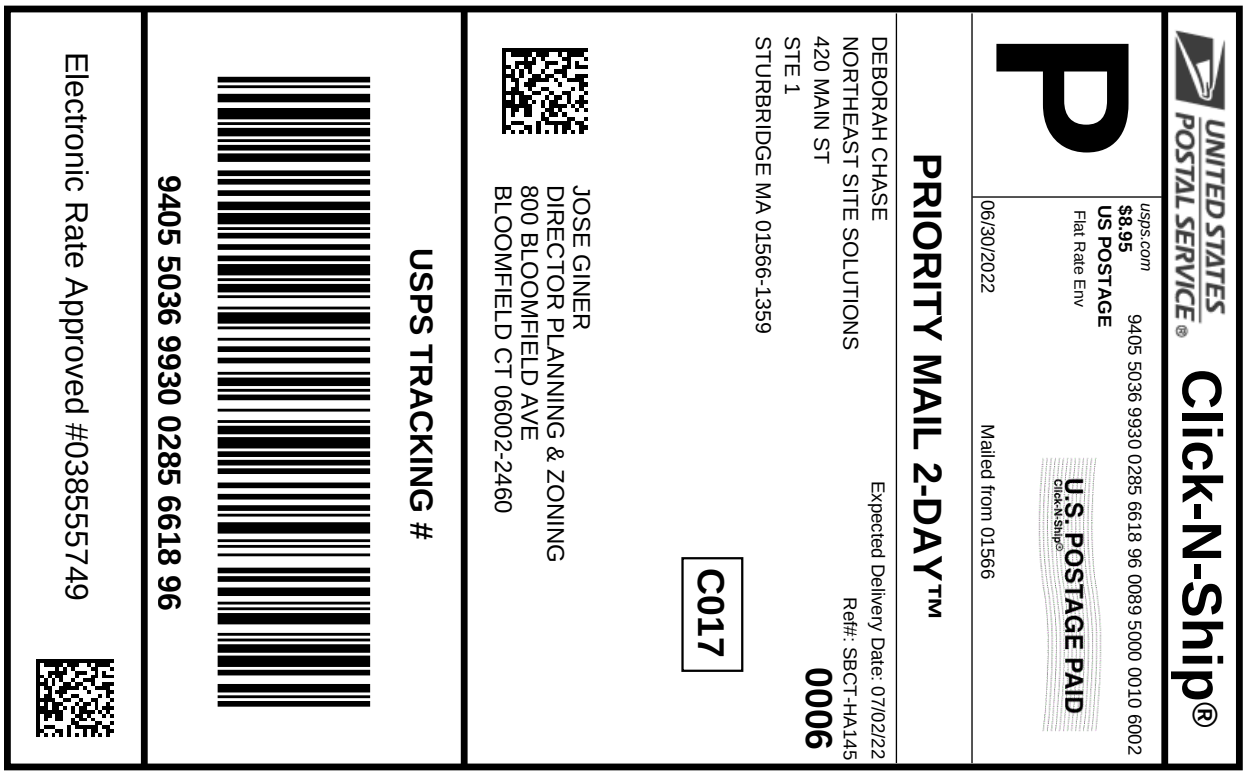

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Trans. #:	566659314
Print Date:	06/30/2022
Ship Date:	06/30/2022
Expected Delivery Date:	07/02/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBCT-HA145

To: JOSE GINER
DIRECTOR PLANNING & ZONING
800 BLOOMFIELD AVE
BLOOMFIELD CT 06002-2460

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PRIORITY MAIL 1-DAY™

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

Expected Delivery Date: 07/01/22
Ref#: SBCT-HA145

0006

R005

SBA COMMUNICATIONS CORPORATION
13 FLANDERS RD
STE 125
WESTBOROUGH MA 01581

USPS TRACKING #

9405 5036 9930 0285 6619 02

Electronic Rate Approved #038555749

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0285 6619 02

Trans. #:	566659314
Print Date:	06/30/2022
Ship Date:	06/30/2022
Expected Delivery Date:	07/01/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBCT-HA145

To: SBA COMMUNICATIONS CORPORATION
13 FLANDERS RD
STE 125
WESTBOROUGH MA 01581

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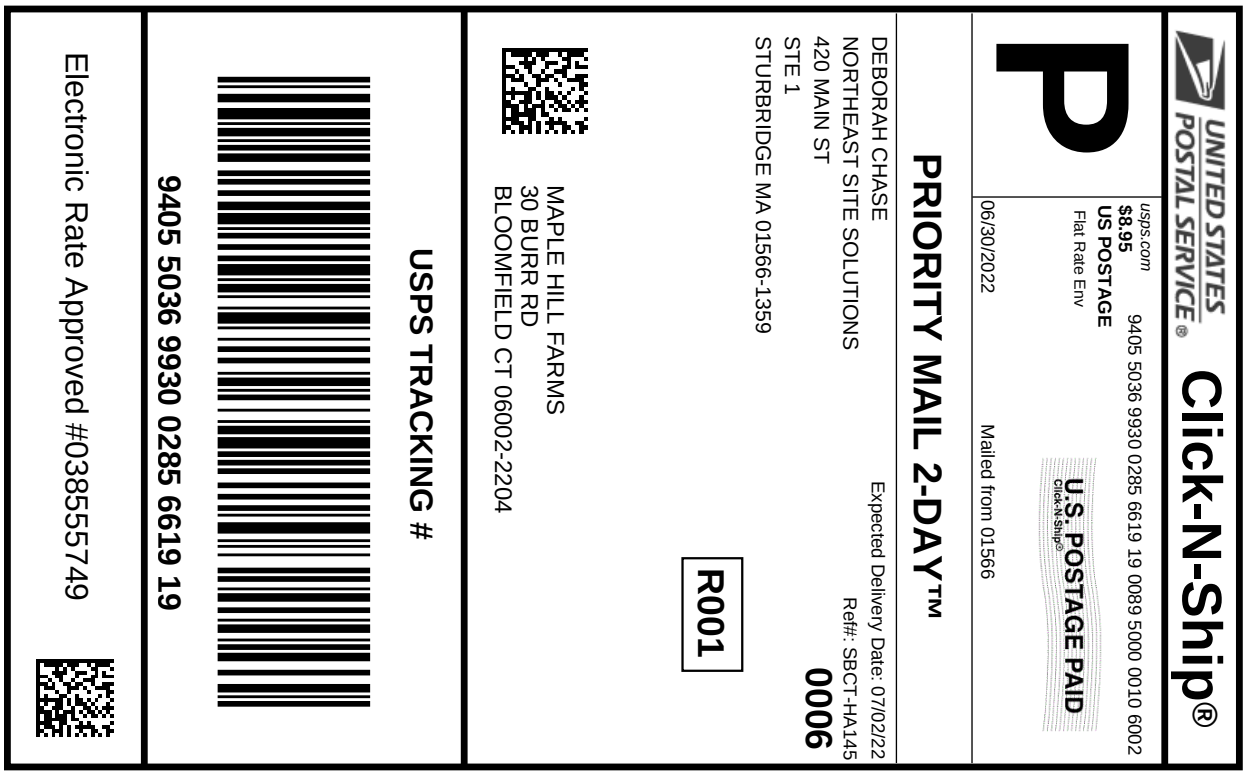

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0285 6619 19

Trans. #:	566659314
Print Date:	06/30/2022
Ship Date:	06/30/2022
Expected Delivery Date:	07/02/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBCT-HA145

To: MAPLE HILL FARMS
30 BURR RD
BLOOMFIELD CT 06002-2204

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CTHA 145B. SSA TMO

UNITED STATES POSTAL SERVICE.

FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

07/01/2022 08:46 AM

Product	Qty	Unit Price	Price
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Fri 07/01/2022 Tracking #: 9405 5036 9930 0285 6619 02	1		$0.00
Prepaid Mail Bloomfield, CT 06002 Weight: 0 lb 11.70 oz Acceptance Date: Fri 07/01/2022 Tracking #: 9405 5036 9930 0285 6618 96	1		$0.00
Prepaid Mail Bloomfield, CT 06002 Weight: 0 lb 9.70 oz Acceptance Date: Fri 07/01/2022 Tracking #: 9405 5036 9930 0285 6618 89	1		$0.00
Prepaid Mail Bloomfield, CT 06002 Weight: 1 lb 3.40 oz Acceptance Date: Fri 07/01/2022 Tracking #: 9405 5036 9930 0285 6619 19	1		$0.00
Grand Total:			$0.00

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eligible to receive a third set
of 8 free test kits.
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Track your Packages
Sign up for FREE @
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Thank you for your business.

Tell us about your experience.
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or scan this code with your mobile device,

or call 1-800-410-7420.

CTHA145B / MAPLE HILL FARMS

12 BURR ROAD
BLOOMFIELD, CT 06002
HARTFORD COUNTY

SITE NO.: CTHA145B

SITE TYPE: 140'± MONOPOLE

RF DESIGN GUIDELINE: 67D5A998E OUTDOOR

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

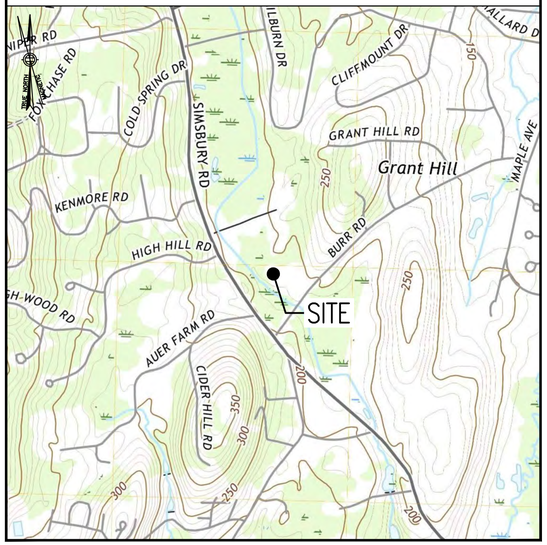
GENERAL NOTES

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

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

VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

FROM COMMERCE WAY GET ON I-495 N FROM SOUTH WASHINGTON ST. FOLLOW I-495 N, I-90 W AND I-84 TO CT-218 W IN WINDSOR. TAKE EXIT 1 FROM I-291 W. CONTINUE ON CT-218 W. DESTINATION WILL BE ON THE RIGHT

SHEET INDEX

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

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.

SCOPE OF WORK

REMOVE:
- 6 ANTENNAS
- 3 TMAS
- ALL COAX CABLES
- 1 RBS 6131 EQUIPMENT CABINET

INSTALL:
- 3 ANTENNAS
- 3 RADIOS
- 2 HYBRID CABLES
- 1 6160 EQUIPMENT CABINET
- 1 B160 BATTERY CABINET
- 1 AAV EQUIPMENT CABINET
- 1 SLACKBOX
- 3 HANDRAILS & REINFORCEMENT KITS

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - 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.

PROJECT SUMMARY

SITE NUMBER:	CTHA145B
SITE NAME:	CTHA145B / MAPLE HILL FARMS
SBA SITE NUMBER:	CT13548-S
SBA SITE NAME:	BLOOMFIELD 4
SITE ADDRESS:	12 BURR ROAD BLOOMFIELD, CT 06002
PROPERTY OWNER:	MAPLE HILL FARMS, INC. BONEE WEINTRAUB, LLC – ATTORNEY JAY WEINTRAUB WEST HARTFORD, CT 06107
TOWER OWNER:	SBA TOWERS II, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	HARTFORD
ZONING DISTRICT:	R-40, RESIDENTIAL DISTRICT
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	140'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
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: 41.81785833° N41°49'04.29" LONGITUDE: -72.76451110° W72°45'52.24"

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).

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www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
8/29/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/25/22	CONSTRUCTION REVISED	BDJ
0	01/14/22	ISSUED FOR CONSTRUCTION	BDJ

SITE NUMBER:
CTHA145B
SITE ADDRESS:
12 BURR ROAD
BOOMFIELD, CT 06002

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.388

GENERAL NOTES:

1. 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

2. 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.

3. 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.

4. 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.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. 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.

10. 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.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. 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.

14. 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.

15. CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.

16. 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.

17. 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.

18. 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:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. 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.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. 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.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. 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.

9. 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.

10. 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.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. 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.

4. 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 .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. 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.

7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. 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.

9. 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:

1. 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".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. 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.

4. 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.

5. 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:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. 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:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. 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.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

5. 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.

6. 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.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. 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.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. 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.

14. 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).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. 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.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. 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.

21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. 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.

26. 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.

27. 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.

28. 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.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. 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.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
8/24/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	08/25/22	CONSTRUCTION REVISED	BDJ
0	01/14/22	ISSUED FOR CONSTRUCTION	BDJ

SITE NUMBER:
CTHA145B
SITE ADDRESS:
12 BURR ROAD
BOOMFIELD, CT 06002

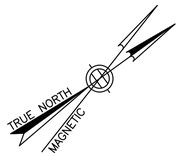
SHEET TITLE
GENERAL NOTES

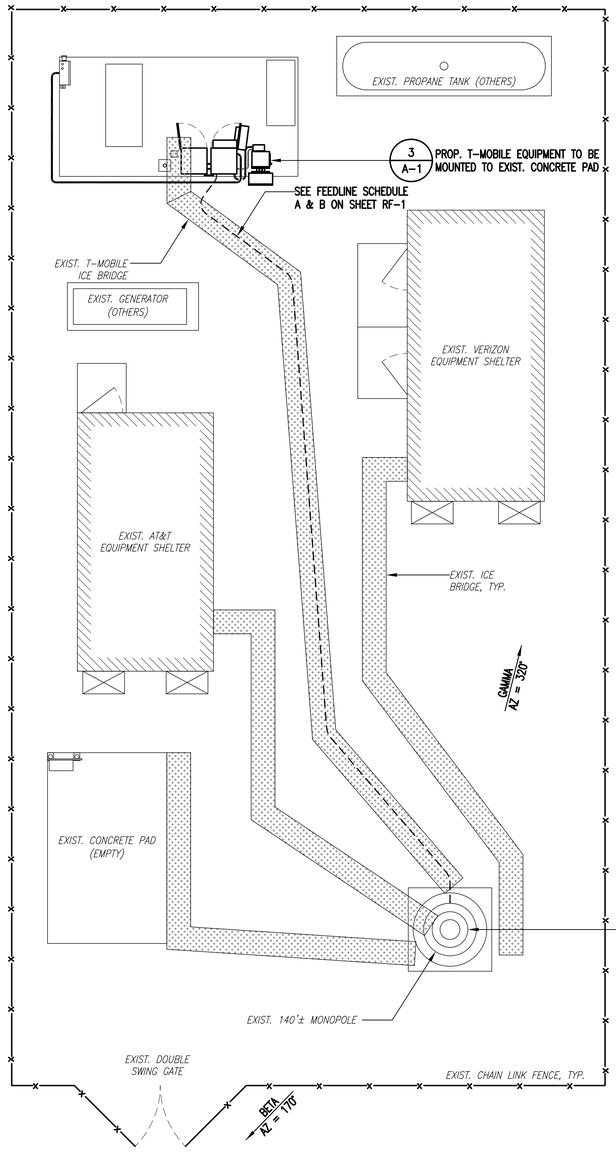
SHEET NUMBER
GN-1

1815.388

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.

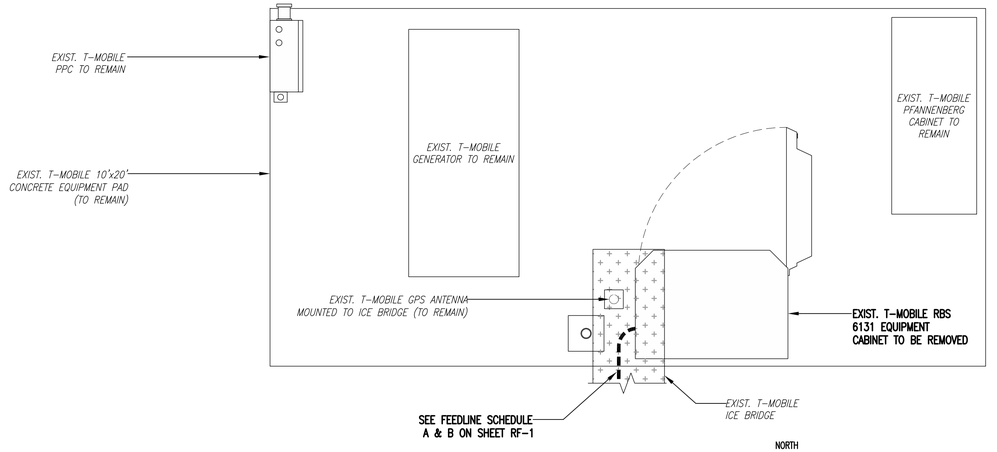
SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED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



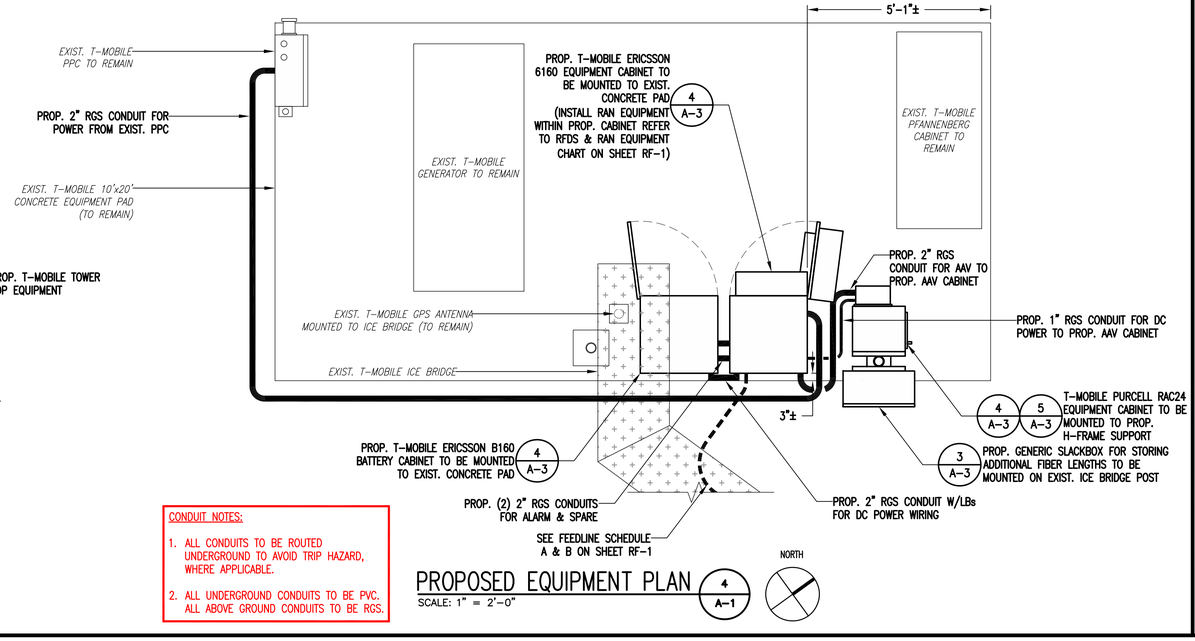


COMPOUND PLAN
SCALE: 1" = 5'-0"
1
A-1

EXISTING EQUIPMENT PHOTO DETAIL
SCALE: NTS
2
A-1



EXISTING EQUIPENT PLAN
SCALE: 1" = 2'-0"
3
A-1
NORTH



PROPOSED EQUIPMENT PLAN
SCALE: 1" = 2'-0"
4
A-1
NORTH

CONDUIT NOTES:

1. ALL CONDUITS TO BE ROUTED UNDERGROUND TO AVOID TRIP HAZARD, WHERE APPLICABLE.
2. ALL UNDERGROUND CONDUITS TO BE PVC. ALL ABOVE GROUND CONDUITS TO BE RGS.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
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0	01/14/22	ISSUED FOR CONSTRUCTION	BDJ

SITE NUMBER:

CTHA145B

SITE ADDRESS:
12 BURR ROAD
BOOMFIELD, CT 06002

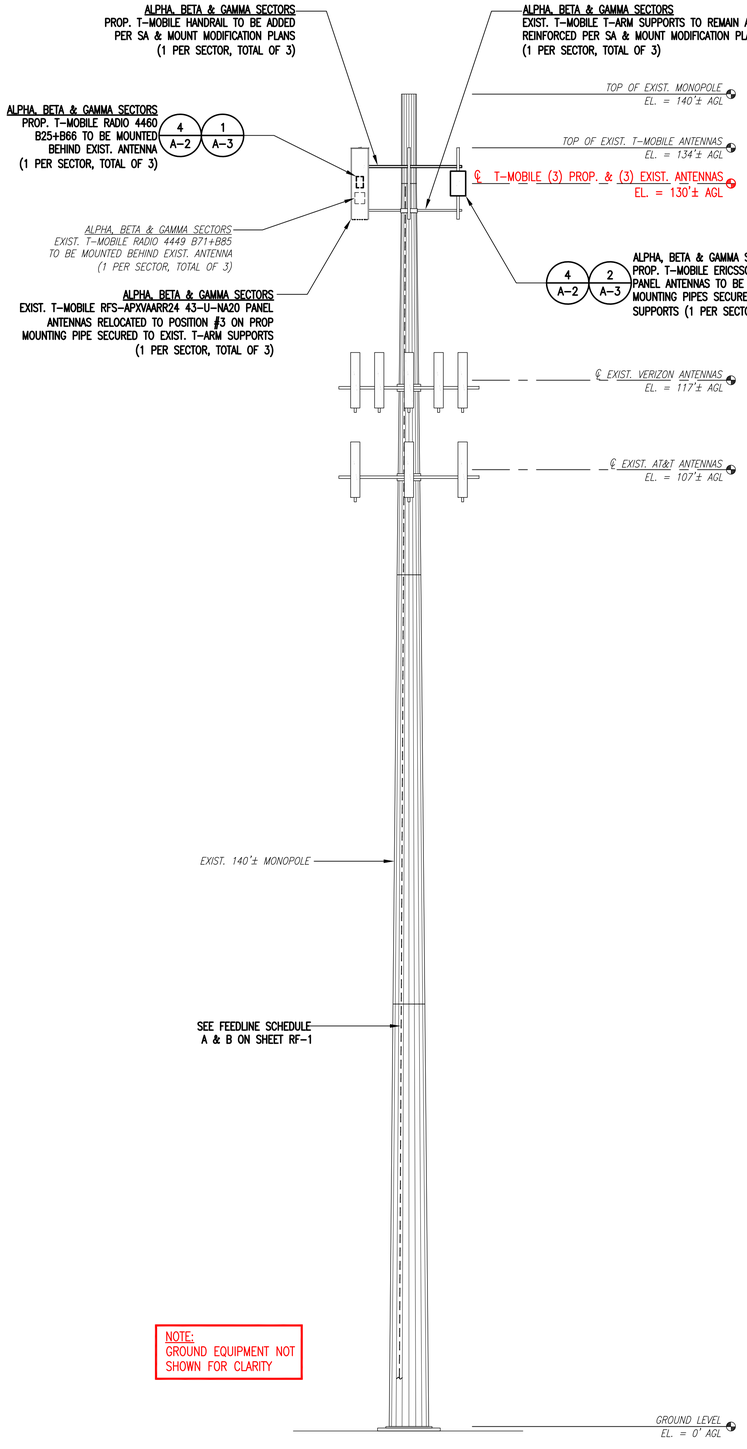
SHEET TITLE

COMPOUND & EQUIPMENT PLANS

SHEET NUMBER

A-1

1815.388



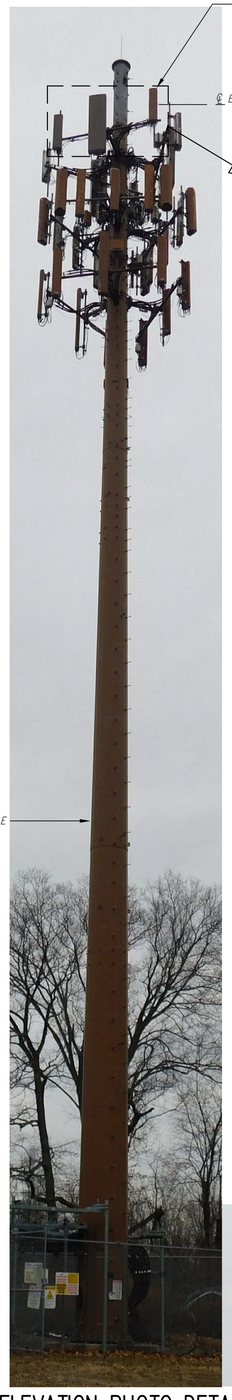
NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

SCALE: 1" = 8'-0"

0 4' 8' 16' 24'

(1 / A-2)



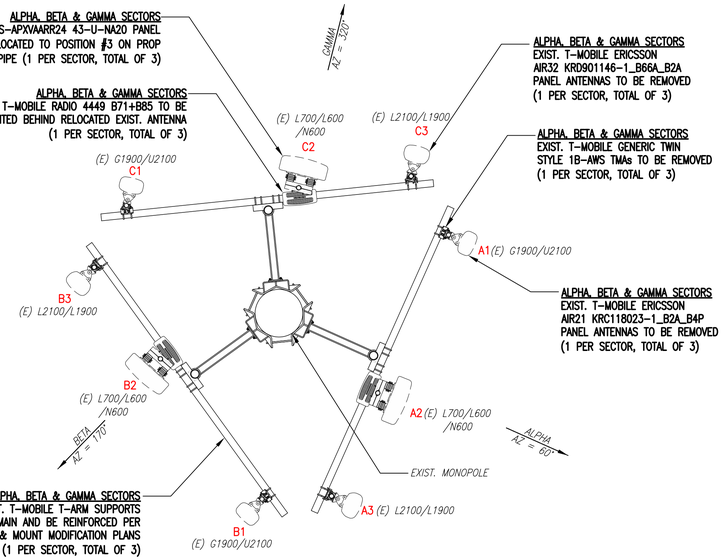
EXISTING ELEVATION PHOTO DETAIL

SCALE: NTS

(2 / A-2)

EXISTING ANTENNA ARRAY

SCALE: N.T.S.



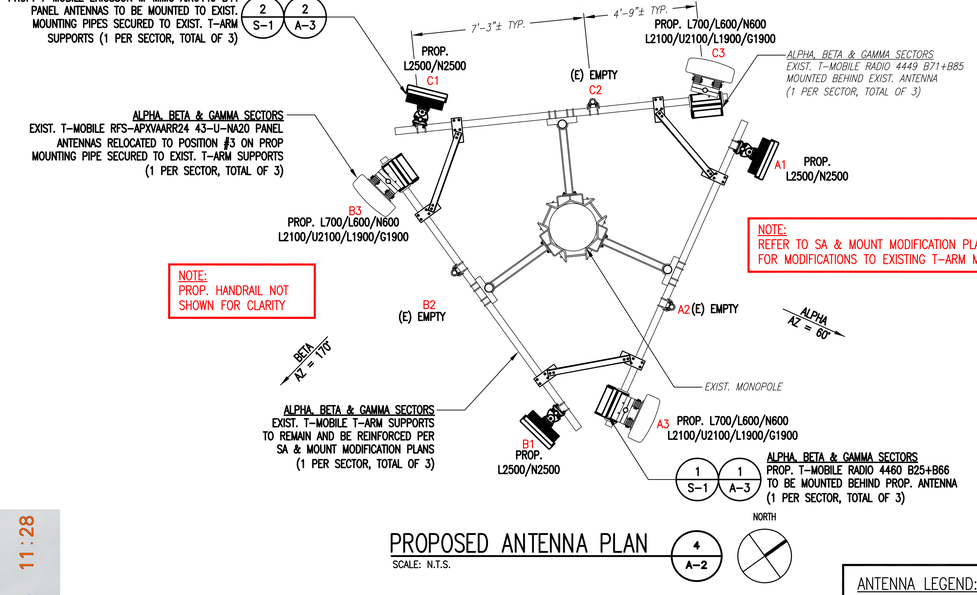
EXISTING ANTENNA PLAN

SCALE: N.T.S.

(3 / A-2)

NORTH

NOTE:
HORIZONTAL ANTENNA SEPARATION SHOWN IS APPLICABLE TO EACH SECTOR (REF. ONLY)



PROPOSED ANTENNA PLAN

SCALE: N.T.S.

(4 / A-2)

ANTENNA LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING

(P) – INSTALL

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

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SHEET TITLE

ELEVATION & ANTENNA PLANS

SHEET NUMBER

A-2

1815.388

ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAIL
SCALE: N.T.S.
1 / A-3

ERICSSON M-MIMO AIR6449 B41 ANTENNA

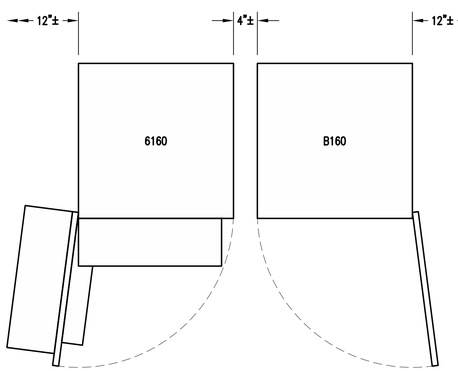
DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAIL
SCALE: N.T.S.
2 / A-3

SLACKBOX – HOFFMAN 32FH91 NEMA 3R ENCLOSURE

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS
SCALE: N.T.S.
3 / A-3



ERICSSON 6161 SITE SUPPORT CABINET

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

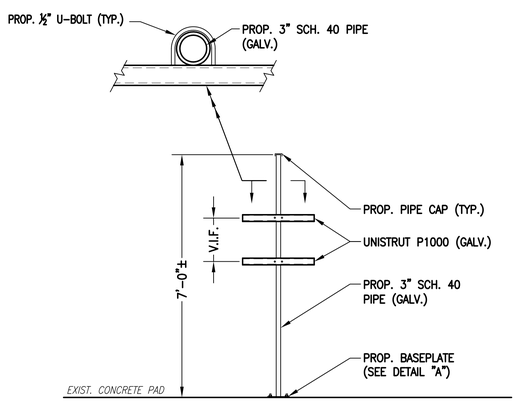
ERICSSON B160 BATTERY CABINET

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

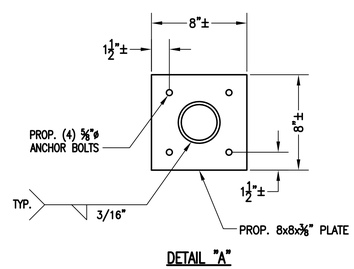
PURCELL SITE SUPPORT CABINET RAC24

DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL
SCALE: N.T.S.
4 / A-3



H-FRAME DETAIL
SCALE: N.T.S.
5 / A-3



DETAIL "A"

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SHEET TITLE
SITE DETAILS

SHEET NUMBER
A-3

1815.388

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**	**130'-0"± AGL**	**60°**	**0°**	**0°**	**L2500/N2500**	**–**	
	A2 *EMPTY*							
	A3 *RFS APXVAARR24_43-U-NA20*	*130'-0"± AGL*	*60°*	*0°*	*0°*	**L700/L600/N600**	*ERICSSON RADIO 4449 B71+B85*	
						U2100/L2100/L1900/G1900	**ERICSSON RADIO 4460 B25+B66**	
BETA	B1 **ERICSSON M-MIMO AIR6449 B41**	**130'-0"± AGL**	**170°**	**0°**	**0°**	**L2500/N2500**	**–**	
	B2 *EMPTY*							
	B3 *RFS APXVAARR24_43-U-NA20*	*130'-0"± AGL*	*170°*	*0°*	*0°*	**L700/L600/N600**	*ERICSSON RADIO 4449 B71+B85*	**(P) (2) 1-¾" (6x24) HCS FIBER CABLES** *(E) (1) 1-1/4" (6x12) HCS FIBER CABLE*
						U2100/L2100/L1900/G1900	**ERICSSON RADIO 4460 B25+B66**	
GAMMA	C1 **ERICSSON M-MIMO AIR6449 B41**	**130'-0"± AGL**	**320°**	**0°**	**0°**	**L2500/N2500**	**–**	
	C2 *EMPTY*							
	C3 *RFS APXVAARR24_43-U-NA20*	*130'-0"± AGL*	*320°*	*0°*	*0°*	**L700/L600/N600**	*ERICSSON RADIO 4449 B71+B85*	
						U2100/L2100/L1900/G1900	**ERICSSON RADIO 4460 B25+B66**	

CABLE NOTE: EXISTING T-MOBILE COAX CABLES TO BE REMOVED AS NECESSARY, ANY REMAINING TO BE DISCONNECTED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV5 – 09/16/21

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* *(1) 1-¼" (6x12) HCS FIBER CABLE* *(1) ½" COAX CABLE FOR GPS ANTENNA*	**ROUTED PER STRUCTURAL ANALYSIS**
	EXISTING TO BE REMOVED: *ALL 1-⅝" COAX CABLES*	
B	**PROPOSED:** **(2) 1-¾" (6x24) HCS FIBER CABLES**	

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

RAN EQUIPMENT

CABINET	EXISTING	PROPOSED
ERICSSON RBS6131	*(2) DUW30* *(1) DUG20* *(2) BB 6630* *(6) RU22*	*N/A*
ERICSSON 6160	*N/A*	**(1) BB 6648 / (2) BB 6630** **(1) DUW30 / (1) DUG20** **(2) RBS 6601** **(1) PSU 4813 vR4A** **(1) CSR IXRe V2**

NOTE:
RAN EQUIPMENT IS BASED ON RFDS REV5 DATED 09/16/21

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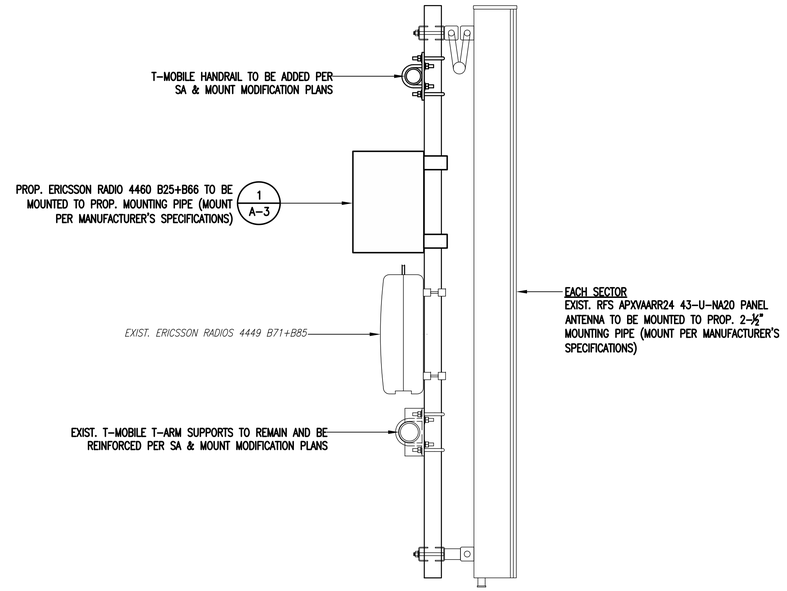
BOOMFIELD, CT 06002

SHEET TITLE
RF DATA

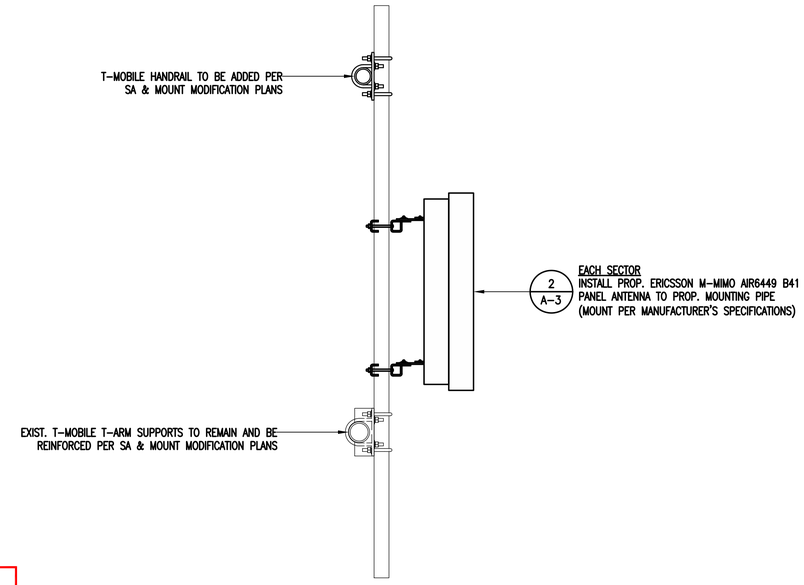
SHEET NUMBER
RF-1

1815.388



ANTENNA & RADIO MOUNT DETAIL (1 / S-1)
SCALE: N.T.S.

NOTE:
REFER TO SA & MOUNT MODIFICATION PLANS FOR MODIFICATIONS TO EXISTING T-ARM MOUNT



ANTENNA MOUNT DETAIL (2 / S-1)
SCALE: N.T.S.

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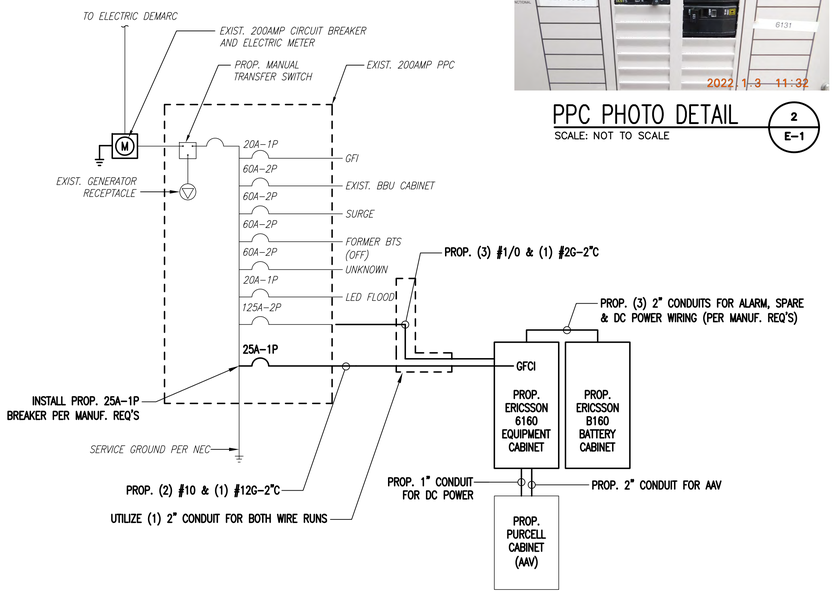
BOOMFIELD, CT 06002

SHEET TITLE
ANTENNA MOUNTING DETAILS

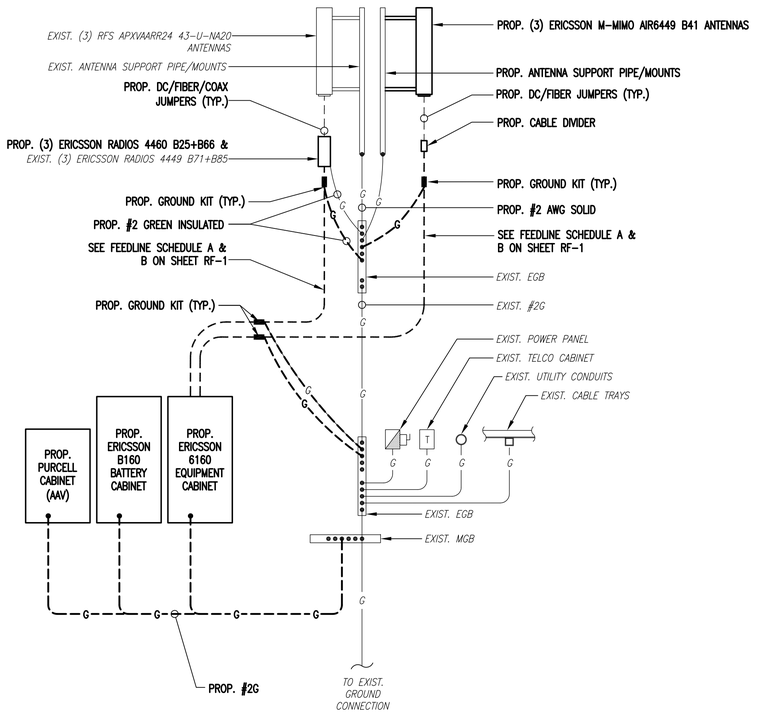
SHEET NUMBER
S-1

1815.388

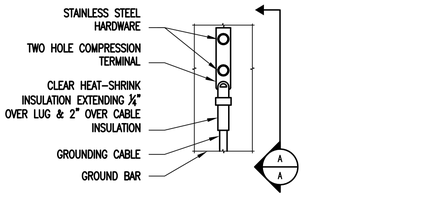
PPC PHOTO DETAIL (2 / E-1)
SCALE: NOT TO SCALE



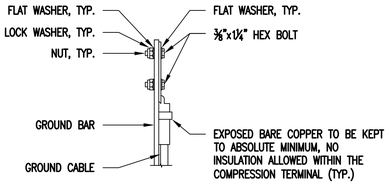
ONE LINE DIAGRAM (1 / E-1)
SCALE: NOT TO SCALE



GROUNDING RISER DIAGRAM (3 / E-1)
SCALE: NOT TO SCALE



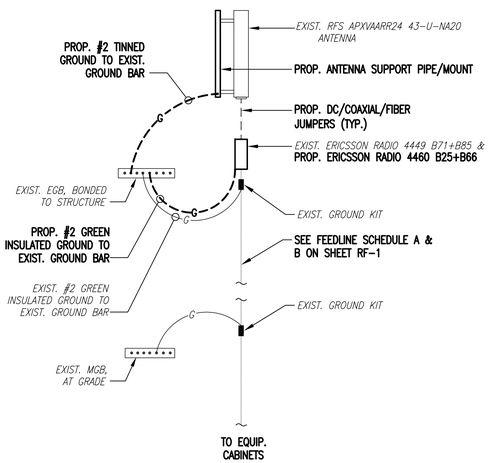
ELEVATION



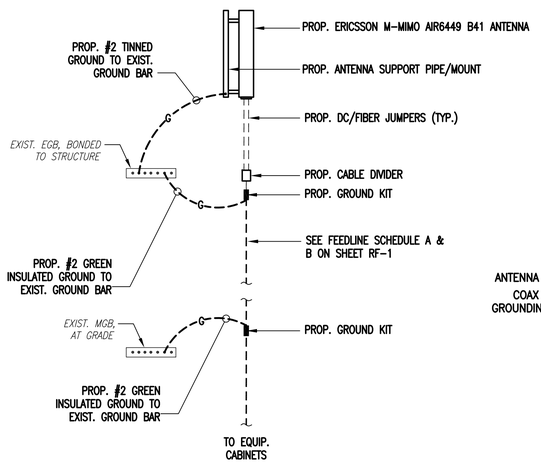
SECTION A-A

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

TYPICAL GROUND BAR CONNECTIONS DETAIL (4 / E-1)
SCALE: NOT TO SCALE

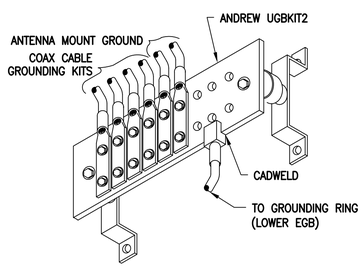


L700/L600/N600 & L2100/U2100/L1900/G1900 ANTENNA



L2500/N2500 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (5 / E-1)
SCALE: NOT TO SCALE



GROUND BAR (EGB) (6 / E-1)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHNINSULATION.
8. 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.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. 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.
16. 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.
17. 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.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

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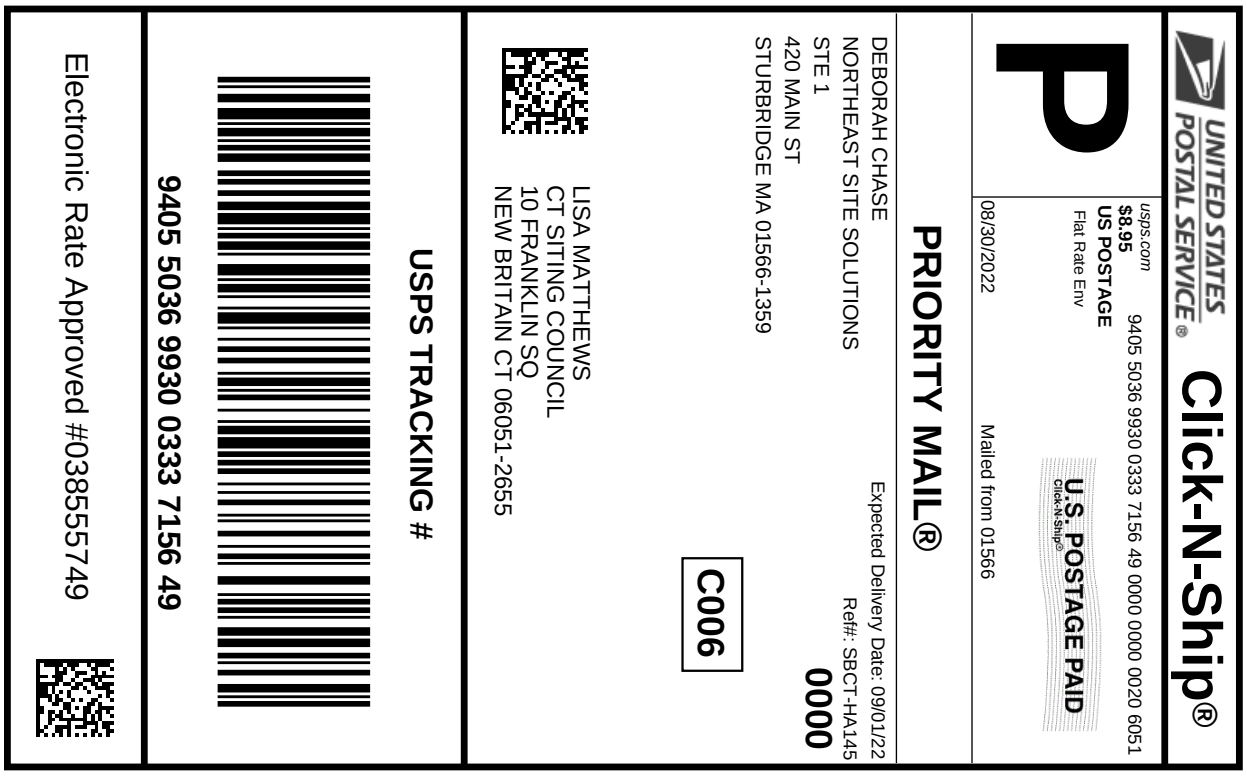

Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0333 7156 49

Trans. #:	570735362
Print Date:	08/30/2022
Ship Date:	08/30/2022
Expected Delivery Date:	09/01/2022

Priority Mail® Postage:	**$8.95**
Total:	**$8.95**

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

Ref#: SBCT-HA145

To: LISA MATTHEWS
CT SITING COUNCIL
10 FRANKLIN SQ
NEW BRITAIN CT 06051-2655

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

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