Filed by:
G. Scott Shepherd, Sr. Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - GShepherd@sbasite.com

May 21, 2021

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

Notice of Exempt Modification
56 Roper Road, Plainfield, CT 06114
T-Mobile Site #: CT11155F_L600
Latitude 41.745990
Longitude-71.880158

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 165-foot level of the existing 178-foot Monopole Tower at 56 Roper Rd. in Plainfield, CT. The tower is owned by SBA Properties, LLC. The property is owned by Tilcon Mineral, Inc. T-Mobile now intends to remove (3) three 1900MHz antennas and replace with (3) three new 600/700.

- **The new antennas would support 5G services and would be installed at the 165-foot level of the tower.**

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

Planned Modifications:

TOWER

Remove:

- (3) 1-5/8" Coax

Remove and Replace:

- (3) Commscope LNX-6515DS-VTM 600/700 MHz Panel (remove) – (3) RFS APXVAARR24_43-U-NA20 600/700 MHz (replace)

Install New:

- (3) Ericsson Radio 4449 B71+B12 RRUs
- (3) 1-5/8" Fiber
- (1) SitePro PRK—SFS-V-Brace kit (6/17/19)

Existing Equipment to Remain:

- (3) Ericson KTY 112 144/1 TMAs
- (3) RFS APXV18-206516S-C-A20 1900 MHz antenna
- (1) Platform w/handrails & Reinforcement Kit (SitePro PRK-1245)
- (3) Kathrein Bias Ts
- (6) 1-5/8" Coax
- (3) Ericsson KRY 112 489/2 TMAs

Entitlements:

- (3) Ericsson KRY 112 489/2 TMAs
- (2) 1-5/8" Coax

GROUND

Install New:

- Equipment inside existing 6201 cabinet

This facility was approved prior to the Council's jurisdiction, on July 14, 1998. The Town of Plainfield's Planning & Zoning Commission approved Special Permit 98-06 for a telecommunication tower without conditions. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Plainfield's First Selectman, Kevin Cunningham, Planning & Zoning Supervisor, Mary Ann Chinatti, as well as to the property owner, Tilcon Mineral. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

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

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

Sincerely,

G. Scott Shepherd
Sr. Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
GShepherd@sbasite.com

Attachments

cc: Kevin Cunningham, First Selectman / with attachments
Town of Plainfield, 8 Community Ave, Plainfield, CT 06374
Mary Ann Chinatti, Planning & Zoning Supervisor / with attachments
Town of Plainfield, 8 Community Ave, Plainfield, CT 06374
Tilcon Mineral / with attachments
P. O. Box 311228, Newington, CT 06131

Exhibit List

Exhibit 1	Check Copy	To be invoiced at a later date per Covid guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	x
Exhibit 6	Construction Drawings	B & T Group 5/12/21
Exhibit 7	Structural Analysis	TES 4/27/21
Exhibit 8	Antenna Mount Analysis	GeoStructural 4/6/21
Exhibit 9	Mount Mod Drawings	B & T Group 6/17/19
Exhibit 10	EME Report	EBI Consulting 5/21/21

EXHIBIT 1

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

EXHIBIT 2

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

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

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EXHIBIT 3

56 ROPER RD

Location	56 ROPER RD	**Mblu**	021/ 0124/ 0006/ /
Acct#	00276300	**Owner**	TILCON MINERALS INC
Assessment	$324,870	**Appraisal**	$464,100
PID	3062	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$54,000	$410,100	$464,100
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$37,800	$287,070	$324,870

Owner of Record

Owner	TILCON MINERALS INC	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	PO BOX 311228 NEWINGTON, CT 06131	**Book & Page**	0140/0268
		Sale Date	07/30/1981
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
TILCON MINERALS INC	$0		0140/0268		07/30/1981
TILCON MINERALS	$0		0132/0853		04/26/1979

Building Information

Building 1 : Section 1

Year Built:	
Living Area:	0
Replacement Cost:	$0
Building Percent Good:	
Replacement Cost Less Depreciation:	$0

Building Attributes

Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2:	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Baths:	
Half Baths:	
Extra Fixtures:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces:	
Xtra Openings:	
Gas Fireplaces:	
Woodstove/Pellet	
Bsmt Gar:	
Basement:	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos//default.jpg)

Building Layout

Building Layout
(http://images.vgsi.com/photos/PlainfieldCTPhotos//Sketches/30

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 4400

Land Line Valuation

Size (Acres) 65.8

Description	IND LD DV	**Frontage**	
Zone	IND	**Depth**	
Neighborhood	4000	**Assessed Value**	$287,070
Alt Land Appr	No	**Appraised Value**	$410,100
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
TT4	Cell Tower			200 HEIGHT	$54,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$54,000	$410,100	$464,100
2017	$54,000	$410,100	$464,100
2016	$54,000	$410,100	$464,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$37,800	$287,070	$324,870
2017	$37,800	$287,070	$324,870
2016	$37,800	$287,070	$324,870

EXHIBIT 4

Google Maps 56 Roper Rd

Map data ©2019 Google 200 ft

56 Roper Rd

Moosup, CT 06354

Directions Save Nearby Send to your phone Share

Q429+3G Plainfield, Connecticut

EXHIBIT 5

THE PLAINFIELD TOWN HALL

PLAINFIELD - CENTRAL VILLAGE - MOOSUP - WAUREGAN

Town Hall
8 Community Avenue
Plainfield, CT 06374

Telephone 564-4071
Fax 564-0612

PLANNING AND ZONING COMMISSION

July 28, 1998

SBA, Inc.
Esther McNany
Nextel Communications
125 Shaw St. #116
New London, CT 06320

Dear Applicant:

At its meeting, on Tuesday, July 14, 1998, the Planning and Zoning Commission approved your request SP-98-06 for the construction of a telecommunication tower on Green Hollow Rd., Wauregan. Map 20, Block 124, Parcel 6.

The following are conditions of that approval:
None

A copy of the Legal Notice is enclosed for your records and appeared in the Norwich Bulletin on Wednesday, July 22, 1998.

Please file the enclosed Special Permit Record in the Town Clerk's Office after the above date of publication. The Special Permit Record shall not be effective until the record is filed.

Very truly yours,

PLANNING AND ZONING COMMISSION

Dennis Jolley, Chairman

Gloria Rizer, Secretary

EXHIBIT 6

SITE NAME: PLAINFIELD/ I-395 X90_1

56 ROPER RD.
PLAINFIELD, CT 06374

SITE NUMBER: CT11155F

SITE CONFIG: 67D04G

PROJECT NOTES

GENERAL NOTES:

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T–MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC, ROUTINE MAINTENANCE AND THEREFORE, DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T–MOBILE NORTHEAST LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SPECIAL STRUCTURAL NOTES:

TOWER OWNER SHALL PROVIDE GLOBAL STRUCTURAL STABILITY ANALYSIS OF EXISTING ANTENNA SUPPORT STRUCTURE. GENERAL CONTRACTOR SCOPE OF WORK SHALL INCLUDE ALL REQUIRED STRUCTURAL MODIFICATIONS, RE–BUNDLING OF COAXIAL CABLES OR OTHER SPECIAL MODIFICATIONS AS OUTLINED THEREIN.

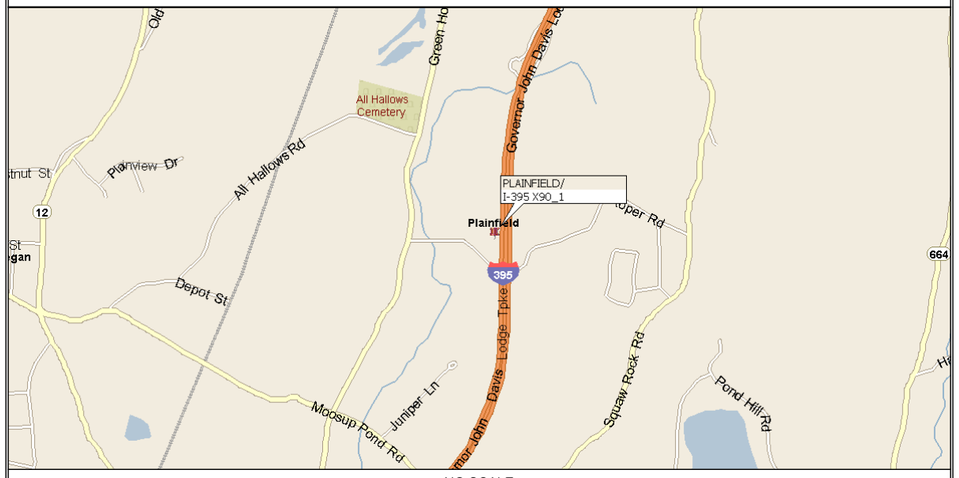
ENGINEER OF RECORD HAS MADE A VISUAL ASSESSMENT ONLY AND HAS DETERMINED THAT THE EXISTING ANTENNA MOUNT SHALL BE REPLACED OR MODIFIED TO ACCOMMODATE ANY ADDITIONAL EQUIPMENT LOAD. STRUCTURAL DESIGNS AND DETAILS AS SHOWN HEREIN FOR STRUCTURAL MODIFICATIONS OF THE EXISTING ANTENNA MOUNT ARE PRELIMINARY ONLY AND FINAL CONSTRUCTION DETAILS ARE SUBJECT TO CHANGE PENDING THE COMPLETION OF AN ANTENNA MOUNT STRUCTURAL ASSESSMENT.

B+T GROUP ASSUMES THAT THE TOWER IS PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTIONS ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES.

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS	LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS NOT PERMITTED	DIPLEXERS:	UNRESTRICTED
SECTOR B:	ACCESS NOT PERMITTED	RADIO CABINETS:	UNRESTRICTED
SECTOR C:	ACCESS NOT PERMITTED	PPC DISCONNECT:	UNRESTRICTED
RRH:	ACCESS NOT PERMITTED	MAIN CIRCUIT D/C:	UNRESTRICTED
TMA:	ACCESS NOT PERMITTED	NIU/T DEMARC:	UNRESTRICTED
GPS/LMU:	CAUTION: OSHA APPROVED PORTABLE 8' STEP–LADDER REQUIRED	OTHER/SPECIAL:	NONE

LOCATION MAP



NO SCALE

APPROVALS

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

ACCEPTANCE DOES NOT CONSTITUTE APPROVAL OF DESIGN, CALCULATIONS, ANALYSIS, TEST METHODS OF MATERIALS DEVELOPED OR SELECTED BY THE SUBCONTRACTOR AND DOES NOT RELIEVE SUBCONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATIONS.

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY T–MOBILE EQUIPMENT MODERNIZATION
ZONING JURISDICTION: (TOWN OF PLAINFIELD)	BASED ON INFORMATION PROVIDED BY T–MOBILE, REGULATORY COMPLIANCE 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 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).
SITE ADDRESS:	56 ROPER RD. PLAINFIELD, CT 06374
LATITUDE: LONGITUDE:	41.745990° N 71.880101° W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES & ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
TOWER OWNER:	SBA PROPERTIES, LLC
SBA SITE ID:	CT00594–S
SBA SITE NAME:	PLAINFIELD NORTH
SBA REGIONAL SITE MANAGER:	STEPHEN ROTH (860) 539–4920 sroth@sbasite.com

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T–1	TITLE SHEET	3
GN–1	GENERAL NOTES	3
C–1	COMPOUND AND ELEVATION PLAN	3
C–2	EXISTING AND PROPOSED ANTENNA PLANS	3
C–3	DETAILS	3
RF–1	RFDS DIAGRAMS	3
E–1	GROUNDING DETAILS AND NOTES	3

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

T-MOBILE NORTHEAST, LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581

CT11155F

PLAINFIELD/ I-395 X90_1

56 ROPER RD.
PLAINFIELD, CT 06374

PROJECT NO:	136046.002.01
CHECKED BY:	FWP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	6/24/19	MTJ	FOR CONSTRUCTION
1	9/10/19	JCO	FOR CONSTRUCTION
2	4/2/21	SMM	FOR CONSTRUCTION
3	5/12/21	BEH	FOR CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
5/12/21

SHEET NUMBER: T-1
REVISION: 3

GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI OR NFPA) LIGHTING PROTECTION CODE AND GENERAL COMPLIANCE WITH TELECORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATION OR ADVERSE FINDING TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GE'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 & 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BUS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDED FITTINGS OR BY BINDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20' OR MORE OF 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BAR TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   - CONTRACTOR: SBA COMMUNICATIONS CORP.
   - SUBCONTRACTOR: GENERAL CONTRACTOR (CONSTRUCTION)
   - OWNER: T-MOBILE

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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

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

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

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

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

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY, SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

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 OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS NOTED OTHERWISE, PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WETHER SHALL BE HOT DIPPED GALVANIZED. TOUCH-UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."

17. 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.

18. THE EXISTING CELL SITE IS 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.

19. SINCE THE CELL SITE IS ACTIVE, AL 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 ADVISED TO BE WORN TO ALERT IF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
    - BUILDING CODE: IBC 2015
    - ELECTRICAL CODE: NEC 2017

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318;
    BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

    MANUAL OF STEEL CONSTRUCTION; ASD, FOURTEENTH EDITION

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G;
    STRUCTURAL STANDARDS FOR STEEL

    ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES;
    REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHOD OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	GC	GENERAL CONTRACTOR	REF.	REFERENCE
AWG	AMERICAN WIRE GAUGE	MAX.	MAXIMUM	REQ.	REQUIRED
BCW	BARE COPPER WIRE	MGB	MASTER GROUND BAR	RF	RADIO FREQUENCY
BTS	BASE TRANSCEIVER STATION	MIN.	MINIMUM	T.B.D.	TO BE DETERMINED
(E)	EXISTING	(N)	PROPOSED	T.B.R.	TO BE REMOVED
EG	EQUIPMENT GROUND	N.T.S.	NOT TO SCALE	T.B.R.R.	TO BE REMOVED AND REPLACED
EGR	EQUIPMENT GROUND RING	RE:	REFERENCE	(TYP)	TYPICAL

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PLAINFIELD/
I-395 X90_1

56 ROPER RD.
PLAINFIELD, CT 06374

PROJECT NO:	**136046.002.01**
CHECKED BY:	**FWP**

ISSUED FOR:

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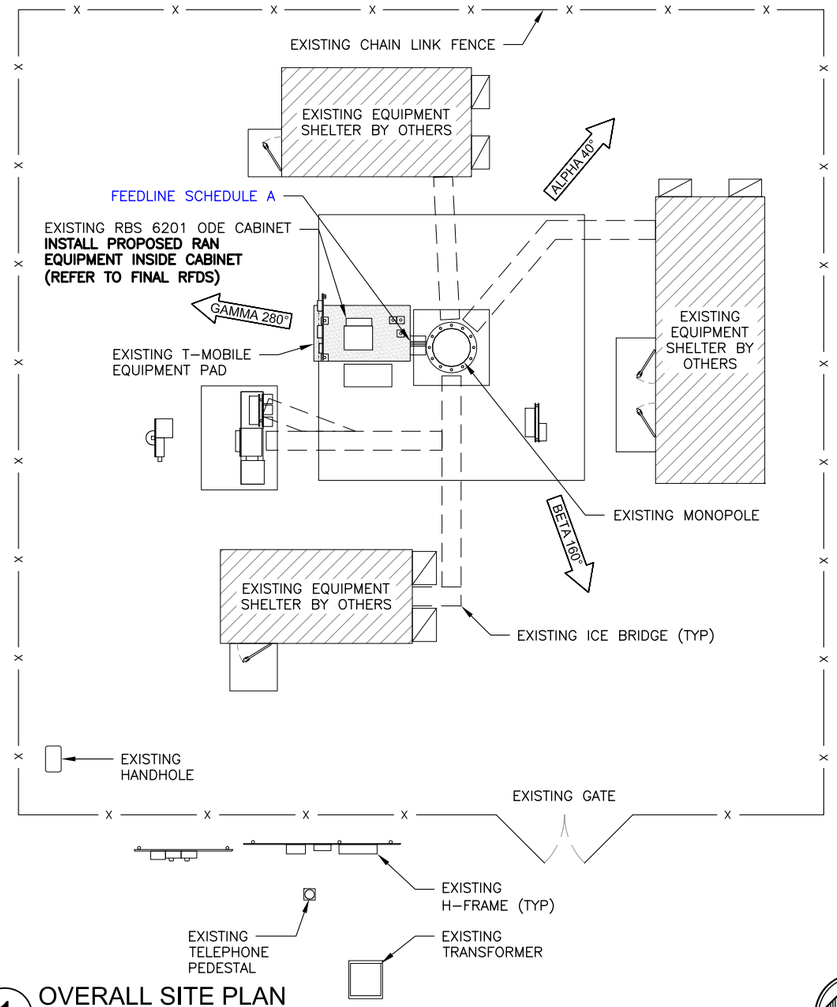
STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
5/12/21

SHEET NUMBER:	REVISION:
GN-1	3



1 OVERALL SITE PLAN

SCALE: 0' 8' 16' 32' 48'

11x17 SCALE: 1/16"=1'–0"
22x34 SCALE: 1/8"=1'–0"

N

ANTENNA MOUNT STRUCTURAL DESIGN NOTE:

ENGINEER-OF-RECORD HAS MADE A VISUAL ASSESSMENT ONLY OF EXISTING ANTENNA MOUNT ASSEMBLIES, WITHOUT THE BENEFIT OF A RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS, AND RECOMMENDS THAT EXISTING AND PROPOSED TOWER TOP EQUIPMENT BE INSTALLED AS DEPICTED HEREIN. STRUCTURAL DETAILS AS DEPICTED HEREIN FOR MODIFICATION OF EXISTING ANTENNA MOUNT ASSEMBLIES ARE PRELIMINARY ONLY AND THAT FINAL CONSTRUCTION DETAILS MAY BE SUBJECT TO CHANGE PENDING THE COMPLETION OF A SEPARATE SUPPLEMENTAL ANTENNA MOUNT STRUCTURAL ASSESSMENT, SUPPLEMENTAL STRUCTURAL MAPPING/CONDITIONS ASSESSMENT REPORT AND/OR SUPPLEMENTAL RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS.

SPECIAL PRE-CONSTRUCTION WORK NOTE:

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.

FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	REMOVE (4) EXISTING 1 5/8" COAX EXISTING TO REMAIN: (8) 1 5/8" COAX TO T–MOBILE RAD @ 165'	INSIDE POLE/CANISTER
B	PROPOSED: (3) 6x24 FIBER TO T–MOBILE RAD @165'	INSIDE POLE/CANISTER
EXISTING T–MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER		

SOURCE: B+T 06–09–2019

SEE FEEDLINE SCHEDULE.
(REFER TO SBA PROVIDED STRUCTURAL ANALYSIS FOR SPECIAL CABLE INSTALLATION REQUIREMENTS, BUNDLING, SHIELDING, MOUNTING AND RELOCATION OF EXISTING CABLES)

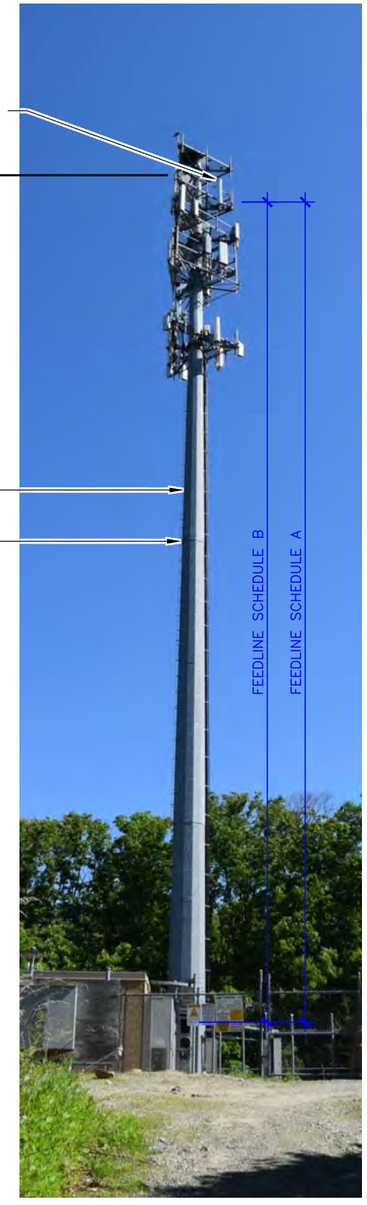
2A FEEDLINE PHOTO DETAIL @ TOWER BASE

SCALE: N.T.S.

SOURCE: B+T 06–09–2019

2B EQUIPMENT PHOTO DETAIL

SCALE: N.T.S.



3 ELEVATION PHOTO DETAIL

SCALE: N.T.S.

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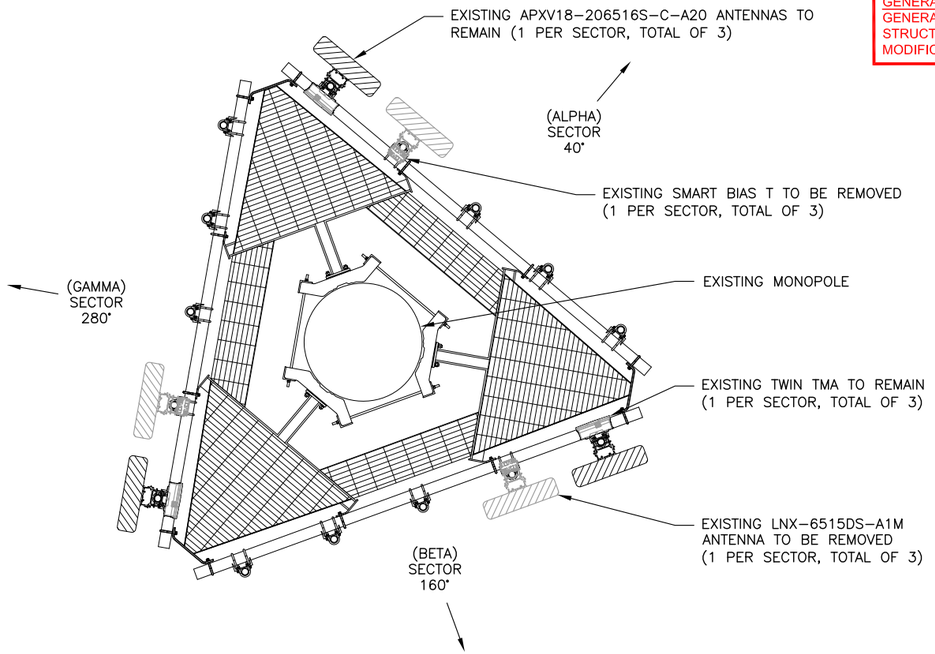
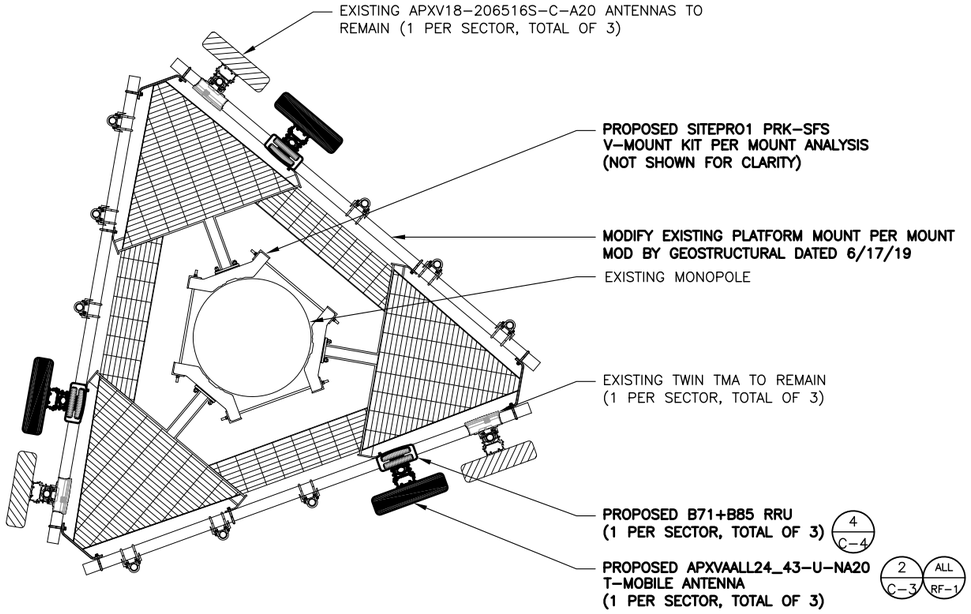


1A EXISTING ANTENNA PLAN

SCALE: 0' 1' 2' 4' 10'

11x17 SCALE: 1/4"=1'-0"
22x34 SCALE: 1/2"=1'-0"

N



1B PROPOSED ANTENNA PLAN

SCALE: 0' 1' 2' 4' 10'

11x17 SCALE: 1/4"=1'-0"
22x34 SCALE: 1/2"=1'-0"

N

GENERAL CONTRACTOR NOTE:
GENERAL CONTRACTOR SHALL REFER TO MOUNT STRUCTURAL ANALYSIS AND ANY MOUNT MODIFICATION DESIGN PROVIDED BY SBA

NOTE:
AT TIME OF CONSTRUCTION, CONTRACTOR TO VERIFY AZIMUTHS OF EXISTING ANTENNAS. IF DIFFERENT FROM RFDS, PLEASE NOTIFY THE RF ENGINEER AND CONSTRUCTION MANAGER WITH ACTUAL AZIMUTH TO ENSURE T-MOBILE'S DATABASE IS ACCURATE AND UP-TO-DATE.

SPECIAL PRE-CONSTRUCTION WORK NOTE:

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.

AUGMENTATION REQUIREMENTS:

- ANTENNAS AND EQUIPMENT SHALL BE INSTALLED CENTERED VERTICALLY ON THE MOUNT FRONT FACE RAILS (LIMIT VERTICAL INSTALLATION ECCENTRICITY) SAME AS EXISTING. THIS ANALYSIS ACCOUNTS FOR VERTICAL ECCENTRICITIES NECESSARY TO INSTALL ALL PANEL ANTENNAS AT THE SAME RELATIVE TOP TIP ELEVATION.
- PANEL ANTENNAS TO BE INSTALLED AS FOLLOWS:
  - APXV18 PANELS TO BE INSTALLED ON MOUNT PIPES IN POSITION 1 SIMILAR TO EXISTING.
  - AALL PANELS TO BE INSTALLED ON MOUNT PIPES IN POSITION 2 SIMILAR TO EXISTING.
- RRH/TMA UNITS TO BE INSTALLED AS FOLLOWS:
  - TMA TO BE INSTALLED ON MOUNT PIPES BEHIND PANELS IN POSITION 1 SIMILAR TO EXISTING.
  - 4449 RRH UNITS TO BE INSTALLED ON MOUNT PIPE PANELS IN POSITION 2.
- IN ORDER TO OBTAIN A MOUNT STRUCTURE CAPABLE OF SUPPORTING THE CURRENTLY PROPOSED FINAL LOADING CONFIGURATION, UPGRADE AUGMENTS MUST BE INSTALLED IN ACCORDANCE WITH GEOSTRUCTURAL'S *MOUNT AUGEMENT CDs AND RECOMMENDATIONS.*

EXISTING T-MOBILE ANTENNAS

2/C-3 ALL/RF-1 **PROPOSED APXVAALL24_43-U-NA20 T-MOBILE ANTENNA (1 PER SECTOR, TOTAL OF 3)**

2 ANTENNA MOUNT PHOTO DETAIL

SCALE: N.T.S.

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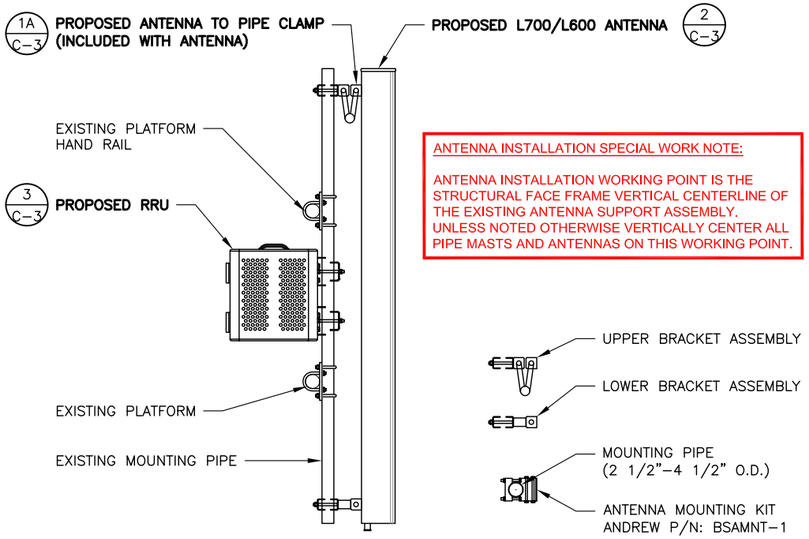
REVISION: 3



ANTENNA INSTALLATION SPECIAL WORK NOTE:

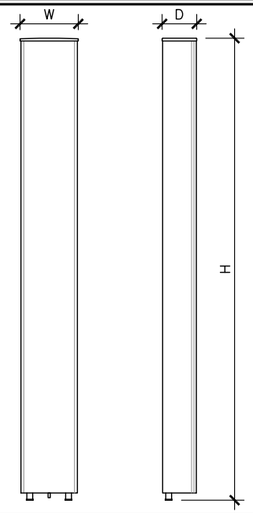
ANTENNA INSTALLATION WORKING POINT IS THE STRUCTURAL FACE FRAME VERTICAL CENTERLINE OF THE EXISTING ANTENNA SUPPORT ASSEMBLY. UNLESS NOTED OTHERWISE VERTICALLY CENTER ALL PIPE MASTS AND ANTENNAS ON THIS WORKING POINT.

1 PROPOSED L700/L600 ANTENNA & RRU MOUNTING DETAIL

SCALE: N.T.S.

1A L700/L600 ANTENNA MOUNTING BRACKET

SCALE: N.T.S.



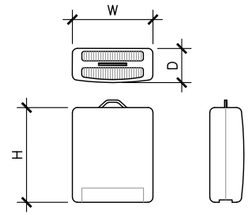
L700/L600 ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APXVAALL24_43–U–NA20
WIDTH	24"
DEPTH	8.5"
HEIGHT	95.9"
WEIGHT	122.8 LBS

2 L700/L600/L600 ANTENNA DETAIL

SCALE: N.T.S.

SPECIAL PRE-CONSTRUCTION WORK NOTE:

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.



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4449 B71+B85
WIDTH	13.1"
DEPTH	10.6"
HEIGHT	17.9"
WEIGHT	75 LBS

3 REMOTE RADIO UNIT (RRU)

SCALE: N.T.S.

ANTENNA MOUNT STRUCTURAL DESIGN NOTE:

ENGINEER-OF-RECORD HAS MADE A VISUAL ASSESSMENT ONLY OF EXISTING ANTENNA MOUNT ASSEMBLIES, WITHOUT THE BENEFIT OF A RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS, AND RECOMMENDS THAT EXISTING AND PROPOSED TOWER TOP EQUIPMENT BE INSTALLED AS DEPICTED HEREIN. STRUCTURAL DETAILS AS DEPICTED HEREIN FOR MODIFICATION OF EXISTING ANTENNA MOUNT ASSEMBLIES ARE PRELIMINARY ONLY AND THAT FINAL CONSTRUCTION DETAILS MAY BE SUBJECT TO CHANGE PENDING THE COMPLETION OF A SEPARATE SUPPLEMENTAL ANTENNA MOUNT STRUCTURAL ASSESSMENT, SUPPLEMENTAL STRUCTURAL MAPPING/CONDITIONS ASSESSMENT REPORT AND/OR SUPPLEMENTAL RIGOROUS ANTENNA MOUNT STRUCTURAL ANALYSIS.

FINAL ANTENNA SCHEDULE

SECTOR	TECH	ANTENNA MODEL	AZIMUTH	RAD CENTER	M–TILT	E–TILT	RADIOS	CABLE TYPE	CABLE LENGTH
ALPHA	L1900/G1900	APXV18–206516S–C–A20	40°	165'	0°	2°	(1) TWIN PCS TMA	(8) (E) 1–5/8" COAX (3) (P) 6x24 HCS	180'
	L700/L600/L600	**APXVAALL24_43–U–N20**	**40°**	**165'**	0°	**2°/2°**	**(1) 4449 B71+B85**		**180'**
BETA	L1900/G1900	APXV18–206516S–C–A20	160°	165'	0°	2°	(1) TWIN PCS TMA		180'
	L700/L600/L600	**APXVAALL24_43–U–N20**	**160°**	**165'**	0°	**2°/2°**	**(1) 4449 B71+B85**		**180'**
GAMMA	L1900/G1900	APXV18–206516S–C–A20	280°	165'	0°	2°	(1) TWIN PCS TMA		180'
	L700/L600/L600	**APXVAALL24_43–U–N20**	**280°**	**165'**	0°	**2°/2°**	**(1) 4449 B71+B85**		**180'**

4 FINAL ANTENNA SCHEDULE

SCALE: N.T.S.

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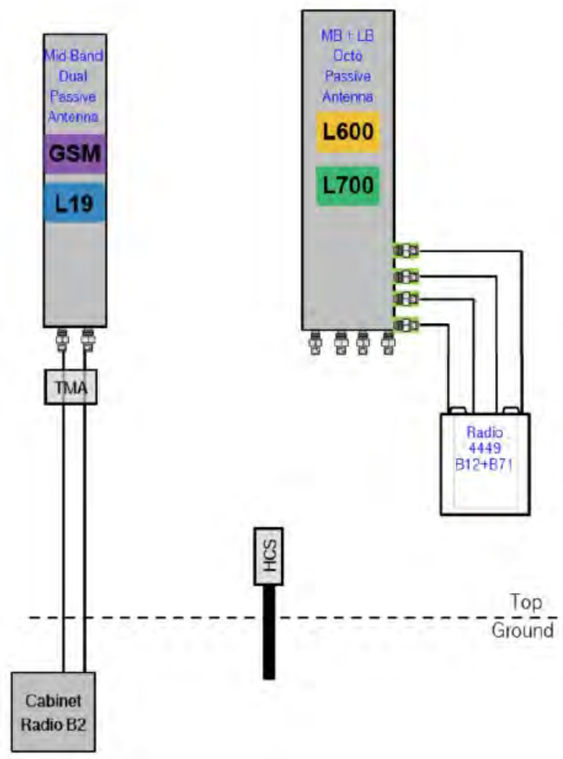
SHEET NUMBER: C-3
REVISION: 3



RF DESIGN GENERAL NOTE:

1. RF DESIGN BASED ON RFDS DATED 5/8/19 , GENERAL CONTRACTOR/TOWER CREW SHALL VERIFY THAT THE LATEST RFDS AND RAN WIRING DIAGRAM IS USED FOR EQUIPMENT INSTALLATION.
2. PRIOR TO INSTALLATION OF TOWER TOP EQUIPMENT, GENERAL CONTRACTOR/TOWER CREW SHALL VERIFY AZIMUTHS OF EXISTING ANTENNAS. DISCREPANCIES AND ACTUAL AZIMUTHS SHALL BE REPORTED IMMEDIATELY TO RF ENGINEER AND T-MOBILE CONSTRUCTION MANAGER.

RFDS FOOTNOTES:

1. INFORMATION IN BOLD RED TEXT IS PROVIDED BY A&E AND HIGHLIGHTS IMPORTANT DISCREPANCIES BETWEEN RFDS AND ACTUAL FIELD MEASUREMENTS OR SBA-PROVIDED RECORD INFORMATION.

* SBA-PROVIDED ANTENNA RAD AGL BASED ON COLOCATION APPLICATION AND STRUCTURAL ANALYSIS AND SHALL SUPERCEDE ANY CONFLICTING RFDS ANTENNA RAD AGL.

** HYBRID TRUNK FEEDLINE LENGTHS AS PROVIDED BY A&E BASED ON SCALED DIMENSIONS FROM RBS TO ANTENNA/RRU CONNECTIONS PLUS 20' FOR (2) 10' COILS EACH AT TOP AND BOTTOM TERMINATIONS. T-MOBILE CONSTRUCTION MANAGER SHALL CONFIRM ALL EQUIPMENT SCHEDULES, PART NUMBERS AND FEEDLINE/JUMPER LENGTHS BEFORE PREPARING A BILL OF MATERIALS.

Existing RAN Equipment	
Template:	704G
Enclosure	1
Enclosure Type	RBS 6201 ODE
Baseband	BB 6630 (L1900, L700) DUG20 (G1900)
Radio	RUS02 B2 (x 3) (L1900) RUS02 B2 (x 3) (G1900) RUS01 B12 (x 6) (L700)

Proposed RAN Equipment	
Template:	67D04G
Enclosure	1
Enclosure Type	RBS 6201 ODE
Baseband	DUG20 (G1900) BB 6630 (L1900) BB 6648 (L700, L600, N600)
Radio	RUS01 B2 (x 3) (G1900) RUS01 B2 (x 3) (L1900)
Functionality Groups	Ericsson Hybrid Trunk 6/24 4AWG *Select Length* (x 3)
RAN Scope of Work:	*** Existing: RBS6201 ODE Cabinet *** Add (1) BB6648 for 600/700 Add (3) 6X24 HCS Existing: (12) Coaxial Lines. Remove (6) Coaxial Lines

Sector 1 (Proposed) view from behind					
Coverage Type	A - Outdoor Macro				
Antenna	1	2			
Antenna Model	RFS - APXV18-206516S-C-A20 (Dual)	RFS - APXVAALL24_43-U-NA20 (Octo)			
Azimuth	40	40			
M. Tilt	0	0			
Height	165	165			
Ports	P1	P2	P3	P4	P5
Active Tech.	L1900 G1900	L700 L600 N600	L700 L600 N600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 160 ft. (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMAs	Generic Twin Style 1A - PCS (AtAntenna) (x2)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					
Unconnected Equipment:					
Scope of Work:	Replace LB Dual in Position 2 with (1) LB/MB Octo. Add (1) Radio 4449 B71+B86 for 600/700 to Position 2.				

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

Sector 2 (Proposed) view from behind					
Coverage Type	A - Outdoor Macro				
Antenna	1	2			
Antenna Model	RFS - APXV18-206516S-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	160	160			
M. Tilt	0	0			
Height	165	165			
Ports	P1	P2	P3	P4	P5
Active Tech.	L1900 G1900	N600 L700 L600	N600 L700 L600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 160 ft. (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMAs	Generic Twin Style 1A - PCS (AtAntenna) (x2)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					
Unconnected Equipment:					
Scope of Work:	Replace LB Dual in Position 2 with (1) LB/MB Octo. Add (1) Radio 4449 B71+B86 for 600/700 to Position 2.				

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

Sector 3 (Proposed) view from behind					
Coverage Type	A - Outdoor Macro				
Antenna	1	2			
Antenna Model	RFS - APXV18-206516S-C-A20 (Dual)	RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	280	280			
M. Tilt	0	0			
Height	165	165			
Ports	P1	P2	P3	P4	P5
Active Tech.	L1900 G1900	N600 L700 L600	N600 L700 L600		
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		
Cables	1-5/8" Coax - 160 ft. (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMAs	Generic Twin Style 1A - PCS (AtAntenna) (x2)				
Diplexers / Combiners					
Radio		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment					
Unconnected Equipment:					
Scope of Work:	Replace LB Dual in Position 2 with (1) LB/MB Octo. Add (1) Radio 4449 B71+B86 for 600/700 to Position 2.				

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

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

T-MOBILE NORTHEAST, LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581

CT11155F

PLAINFIELD/
I-395 X90_1

56 ROPER RD.
PLAINFIELD, CT 06374

PROJECT NO:	136046.002.01
CHECKED BY:	FWP

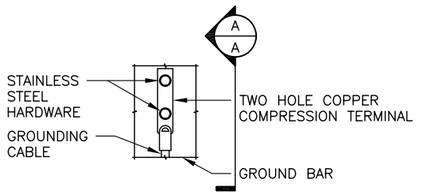
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	6/24/19	MTJ	FOR CONSTRUCTION
1	9/10/19	JCO	FOR CONSTRUCTION
2	4/2/21	SMM	FOR CONSTRUCTION
3	5/12/21	BEH	FOR CONSTRUCTION

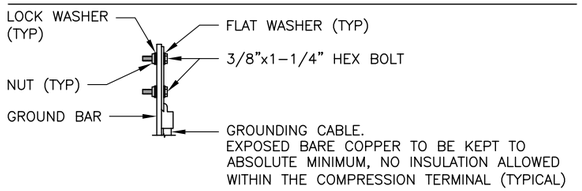
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

STATE OF CONNECTICUT DEPARTMENT OF CONSUMER PROTECTION 31627 LICENSED PROFESSIONAL ENGINEER
5/12/21

SHEET NUMBER: RF-1
REVISION: 3



ELEVATION

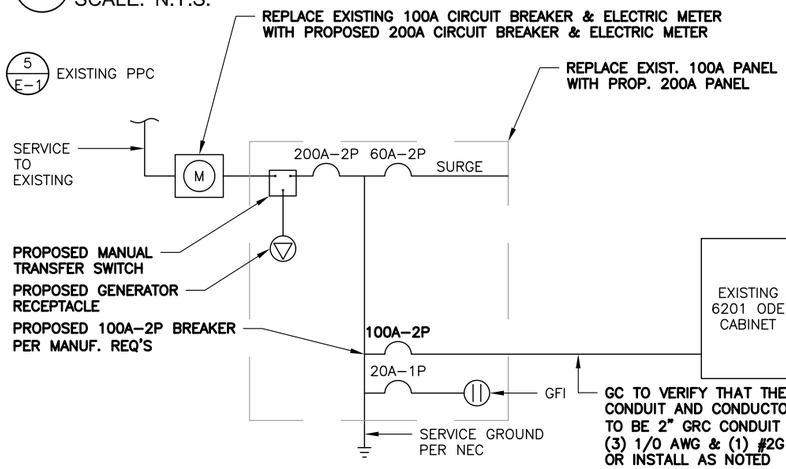


SECTION "A-A"

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

1 TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.

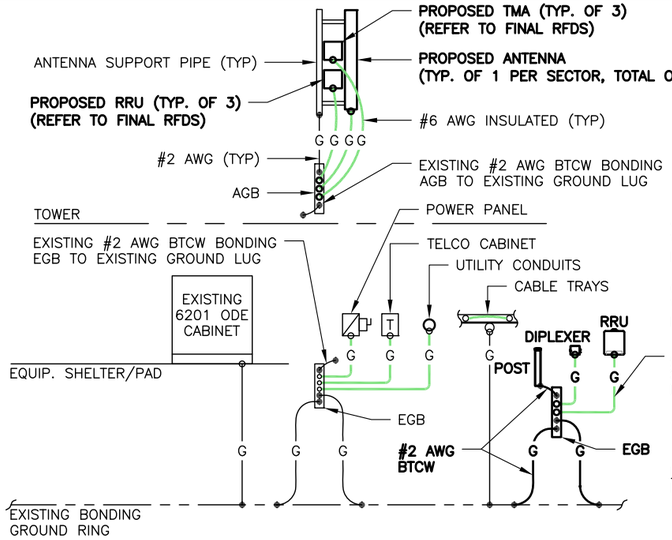


4 ONE-LINE POWER DIAGRAM

SCALE: N.T.S.

ELECTRICAL LEGEND

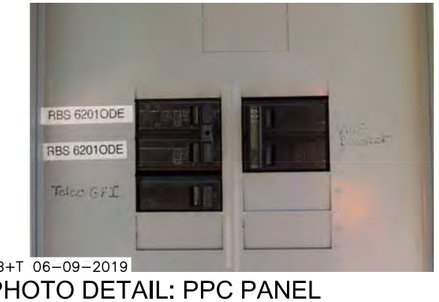
A	AMPERE
BTCW	BARE TINNED (SOLID) COPPER WIRE
C	CONDUIT
GRC	GALVANIZED RIGID CONDUIT
KWH	KILOWATT – HOUR
PPC	POWER PROTECTION CABINET
V	VOLT
	5/8"x8' COPPER CLAD STAINLESS STEEL GROUND ROD
	GROUND
	EXOTHERMIC CONNECTION (CAD WELD) MECHANICAL CONNECTION
AGB/EGB	ANTENNA GROUND BAR/EQUIPMENT GROUND BAR
MGB	MASTER GROUND BAR
G	GROUND COPPER WIRE, SIZED AS NOTED
	EXPOSED WIRING, SIZE AS NOTED
	INSULATED WIRING, SIZE AS NOTED
	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL



2 TYPICAL GROUNDING RISER DIAGRAM

SCALE: N.T.S.

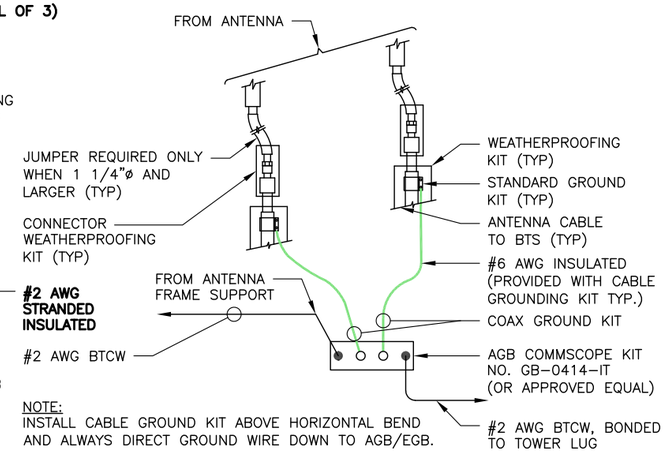
SOURCE: B+T 06-09-2019



SOURCE: B+T 06-09-2019

5 PHOTO DETAIL: PPC PANEL

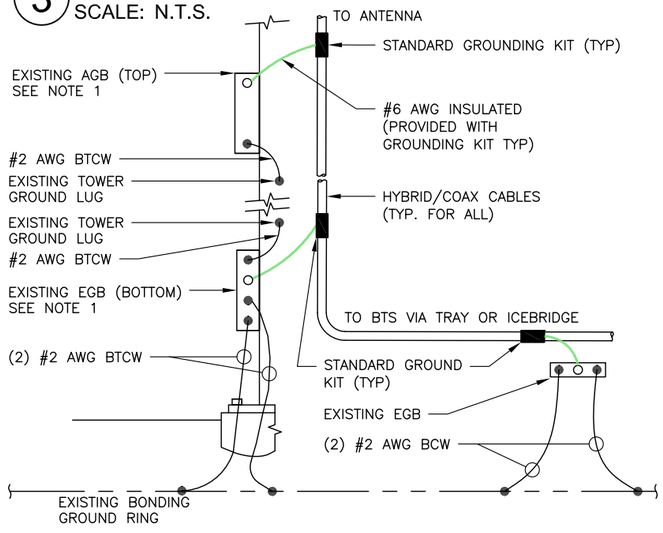
SCALE: N.T.S.



NOTE:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB.

3 TOWER TOP CABLE GROUNDING DETAIL

SCALE: N.T.S.



NOTE:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER. ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

6 TOWER BOTTOM CABLE GROUNDING DETAIL

SCALE: N.T.S.

ELECTRICAL & 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 SPECIFICATIONS 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. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL 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 PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
11. GROUNDING SHALL COMPLY WITH NEC ART. 250.
12. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
13. 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.
14. 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.
15. 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 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
20. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

B+T GRP
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CT11155F

PLAINFIELD/
I-395 X90_1

56 ROPER RD.
PLAINFIELD, CT 06374

PROJECT NO:	136046.002.01
CHECKED BY:	FWP

ISSUED FOR:

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3	5/12/21	BEH	FOR CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

SHEET NUMBER:	REVISION:
E-1	3

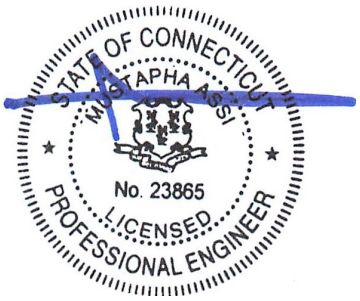
EXHIBIT 7

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

Structural Analysis Report

Existing 178 ft Valmont Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT00594-S
Customer Site Name: Plainfield North
Carrier Name: T-Mobile (App#: 116838, V3)
Carrier Site ID / Name: CT11155F / Plainfield
Site Location: 56 Roper Road
Plainfield, Connecticut
Windham County
Latitude: 41.746002
Longitude: -71.880158

Exp.10/31/2021



04/27/2021

Analysis Result:

Max Structural Usage: 76.3% [Pass]
Max Foundation Usage: 74.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification : +1%

Report Prepared By : Linfeng Chen

Introduction

The purpose of this report is to summarize the analysis results on the 178 ft Valmont 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 shaft section data prepared by Valmont. Dated 09-11-1998. Project No F138. Order No 17665-98. Monopole previous structural report prepared by FDH Engineering, Inc. Dated 03-28-2014. Project No 1425O21400.
Foundation Drawing	Monopole foundation mapping report prepared by FDH Engineering, Inc. Dated 08-16-2012. Project No 1207132 EN1.
Geotechnical Report	Monopole geotechnical report prepared by Jaworski Geotech, Inc. Dated 07-23-1998. Project No C98326G.
Modification Drawings	Tower previous modifications by Tower Engineering Solutions. Dated 11-25-2015. TES Project No 18414. Modification Inspection Report prepared by Tower Engineering Solutions. Dated 03-21-2016. TES Project No 20244.
Mount Analysis	N/A

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} = 135.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 105.0 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:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.171, S_1 = 0.061

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
-	165.0	3	RFS APXV18-203219-C-A20 - Panel	Platform w/ Hand Rails + Reinforcement Kit (SitePro1 PRK-1245)	(12) 1 5/8"	T-Mobile
-		3	Commscope LNX- 6515DS-VTM - Panel			
-		6	Ericsson KRY 112 144/1 TMAs			
-		3	Kathrein 782 11056 Bias T's			
6	155.0	1	Kathrein 800 10764 - Panel	Platform w/ Hand Rails	(12) 1 5/8"; (2) 3/4" DC Power; (1) 7/16" Fiber; (1) 1/2"	AT&T
7		1	KMW AM-X-CD-17-65-00T - Panel			
8		1	Nokia CS72188.01			
9		6	Powerwave 7770 - Panel			
10		6	Powerwave LGP21401 TMAs			
11		6	Powerwave LGP21903 Diplexers			
12		1	Powerwave P65-17-XLH-RR - Panel			
13	152.5	6	Ericsson RRUS11 RRUs	Ring Mount (Part No LWRM)	-	-
14		1	Raycap DC2-48-60-18-8F			
15	145.0	3	ALU 1900 MHz - RRUs	Platform w/ Hand Rails w/ (1) SitePro platform reinforcement kit PRK-1245L and (1) SitePro v-brace kit PRk-SFS-H-L	(4) 1-1/4" Fiber	Sprint Nextel
16		6	ALU 800 MHz - RRUs			
17		3	ALU TD-RRH8x20-25 - RRUs			
18		3	RFS APXVTM14-C-I20 - Panel			
19		3	Commscope NNVV-65B-R4 - Panel			
20	125.0[1]	6	Antel LPA-80080-4CF-EDIN-0 - Panel	Low Profile Platform	(11) 1 5/8"; (2) 1 5/8" Hybrid; (1) 1/2"	Verizon[1]
21		6	Commscope SBNHH-1D65B - Panel			
22		3	ALU RRH2x60-700			
23		3	ALU RRH2x60-AWS			
24		3	ALU RRH2X60-PCS			
25		1	GPS			
26		2	RFS DB-T1-6Z-8AB-0Z			
27		6	RFS FD9R6004/2C-3L			

[1] Existing transmission lines considered running outside the pole shaft.

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	165.0	3	RFS APXV18-206516S-C-A20 - Panel	Platform w/ Hand Rails + Reinforcement Kit (SitePro1 PRK-1245) + Sitepro PRK-SFS V-brace kit	(3) 1.9" Fiber (8) 1 5/8"	T-Mobile
2		3	Kathrein 782 11056			
3		3	RFS APXVAALL24-43-U-NA20 - Panel			
4		6	Ericsson KRY 112 489/2 TMAs			
5		3	Ericsson 4449 B71 + B85 RRUs			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**76.3%**	**65.5%**	**44.2%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5401.6	45.7	114.0

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 1.2916 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 76.25% at 0.0ft

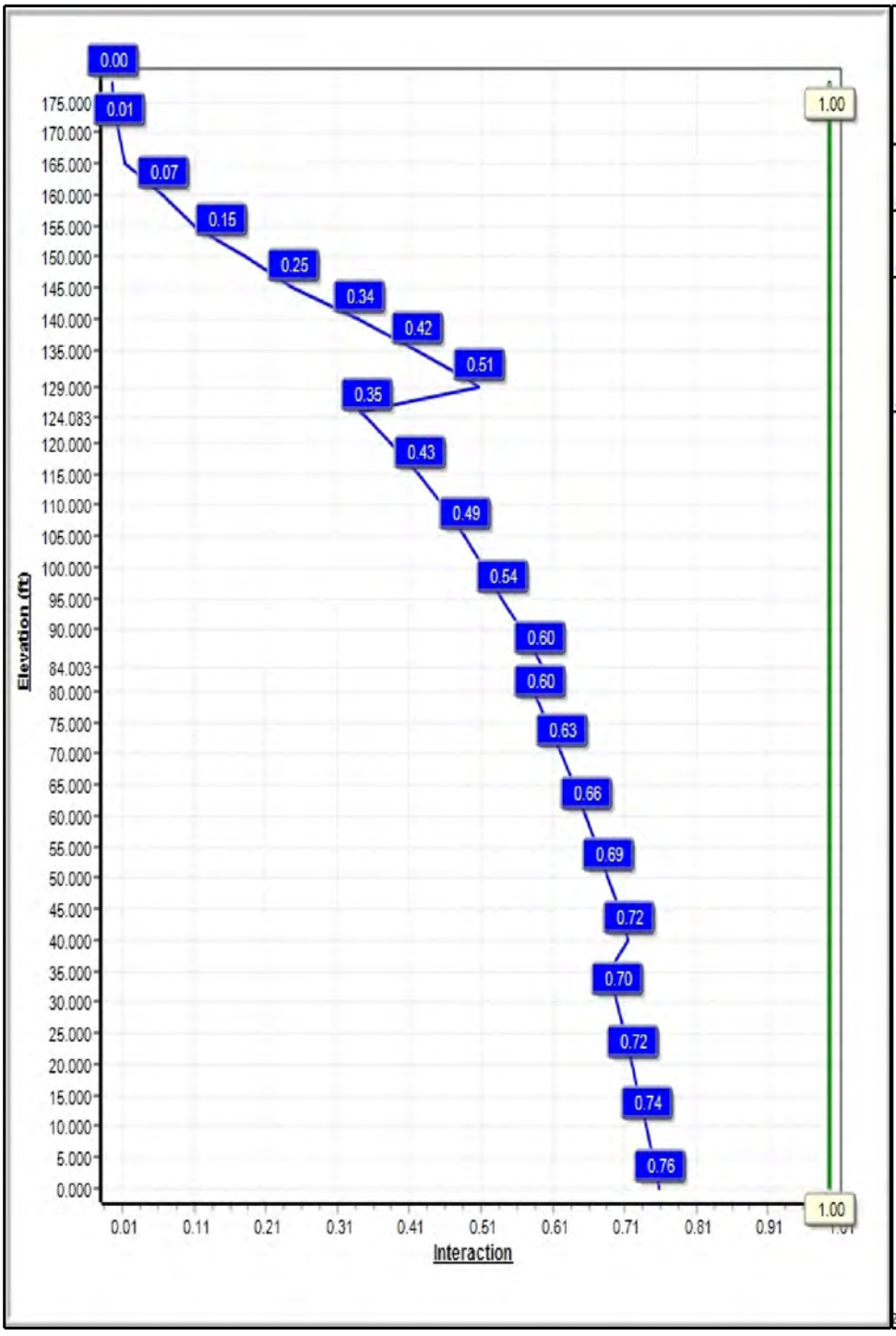
Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North	**Exposure:**	B	
Height:	178.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

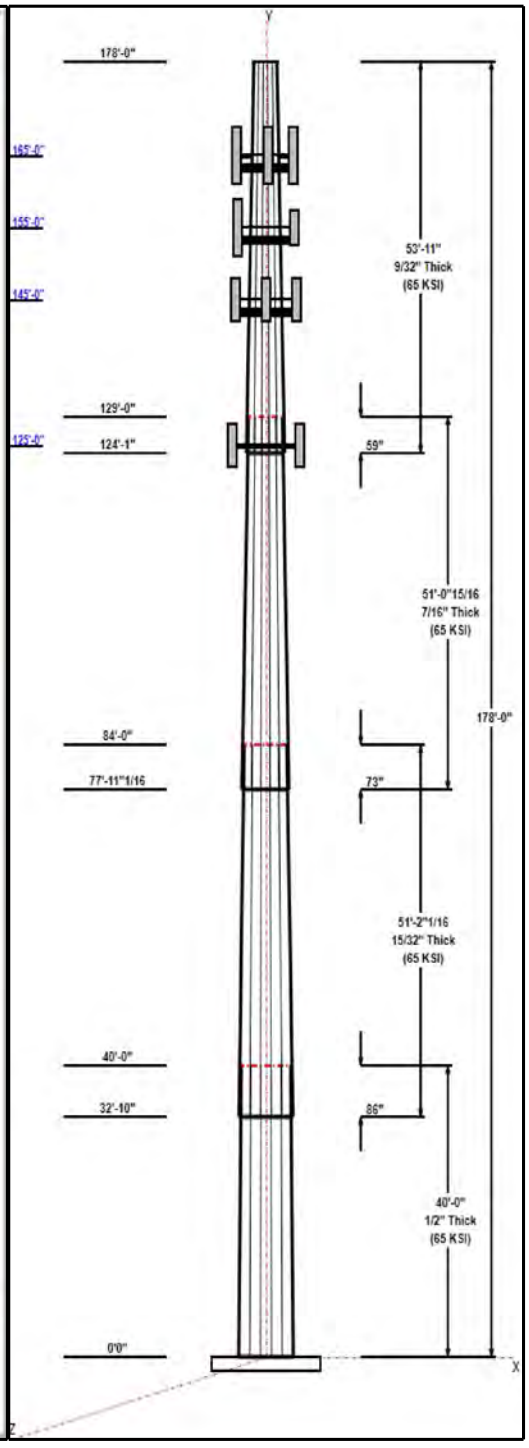
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 105 mph Wind

Iterations: 25





Structure: CT00594-S-SBA

Type: Tapered
Site Name: Plainfield North
Height: 178.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.22997

4/27/2021

Tower Engineering Solutions

Shaft Properties

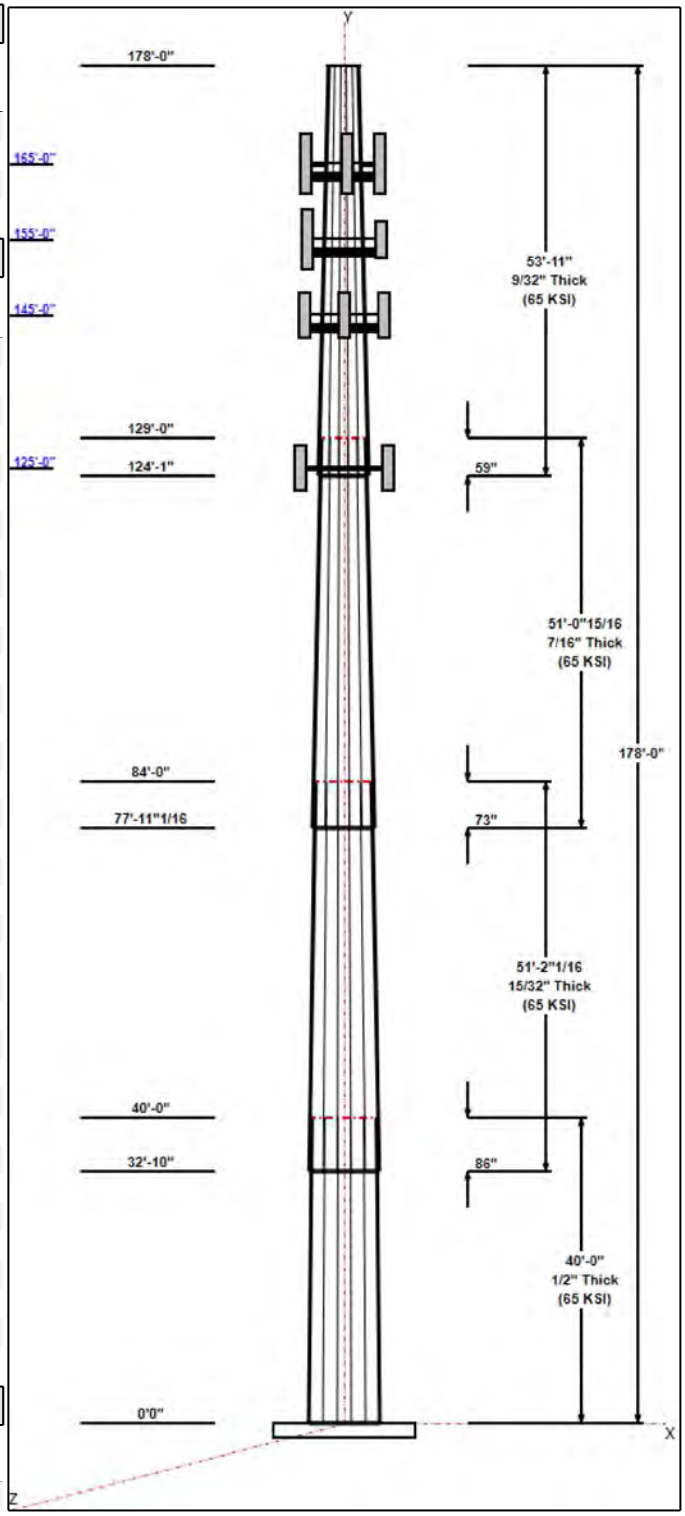
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	40.00	49.05	58.25	0.500		0.22997	65
2	51.17	39.87	51.64	0.469	Slip	0.22997	65
3	51.08	30.40	42.14	0.438	Slip	0.22997	65
4	53.92	19.69	32.09	0.281	Slip	0.22997	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
165.00	165.00	3	RFS	T-Mobile
165.00	165.00	3	Kathrein 782 11056	T-Mobile
165.00	165.00	3	Reinf. Kit (SitePro1	T-Mobile
165.00	165.00	1	Platform w/ Hand Rails	T-Mobile
165.00	165.00	3	RFS	T-Mobile
165.00	165.00	6	Ericsson KRY 112 489/2	T-Mobile
165.00	165.00	3	Ericsson 4449 B71 + B85	T-Mobile
165.00	165.00	1	(3) SFS-H-L (V-Braces)	T-Mobile
155.00	155.00	1	Platform w/ Hand Rails	AT&T
155.00	155.00	6	Powerwave 7770	AT&T
155.00	155.00	1	KMW AM-X-CD-17-65-00T	AT&T
155.00	155.00	1	Powerwave	AT&T
155.00	155.00	1	Kathrein 800 10764	AT&T
155.00	155.00	1	Nokia CS72188.01	AT&T
155.00	155.00	6	Powerwave LGP21401	AT&T
155.00	155.00	6	Powerwave LGP21903	AT&T
152.50	152.50	6	Ericsson RRUS11 RRUs	---
152.50	152.50	1	Raycap DC2-48-60-18-8F	---
152.50	152.50	1	Ring Mount (Part No	---
145.00	145.00	1	Platform w/ Hand Rails	Sprint Nextel
145.00	145.00	3	APXVTM14-C-I20	Sprint Nextel
145.00	145.00	3	NNVV-65B-R4	Sprint Nextel
145.00	145.00	1	(3) SFS-H-L (V-Braces)	Sprint Nextel
145.00	145.00	1	PRK-1245 (kicker kit)	Sprint Nextel
145.00	145.00	3	ALU 1900 Mhz- RRUs	Sprint Nextel
145.00	145.00	6	ALU 800 Mhz- RRUs	Sprint Nextel
145.00	145.00	3	ALU TD-RRH8x20-25-	Sprint Nextel
125.00	125.00	1	Low Profile Platform	Verizon
125.00	125.00	6	Commscope	Verizon
125.00	125.00	6	Antel	Verizon
125.00	125.00	3	ALU RRH2x60-AWS	Verizon
125.00	125.00	3	ALU RRH2x60-700	Verizon
125.00	125.00	3	ALU RRH2X60-PCS	Verizon
125.00	125.00	6	RFS FD9R6004/2C-3L	Verizon
125.00	125.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
125.00	125.00	1	GPS	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	165.00	Inside	1.9" Fiber	T-Mobile
3.00	165.00	Inside	1 5/8" Coax	T-Mobile
3.00	155.00	Inside	1 5/8" Coax	AT&T
3.00	155.00	Inside	1/2" Coax	AT&T
3.00	155.00	Inside	3/4" DC Power	AT&T
3.00	155.00	Inside	7/16" Fiber	AT&T



3.00	145.00	Inside	1-1/4" Fiber	Sprint Nextel
3.00	125.00	Outside	1 5/8" Coax	Verizon
3.00	125.00	Outside	1 5/8" Hybrid	Verizon
3.00	125.00	Outside	1/2" Coax	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	72.8	60.0	Polygon

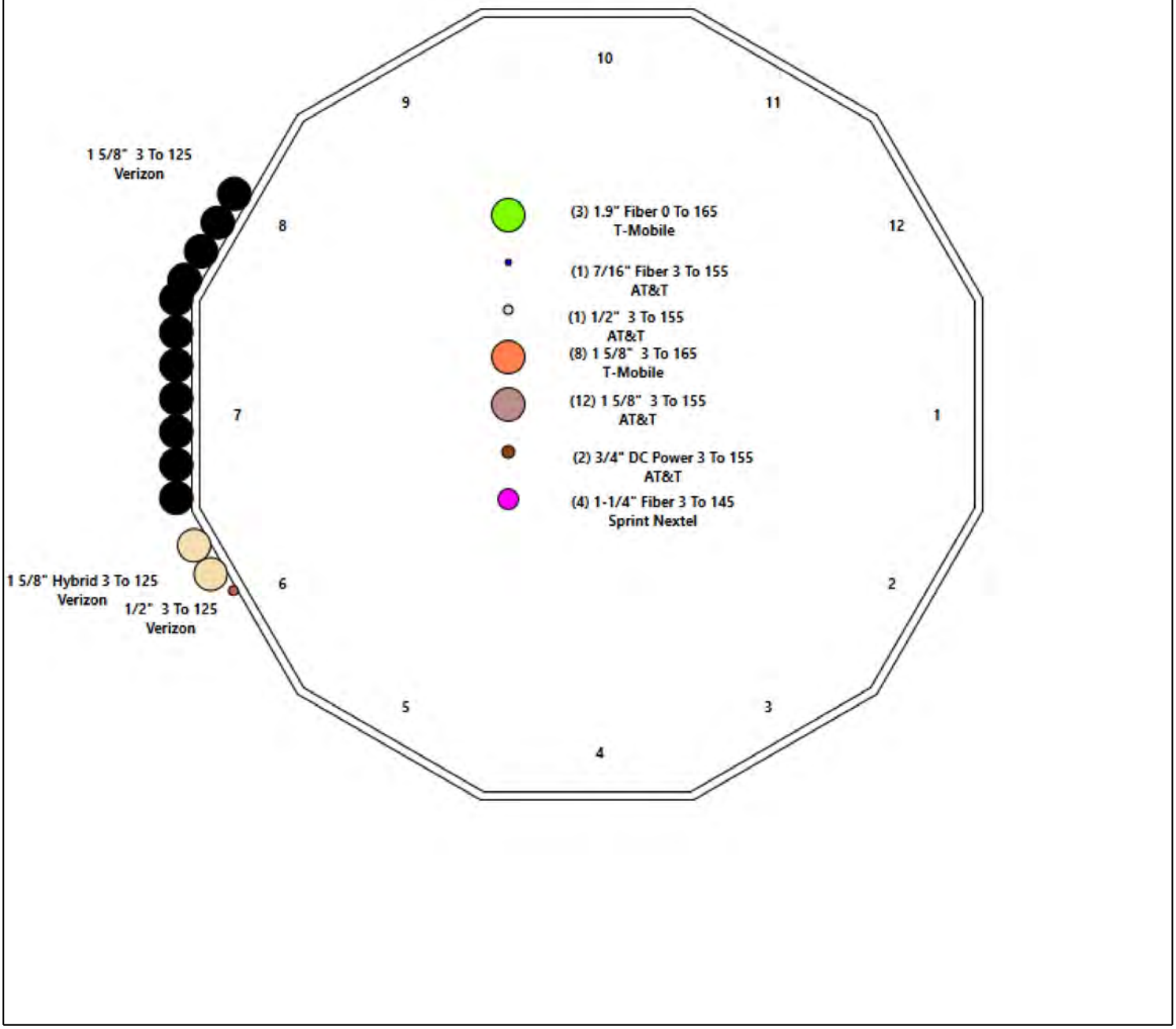
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	5401.6	45.7	65.9
0.9D + 1.6W 105 mph Wind	5336.6	45.7	49.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1235.6	9.6	114.0
1.2D + 1.0E	199.9	1.7	65.9
0.9D + 1.0E	197.3	1.7	49.4
1.0D + 1.0W 60 mph Wind	1095.2	9.3	54.9

Structure: CT00594-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Plainfield North
Height: 178.00 (ft)

4/27/2021



Shaft Properties

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (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

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	40.000	0.5000	65		0.00	11,647
2	12	51.170	0.4688	65	Slip	86.00	11,901
3	12	51.080	0.4375	65	Slip	73.00	8,774
4	12	53.917	0.2813	65	Slip	59.00	4,255
					Total Shaft Weight:		**36,577**

	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	58.25	0.00	92.98	39579.27	29.07	116.50	49.05	40.00	78.17	23518.5	24.14	98.10	0.229972
2	51.64	32.83	77.23	25809.44	27.37	110.16	39.87	84.00	59.47	11783.7	20.65	85.05	0.229972
3	42.14	77.92	58.75	13043.76	23.67	96.33	30.40	129.00	42.20	4834.88	16.47	69.48	0.229972
4	32.09	124.0	28.81	3720.03	28.43	114.10	19.69	178.00	17.58	845.14	16.62	70.01	0.229972

Load Summary

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

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	165.00	RFS APXV18-206516S-C-A20	3	18.70	3.61	0.73	113.03	6.110	0.75	0.00	0.00
2	165.00	Kathrein 782 11056	3	1.80	0.13	0.78	5.14	0.523	0.78	0.00	0.00
3	165.00	Reinf. Kit (SitePro1 PRK-1245)	3	95.00	3.50	0.75	351.83	14.259	0.75	0.00	0.00
4	165.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4819.09	68.191	1.00	0.00	0.00
5	165.00	RFS APXVAALL24-43-U-NA20	3	122.80	20.24	0.70	723.66	22.831	0.70	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	15.40	0.65	0.67	39.12	1.474	0.67	0.00	0.00
7	165.00	Ericsson 4449 B71 + B85	3	71.00	1.97	0.67	142.86	2.707	0.67	0.00	0.00
8	165.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	662.26	16.144	1.00	0.00	0.00
9	155.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4801.52	68.015	1.00	0.00	0.00
10	155.00	Powerwave 7770	6	27.00	5.54	0.72	179.90	8.396	0.72	0.00	0.00
11	155.00	KMW AM-X-CD-17-65-00T	1	30.80	5.00	0.75	180.62	7.507	0.75	0.00	0.00
12	155.00	Powerwave P65-17-XLH-RR	1	59.00	11.44	0.75	348.75	15.767	0.75	0.00	0.00
13	155.00	Kathrein 800 10764	1	40.80	5.88	0.75	211.38	8.746	0.75	0.00	0.00
14	155.00	Nokia CS72188.01	1	19.80	1.32	0.67	58.65	2.439	0.67	0.00	0.00
15	155.00	Powerwave LGP21401 TMAs	6	14.10	1.29	0.67	47.54	2.408	0.67	0.00	0.00
16	155.00	Powerwave LGP21903 Diplexers	6	5.50	0.27	0.67	16.77	0.802	0.67	0.00	0.00
17	152.50	Ericsson RRUS11 RRUs	6	51.00	3.26	0.67	152.85	4.971	0.67	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	32.80	1.47	1.00	115.37	2.405	1.00	0.00	0.00
19	152.50	Ring Mount (Part No LWRM)	1	150.00	5.00	1.00	317.82	9.662	1.00	0.00	0.00
20	145.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4782.89	67.829	1.00	0.00	0.00
21	145.00	APXVTM14-C-I20	3	56.20	6.34	0.77	283.73	7.851	0.77	0.00	0.00
22	145.00	NNVV-65B-R4	3	77.40	12.27	0.74	456.86	14.205	0.74	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	656.71	16.023	1.00	0.00	0.00
24	145.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	896.18	22.719	1.00	0.00	0.00
25	145.00	ALU 1900 Mhz- RRUs	3	60.00	2.77	0.67	170.87	4.456	0.67	0.00	0.00
26	145.00	ALU 800 Mhz- RRUs	6	53.00	2.49	0.67	151.28	4.010	0.67	0.00	0.00
27	145.00	ALU TD-RRH8x20-25- RRUs	3	70.00	4.05	0.67	227.05	5.158	0.67	0.00	0.00
28	125.00	Low Profile Platform	1	1200.00	25.00	1.00	2570.95	52.419	1.00	0.00	0.00
29	125.00	Commscope SBNHH-1D65B	6	50.71	8.08	0.83	329.88	9.779	0.83	0.00	0.00
30	125.00	Antel LPA-80080-4CF-EDIN-0	6	12.00	2.61	0.74	163.37	3.786	0.74	0.00	0.00
31	125.00	ALU RRH2x60-AWS	3	60.00	3.50	0.67	174.28	4.533	0.67	0.00	0.00
32	125.00	ALU RRH2x60-700	3	60.00	3.50	0.67	174.28	4.533	0.67	0.00	0.00
33	125.00	ALU RRH2X60-PCS	3	55.00	3.50	0.67	159.76	4.533	0.67	0.00	0.00
34	125.00	RFS FD9R6004/2C-3L	6	3.10	0.36	0.67	13.61	0.940	0.67	0.00	0.00
35	125.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.10	0.91	363.30	5.149	0.91	0.00	0.00
36	125.00	GPS	1	10.00	1.00	0.83	48.39	1.932	0.87	0.00	0.00
		Totals:	**106**	**12,190.67**			**36,713.12**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	165.00	(3) 1.9" Fiber	0.00	Inside
3.00	165.00	(8) 1 5/8" Coax	0.00	Inside
3.00	155.00	(12) 1 5/8" Coax	0.00	Inside
3.00	155.00	(1) 1/2" Coax	0.00	Inside
3.00	155.00	(2) 3/4" DC Power	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
3.00	155.00	(1) 7/16" Fiber			0.00	Inside					
3.00	145.00	(4) 1-1/4" Fiber			0.00	Inside					
3.00	125.00	(11) 1 5/8" Coax			0.00	Outside					
3.00	125.00	(2) 1 5/8" Hybrid			0.00	Outside					
3.00	125.00	(1) 1/2" Coax			0.00	Outside					

Shaft Section Properties

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

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		0.5000	58.250	92.978	39579.3	29.07	116.50	73.0	1312.	0.0
5.00		0.5000	57.100	91.126	37261.8	28.46	114.20	73.7	1260.	1566.2
10.00		0.5000	55.950	89.275	35036.7	27.84	111.90	74.4	1209.	1534.7
15.00		0.5000	54.800	87.424	32901.9	27.22	109.60	75.0	1159.	1503.2
20.00		0.5000	53.651	85.572	30855.7	26.61	107.30	75.7	1111.	1471.7
25.00		0.5000	52.501	83.721	28896.1	25.99	105.00	76.4	1063.	1440.2
30.00		0.5000	51.351	81.870	27021.3	25.38	102.70	77.0	1016.	1408.7
32.83	Bot - Section 2	0.5000	50.699	80.821	25995.8	25.03	101.40	77.4	990.5	784.3
35.00		0.5000	50.201	80.019	25229.4	24.76	100.40	77.7	970.9	1159.5
40.00	Top - Section 1	0.4688	49.989	74.744	23394.9	26.43	106.64	0.0	0.0	2632.1
45.00		0.4688	48.839	73.008	21802.8	25.77	104.19	76.6	862.4	1256.9
50.00		0.4688	47.689	71.273	20284.5	25.12	101.74	77.3	821.7	1227.4
55.00		0.4688	46.539	69.537	18838.5	24.46	99.28	78.0	782.0	1197.9
60.00		0.4688	45.389	67.802	17462.8	23.80	96.83	78.8	743.3	1168.3
65.00		0.4688	44.239	66.066	16155.9	23.14	94.38	79.5	705.5	1138.8
70.00		0.4688	43.089	64.331	14915.8	22.49	91.92	80.2	668.7	1109.3
75.00		0.4688	41.940	62.595	13740.8	21.83	89.47	80.9	632.9	1079.8
77.92	Bot - Section 3	0.4688	41.268	61.582	13084.1	21.45	88.04	81.3	612.5	616.9
80.00		0.4688	40.790	60.860	12629.2	21.17	87.02	81.6	598.1	846.8
84.00	Top - Section 2	0.4375	40.744	56.782	11774.7	22.81	93.13	0.0	0.0	1601.9
85.00		0.4375	40.515	56.459	11574.9	22.67	92.61	80.0	551.9	192.0
90.00		0.4375	39.365	54.839	10606.9	21.97	89.98	80.8	520.5	946.8
95.00		0.4375	38.215	53.219	9694.5	21.26	87.35	81.5	490.1	919.2
100.00		0.4375	37.065	51.599	8835.9	20.56	84.72	81.9	460.5	891.7
105.00		0.4375	35.915	49.980	8029.6	19.85	82.09	81.9	431.9	864.1
110.00		0.4375	34.766	48.360	7273.9	19.15	79.46	81.9	404.2	836.6
115.00		0.4375	33.616	46.740	6567.2	18.44	76.84	81.9	377.4	809.0
120.00		0.4375	32.466	45.120	5907.8	17.74	74.21	81.9	351.5	781.4
124.08	Bot - Section 4	0.4375	31.527	43.797	5403.2	17.17	72.06	81.9	331.1	617.7
125.00		0.4375	31.316	43.500	5294.1	17.04	71.58	81.9	326.6	225.7
129.00	Top - Section 3	0.2813	30.959	27.782	3337.3	27.35	110.08	0.0	0.0	967.1
130.00		0.2813	30.729	27.574	3262.8	27.13	109.26	75.1	205.1	94.2
135.00		0.2813	29.579	26.533	2906.9	26.04	105.17	76.3	189.9	460.3
140.00		0.2813	28.429	25.491	2577.9	24.94	101.08	77.5	175.2	442.6
145.00		0.2813	27.279	24.450	2274.7	23.85	96.99	78.7	161.1	424.8
150.00		0.2813	26.129	23.409	1996.2	22.75	92.90	79.9	147.6	407.1
152.50		0.2813	25.554	22.888	1866.0	22.20	90.86	80.5	141.1	196.9
155.00		0.2813	24.979	22.367	1741.5	21.65	88.82	81.1	134.7	192.5
160.00		0.2813	23.829	21.326	1509.4	20.56	84.73	81.9	122.4	371.7
165.00		0.2813	22.680	20.285	1298.9	19.46	80.64	81.9	110.6	354.0
170.00		0.2813	21.530	19.243	1109.0	18.37	76.55	81.9	99.5	336.3
175.00		0.2813	20.380	18.202	938.5	17.27	72.46	81.9	89.0	318.5
178.00		0.2813	19.690	17.577	845.1	16.62	70.01	81.9	82.9	182.6
										36577.3

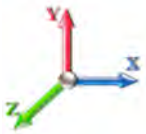
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	0.70	18.769	20.65	441.48	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	18.769	20.65	432.76	1.000	0.000	5.00	24.879	24.88	821.8	0.0	1879.4
10.00		1.00	0.70	18.769	20.65	424.05	1.000	0.000	5.00	24.383	24.38	805.5	0.0	1841.6
15.00		1.00	0.70	18.769	20.65	415.33	1.000	0.000	5.00	23.887	23.89	789.1	0.0	1803.8
20.00		1.00	0.70	18.769	20.65	406.62	1.000	0.000	5.00	23.391	23.39	772.7	0.0	1766.0
25.00		1.00	0.70	18.769	20.65	397.90	1.000	0.000	5.00	22.895	22.89	756.3	0.0	1728.2
30.00		1.00	0.70	18.785	20.66	389.35	1.000	0.000	5.00	22.399	22.40	740.5	0.0	1690.4
32.83	Bot - Section 2	1.00	0.72	19.275	21.20	389.40	1.000	0.000	2.83	12.473	12.47	423.1	0.0	941.1
35.00		1.00	0.73	19.631	21.59	389.11	1.000	0.000	2.17	9.606	9.61	331.9	0.0	1391.5
40.00	Top - Section 1	1.00	0.76	20.394	22.43	387.52	1.000	0.000	5.00	21.811	21.81	782.9	0.0	3158.6
45.00		1.00	0.79	21.092	23.20	392.39	1.000	0.000	5.00	21.315	21.32	791.3	0.0	1508.3
50.00		1.00	0.81	21.737	23.91	388.96	1.000	0.000	5.00	20.819	20.82	796.5	0.0	1472.9
55.00		1.00	0.83	22.337	24.57	384.79	1.000	0.000	5.00	20.323	20.32	799.0	0.0	1437.4
60.00		1.00	0.85	22.899	25.19	379.97	1.000	0.000	5.00	19.827	19.83	799.1	0.0	1402.0
65.00		1.00	0.87	23.429	25.77	374.61	1.000	0.000	5.00	19.331	19.33	797.1	0.0	1366.6
70.00		1.00	0.89	23.930	26.32	368.75	1.000	0.000	5.00	18.835	18.84	793.3	0.0	1331.1
75.00		1.00	0.91	24.406	26.85	362.47	1.000	0.000	5.00	18.339	18.34	787.8	0.0	1295.7
77.92	Bot - Section 3	1.00	0.92	24.674	27.14	358.62	1.000	0.000	2.92	10.481	10.48	455.1	0.0	740.3
80.00		1.00	0.93	24.861	27.35	355.80	1.000	0.000	2.08	7.520	7.52	329.0	0.0	1016.1
84.00	Top - Section 2	1.00	0.94	25.210	27.73	350.20	1.000	0.000	4.00	14.231	14.23	631.4	0.0	1922.3
85.00		1.00	0.94	25.295	27.82	356.47	1.000	0.000	1.00	3.494	3.49	155.5	0.0	230.4
90.00		1.00	0.96	25.711	28.28	349.19	1.000	0.000	5.00	17.229	17.23	779.6	0.0	1136.2
95.00		1.00	0.97	26.112	28.72	341.62	1.000	0.000	5.00	16.733	16.73	769.0	0.0	1103.1
100.00		1.00	0.99	26.497	29.15	333.78	1.000	0.000	5.00	16.237	16.24	757.2	0.0	1070.0
105.00		1.00	1.00	26.869	29.56	325.69	1.000	0.000	5.00	15.741	15.74	744.4	0.0	1037.0
110.00		1.00	1.02	27.229	29.95	317.36	1.000	0.000	5.00	15.245	15.24	730.6	0.0	1003.9
115.00		1.00	1.03	27.577	30.33	308.82	1.000	0.000	5.00	14.749	14.75	715.8	0.0	970.8
120.00		1.00	1.04	27.914	30.71	300.08	1.000	0.000	5.00	14.253	14.25	700.2	0.0	937.7
124.08	Bot - Section 4	1.00	1.05	28.182	31.00	292.79	1.000	0.000	4.08	11.272	11.27	559.1	0.0	741.3
125.00	Appurtenance(s)	1.00	1.05	28.242	31.07	291.14	1.000	0.000	0.92	2.529	2.53	125.7	0.0	270.8
129.00	Top - Section 3	1.00	1.06	28.497	31.35	283.86	1.000	0.000	4.00	10.842	10.84	543.8	0.0	1160.5
130.00		1.00	1.07	28.560	31.42	287.29	1.000	0.000	1.00	2.661	2.66	133.8	0.0	113.0
135.00		1.00	1.08	28.869	31.76	278.03	1.000	0.000	5.00	13.007	13.01	660.9	0.0	552.3
140.00		1.00	1.09	29.171	32.09	268.61	1.000	0.000	5.00	12.511	12.51	642.3	0.0	531.1
145.00	Appurtenance(s)	1.00	1.10	29.465	32.41	259.05	1.000	0.000	5.00	12.015	12.02	623.1	0.0	509.8
150.00		1.00	1.11	29.752	32.73	249.33	1.000	0.000	5.00	11.519	11.52	603.2	0.0	488.6
152.50	Appurtenance(s)	1.00	1.11	29.893	32.88	244.42	1.000	0.000	2.50	5.574	5.57	293.2	0.0	236.3
155.00	Appurtenance(s)	1.00	1.12	30.032	33.03	239.48	1.000	0.000	2.50	5.450	5.45	288.0	0.0	231.0
160.00		1.00	1.13	30.305	33.34	229.49	1.000	0.000	5.00	10.527	10.53	561.5	0.0	446.0
165.00	Appurtenance(s)	1.00	1.14	30.573	33.63	219.38	1.000	0.000	5.00	10.031	10.03	539.8	0.0	424.8
170.00		1.00	1.15	30.835	33.92	209.15	1.000	0.000	5.00	9.535	9.54	517.5	0.0	403.5
175.00		1.00	1.16	31.091	34.20	198.80	1.000	0.000	5.00	9.039	9.04	494.6	0.0	382.3
178.00		1.00	1.17	31.243	34.37	192.54	1.000	0.000	3.00	5.185	5.19	285.1	0.0	219.1
								Totals:	**178.00**			**25,427.3**		**43,892.8**

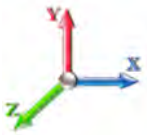
Discrete Appurtenance Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	165.00	Reinf. Kit (SitePro1	3	30.573	33.630	0.75	1.00	7.88	342.00	0.000	0.000	423.74	0.00	0.00
2	165.00	Kathrein 782 11056	3	30.573	33.630	0.58	0.75	0.23	6.48	0.000	0.000	12.28	0.00	0.00
3	165.00	RFS	3	30.573	33.630	0.55	0.75	5.93	67.32	0.000	0.000	319.05	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	30.573	33.630	1.00	1.00	6.70	276.00	0.000	0.000	360.52	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	30.573	33.630	0.50	0.75	2.97	255.60	0.000	0.000	159.80	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	30.573	33.630	0.50	0.75	1.96	110.88	0.000	0.000	105.45	0.00	0.00
7	165.00	RFS	3	30.573	33.630	0.52	0.75	31.88	442.08	0.000	0.000	1715.31	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	30.573	33.630	1.00	1.00	40.00	2400.00	0.000	0.000	2152.34	0.00	0.00
9	155.00	Powerwave 7770	6	30.032	33.035	0.54	0.75	17.95	194.40	0.000	0.000	948.74	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	30.032	33.035	0.56	0.75	2.81	36.96	0.000	0.000	148.66	0.00	0.00
11	155.00	Powerwave	1	30.032	33.035	0.56	0.75	6.43	70.80	0.000	0.000	340.13	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	30.032	33.035	1.00	1.00	40.00	2400.00	0.000	0.000	2114.24	0.00	0.00
13	155.00	Powerwave LGP21903	6	30.032	33.035	0.50	0.75	0.81	39.60	0.000	0.000	43.03	0.00	0.00
14	155.00	Kathrein 800 10764	1	30.032	33.035	0.56	0.75	3.31	48.96	0.000	0.000	174.82	0.00	0.00
15	155.00	Nokia CS72188.01	1	30.032	33.035	0.50	0.75	0.66	23.76	0.000	0.000	35.06	0.00	0.00
16	155.00	Powerwave LGP21401	6	30.032	33.035	0.50	0.75	3.89	101.52	0.000	0.000	205.58	0.00	0.00
17	152.50	Ring Mount (Part No	1	29.893	32.882	1.00	1.00	5.00	180.00	0.000	0.000	263.05	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	29.893	32.882	0.90	0.90	1.32	39.36	0.000	0.000	69.60	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	29.893	32.882	0.60	0.90	11.79	367.20	0.000	0.000	620.53	0.00	0.00
20	145.00	ALU 800 Mhz- RRUs	6	29.465	32.411	0.50	0.75	7.51	381.60	0.000	0.000	389.32	0.00	0.00
21	145.00	ALU 1900 Mhz- RRUs	3	29.465	32.411	0.50	0.75	4.18	216.00	0.000	0.000	216.55	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	29.465	32.411	1.00	1.00	9.50	557.89	0.000	0.000	492.65	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	29.465	32.411	1.00	1.00	6.70	276.00	0.000	0.000	347.45	0.00	0.00
24	145.00	NNVV-65B-R4	3	29.465	32.411	0.55	0.75	20.43	278.64	0.000	0.000	1059.44	0.00	0.00
25	145.00	APXVTM14-C-I20	3	29.465	32.411	0.58	0.75	10.98	202.32	0.000	0.000	569.61	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	29.465	32.411	1.00	1.00	40.00	2400.00	0.000	0.000	2074.33	0.00	0.00
27	145.00	ALU TD-RRH8x20-25-	3	29.465	32.411	0.50	0.75	6.11	252.00	0.000	0.000	316.61	0.00	0.00
28	125.00	Commscope	6	28.242	31.066	0.66	0.80	32.19	365.11	0.000	0.000	1600.05	0.00	0.00
29	125.00	Antel	6	28.242	31.066	0.59	0.80	9.31	86.40	0.000	0.000	462.67	0.00	0.00
30	125.00	ALU RRH2x60-AWS	3	28.242	31.066	0.54	0.80	5.63	216.00	0.000	0.000	279.74	0.00	0.00
31	125.00	Low Profile Platform	1	28.242	31.066	1.00	1.00	25.00	1440.00	0.000	0.000	1242.63	0.00	0.00
32	125.00	GPS	1	28.242	31.066	0.67	0.80	0.67	12.00	0.000	0.000	33.12	0.00	0.00
33	125.00	ALU RRH2x60-700	3	28.242	31.066	0.54	0.80	5.63	216.00	0.000	0.000	279.74	0.00	0.00
34	125.00	ALU RRH2X60-PCS	3	28.242	31.066	0.54	0.80	5.63	198.00	0.000	0.000	279.74	0.00	0.00
35	125.00	RFS FD9R6004/2C-3L	6	28.242	31.066	0.54	0.80	1.16	22.32	0.000	0.000	57.55	0.00	0.00
36	125.00	RFS DB-T1-6Z-8AB-0Z	2	28.242	31.066	0.73	0.80	5.97	105.60	0.000	0.000	296.72	0.00	0.00
							Totals:		**14,628.80**			**20,209.87**		

Total Applied Force Summary

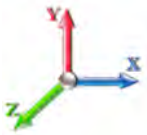
Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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		821.84	1993.89	0.00	0.00
10.00		805.45	2098.13	0.00	0.00
15.00		789.07	2060.33	0.00	0.00
20.00		772.68	2022.54	0.00	0.00
25.00		756.30	1984.74	0.00	0.00
30.00		740.54	1946.94	0.00	0.00
32.83		423.13	1086.49	0.00	0.00
35.00		331.87	1502.62	0.00	0.00
40.00		782.89	3415.09	0.00	0.00
45.00		791.27	1764.84	0.00	0.00
50.00		796.47	1729.41	0.00	0.00
55.00		798.96	1693.97	0.00	0.00
60.00		799.08	1658.54	0.00	0.00
65.00		797.12	1623.11	0.00	0.00
70.00		793.28	1587.67	0.00	0.00
75.00		787.77	1552.24	0.00	0.00
77.92		455.14	890.12	0.00	0.00
80.00		329.02	1122.83	0.00	0.00
84.00		631.43	2127.72	0.00	0.00
85.00		155.53	281.57	0.00	0.00
90.00		779.64	1392.70	0.00	0.00
95.00		768.98	1359.63	0.00	0.00
100.00		757.20	1326.56	0.00	0.00
105.00		744.37	1293.49	0.00	0.00
110.00		730.56	1260.42	0.00	0.00
115.00		715.83	1227.34	0.00	0.00
120.00		700.22	1194.27	0.00	0.00
124.08		559.09	950.79	0.00	0.00
125.00	(31) attachments	4657.69	2979.31	0.00	0.00
129.00		543.79	1299.49	0.00	0.00
130.00		133.75	147.77	0.00	0.00
135.00		660.90	726.07	0.00	0.00
140.00		642.34	704.81	0.00	0.00
145.00	(21) attachments	6089.07	5248.00	0.00	0.00
150.00		603.18	639.40	0.00	0.00
152.50	(8) attachments	1246.42	898.28	0.00	0.00
155.00	(23) attachments	4298.29	3222.41	0.00	0.00
160.00		561.50	515.75	0.00	0.00
165.00	(23) attachments	5788.26	4394.85	0.00	0.00
170.00		517.47	403.51	0.00	0.00
175.00		494.63	382.25	0.00	0.00
178.00		285.13	219.15	0.00	0.00
	Totals:	**45,637.15**	**65,929.05**	**0.00**	**0.00**

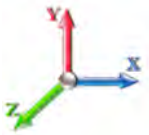
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	27.46
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.28
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.38
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	68.64
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	13.20
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.96
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	38.90
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	7.48
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	0.54
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	29.74
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	5.72
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	0.42
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	68.64
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	13.20
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.96
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	68.64
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	13.20
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	0.96
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	68.64
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	13.20
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.96
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	68.64
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	13.20
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	0.96
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	68.64
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	13.20
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.96
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	68.64
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	13.20
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	0.96
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	68.64
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	13.20
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.96
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	68.64
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	13.20

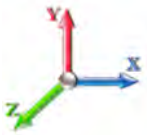
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	0.96
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	40.09
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	7.71
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	0.56
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	28.55
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	5.49
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.40
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	54.96
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	10.57
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.77
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	13.68
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	2.63
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.19
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	68.64
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	13.20
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.96
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	68.64
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	13.20
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	0.96
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	68.64
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	13.20
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.96
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	68.64
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	13.20
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	0.96
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	68.64
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	13.20
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.96
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	68.64
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	13.20
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.96
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	68.64
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	13.20
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.96
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	56.06
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	10.78
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	0.78
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	12.58
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	2.42
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	0.18
										Totals:	**0.0**	**2,020.3**

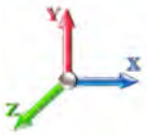
Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	-65.85	-45.75	0.00	-5401.5	0.00	5401.57	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.763
5.00	-63.71	-45.14	0.00	-5172.8	0.00	5172.83	6042.67	3021.34	14105.8	6966.35	0.10	-0.190	0.000	0.753
10.00	-61.46	-44.53	0.00	-4947.1	0.00	4947.15	5973.91	2986.96	13659.5	6745.94	0.41	-0.383	0.000	0.744
15.00	-59.26	-43.93	0.00	-4724.5	0.00	4724.50	5902.91	2951.46	13214.8	6526.30	0.91	-0.580	0.000	0.734
20.00	-57.09	-43.33	0.00	-4504.8	0.00	4504.87	5829.67	2914.84	12771.9	6307.60	1.63	-0.779	0.000	0.724
25.00	-54.97	-42.74	0.00	-4288.2	0.00	4288.21	5754.19	2877.10	12331.3	6089.98	2.55	-0.982	0.000	0.714
30.00	-52.92	-42.11	0.00	-4074.5	0.00	4074.50	5676.47	2838.24	11893.2	5873.62	3.69	-1.188	0.000	0.703
32.83	-51.76	-41.76	0.00	-3955.1	0.00	3955.18	5631.44	2815.72	11646.2	5751.63	4.43	-1.307	0.000	0.697
35.00	-50.16	-41.53	0.00	-3864.6	0.00	3864.69	5596.51	2798.26	11457.9	5658.66	5.05	-1.400	0.000	0.692
40.00	-46.61	-40.83	0.00	-3657.0	0.00	3657.04	5104.93	2552.47	10419.5	5145.84	6.63	-1.612	0.000	0.720
45.00	-44.72	-40.16	0.00	-3452.8	0.00	3452.88	5033.50	2516.75	10032.9	4954.92	8.43	-1.827	0.000	0.706
50.00	-42.87	-39.47	0.00	-3252.0	0.00	3252.09	4959.83	2479.91	9648.87	4765.22	10.46	-2.046	0.000	0.691
55.00	-41.05	-38.77	0.00	-3054.7	0.00	3054.76	4883.92	2441.96	9267.55	4576.90	12.72	-2.267	0.000	0.676
60.00	-39.28	-38.05	0.00	-2860.9	0.00	2860.93	4805.76	2402.88	8889.36	4390.12	15.22	-2.490	0.000	0.660
65.00	-37.55	-37.33	0.00	-2670.6	0.00	2670.67	4725.37	2362.69	8514.61	4205.04	17.95	-2.716	0.000	0.643
70.00	-35.86	-36.60	0.00	-2484.0	0.00	2484.02	4642.74	2321.37	8143.62	4021.83	20.91	-2.943	0.000	0.626
75.00	-34.24	-35.84	0.00	-2301.0	0.00	2301.00	4557.87	2278.94	7776.72	3840.63	24.11	-3.171	0.000	0.607
77.92	-33.30	-35.41	0.00	-2196.3	0.00	2196.35	4507.27	2253.64	7564.46	3735.80	26.09	-3.307	0.000	0.596
80.00	-32.11	-35.09	0.00	-2122.7	0.00	2122.71	4470.76	2235.38	7414.22	3661.61	27.56	-3.404	0.000	0.587
84.00	-29.96	-34.39	0.00	-1982.2	0.00	1982.23	4079.95	2039.98	6768.85	3342.88	30.49	-3.589	0.000	0.601
85.00	-29.60	-34.29	0.00	-1947.9	0.00	1947.95	4064.53	2032.27	6704.51	3311.11	31.24	-3.637	0.000	0.596
90.00	-28.13	-33.53	0.00	-1776.5	0.00	1776.50	3985.82	1992.91	6384.01	3152.82	35.17	-3.866	0.000	0.571
95.00	-26.70	-32.78	0.00	-1608.8	0.00	1608.84	3904.88	1952.44	6067.57	2996.54	39.34	-4.093	0.000	0.544
100.00	-25.31	-32.02	0.00	-1444.9	0.00	1444.95	3803.39	1901.70	5727.93	2828.81	43.75	-4.317	0.000	0.518
105.00	-23.96	-31.27	0.00	-1284.8	0.00	1284.84	3683.99	1842.00	5371.89	2652.97	48.38	-4.536	0.000	0.491
110.00	-22.65	-30.52	0.00	-1128.4	0.00	1128.48	3564.59	1782.30	5027.27	2482.78	53.24	-4.750	0.000	0.461
115.00	-21.38	-29.78	0.00	-975.86	0.00	975.86	3445.19	1722.60	4694.07	2318.23	58.32	-4.956	0.000	0.427
120.00	-20.17	-29.04	0.00	-826.95	0.00	826.95	3325.79	1662.90	4372.30	2159.32	63.61	-5.151	0.000	0.389
124.08	-19.23	-28.43	0.00	-708.37	0.00	708.37	3228.28	1614.14	4118.00	2033.73	68.08	-5.302	0.000	0.355
125.00	-16.66	-23.54	0.00	-682.31	0.00	682.31	3206.39	1603.20	4061.96	2006.05	69.10	-5.336	0.000	0.346
129.00	-15.38	-22.90	0.00	-588.16	0.00	588.16	1872.41	936.20	2368.25	1169.59	73.63	-5.472	0.000	0.512
130.00	-15.19	-22.79	0.00	-565.26	0.00	565.26	1864.30	932.15	2340.16	1155.72	74.77	-5.506	0.000	0.498
135.00	-14.46	-22.11	0.00	-451.33	0.00	451.33	1822.43	911.21	2200.41	1086.70	80.65	-5.728	0.000	0.424
140.00	-13.75	-21.44	0.00	-340.79	0.00	340.79	1778.31	889.16	2062.08	1018.38	86.75	-5.922	0.000	0.343
145.00	-9.14	-14.86	0.00	-233.58	0.00	233.58	1731.96	865.98	1925.47	950.92	93.03	-6.080	0.000	0.251
150.00	-8.55	-14.20	0.00	-159.29	0.00	159.29	1683.36	841.68	1790.92	884.47	99.46	-6.203	0.000	0.185
152.50	-7.78	-12.87	0.00	-123.78	0.00	123.78	1658.23	829.11	1724.52	851.67	102.72	-6.253	0.000	0.150
155.00	-5.04	-8.25	0.00	-91.60	0.00	91.60	1632.53	816.27	1658.75	819.19	106.00	-6.294	0.000	0.115
160.00	-4.58	-7.64	0.00	-50.34	0.00	50.34	1571.93	785.97	1521.98	751.65	112.61	-6.352	0.000	0.070
165.00	-0.85	-1.40	0.00	-12.14	0.00	12.14	1495.17	747.59	1376.14	679.62	119.27	-6.382	0.000	0.018
170.00	-0.51	-0.84	0.00	-5.13	0.00	5.13	1418.42	709.21	1237.64	611.22	125.94	-6.391	0.000	0.009
175.00	-0.19	-0.31	0.00	-0.92	0.00	0.92	1341.66	670.83	1106.49	546.45	132.62	-6.395	0.000	0.002
178.00	0.00	-0.29	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	136.63	-6.396	0.000	0.000

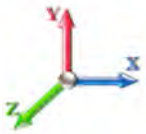
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	0.70	18.769	20.65	441.48	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	18.769	20.65	432.76	1.000	0.000	5.00	24.879	24.88	821.8	0.0	1409.5
10.00		1.00	0.70	18.769	20.65	424.05	1.000	0.000	5.00	24.383	24.38	805.5	0.0	1381.2
15.00		1.00	0.70	18.769	20.65	415.33	1.000	0.000	5.00	23.887	23.89	789.1	0.0	1352.8
20.00		1.00	0.70	18.769	20.65	406.62	1.000	0.000	5.00	23.391	23.39	772.7	0.0	1324.5
25.00		1.00	0.70	18.769	20.65	397.90	1.000	0.000	5.00	22.895	22.89	756.3	0.0	1296.2
30.00		1.00	0.70	18.785	20.66	389.35	1.000	0.000	5.00	22.399	22.40	740.5	0.0	1267.8
32.83	Bot - Section 2	1.00	0.72	19.275	21.20	389.40	1.000	0.000	2.83	12.473	12.47	423.1	0.0	705.8
35.00		1.00	0.73	19.631	21.59	389.11	1.000	0.000	2.17	9.606	9.61	331.9	0.0	1043.6
40.00	Top - Section 1	1.00	0.76	20.394	22.43	387.52	1.000	0.000	5.00	21.811	21.81	782.9	0.0	2368.9
45.00		1.00	0.79	21.092	23.20	392.39	1.000	0.000	5.00	21.315	21.32	791.3	0.0	1131.2
50.00		1.00	0.81	21.737	23.91	388.96	1.000	0.000	5.00	20.819	20.82	796.5	0.0	1104.7
55.00		1.00	0.83	22.337	24.57	384.79	1.000	0.000	5.00	20.323	20.32	799.0	0.0	1078.1
60.00		1.00	0.85	22.899	25.19	379.97	1.000	0.000	5.00	19.827	19.83	799.1	0.0	1051.5
65.00		1.00	0.87	23.429	25.77	374.61	1.000	0.000	5.00	19.331	19.33	797.1	0.0	1024.9
70.00		1.00	0.89	23.930	26.32	368.75	1.000	0.000	5.00	18.835	18.84	793.3	0.0	998.4
75.00		1.00	0.91	24.406	26.85	362.47	1.000	0.000	5.00	18.339	18.34	787.8	0.0	971.8
77.92	Bot - Section 3	1.00	0.92	24.674	27.14	358.62	1.000	0.000	2.92	10.481	10.48	455.1	0.0	555.2
80.00		1.00	0.93	24.861	27.35	355.80	1.000	0.000	2.08	7.520	7.52	329.0	0.0	762.1
84.00	Top - Section 2	1.00	0.94	25.210	27.73	350.20	1.000	0.000	4.00	14.231	14.23	631.4	0.0	1441.7
85.00		1.00	0.94	25.295	27.82	356.47	1.000	0.000	1.00	3.494	3.49	155.5	0.0	172.8
90.00		1.00	0.96	25.711	28.28	349.19	1.000	0.000	5.00	17.229	17.23	779.6	0.0	852.1
95.00		1.00	0.97	26.112	28.72	341.62	1.000	0.000	5.00	16.733	16.73	769.0	0.0	827.3
100.00		1.00	0.99	26.497	29.15	333.78	1.000	0.000	5.00	16.237	16.24	757.2	0.0	802.5
105.00		1.00	1.00	26.869	29.56	325.69	1.000	0.000	5.00	15.741	15.74	744.4	0.0	777.7
110.00		1.00	1.02	27.229	29.95	317.36	1.000	0.000	5.00	15.245	15.24	730.6	0.0	752.9
115.00		1.00	1.03	27.577	30.33	308.82	1.000	0.000	5.00	14.749	14.75	715.8	0.0	728.1
120.00		1.00	1.04	27.914	30.71	300.08	1.000	0.000	5.00	14.253	14.25	700.2	0.0	703.3
124.08	Bot - Section 4	1.00	1.05	28.182	31.00	292.79	1.000	0.000	4.08	11.272	11.27	559.1	0.0	556.0
125.00	Appurtenance(s)	1.00	1.05	28.242	31.07	291.14	1.000	0.000	0.92	2.529	2.53	125.7	0.0	203.1
129.00	Top - Section 3	1.00	1.06	28.497	31.35	283.86	1.000	0.000	4.00	10.842	10.84	543.8	0.0	870.4
130.00		1.00	1.07	28.560	31.42	287.29	1.000	0.000	1.00	2.661	2.66	133.8	0.0	84.8
135.00		1.00	1.08	28.869	31.76	278.03	1.000	0.000	5.00	13.007	13.01	660.9	0.0	414.3
140.00		1.00	1.09	29.171	32.09	268.61	1.000	0.000	5.00	12.511	12.51	642.3	0.0	398.3
145.00	Appurtenance(s)	1.00	1.10	29.465	32.41	259.05	1.000	0.000	5.00	12.015	12.02	623.1	0.0	382.4
150.00		1.00	1.11	29.752	32.73	249.33	1.000	0.000	5.00	11.519	11.52	603.2	0.0	366.4
152.50	Appurtenance(s)	1.00	1.11	29.893	32.88	244.42	1.000	0.000	2.50	5.574	5.57	293.2	0.0	177.2
155.00	Appurtenance(s)	1.00	1.12	30.032	33.03	239.48	1.000	0.000	2.50	5.450	5.45	288.0	0.0	173.2
160.00		1.00	1.13	30.305	33.34	229.49	1.000	0.000	5.00	10.527	10.53	561.5	0.0	334.5
165.00	Appurtenance(s)	1.00	1.14	30.573	33.63	219.38	1.000	0.000	5.00	10.031	10.03	539.8	0.0	318.6
170.00		1.00	1.15	30.835	33.92	209.15	1.000	0.000	5.00	9.535	9.54	517.5	0.0	302.6
175.00		1.00	1.16	31.091	34.20	198.80	1.000	0.000	5.00	9.039	9.04	494.6	0.0	286.7
178.00		1.00	1.17	31.243	34.37	192.54	1.000	0.000	3.00	5.185	5.19	285.1	0.0	164.4
								Totals:	**178.00**			**25,427.3**		**32,919.6**

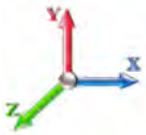
Discrete Appurtenance Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	165.00	Reinf. Kit (SitePro1	3	30.573	33.630	0.75	1.00	7.88	256.50	0.000	0.000	423.74	0.00	0.00
2	165.00	Kathrein 782 11056	3	30.573	33.630	0.58	0.75	0.23	4.86	0.000	0.000	12.28	0.00	0.00
3	165.00	RFS	3	30.573	33.630	0.55	0.75	5.93	50.49	0.000	0.000	319.05	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	30.573	33.630	1.00	1.00	6.70	207.00	0.000	0.000	360.52	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	30.573	33.630	0.50	0.75	2.97	191.70	0.000	0.000	159.80	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	30.573	33.630	0.50	0.75	1.96	83.16	0.000	0.000	105.45	0.00	0.00
7	165.00	RFS	3	30.573	33.630	0.52	0.75	31.88	331.56	0.000	0.000	1715.31	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	30.573	33.630	1.00	1.00	40.00	1800.00	0.000	0.000	2152.34	0.00	0.00
9	155.00	Powerwave 7770	6	30.032	33.035	0.54	0.75	17.95	145.80	0.000	0.000	948.74	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	30.032	33.035	0.56	0.75	2.81	27.72	0.000	0.000	148.66	0.00	0.00
11	155.00	Powerwave	1	30.032	33.035	0.56	0.75	6.43	53.10	0.000	0.000	340.13	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	30.032	33.035	1.00	1.00	40.00	1800.00	0.000	0.000	2114.24	0.00	0.00
13	155.00	Powerwave LGP21903	6	30.032	33.035	0.50	0.75	0.81	29.70	0.000	0.000	43.03	0.00	0.00
14	155.00	Kathrein 800 10764	1	30.032	33.035	0.56	0.75	3.31	36.72	0.000	0.000	174.82	0.00	0.00
15	155.00	Nokia CS72188.01	1	30.032	33.035	0.50	0.75	0.66	17.82	0.000	0.000	35.06	0.00	0.00
16	155.00	Powerwave LGP21401	6	30.032	33.035	0.50	0.75	3.89	76.14	0.000	0.000	205.58	0.00	0.00
17	152.50	Ring Mount (Part No	1	29.893	32.882	1.00	1.00	5.00	135.00	0.000	0.000	263.05	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	29.893	32.882	0.90	0.90	1.32	29.52	0.000	0.000	69.60	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	29.893	32.882	0.60	0.90	11.79	275.40	0.000	0.000	620.53	0.00	0.00
20	145.00	ALU 800 Mhz- RRUs	6	29.465	32.411	0.50	0.75	7.51	286.20	0.000	0.000	389.32	0.00	0.00
21	145.00	ALU 1900 Mhz- RRUs	3	29.465	32.411	0.50	0.75	4.18	162.00	0.000	0.000	216.55	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	29.465	32.411	1.00	1.00	9.50	418.42	0.000	0.000	492.65	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	29.465	32.411	1.00	1.00	6.70	207.00	0.000	0.000	347.45	0.00	0.00
24	145.00	NNVV-65B-R4	3	29.465	32.411	0.55	0.75	20.43	208.98	0.000	0.000	1059.44	0.00	0.00
25	145.00	APXVTM14-C-I20	3	29.465	32.411	0.58	0.75	10.98	151.74	0.000	0.000	569.61	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	29.465	32.411	1.00	1.00	40.00	1800.00	0.000	0.000	2074.33	0.00	0.00
27	145.00	ALU TD-RRH8x20-25-	3	29.465	32.411	0.50	0.75	6.11	189.00	0.000	0.000	316.61	0.00	0.00
28	125.00	Commscope	6	28.242	31.066	0.66	0.80	32.19	273.83	0.000	0.000	1600.05	0.00	0.00
29	125.00	Antel	6	28.242	31.066	0.59	0.80	9.31	64.80	0.000	0.000	462.67	0.00	0.00
30	125.00	ALU RRH2x60-AWS	3	28.242	31.066	0.54	0.80	5.63	162.00	0.000	0.000	279.74	0.00	0.00
31	125.00	Low Profile Platform	1	28.242	31.066	1.00	1.00	25.00	1080.00	0.000	0.000	1242.63	0.00	0.00
32	125.00	GPS	1	28.242	31.066	0.67	0.80	0.67	9.00	0.000	0.000	33.12	0.00	0.00
33	125.00	ALU RRH2x60-700	3	28.242	31.066	0.54	0.80	5.63	162.00	0.000	0.000	279.74	0.00	0.00
34	125.00	ALU RRH2X60-PCS	3	28.242	31.066	0.54	0.80	5.63	148.50	0.000	0.000	279.74	0.00	0.00
35	125.00	RFS FD9R6004/2C-3L	6	28.242	31.066	0.54	0.80	1.16	16.74	0.000	0.000	57.55	0.00	0.00
36	125.00	RFS DB-T1-6Z-8AB-0Z	2	28.242	31.066	0.73	0.80	5.97	79.20	0.000	0.000	296.72	0.00	0.00
							Totals:		**10,971.60**			**20,209.87**		

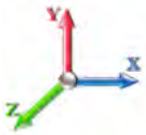
Total Applied Force Summary

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (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

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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		821.84	1495.41	0.00	0.00
10.00		805.45	1573.60	0.00	0.00
15.00		789.07	1545.25	0.00	0.00
20.00		772.68	1516.90	0.00	0.00
25.00		756.30	1488.56	0.00	0.00
30.00		740.54	1460.21	0.00	0.00
32.83		423.13	814.87	0.00	0.00
35.00		331.87	1126.96	0.00	0.00
40.00		782.89	2561.32	0.00	0.00
45.00		791.27	1323.63	0.00	0.00
50.00		796.47	1297.06	0.00	0.00
55.00		798.96	1270.48	0.00	0.00
60.00		799.08	1243.90	0.00	0.00
65.00		797.12	1217.33	0.00	0.00
70.00		793.28	1190.75	0.00	0.00
75.00		787.77	1164.18	0.00	0.00
77.92		455.14	667.59	0.00	0.00
80.00		329.02	842.12	0.00	0.00
84.00		631.43	1595.79	0.00	0.00
85.00		155.53	211.17	0.00	0.00
90.00		779.64	1044.53	0.00	0.00
95.00		768.98	1019.72	0.00	0.00
100.00		757.20	994.92	0.00	0.00
105.00		744.37	970.12	0.00	0.00
110.00		730.56	945.31	0.00	0.00
115.00		715.83	920.51	0.00	0.00
120.00		700.22	895.70	0.00	0.00
124.08		559.09	713.09	0.00	0.00
125.00	(31) attachments	4657.69	2234.48	0.00	0.00
129.00		543.79	974.62	0.00	0.00
130.00		133.75	110.82	0.00	0.00
135.00		660.90	544.56	0.00	0.00
140.00		642.34	528.61	0.00	0.00
145.00	(21) attachments	6089.07	3936.00	0.00	0.00
150.00		603.18	479.55	0.00	0.00
152.50	(8) attachments	1246.42	673.71	0.00	0.00
155.00	(23) attachments	4298.29	2416.81	0.00	0.00
160.00		561.50	386.82	0.00	0.00
165.00	(23) attachments	5788.26	3296.14	0.00	0.00
170.00		517.47	302.63	0.00	0.00
175.00		494.63	286.69	0.00	0.00
178.00		285.13	164.36	0.00	0.00
	Totals:	**45,637.15**	**49,446.78**	**0.00**	**0.00**

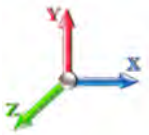
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	20.59
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	3.96
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.29
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	51.48
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	9.90
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.72
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	29.17
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	5.61
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	0.41
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	22.31
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	4.29
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	0.31
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	51.48
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	9.90
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.72
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	51.48
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	9.90
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	0.72
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	51.48
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	9.90
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.72
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	51.48
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	9.90
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	0.72
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	51.48
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	9.90
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.72
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	51.48
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	9.90
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	0.72
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	51.48
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	9.90
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.72
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	51.48
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	9.90

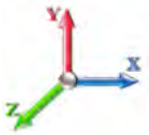
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	0.72
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	30.06
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	5.78
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	0.42
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	21.42
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	4.12
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.30
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	41.22
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	7.93
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.58
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	10.26
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	1.97
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.14
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	51.48
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	9.90
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.72
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	51.48
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	9.90
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	0.72
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	51.48
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	9.90
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.72
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	51.48
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	9.90
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	0.72
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	51.48
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	9.90
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.72
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	51.48
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	9.90
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.72
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	51.48
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	9.90
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.72
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	42.04
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	8.08
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	0.59
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	9.44
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	1.82
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	0.13
									Totals:		**0.0**	**1,515.2**

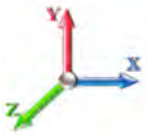
Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	-49.37	-45.72	0.00	-5336.5	0.00	5336.58	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.751
5.00	-47.73	-45.05	0.00	-5107.9	0.00	5107.99	6042.67	3021.34	14105.8	6966.35	0.10	-0.188	0.000	0.741
10.00	-46.01	-44.39	0.00	-4882.7	0.00	4882.72	5973.91	2986.96	13659.5	6745.94	0.40	-0.378	0.000	0.732
15.00	-44.32	-43.74	0.00	-4660.7	0.00	4660.75	5902.91	2951.46	13214.8	6526.30	0.90	-0.572	0.000	0.722
20.00	-42.66	-43.10	0.00	-4442.0	0.00	4442.04	5829.67	2914.84	12771.9	6307.60	1.61	-0.769	0.000	0.712
25.00	-41.04	-42.47	0.00	-4226.5	0.00	4226.53	5754.19	2877.10	12331.3	6089.98	2.52	-0.969	0.000	0.701
30.00	-39.48	-41.81	0.00	-4014.2	0.00	4014.20	5676.47	2838.24	11893.2	5873.62	3.64	-1.172	0.000	0.691
32.83	-38.60	-41.44	0.00	-3895.7	0.00	3895.74	5631.44	2815.72	11646.2	5751.63	4.37	-1.290	0.000	0.684
35.00	-37.37	-41.18	0.00	-3805.9	0.00	3805.96	5596.51	2798.26	11457.9	5658.66	4.98	-1.381	0.000	0.679
40.00	-34.68	-40.46	0.00	-3600.0	0.00	3600.06	5104.93	2552.47	10419.5	5145.84	6.54	-1.590	0.000	0.707
45.00	-33.23	-39.75	0.00	-3397.7	0.00	3397.77	5033.50	2516.75	10032.9	4954.92	8.32	-1.801	0.000	0.693
50.00	-31.82	-39.03	0.00	-3199.0	0.00	3199.01	4959.83	2479.91	9648.87	4765.22	10.32	-2.016	0.000	0.678
55.00	-30.43	-38.30	0.00	-3003.8	0.00	3003.84	4883.92	2441.96	9267.55	4576.90	12.55	-2.234	0.000	0.663
60.00	-29.07	-37.57	0.00	-2812.3	0.00	2812.32	4805.76	2402.88	8889.36	4390.12	15.00	-2.454	0.000	0.647
65.00	-27.75	-36.82	0.00	-2624.4	0.00	2624.49	4725.37	2362.69	8514.61	4205.04	17.69	-2.675	0.000	0.630
70.00	-26.46	-36.08	0.00	-2440.3	0.00	2440.37	4642.74	2321.37	8143.62	4021.83	20.61	-2.898	0.000	0.613
75.00	-25.23	-35.31	0.00	-2259.9	0.00	2259.98	4557.87	2278.94	7776.72	3840.63	23.77	-3.122	0.000	0.594
77.92	-24.52	-34.87	0.00	-2156.8	0.00	2156.88	4507.27	2253.64	7564.46	3735.80	25.72	-3.256	0.000	0.583
80.00	-23.61	-34.55	0.00	-2084.3	0.00	2084.36	4470.76	2235.38	7414.22	3661.61	27.16	-3.352	0.000	0.575
84.00	-21.99	-33.86	0.00	-1946.0	0.00	1946.06	4079.95	2039.98	6768.85	3342.88	30.05	-3.533	0.000	0.588
85.00	-21.71	-33.75	0.00	-1912.3	0.00	1912.31	4064.53	2032.27	6704.51	3311.11	30.79	-3.580	0.000	0.583
90.00	-20.59	-32.98	0.00	-1743.5	0.00	1743.58	3985.82	1992.91	6384.01	3152.82	34.66	-3.804	0.000	0.558
95.00	-19.50	-32.22	0.00	-1578.6	0.00	1578.67	3904.88	1952.44	6067.57	2996.54	38.76	-4.027	0.000	0.532
100.00	-18.44	-31.46	0.00	-1417.5	0.00	1417.56	3803.39	1901.70	5727.93	2828.81	43.09	-4.247	0.000	0.506
105.00	-17.42	-30.71	0.00	-1260.2	0.00	1260.24	3683.99	1842.00	5371.89	2652.97	47.65	-4.463	0.000	0.480
110.00	-16.43	-29.97	0.00	-1106.6	0.00	1106.67	3564.59	1782.30	5027.27	2482.78	52.43	-4.672	0.000	0.451
115.00	-15.47	-29.23	0.00	-956.82	0.00	956.82	3445.19	1722.60	4694.07	2318.23	57.43	-4.874	0.000	0.418
120.00	-14.55	-28.50	0.00	-810.66	0.00	810.66	3325.79	1662.90	4372.30	2159.32	62.63	-5.065	0.000	0.380
124.08	-13.85	-27.90	0.00	-694.28	0.00	694.28	3228.28	1614.14	4118.00	2033.73	67.03	-5.213	0.000	0.346
125.00	-12.01	-23.08	0.00	-668.71	0.00	668.71	3206.39	1603.20	4061.96	2006.05	68.03	-5.246	0.000	0.337
129.00	-11.06	-22.46	0.00	-576.40	0.00	576.40	1872.41	936.20	2368.25	1169.59	72.48	-5.380	0.000	0.499
130.00	-10.91	-22.34	0.00	-553.94	0.00	553.94	1864.30	932.15	2340.16	1155.72	73.61	-5.413	0.000	0.486
135.00	-10.36	-21.67	0.00	-442.23	0.00	442.23	1822.43	911.21	2200.41	1086.70	79.39	-5.630	0.000	0.413
140.00	-9.83	-21.01	0.00	-333.89	0.00	333.89	1778.31	889.16	2062.08	1018.38	85.38	-5.820	0.000	0.334
145.00	-6.51	-14.56	0.00	-228.85	0.00	228.85	1731.96	865.98	1925.47	950.92	91.56	-5.976	0.000	0.245
150.00	-6.08	-13.92	0.00	-156.05	0.00	156.05	1683.36	841.68	1790.92	884.47	97.87	-6.096	0.000	0.180
152.50	-5.53	-12.61	0.00	-121.25	0.00	121.25	1658.23	829.11	1724.52	851.67	101.07	-6.145	0.000	0.146
155.00	-3.58	-8.08	0.00	-89.72	0.00	89.72	1632.53	816.27	1658.75	819.19	104.30	-6.186	0.000	0.112
160.00	-3.25	-7.48	0.00	-49.31	0.00	49.31	1571.93	785.97	1521.98	751.65	110.79	-6.242	0.000	0.068
165.00	-0.61	-1.37	0.00	-11.88	0.00	11.88	1495.17	747.59	1376.14	679.62	117.34	-6.271	0.000	0.018
170.00	-0.36	-0.82	0.00	-5.03	0.00	5.03	1418.42	709.21	1237.64	611.22	123.90	-6.280	0.000	0.008
175.00	-0.13	-0.30	0.00	-0.90	0.00	0.90	1341.66	670.83	1106.49	546.45	130.46	-6.284	0.000	0.002
178.00	0.00	-0.29	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	134.40	-6.285	0.000	0.000

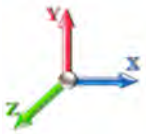
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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 24

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	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.656	5.00	26.259	31.51	147.5	630.1	2509.5
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.775	5.00	25.862	31.03	145.3	663.4	2505.0
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.848	5.00	25.427	30.51	142.8	678.0	2481.8
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.902	5.00	24.976	29.97	140.3	684.2	2450.2
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.945	5.00	24.516	29.42	137.7	685.7	2413.9
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.981	5.00	24.050	28.86	135.2	684.0	2374.4
32.83	Bot - Section 2	1.00	0.72	4.371	4.81	0.00	1.200	1.999	2.83	13.417	16.10	77.4	386.4	1327.6
35.00		1.00	0.73	4.451	4.90	0.00	1.200	2.012	2.17	10.332	12.40	60.7	300.0	1691.4
40.00	Top - Section 1	1.00	0.76	4.625	5.09	0.00	1.200	2.039	5.00	23.510	28.21	143.5	686.7	3845.2
45.00		1.00	0.79	4.783	5.26	0.00	1.200	2.063	5.00	23.035	27.64	145.4	679.7	2188.0
50.00		1.00	0.81	4.929	5.42	0.00	1.200	2.085	5.00	22.557	27.07	146.8	671.7	2144.6
55.00		1.00	0.83	5.065	5.57	0.00	1.200	2.105	5.00	22.077	26.49	147.6	662.7	2100.1
60.00		1.00	0.85	5.193	5.71	0.00	1.200	2.123	5.00	21.597	25.92	148.0	652.9	2054.9
65.00		1.00	0.87	5.313	5.84	0.00	1.200	2.140	5.00	21.115	25.34	148.1	642.4	2009.0
70.00		1.00	0.89	5.426	5.97	0.00	1.200	2.156	5.00	20.632	24.76	147.8	631.3	1962.5
75.00		1.00	0.91	5.534	6.09	0.00	1.200	2.171	5.00	20.149	24.18	147.2	619.7	1915.4
77.92	Bot - Section 3	1.00	0.92	5.595	6.15	0.00	1.200	2.179	2.92	11.541	13.85	85.2	357.8	1098.1
80.00		1.00	0.93	5.637	6.20	0.00	1.200	2.185	2.08	8.277	9.93	61.6	257.9	1274.1
84.00	Top - Section 2	1.00	0.94	5.717	6.29	0.00	1.200	2.196	4.00	15.696	18.84	118.4	488.5	2410.8
85.00		1.00	0.94	5.736	6.31	0.00	1.200	2.198	1.00	3.859	4.63	29.2	121.1	351.5
90.00		1.00	0.96	5.830	6.41	0.00	1.200	2.211	5.00	19.071	22.89	146.8	594.8	1731.0
95.00		1.00	0.97	5.921	6.51	0.00	1.200	2.223	5.00	18.585	22.30	145.3	581.6	1684.7
100.00		1.00	0.99	6.008	6.61	0.00	1.200	2.234	5.00	18.099	21.72	143.5	568.1	1638.1
105.00		1.00	1.00	6.093	6.70	0.00	1.200	2.245	5.00	17.612	21.13	141.6	554.3	1591.3
110.00		1.00	1.02	6.174	6.79	0.00	1.200	2.256	5.00	17.125	20.55	139.6	540.2	1544.1
115.00		1.00	1.03	6.253	6.88	0.00	1.200	2.266	5.00	16.637	19.96	137.3	525.9	1496.7
120.00		1.00	1.04	6.330	6.96	0.00	1.200	2.276	5.00	16.149	19.38	134.9	511.3	1449.0
124.08	Bot - Section 4	1.00	1.05	6.391	7.03	0.00	1.200	2.283	4.08	12.826	15.39	108.2	407.7	1149.0
125.00	Appurtenance(s)	1.00	1.05	6.404	7.04	0.00	1.200	2.285	0.92	2.878	3.45	24.3	92.6	363.4
129.00	Top - Section 3	1.00	1.06	6.462	7.11	0.00	1.200	2.292	4.00	12.370	14.84	105.5	394.3	1554.8
130.00		1.00	1.07	6.476	7.12	0.00	1.200	2.294	1.00	3.043	3.65	26.0	98.0	211.0
135.00		1.00	1.08	6.546	7.20	0.00	1.200	2.303	5.00	14.926	17.91	129.0	474.7	1027.0
140.00		1.00	1.09	6.615	7.28	0.00	1.200	2.311	5.00	14.437	17.32	126.1	459.3	990.4
145.00	Appurtenance(s)	1.00	1.10	6.681	7.35	0.00	1.200	2.319	5.00	13.948	16.74	123.0	443.7	953.6
150.00		1.00	1.11	6.746	7.42	0.00	1.200	2.327	5.00	13.458	16.15	119.9	428.0	916.6
152.50	Appurtenance(s)	1.00	1.11	6.778	7.46	0.00	1.200	2.331	2.50	6.545	7.85	58.6	210.0	446.4
155.00	Appurtenance(s)	1.00	1.12	6.810	7.49	0.00	1.200	2.335	2.50	6.422	7.71	57.7	206.1	437.1
160.00		1.00	1.13	6.872	7.56	0.00	1.200	2.342	5.00	12.479	14.97	113.2	396.1	842.1
165.00	Appurtenance(s)	1.00	1.14	6.933	7.63	0.00	1.200	2.349	5.00	11.989	14.39	109.7	379.9	804.7
170.00		1.00	1.15	6.992	7.69	0.00	1.200	2.356	5.00	11.499	13.80	106.1	363.6	767.1
175.00		1.00	1.16	7.050	7.76	0.00	1.200	2.363	5.00	11.008	13.21	102.4	347.1	729.4
178.00		1.00	1.17	7.085	7.79	0.00	1.200	2.367	3.00	6.369	7.64	59.6	202.3	421.5
								Totals:	**178.00**			**4,814.2**		**63,856.8**

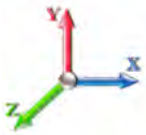
Discrete Appurtenance Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	165.00	Reinf. Kit (SitePro1	3	6.933	7.626	0.75	1.00	32.08	1145.49	0.000	0.000	244.67	0.00	0.00
2	165.00	Kathrein 782 11056	3	6.933	7.626	0.58	0.75	0.92	9.89	0.000	0.000	7.00	0.00	0.00
3	165.00	RFS	3	6.933	7.626	0.56	0.75	10.31	290.30	0.000	0.000	78.63	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	6.933	7.626	1.00	1.00	16.14	607.26	0.000	0.000	123.11	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	6.933	7.626	0.50	0.75	4.08	430.37	0.000	0.000	31.12	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	6.933	7.626	0.50	0.75	4.44	223.19	0.000	0.000	33.89	0.00	0.00
7	165.00	RFS	3	6.933	7.626	0.52	0.75	35.96	2244.65	0.000	0.000	274.22	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	6.933	7.626	1.00	1.00	68.19	4619.09	0.000	0.000	520.02	0.00	0.00
9	155.00	Powerwave 7770	6	6.810	7.491	0.54	0.75	27.20	915.57	0.000	0.000	203.77	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	6.810	7.491	0.56	0.75	4.22	154.58	0.000	0.000	31.63	0.00	0.00
11	155.00	Powerwave	1	6.810	7.491	0.56	0.75	8.87	298.55	0.000	0.000	66.44	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	6.810	7.491	1.00	1.00	68.02	4601.52	0.000	0.000	509.50	0.00	0.00
13	155.00	Powerwave LGP21903	6	6.810	7.491	0.50	0.75	2.42	92.84	0.000	0.000	18.11	0.00	0.00
14	155.00	Kathrein 800 10764	1	6.810	7.491	0.56	0.75	4.92	183.04	0.000	0.000	36.85	0.00	0.00
15	155.00	Nokia CS72188.01	1	6.810	7.491	0.50	0.75	1.23	54.31	0.000	0.000	9.18	0.00	0.00
16	155.00	Powerwave LGP21401	6	6.810	7.491	0.50	0.75	7.26	259.59	0.000	0.000	54.38	0.00	0.00
17	152.50	Ring Mount (Part No	1	6.778	7.456	1.00	1.00	9.66	47.82	0.000	0.000	72.04	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	6.778	7.456	0.90	0.90	2.16	104.23	0.000	0.000	16.14	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	6.778	7.456	0.60	0.90	17.99	846.89	0.000	0.000	134.10	0.00	0.00
20	145.00	ALU 800 Mhz- RRUs	6	6.681	7.350	0.50	0.75	12.09	844.68	0.000	0.000	88.85	0.00	0.00
21	145.00	ALU 1900 Mhz- RRUs	3	6.681	7.350	0.50	0.75	6.72	476.91	0.000	0.000	49.37	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	6.681	7.350	1.00	1.00	22.72	894.07	0.000	0.000	166.97	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	6.681	7.350	1.00	1.00	16.02	601.71	0.000	0.000	117.76	0.00	0.00
24	145.00	NNVV-65B-R4	3	6.681	7.350	0.55	0.75	23.65	1219.61	0.000	0.000	173.83	0.00	0.00
25	145.00	APXVTM14-C-I20	3	6.681	7.350	0.58	0.75	13.60	884.92	0.000	0.000	99.96	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	6.681	7.350	1.00	1.00	67.83	4582.89	0.000	0.000	498.51	0.00	0.00
27	145.00	ALU TD-RRH8x20-25-	3	6.681	7.350	0.50	0.75	7.78	723.16	0.000	0.000	57.15	0.00	0.00
28	125.00	Commscope	6	6.404	7.044	0.66	0.80	38.96	2040.12	0.000	0.000	274.44	0.00	0.00
29	125.00	Antel	6	6.404	7.044	0.59	0.80	13.50	796.05	0.000	0.000	95.12	0.00	0.00
30	125.00	ALU RRH2x60-AWS	3	6.404	7.044	0.54	0.80	7.29	498.55	0.000	0.000	51.35	0.00	0.00
31	125.00	Low Profile Platform	1	6.404	7.044	1.00	1.00	52.42	2510.95	0.000	0.000	369.26	0.00	0.00
32	125.00	GPS	1	6.404	7.044	0.69	0.80	1.34	42.39	0.000	0.000	9.43	0.00	0.00
33	125.00	ALU RRH2x60-700	3	6.404	7.044	0.54	0.80	7.29	498.55	0.000	0.000	51.35	0.00	0.00
34	125.00	ALU RRH2X60-PCS	3	6.404	7.044	0.54	0.80	7.29	436.98	0.000	0.000	51.35	0.00	0.00
35	125.00	RFS FD9R6004/2C-3L	6	6.404	7.044	0.54	0.80	3.02	71.57	0.000	0.000	21.30	0.00	0.00
36	125.00	RFS DB-T1-6Z-8AB-0Z	2	6.404	7.044	0.73	0.80	7.50	730.01	0.000	0.000	52.81	0.00	0.00
							Totals:		**34,982.27**			**4,693.61**		

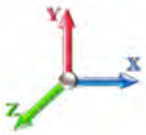
Total Applied Force Summary

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (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

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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		147.52	2720.80	0.00	0.00
10.00		145.29	3023.24	0.00	0.00
15.00		142.85	3012.39	0.00	0.00
20.00		140.31	2990.10	0.00	0.00
25.00		137.73	2961.21	0.00	0.00
30.00		135.22	2927.96	0.00	0.00
32.83		77.41	1643.04	0.00	0.00
35.00		60.71	1933.64	0.00	0.00
40.00		143.52	4409.00	0.00	0.00
45.00		145.42	2756.13	0.00	0.00
50.00		146.76	2716.54	0.00	0.00
55.00		147.60	2675.70	0.00	0.00
60.00		148.03	2633.79	0.00	0.00
65.00		148.07	2590.97	0.00	0.00
70.00		147.78	2547.35	0.00	0.00
75.00		147.19	2503.02	0.00	0.00
77.92		85.24	1442.17	0.00	0.00
80.00		61.59	1519.56	0.00	0.00
84.00		118.44	2884.91	0.00	0.00
85.00		29.22	469.67	0.00	0.00
90.00		146.77	2325.86	0.00	0.00
95.00		145.26	2281.82	0.00	0.00
100.00		143.54	2237.35	0.00	0.00
105.00		141.64	2192.50	0.00	0.00
110.00		139.57	2147.28	0.00	0.00
115.00		137.33	2101.74	0.00	0.00
120.00		134.93	2055.88	0.00	0.00
124.08		108.19	1645.74	0.00	0.00
125.00	(31) attachments	1000.75	8100.12	0.00	0.00
129.00		105.52	1693.78	0.00	0.00
130.00		26.02	245.74	0.00	0.00
135.00		128.98	1200.74	0.00	0.00
140.00		126.06	1164.10	0.00	0.00
145.00	(21) attachments	1375.41	11355.24	0.00	0.00
150.00		119.85	1067.41	0.00	0.00
152.50	(8) attachments	280.84	1520.71	0.00	0.00
155.00	(23) attachments	987.60	7072.47	0.00	0.00
160.00		113.20	911.85	0.00	0.00
165.00	(23) attachments	1422.37	10444.64	0.00	0.00
170.00		106.13	767.10	0.00	0.00
175.00		102.45	729.39	0.00	0.00
178.00		59.56	421.47	0.00	0.00
	Totals:	**9,507.84**	**114,044.11**	**0.00**	**0.00**

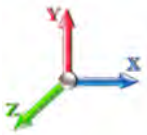
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	97.46
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	23.62
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.83
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	256.21
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	63.39
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	24.87
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	264.06
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	66.16
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	26.68
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	269.87
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	68.24
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	28.05
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	274.51
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	69.91
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	29.17
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	278.40
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	71.33
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	30.12
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	158.87
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	40.82
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	17.34
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	122.10
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	31.44
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	13.41
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	284.72
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	73.65
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	31.68
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	287.37
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	74.63
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	32.35
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	289.77
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	75.52
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	32.96
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	291.98
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	76.34
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	33.52
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	294.01
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	77.10
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	34.04
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	295.90
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	77.81
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	34.53
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	297.67
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	78.48
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	34.99
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	299.32
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	79.11

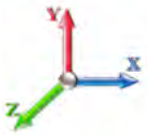
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	35.42
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	175.35
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	46.40
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	20.83
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	125.17
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	33.15
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	14.90
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	241.87
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	64.17
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	28.94
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	60.27
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	16.00
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	7.22
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	303.78
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	80.80
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	36.59
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	305.12
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	81.31
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	36.94
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	306.40
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	81.80
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	37.28
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	307.62
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	82.27
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	37.61
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	308.80
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	82.72
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	37.93
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	309.92
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	83.15
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	38.23
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	311.01
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	83.57
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	38.52
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	254.69
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	68.52
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	31.65
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	57.21
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	15.40
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	7.11
									Totals:		**0.0**	**9,817.9**

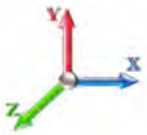
Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	-114.0	-9.55	0.00	-1235.5	0.00	1235.57	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.191
5.00	-111.3	-9.49	0.00	-1187.8	0.00	1187.81	6042.67	3021.34	14105.8	6966.35	0.02	-0.044	0.000	0.189
10.00	-108.2	-9.42	0.00	-1140.3	0.00	1140.37	5973.91	2986.96	13659.5	6745.94	0.09	-0.088	0.000	0.187
15.00	-105.2	-9.36	0.00	-1093.2	0.00	1093.25	5902.91	2951.46	13214.8	6526.30	0.21	-0.133	0.000	0.185
20.00	-102.2	-9.30	0.00	-1046.4	0.00	1046.45	5829.67	2914.84	12771.9	6307.60	0.37	-0.180	0.000	0.183
25.00	-99.30	-9.23	0.00	-999.98	0.00	999.98	5754.19	2877.10	12331.3	6089.98	0.59	-0.227	0.000	0.181
30.00	-96.36	-9.15	0.00	-953.83	0.00	953.83	5676.47	2838.24	11893.2	5873.62	0.85	-0.275	0.000	0.179
32.83	-94.72	-9.10	0.00	-927.92	0.00	927.92	5631.44	2815.72	11646.2	5751.63	1.02	-0.303	0.000	0.178
35.00	-92.78	-9.09	0.00	-908.21	0.00	908.21	5596.51	2798.26	11457.9	5658.66	1.16	-0.325	0.000	0.177
40.00	-88.36	-8.99	0.00	-862.77	0.00	862.77	5104.93	2552.47	10419.5	5145.84	1.53	-0.375	0.000	0.185
45.00	-85.60	-8.91	0.00	-817.80	0.00	817.80	5033.50	2516.75	10032.9	4954.92	1.95	-0.425	0.000	0.182
50.00	-82.88	-8.81	0.00	-773.26	0.00	773.26	4959.83	2479.91	9648.87	4765.22	2.42	-0.477	0.000	0.179
55.00	-80.19	-8.72	0.00	-729.19	0.00	729.19	4883.92	2441.96	9267.55	4576.90	2.95	-0.530	0.000	0.176
60.00	-77.55	-8.62	0.00	-685.61	0.00	685.61	4805.76	2402.88	8889.36	4390.12	3.54	-0.583	0.000	0.172
65.00	-74.96	-8.51	0.00	-642.53	0.00	642.53	4725.37	2362.69	8514.61	4205.04	4.18	-0.638	0.000	0.169
70.00	-72.40	-8.40	0.00	-599.97	0.00	599.97	4642.74	2321.37	8143.62	4021.83	4.87	-0.692	0.000	0.165
75.00	-69.89	-8.28	0.00	-557.95	0.00	557.95	4557.87	2278.94	7776.72	3840.63	5.63	-0.747	0.000	0.161
77.92	-68.45	-8.21	0.00	-533.77	0.00	533.77	4507.27	2253.64	7564.46	3735.80	6.10	-0.780	0.000	0.158
80.00	-66.93	-8.17	0.00	-516.70	0.00	516.70	4470.76	2235.38	7414.22	3661.61	6.44	-0.804	0.000	0.156
84.00	-64.04	-8.04	0.00	-484.01	0.00	484.01	4079.95	2039.98	6768.85	3342.88	7.14	-0.849	0.000	0.160
85.00	-63.57	-8.04	0.00	-476.00	0.00	476.00	4064.53	2032.27	6704.51	3311.11	7.31	-0.861	0.000	0.159
90.00	-61.23	-7.92	0.00	-435.80	0.00	435.80	3985.82	1992.91	6384.01	3152.82	8.25	-0.917	0.000	0.154
95.00	-58.95	-7.79	0.00	-396.22	0.00	396.22	3904.88	1952.44	6067.57	2996.54	9.24	-0.973	0.000	0.147
100.00	-56.71	-7.66	0.00	-357.27	0.00	357.27	3803.39	1901.70	5727.93	2828.81	10.28	-1.028	0.000	0.141
105.00	-54.51	-7.53	0.00	-318.96	0.00	318.96	3683.99	1842.00	5371.89	2652.97	11.39	-1.082	0.000	0.135
110.00	-52.36	-7.40	0.00	-281.30	0.00	281.30	3564.59	1782.30	5027.27	2482.78	12.55	-1.136	0.000	0.128
115.00	-50.25	-7.26	0.00	-244.31	0.00	244.31	3445.19	1722.60	4694.07	2318.23	13.77	-1.187	0.000	0.120
120.00	-48.20	-7.12	0.00	-208.00	0.00	208.00	3325.79	1662.90	4372.30	2159.32	15.04	-1.236	0.000	0.111
124.08	-46.55	-7.00	0.00	-178.92	0.00	178.92	3228.28	1614.14	4118.00	2033.73	16.11	-1.274	0.000	0.102
125.00	-38.47	-5.83	0.00	-172.51	0.00	172.51	3206.39	1603.20	4061.96	2006.05	16.36	-1.282	0.000	0.098
129.00	-36.78	-5.70	0.00	-149.20	0.00	149.20	1872.41	936.20	2368.25	1169.59	17.45	-1.317	0.000	0.147
130.00	-36.53	-5.69	0.00	-143.50	0.00	143.50	1864.30	932.15	2340.16	1155.72	17.73	-1.326	0.000	0.144
135.00	-35.33	-5.56	0.00	-115.06	0.00	115.06	1822.43	911.21	2200.41	1086.70	19.15	-1.382	0.000	0.125
140.00	-34.16	-5.44	0.00	-87.24	0.00	87.24	1778.31	889.16	2062.08	1018.38	20.62	-1.432	0.000	0.105
145.00	-22.84	-3.79	0.00	-60.07	0.00	60.07	1731.96	865.98	1925.47	950.92	22.14	-1.472	0.000	0.076
150.00	-21.78	-3.65	0.00	-41.13	0.00	41.13	1683.36	841.68	1790.92	884.47	23.70	-1.504	0.000	0.059
152.50	-20.27	-3.33	0.00	-32.01	0.00	32.01	1658.23	829.11	1724.52	851.67	24.49	-1.517	0.000	0.050
155.00	-13.22	-2.16	0.00	-23.69	0.00	23.69	1632.53	816.27	1658.75	819.19	25.29	-1.527	0.000	0.037
160.00	-12.31	-2.02	0.00	-12.89	0.00	12.89	1571.93	785.97	1521.98	751.65	26.90	-1.542	0.000	0.025
165.00	-1.91	-0.32	0.00	-2.78	0.00	2.78	1495.17	747.59	1376.14	679.62	28.52	-1.550	0.000	0.005
170.00	-1.15	-0.19	0.00	-1.18	0.00	1.18	1418.42	709.21	1237.64	611.22	30.14	-1.552	0.000	0.003
175.00	-0.42	-0.07	0.00	-0.21	0.00	0.21	1341.66	670.83	1106.49	546.45	31.77	-1.553	0.000	0.001
178.00	0.00	-0.06	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	32.75	-1.553	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case:	1.2D + 1.0E							**Iterations**	22
Gust Response Factor	1.10				**Sds**	0.18		**Ss**	0.17
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29		**SA**	0.03	**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		1566.1	0.00	0.03	0.02	27.20	
10.00		1534.6	0.01	0.05	0.03	39.14	
15.00		1503.1	0.01	0.06	0.03	44.81	
20.00		1471.6	0.02	0.07	0.04	47.35	
25.00		1440.1	0.04	0.07	0.04	48.31	
30.00		1408.6	0.05	0.07	0.04	48.52	
32.83	Bot - Section 2	784.27	0.06	0.07	0.04	27.34	
35.00		1159.5	0.07	0.07	0.04	40.79	
40.00	Top - Section 1	2632.1	0.10	0.07	0.04	94.49	
45.00		1256.9	0.12	0.07	0.03	46.05	
50.00		1227.3	0.15	0.07	0.03	45.80	
55.00		1197.8	0.18	0.07	0.03	45.23	
60.00		1168.3	0.21	0.06	0.02	44.00	
65.00		1138.8	0.25	0.05	0.02	41.72	
70.00		1109.2	0.29	0.05	0.01	37.88	
75.00		1079.7	0.34	0.04	0.01	32.01	
77.92	Bot - Section 3	616.92	0.36	0.03	0.01	15.96	
80.00		846.76	0.38	0.02	0.01	19.16	
84.00	Top - Section 2	1601.9	0.42	0.01	0.01	24.13	
85.00		192.02	0.43	0.01	0.01	2.48	
90.00		946.81	0.48	-0.01	0.01	1.05	
95.00		919.25	0.54	-0.03	0.01	-10.58	
100.00		891.69	0.60	-0.05	0.01	-20.66	
105.00		864.13	0.66	-0.07	0.02	-27.96	
110.00		836.57	0.72	-0.09	0.03	-31.94	
115.00		809.01	0.79	-0.11	0.05	-32.63	
120.00		781.45	0.86	-0.12	0.07	-30.35	
124.08	Bot - Section 4	617.74	0.92	-0.12	0.09	-21.63	
125.00	Appurtenance(s)	2443.5	0.93	-0.12	0.10	-82.67	
129.00	Top - Section 3	967.08	0.99	-0.11	0.13	-26.46	
130.00		94.18	1.01	-0.11	0.14	-2.39	
135.00		460.28	1.09	-0.08	0.18	-6.29	
140.00		442.56	1.17	-0.02	0.23	0.62	
145.00	Appurtenance(s)	4228.5	1.25	0.06	0.30	83.64	
150.00		407.13	1.34	0.18	0.37	16.90	
152.50	Appurtenance(s)	685.72	1.39	0.26	0.42	36.80	
155.00	Appurtenance(s)	2622.4	1.43	0.35	0.47	174.83	
160.00		371.69	1.53	0.57	0.58	35.42	
165.00	Appurtenance(s)	3604.2	1.62	0.85	0.70	459.42	
170.00		336.26	1.72	1.22	0.85	54.90	
175.00		318.54	1.83	1.66	1.02	64.59	
178.00		182.62	1.89	1.98	1.14	41.69	
	Totals:	**48,768.0**				**1,448.7**	**Total Wind:** **45,637.2**

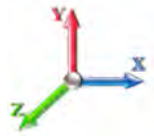
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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: 1.2D + 1.0E



Gust Response Factor	1.10			**Sds**	0.18			**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.17
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.03			**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	-65.93	-1.75	0.00	-199.86	0.00	199.86	6109.19	3054.60	14553.3	7187.37		0.00	0.00	0.039
5.00	-63.93	-1.73	0.00	-191.14	0.00	191.14	6042.67	3021.34	14105.8	6966.35		0.00	-0.01	0.038
10.00	-61.84	-1.69	0.00	-182.51	0.00	182.51	5973.91	2986.96	13659.5	6745.94		0.01	-0.01	0.037
15.00	-59.78	-1.66	0.00	-174.03	0.00	174.03	5902.91	2951.46	13214.8	6526.30		0.03	-0.02	0.037
20.00	-57.75	-1.62	0.00	-165.75	0.00	165.75	5829.67	2914.84	12771.9	6307.60		0.06	-0.03	0.036
25.00	-55.77	-1.57	0.00	-157.67	0.00	157.67	5754.19	2877.10	12331.3	6089.98		0.09	-0.04	0.036
30.00	-53.82	-1.53	0.00	-149.80	0.00	149.80	5676.47	2838.24	11893.2	5873.62		0.14	-0.04	0.035
32.83	-52.73	-1.50	0.00	-145.47	0.00	145.47	5631.44	2815.72	11646.2	5751.63		0.16	-0.05	0.035
35.00	-51.23	-1.47	0.00	-142.21	0.00	142.21	5596.51	2798.26	11457.9	5658.66		0.19	-0.05	0.034
40.00	-47.82	-1.38	0.00	-134.87	0.00	134.87	5104.93	2552.47	10419.5	5145.84		0.24	-0.06	0.036
45.00	-46.05	-1.33	0.00	-127.99	0.00	127.99	5033.50	2516.75	10032.9	4954.92		0.31	-0.07	0.035
50.00	-44.32	-1.29	0.00	-121.32	0.00	121.32	4959.83	2479.91	9648.87	4765.22		0.39	-0.08	0.034
55.00	-42.63	-1.25	0.00	-114.85	0.00	114.85	4883.92	2441.96	9267.55	4576.90		0.47	-0.08	0.034
60.00	-40.97	-1.21	0.00	-108.59	0.00	108.59	4805.76	2402.88	8889.36	4390.12		0.56	-0.09	0.033
65.00	-39.35	-1.17	0.00	-102.53	0.00	102.53	4725.37	2362.69	8514.61	4205.04		0.66	-0.10	0.033
70.00	-37.76	-1.14	0.00	-96.67	0.00	96.67	4642.74	2321.37	8143.62	4021.83		0.77	-0.11	0.032
75.00	-36.21	-1.11	0.00	-90.98	0.00	90.98	4557.87	2278.94	7776.72	3840.63		0.89	-0.12	0.032
77.92	-35.32	-1.09	0.00	-87.74	0.00	87.74	4507.27	2253.64	7564.46	3735.80		0.97	-0.12	0.031
80.00	-34.19	-1.07	0.00	-85.47	0.00	85.47	4470.76	2235.38	7414.22	3661.61		1.02	-0.13	0.031
84.00	-32.07	-1.05	0.00	-81.17	0.00	81.17	4079.95	2039.98	6768.85	3342.88		1.13	-0.14	0.032
85.00	-31.78	-1.05	0.00	-80.13	0.00	80.13	4064.53	2032.27	6704.51	3311.11		1.16	-0.14	0.032
90.00	-30.39	-1.05	0.00	-74.89	0.00	74.89	3985.82	1992.91	6384.01	3152.82		1.31	-0.15	0.031
95.00	-29.03	-1.05	0.00	-69.64	0.00	69.64	3904.88	1952.44	6067.57	2996.54		1.47	-0.16	0.031
100.00	-27.70	-1.05	0.00	-64.39	0.00	64.39	3803.39	1901.70	5727.93	2828.81		1.64	-0.17	0.030
105.00	-26.41	-1.05	0.00	-59.14	0.00	59.14	3683.99	1842.00	5371.89	2652.97		1.82	-0.18	0.029
110.00	-25.15	-1.05	0.00	-53.88	0.00	53.88	3564.59	1782.30	5027.27	2482.78		2.01	-0.19	0.029
115.00	-23.92	-1.05	0.00	-48.62	0.00	48.62	3445.19	1722.60	4694.07	2318.23		2.21	-0.20	0.028
120.00	-22.73	-1.05	0.00	-43.36	0.00	43.36	3325.79	1662.90	4372.30	2159.32		2.42	-0.21	0.027
124.08	-21.78	-1.05	0.00	-39.06	0.00	39.06	3228.28	1614.14	4118.00	2033.73		2.60	-0.21	0.026
125.00	-18.80	-1.04	0.00	-38.10	0.00	38.10	3206.39	1603.20	4061.96	2006.05		2.64	-0.22	0.025
129.00	-17.50	-1.04	0.00	-33.94	0.00	33.94	1872.41	936.20	2368.25	1169.59		2.82	-0.22	0.038
130.00	-17.35	-1.04	0.00	-32.90	0.00	32.90	1864.30	932.15	2340.16	1155.72		2.87	-0.23	0.038
135.00	-16.62	-1.04	0.00	-27.71	0.00	27.71	1822.43	911.21	2200.41	1086.70		3.12	-0.24	0.035
140.00	-15.92	-1.04	0.00	-22.51	0.00	22.51	1778.31	889.16	2062.08	1018.38		3.37	-0.25	0.031
145.00	-10.67	-0.93	0.00	-17.31	0.00	17.31	1731.96	865.98	1925.47	950.92		3.64	-0.26	0.024
150.00	-10.03	-0.92	0.00	-12.64	0.00	12.64	1683.36	841.68	1790.92	884.47		3.92	-0.27	0.020
152.50	-9.13	-0.87	0.00	-10.35	0.00	10.35	1658.23	829.11	1724.52	851.67		4.07	-0.28	0.018
155.00	-5.91	-0.68	0.00	-8.17	0.00	8.17	1632.53	816.27	1658.75	819.19		4.21	-0.28	0.014
160.00	-5.40	-0.65	0.00	-4.74	0.00	4.74	1571.93	785.97	1521.98	751.65		4.51	-0.28	0.010
165.00	-1.00	-0.17	0.00	-1.50	0.00	1.50	1495.17	747.59	1376.14	679.62		4.81	-0.29	0.003
170.00	-0.60	-0.11	0.00	-0.67	0.00	0.67	1418.42	709.21	1237.64	611.22		5.11	-0.29	0.002
175.00	-0.22	-0.04	0.00	-0.13	0.00	0.13	1341.66	670.83	1106.49	546.45		5.41	-0.29	0.000
178.00	0.00	-0.04	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33		5.59	-0.29	0.000

Seismic Segment Forces (Factored)

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (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

Load Case:	0.9D + 1.0E							**Iterations**	22
Gust Response Factor	1.10				**Sds**	0.18		**Ss**	0.17
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29		**SA**	0.03	**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		1566.1	0.00	0.03	0.02	27.20	
10.00		1534.6	0.01	0.05	0.03	39.14	
15.00		1503.1	0.01	0.06	0.03	44.81	
20.00		1471.6	0.02	0.07	0.04	47.35	
25.00		1440.1	0.04	0.07	0.04	48.31	
30.00		1408.6	0.05	0.07	0.04	48.52	
32.83	Bot - Section 2	784.27	0.06	0.07	0.04	27.34	
35.00		1159.5	0.07	0.07	0.04	40.79	
40.00	Top - Section 1	2632.1	0.10	0.07	0.04	94.49	
45.00		1256.9	0.12	0.07	0.03	46.05	
50.00		1227.3	0.15	0.07	0.03	45.80	
55.00		1197.8	0.18	0.07	0.03	45.23	
60.00		1168.3	0.21	0.06	0.02	44.00	
65.00		1138.8	0.25	0.05	0.02	41.72	
70.00		1109.2	0.29	0.05	0.01	37.88	
75.00		1079.7	0.34	0.04	0.01	32.01	
77.92	Bot - Section 3	616.92	0.36	0.03	0.01	15.96	
80.00		846.76	0.38	0.02	0.01	19.16	
84.00	Top - Section 2	1601.9	0.42	0.01	0.01	24.13	
85.00		192.02	0.43	0.01	0.01	2.48	
90.00		946.81	0.48	-0.01	0.01	1.05	
95.00		919.25	0.54	-0.03	0.01	-10.58	
100.00		891.69	0.60	-0.05	0.01	-20.66	
105.00		864.13	0.66	-0.07	0.02	-27.96	
110.00		836.57	0.72	-0.09	0.03	-31.94	
115.00		809.01	0.79	-0.11	0.05	-32.63	
120.00		781.45	0.86	-0.12	0.07	-30.35	
124.08	Bot - Section 4	617.74	0.92	-0.12	0.09	-21.63	
125.00	Appurtenance(s)	2443.5	0.93	-0.12	0.10	-82.67	
129.00	Top - Section 3	967.08	0.99	-0.11	0.13	-26.46	
130.00		94.18	1.01	-0.11	0.14	-2.39	
135.00		460.28	1.09	-0.08	0.18	-6.29	
140.00		442.56	1.17	-0.02	0.23	0.62	
145.00	Appurtenance(s)	4228.5	1.25	0.06	0.30	83.64	
150.00		407.13	1.34	0.18	0.37	16.90	
152.50	Appurtenance(s)	685.72	1.39	0.26	0.42	36.80	
155.00	Appurtenance(s)	2622.4	1.43	0.35	0.47	174.83	
160.00		371.69	1.53	0.57	0.58	35.42	
165.00	Appurtenance(s)	3604.2	1.62	0.85	0.70	459.42	
170.00		336.26	1.72	1.22	0.85	54.90	
175.00		318.54	1.83	1.66	1.02	64.59	
178.00		182.62	1.89	1.98	1.14	41.69	
	Totals:	**48,768.0**				**1,448.7**	**Total Wind:** **45,637.2**

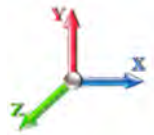
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Tower Engineering Solutions

Load Case: 0.9D + 1.0E



Gust Response Factor	1.10			**Sds**	0.18			**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.17
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.29	**SA**	0.03			**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	-49.45	-1.74	0.00	-197.33	0.00	197.33	6109.19	3054.60	14553.3	7187.37		0.00	0.00	0.036
5.00	-47.95	-1.72	0.00	-188.61	0.00	188.61	6042.67	3021.34	14105.8	6966.35		0.00	-0.01	0.035
10.00	-46.38	-1.69	0.00	-179.99	0.00	179.99	5973.91	2986.96	13659.5	6745.94		0.01	-0.01	0.034
15.00	-44.83	-1.65	0.00	-171.54	0.00	171.54	5902.91	2951.46	13214.8	6526.30		0.03	-0.02	0.034
20.00	-43.31	-1.61	0.00	-163.30	0.00	163.30	5829.67	2914.84	12771.9	6307.60		0.06	-0.03	0.033
25.00	-41.83	-1.56	0.00	-155.26	0.00	155.26	5754.19	2877.10	12331.3	6089.98		0.09	-0.04	0.033
30.00	-40.37	-1.52	0.00	-147.44	0.00	147.44	5676.47	2838.24	11893.2	5873.62		0.13	-0.04	0.032
32.83	-39.55	-1.49	0.00	-143.14	0.00	143.14	5631.44	2815.72	11646.2	5751.63		0.16	-0.05	0.032
35.00	-38.42	-1.45	0.00	-139.91	0.00	139.91	5596.51	2798.26	11457.9	5658.66		0.18	-0.05	0.032
40.00	-35.86	-1.36	0.00	-132.63	0.00	132.63	5104.93	2552.47	10419.5	5145.84		0.24	-0.06	0.033
45.00	-34.54	-1.32	0.00	-125.82	0.00	125.82	5033.50	2516.75	10032.9	4954.92		0.31	-0.07	0.032
50.00	-33.24	-1.28	0.00	-119.22	0.00	119.22	4959.83	2479.91	9648.87	4765.22		0.38	-0.07	0.032
55.00	-31.97	-1.23	0.00	-112.83	0.00	112.83	4883.92	2441.96	9267.55	4576.90		0.46	-0.08	0.031
60.00	-30.73	-1.19	0.00	-106.66	0.00	106.66	4805.76	2402.88	8889.36	4390.12		0.55	-0.09	0.031
65.00	-29.51	-1.15	0.00	-100.69	0.00	100.69	4725.37	2362.69	8514.61	4205.04		0.65	-0.10	0.030
70.00	-28.32	-1.12	0.00	-94.92	0.00	94.92	4642.74	2321.37	8143.62	4021.83		0.76	-0.11	0.030
75.00	-27.15	-1.09	0.00	-89.33	0.00	89.33	4557.87	2278.94	7776.72	3840.63		0.88	-0.12	0.029
77.92	-26.49	-1.07	0.00	-86.15	0.00	86.15	4507.27	2253.64	7564.46	3735.80		0.95	-0.12	0.029
80.00	-25.64	-1.05	0.00	-83.92	0.00	83.92	4470.76	2235.38	7414.22	3661.61		1.01	-0.13	0.029
84.00	-24.05	-1.03	0.00	-79.71	0.00	79.71	4079.95	2039.98	6768.85	3342.88		1.11	-0.13	0.030
85.00	-23.84	-1.03	0.00	-78.68	0.00	78.68	4064.53	2032.27	6704.51	3311.11		1.14	-0.14	0.030
90.00	-22.79	-1.03	0.00	-73.54	0.00	73.54	3985.82	1992.91	6384.01	3152.82		1.29	-0.14	0.029
95.00	-21.77	-1.03	0.00	-68.41	0.00	68.41	3904.88	1952.44	6067.57	2996.54		1.45	-0.15	0.028
100.00	-20.78	-1.03	0.00	-63.26	0.00	63.26	3803.39	1901.70	5727.93	2828.81		1.61	-0.16	0.028
105.00	-19.81	-1.03	0.00	-58.12	0.00	58.12	3683.99	1842.00	5371.89	2652.97		1.79	-0.17	0.027
110.00	-18.86	-1.03	0.00	-52.97	0.00	52.97	3564.59	1782.30	5027.27	2482.78		1.97	-0.18	0.027
115.00	-17.94	-1.03	0.00	-47.82	0.00	47.82	3445.19	1722.60	4694.07	2318.23		2.17	-0.19	0.026
120.00	-17.05	-1.03	0.00	-42.66	0.00	42.66	3325.79	1662.90	4372.30	2159.32		2.38	-0.20	0.025
124.08	-16.33	-1.03	0.00	-38.46	0.00	38.46	3228.28	1614.14	4118.00	2033.73		2.56	-0.21	0.024
125.00	-14.10	-1.02	0.00	-37.52	0.00	37.52	3206.39	1603.20	4061.96	2006.05		2.60	-0.21	0.023
129.00	-13.12	-1.02	0.00	-33.43	0.00	33.43	1872.41	936.20	2368.25	1169.59		2.78	-0.22	0.036
130.00	-13.01	-1.02	0.00	-32.41	0.00	32.41	1864.30	932.15	2340.16	1155.72		2.82	-0.22	0.035
135.00	-12.47	-1.02	0.00	-27.31	0.00	27.31	1822.43	911.21	2200.41	1086.70		3.06	-0.24	0.032
140.00	-11.94	-1.02	0.00	-22.20	0.00	22.20	1778.31	889.16	2062.08	1018.38		3.32	-0.25	0.029
145.00	-8.00	-0.92	0.00	-17.10	0.00	17.10	1731.96	865.98	1925.47	950.92		3.58	-0.26	0.023
150.00	-7.52	-0.90	0.00	-12.50	0.00	12.50	1683.36	841.68	1790.92	884.47		3.86	-0.27	0.019
152.50	-6.85	-0.86	0.00	-10.24	0.00	10.24	1658.23	829.11	1724.52	851.67		4.00	-0.27	0.016
155.00	-4.43	-0.68	0.00	-8.08	0.00	8.08	1632.53	816.27	1658.75	819.19		4.14	-0.27	0.013
160.00	-4.05	-0.64	0.00	-4.69	0.00	4.69	1571.93	785.97	1521.98	751.65		4.43	-0.28	0.009
165.00	-0.75	-0.16	0.00	-1.49	0.00	1.49	1495.17	747.59	1376.14	679.62		4.73	-0.28	0.003
170.00	-0.45	-0.11	0.00	-0.67	0.00	0.67	1418.42	709.21	1237.64	611.22		5.03	-0.28	0.001
175.00	-0.16	-0.04	0.00	-0.13	0.00	0.13	1341.66	670.83	1106.49	546.45		5.32	-0.28	0.000
178.00	0.00	-0.04	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33		5.50	-0.28	0.000

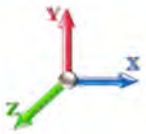
Wind Loading - Shaft

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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 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	0.70	6.129	6.74	252.27	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	247.29	1.000	0.000	5.00	24.879	24.88	167.7	0.0	1566.2
10.00		1.00	0.70	6.129	6.74	242.31	1.000	0.000	5.00	24.383	24.38	164.4	0.0	1534.7
15.00		1.00	0.70	6.129	6.74	237.33	1.000	0.000	5.00	23.887	23.89	161.0	0.0	1503.2
20.00		1.00	0.70	6.129	6.74	232.35	1.000	0.000	5.00	23.391	23.39	157.7	0.0	1471.7
25.00		1.00	0.70	6.129	6.74	227.37	1.000	0.000	5.00	22.895	22.89	154.3	0.0	1440.2
30.00		1.00	0.70	6.134	6.75	222.49	1.000	0.000	5.00	22.399	22.40	151.1	0.0	1408.7
32.83	Bot - Section 2	1.00	0.72	6.294	6.92	222.51	1.000	0.000	2.83	12.473	12.47	86.4	0.0	784.3
35.00		1.00	0.73	6.410	7.05	222.35	1.000	0.000	2.17	9.606	9.61	67.7	0.0	1159.5
40.00	Top - Section 1	1.00	0.76	6.659	7.33	221.44	1.000	0.000	5.00	21.811	21.81	159.8	0.0	2632.1
45.00		1.00	0.79	6.887	7.58	224.22	1.000	0.000	5.00	21.315	21.32	161.5	0.0	1256.9
50.00		1.00	0.81	7.098	7.81	222.26	1.000	0.000	5.00	20.819	20.82	162.5	0.0	1227.4
55.00		1.00	0.83	7.294	8.02	219.88	1.000	0.000	5.00	20.323	20.32	163.1	0.0	1197.9
60.00		1.00	0.85	7.477	8.22	217.13	1.000	0.000	5.00	19.827	19.83	163.1	0.0	1168.3
65.00		1.00	0.87	7.650	8.42	214.06	1.000	0.000	5.00	19.331	19.33	162.7	0.0	1138.8
70.00		1.00	0.89	7.814	8.60	210.72	1.000	0.000	5.00	18.835	18.84	161.9	0.0	1109.3
75.00		1.00	0.91	7.969	8.77	207.12	1.000	0.000	5.00	18.339	18.34	160.8	0.0	1079.8
77.92	Bot - Section 3	1.00	0.92	8.057	8.86	204.92	1.000	0.000	2.92	10.481	10.48	92.9	0.0	616.9
80.00		1.00	0.93	8.118	8.93	203.31	1.000	0.000	2.08	7.520	7.52	67.1	0.0	846.8
84.00	Top - Section 2	1.00	0.94	8.232	9.05	200.11	1.000	0.000	4.00	14.231	14.23	128.9	0.0	1601.9
85.00		1.00	0.94	8.260	9.09	203.70	1.000	0.000	1.00	3.494	3.49	31.7	0.0	192.0
90.00		1.00	0.96	8.396	9.24	199.54	1.000	0.000	5.00	17.229	17.23	159.1	0.0	946.8
95.00		1.00	0.97	8.526	9.38	195.21	1.000	0.000	5.00	16.733	16.73	156.9	0.0	919.2
100.00		1.00	0.99	8.652	9.52	190.73	1.000	0.000	5.00	16.237	16.24	154.5	0.0	891.7
105.00		1.00	1.00	8.774	9.65	186.11	1.000	0.000	5.00	15.741	15.74	151.9	0.0	864.1
110.00		1.00	1.02	8.891	9.78	181.35	1.000	0.000	5.00	15.245	15.24	149.1	0.0	836.6
115.00		1.00	1.03	9.005	9.91	176.47	1.000	0.000	5.00	14.749	14.75	146.1	0.0	809.0
120.00		1.00	1.04	9.115	10.03	171.47	1.000	0.000	5.00	14.253	14.25	142.9	0.0	781.4
124.08	Bot - Section 4	1.00	1.05	9.202	10.12	167.31	1.000	0.000	4.08	11.272	11.27	114.1	0.0	617.7
125.00	Appurtenance(s)	1.00	1.05	9.222	10.14	166.37	1.000	0.000	0.92	2.529	2.53	25.7	0.0	225.7
129.00	Top - Section 3	1.00	1.06	9.305	10.24	162.21	1.000	0.000	4.00	10.842	10.84	111.0	0.0	967.1
130.00		1.00	1.07	9.326	10.26	164.16	1.000	0.000	1.00	2.661	2.66	27.3	0.0	94.2
135.00		1.00	1.08	9.427	10.37	158.87	1.000	0.000	5.00	13.007	13.01	134.9	0.0	460.3
140.00		1.00	1.09	9.525	10.48	153.49	1.000	0.000	5.00	12.511	12.51	131.1	0.0	442.6
145.00	Appurtenance(s)	1.00	1.10	9.621	10.58	148.03	1.000	0.000	5.00	12.015	12.02	127.2	0.0	424.8
150.00		1.00	1.11	9.715	10.69	142.47	1.000	0.000	5.00	11.519	11.52	123.1	0.0	407.1
152.50	Appurtenance(s)	1.00	1.11	9.761	10.74	139.67	1.000	0.000	2.50	5.574	5.57	59.8	0.0	196.9
155.00	Appurtenance(s)	1.00	1.12	9.806	10.79	136.84	1.000	0.000	2.50	5.450	5.45	58.8	0.0	192.5
160.00		1.00	1.13	9.896	10.89	131.14	1.000	0.000	5.00	10.527	10.53	114.6	0.0	371.7
165.00	Appurtenance(s)	1.00	1.14	9.983	10.98	125.36	1.000	0.000	5.00	10.031	10.03	110.2	0.0	354.0
170.00		1.00	1.15	10.069	11.08	119.51	1.000	0.000	5.00	9.535	9.54	105.6	0.0	336.3
175.00		1.00	1.16	10.152	11.17	113.60	1.000	0.000	5.00	9.039	9.04	100.9	0.0	318.5
178.00		1.00	1.17	10.202	11.22	110.02	1.000	0.000	3.00	5.185	5.19	58.2	0.0	182.6
								Totals:	**178.00**			**5,189.2**		**36,577.3**

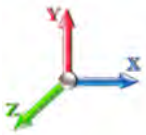
Discrete Appurtenance Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (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	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



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	165.00	Reinf. Kit (SitePro1	3	9.983	10.981	0.75	1.00	7.88	285.00	0.000	0.000	86.48	0.00	0.00
2	165.00	Kathrein 782 11056	3	9.983	10.981	0.58	0.75	0.23	5.40	0.000	0.000	2.51	0.00	0.00
3	165.00	RFS	3	9.983	10.981	0.55	0.75	5.93	56.10	0.000	0.000	65.11	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	9.983	10.981	1.00	1.00	6.70	230.00	0.000	0.000	73.58	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	9.983	10.981	0.50	0.75	2.97	213.00	0.000	0.000	32.61	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	9.983	10.981	0.50	0.75	1.96	92.40	0.000	0.000	21.52	0.00	0.00
7	165.00	RFS	3	9.983	10.981	0.52	0.75	31.88	368.40	0.000	0.000	350.06	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	9.983	10.981	1.00	1.00	40.00	2000.00	0.000	0.000	439.25	0.00	0.00
9	155.00	Powerwave 7770	6	9.806	10.787	0.54	0.75	17.95	162.00	0.000	0.000	193.62	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	9.806	10.787	0.56	0.75	2.81	30.80	0.000	0.000	30.34	0.00	0.00
11	155.00	Powerwave	1	9.806	10.787	0.56	0.75	6.43	59.00	0.000	0.000	69.41	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	9.806	10.787	1.00	1.00	40.00	2000.00	0.000	0.000	431.48	0.00	0.00
13	155.00	Powerwave LGP21903	6	9.806	10.787	0.50	0.75	0.81	33.00	0.000	0.000	8.78	0.00	0.00
14	155.00	Kathrein 800 10764	1	9.806	10.787	0.56	0.75	3.31	40.80	0.000	0.000	35.68	0.00	0.00
15	155.00	Nokia CS72188.01	1	9.806	10.787	0.50	0.75	0.66	19.80	0.000	0.000	7.15	0.00	0.00
16	155.00	Powerwave LGP21401	6	9.806	10.787	0.50	0.75	3.89	84.60	0.000	0.000	41.95	0.00	0.00
17	152.50	Ring Mount (Part No	1	9.761	10.737	1.00	1.00	5.00	150.00	0.000	0.000	53.68	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	9.761	10.737	0.90	0.90	1.32	32.80	0.000	0.000	14.20	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	9.761	10.737	0.60	0.90	11.79	306.00	0.000	0.000	126.64	0.00	0.00
20	145.00	ALU 800 Mhz- RRUs	6	9.621	10.583	0.50	0.75	7.51	318.00	0.000	0.000	79.45	0.00	0.00
21	145.00	ALU 1900 Mhz- RRUs	3	9.621	10.583	0.50	0.75	4.18	180.00	0.000	0.000	44.19	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	9.621	10.583	1.00	1.00	9.50	464.91	0.000	0.000	100.54	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	9.621	10.583	1.00	1.00	6.70	230.00	0.000	0.000	70.91	0.00	0.00
24	145.00	NNVV-65B-R4	3	9.621	10.583	0.55	0.75	20.43	232.20	0.000	0.000	216.21	0.00	0.00
25	145.00	APXVTM14-C-I20	3	9.621	10.583	0.58	0.75	10.98	168.60	0.000	0.000	116.25	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	9.621	10.583	1.00	1.00	40.00	2000.00	0.000	0.000	423.33	0.00	0.00
27	145.00	ALU TD-RRH8x20-25-	3	9.621	10.583	0.50	0.75	6.11	210.00	0.000	0.000	64.62	0.00	0.00
28	125.00	Commscope	6	9.222	10.144	0.66	0.80	32.19	304.26	0.000	0.000	326.54	0.00	0.00
29	125.00	Antel	6	9.222	10.144	0.59	0.80	9.31	72.00	0.000	0.000	94.42	0.00	0.00
30	125.00	ALU RRH2x60-AWS	3	9.222	10.144	0.54	0.80	5.63	180.00	0.000	0.000	57.09	0.00	0.00
31	125.00	Low Profile Platform	1	9.222	10.144	1.00	1.00	25.00	1200.00	0.000	0.000	253.60	0.00	0.00
32	125.00	GPS	1	9.222	10.144	0.67	0.80	0.67	10.00	0.000	0.000	6.76	0.00	0.00
33	125.00	ALU RRH2x60-700	3	9.222	10.144	0.54	0.80	5.63	180.00	0.000	0.000	57.09	0.00	0.00
34	125.00	ALU RRH2X60-PCS	3	9.222	10.144	0.54	0.80	5.63	165.00	0.000	0.000	57.09	0.00	0.00
35	125.00	RFS FD9R6004/2C-3L	6	9.222	10.144	0.54	0.80	1.16	18.60	0.000	0.000	11.74	0.00	0.00
36	125.00	RFS DB-T1-6Z-8AB-0Z	2	9.222	10.144	0.73	0.80	5.97	88.00	0.000	0.000	60.56	0.00	0.00
							Totals:		**12,190.67**			**4,124.46**		

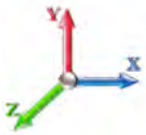
Total Applied Force Summary

Structure:	CT00594-S-SBA		**Code:**	EIA/TIA-222-G	4/27/2021
Site Name:	Plainfield North		**Exposure:**	B	
Height:	178.00 (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

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



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		167.72	1661.57	0.00	0.00
10.00		164.38	1748.44	0.00	0.00
15.00		161.03	1716.95	0.00	0.00
20.00		157.69	1685.45	0.00	0.00
25.00		154.35	1653.95	0.00	0.00
30.00		151.13	1622.45	0.00	0.00
32.83		86.35	905.41	0.00	0.00
35.00		67.73	1252.18	0.00	0.00
40.00		159.77	2845.91	0.00	0.00
45.00		161.48	1470.70	0.00	0.00
50.00		162.55	1441.17	0.00	0.00
55.00		163.05	1411.65	0.00	0.00
60.00		163.08	1382.12	0.00	0.00
65.00		162.68	1352.59	0.00	0.00
70.00		161.89	1323.06	0.00	0.00
75.00		160.77	1293.53	0.00	0.00
77.92		92.89	741.76	0.00	0.00
80.00		67.15	935.69	0.00	0.00
84.00		128.86	1773.10	0.00	0.00
85.00		31.74	234.64	0.00	0.00
90.00		159.11	1160.59	0.00	0.00
95.00		156.93	1133.03	0.00	0.00
100.00		154.53	1105.47	0.00	0.00
105.00		151.91	1077.91	0.00	0.00
110.00		149.09	1050.35	0.00	0.00
115.00		146.09	1022.79	0.00	0.00
120.00		142.90	995.23	0.00	0.00
124.08		114.10	792.32	0.00	0.00
125.00	(31) attachments	950.55	2482.76	0.00	0.00
129.00		110.98	1082.91	0.00	0.00
130.00		27.30	123.14	0.00	0.00
135.00		134.88	605.06	0.00	0.00
140.00		131.09	587.34	0.00	0.00
145.00	(21) attachments	1242.67	4373.34	0.00	0.00
150.00		123.10	532.83	0.00	0.00
152.50	(8) attachments	254.37	748.57	0.00	0.00
155.00	(23) attachments	877.20	2685.34	0.00	0.00
160.00		114.59	429.79	0.00	0.00
165.00	(23) attachments	1181.28	3662.38	0.00	0.00
170.00		105.61	336.26	0.00	0.00
175.00		100.95	318.54	0.00	0.00
178.00		58.19	182.62	0.00	0.00
	Totals:	**9,313.71**	**54,940.87**	**0.00**	**0.00**

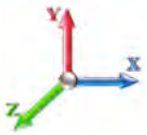
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



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	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	22.88
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	4.40
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.32
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	57.20
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	11.00
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	0.80
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	32.41
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	6.23
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	0.45
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	24.79
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	4.77
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	0.35
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	57.20
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	11.00
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	0.80
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	57.20
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	11.00
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	0.80
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	57.20
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	11.00
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	0.80
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	57.20
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	11.00
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	0.80
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	57.20
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	11.00
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	0.80
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	57.20
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	11.00
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	0.80
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	57.20
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	11.00
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	0.80
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	57.20
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	11.00

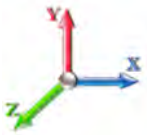
Linear Appurtenance Segment Forces (Factored)

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



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)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	0.80
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	33.40
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	6.42
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	0.47
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	23.80
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	4.58
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	0.33
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	45.80
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	8.81
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	0.64
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	11.40
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	2.19
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	0.16
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	57.20
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	11.00
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	0.80
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	57.20
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	11.00
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	0.80
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	57.20
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	11.00
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	0.80
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	57.20
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	11.00
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	0.80
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	57.20
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	11.00
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	0.80
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	57.20
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	11.00
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	0.80
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	57.20
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	11.00
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	0.80
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	46.71
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	8.98
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	0.65
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	10.49
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	2.02
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	0.15
									Totals:		**0.0**	**1,683.6**

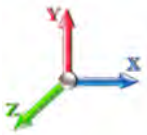
Calculated Forces

Structure:	CT00594-S-SBA	**Code:**	EIA/TIA-222-G	4/27/2021	
Site Name:	Plainfield North	**Exposure:**	B		
Height:	178.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



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	-54.94	-9.33	0.00	-1095.1	0.00	1095.18	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.161
5.00	-53.27	-9.20	0.00	-1048.5	0.00	1048.53	6042.67	3021.34	14105.8	6966.35	0.02	-0.039	0.000	0.159
10.00	-51.52	-9.07	0.00	-1002.5	0.00	1002.53	5973.91	2986.96	13659.5	6745.94	0.08	-0.078	0.000	0.157
15.00	-49.79	-8.94	0.00	-957.19	0.00	957.19	5902.91	2951.46	13214.8	6526.30	0.18	-0.117	0.000	0.155
20.00	-48.10	-8.81	0.00	-912.49	0.00	912.49	5829.67	2914.84	12771.9	6307.60	0.33	-0.158	0.000	0.153
25.00	-46.44	-8.69	0.00	-868.43	0.00	868.43	5754.19	2877.10	12331.3	6089.98	0.52	-0.199	0.000	0.151
30.00	-44.81	-8.55	0.00	-825.00	0.00	825.00	5676.47	2838.24	11893.2	5873.62	0.75	-0.241	0.000	0.148
32.83	-43.91	-8.48	0.00	-800.77	0.00	800.77	5631.44	2815.72	11646.2	5751.63	0.90	-0.265	0.000	0.147
35.00	-42.65	-8.43	0.00	-782.39	0.00	782.39	5596.51	2798.26	11457.9	5658.66	1.02	-0.284	0.000	0.146
40.00	-39.80	-8.28	0.00	-740.25	0.00	740.25	5104.93	2552.47	10419.5	5145.84	1.34	-0.327	0.000	0.152
45.00	-38.32	-8.14	0.00	-698.82	0.00	698.82	5033.50	2516.75	10032.9	4954.92	1.71	-0.370	0.000	0.149
50.00	-36.88	-8.00	0.00	-658.10	0.00	658.10	4959.83	2479.91	9648.87	4765.22	2.12	-0.414	0.000	0.146
55.00	-35.46	-7.85	0.00	-618.10	0.00	618.10	4883.92	2441.96	9267.55	4576.90	2.58	-0.459	0.000	0.142
60.00	-34.07	-7.71	0.00	-578.83	0.00	578.83	4805.76	2402.88	8889.36	4390.12	3.08	-0.504	0.000	0.139
65.00	-32.72	-7.56	0.00	-540.30	0.00	540.30	4725.37	2362.69	8514.61	4205.04	3.64	-0.550	0.000	0.135
70.00	-31.39	-7.41	0.00	-502.52	0.00	502.52	4642.74	2321.37	8143.62	4021.83	4.24	-0.596	0.000	0.132
75.00	-30.09	-7.25	0.00	-465.48	0.00	465.48	4557.87	2278.94	7776.72	3840.63	4.88	-0.642	0.000	0.128
77.92	-29.35	-7.16	0.00	-444.30	0.00	444.30	4507.27	2253.64	7564.46	3735.80	5.29	-0.669	0.000	0.125
80.00	-28.41	-7.10	0.00	-429.40	0.00	429.40	4470.76	2235.38	7414.22	3661.61	5.58	-0.689	0.000	0.124
84.00	-26.64	-6.96	0.00	-400.99	0.00	400.99	4079.95	2039.98	6768.85	3342.88	6.18	-0.727	0.000	0.126
85.00	-26.40	-6.94	0.00	-394.05	0.00	394.05	4064.53	2032.27	6704.51	3311.11	6.33	-0.736	0.000	0.126
90.00	-25.24	-6.78	0.00	-359.37	0.00	359.37	3985.82	1992.91	6384.01	3152.82	7.13	-0.782	0.000	0.120
95.00	-24.10	-6.63	0.00	-325.45	0.00	325.45	3904.88	1952.44	6067.57	2996.54	7.97	-0.828	0.000	0.115
100.00	-22.99	-6.48	0.00	-292.30	0.00	292.30	3803.39	1901.70	5727.93	2828.81	8.86	-0.874	0.000	0.109
105.00	-21.91	-6.32	0.00	-259.92	0.00	259.92	3683.99	1842.00	5371.89	2652.97	9.80	-0.918	0.000	0.104
110.00	-20.86	-6.17	0.00	-228.30	0.00	228.30	3564.59	1782.30	5027.27	2482.78	10.79	-0.961	0.000	0.098
115.00	-19.83	-6.02	0.00	-197.43	0.00	197.43	3445.19	1722.60	4694.07	2318.23	11.82	-1.003	0.000	0.091
120.00	-18.84	-5.88	0.00	-167.31	0.00	167.31	3325.79	1662.90	4372.30	2159.32	12.89	-1.043	0.000	0.083
124.08	-18.05	-5.75	0.00	-143.32	0.00	143.32	3228.28	1614.14	4118.00	2033.73	13.79	-1.073	0.000	0.076
125.00	-15.58	-4.76	0.00	-138.05	0.00	138.05	3206.39	1603.20	4061.96	2006.05	14.00	-1.080	0.000	0.074
129.00	-14.50	-4.63	0.00	-119.01	0.00	119.01	1872.41	936.20	2368.25	1169.59	14.92	-1.108	0.000	0.110
130.00	-14.37	-4.61	0.00	-114.38	0.00	114.38	1864.30	932.15	2340.16	1155.72	15.15	-1.114	0.000	0.107
135.00	-13.77	-4.47	0.00	-91.33	0.00	91.33	1822.43	911.21	2200.41	1086.70	16.34	-1.159	0.000	0.092
140.00	-13.18	-4.34	0.00	-68.97	0.00	68.97	1778.31	889.16	2062.08	1018.38	17.58	-1.198	0.000	0.075
145.00	-8.83	-3.01	0.00	-47.28	0.00	47.28	1731.96	865.98	1925.47	950.92	18.85	-1.231	0.000	0.055
150.00	-8.30	-2.88	0.00	-32.24	0.00	32.24	1683.36	841.68	1790.92	884.47	20.15	-1.255	0.000	0.041
152.50	-7.56	-2.61	0.00	-25.05	0.00	25.05	1658.23	829.11	1724.52	851.67	20.81	-1.266	0.000	0.034
155.00	-4.89	-1.67	0.00	-18.54	0.00	18.54	1632.53	816.27	1658.75	819.19	21.48	-1.274	0.000	0.026
160.00	-4.47	-1.55	0.00	-10.19	0.00	10.19	1571.93	785.97	1521.98	751.65	22.82	-1.286	0.000	0.016
165.00	-0.83	-0.28	0.00	-2.45	0.00	2.45	1495.17	747.59	1376.14	679.62	24.17	-1.292	0.000	0.004
170.00	-0.50	-0.17	0.00	-1.04	0.00	1.04	1418.42	709.21	1237.64	611.22	25.52	-1.294	0.000	0.002
175.00	-0.18	-0.06	0.00	-0.19	0.00	0.19	1341.66	670.83	1106.49	546.45	26.88	-1.294	0.000	0.000
178.00	0.00	-0.06	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	27.69	-1.294	0.000	0.000

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 105 mph Wind	45.7	0.00	65.85	0.00	0.00	5401.57
0.9D + 1.6W 105 mph Wind	45.7	0.00	49.37	0.00	0.00	5336.58
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.6	0.00	114.04	0.00	0.00	1235.57
1.2D + 1.0E	1.7	0.00	65.93	0.00	0.00	199.86
0.9D + 1.0E	1.7	0.00	49.45	0.00	0.00	197.33
1.0D + 1.0W 60 mph Wind	9.3	0.00	54.94	0.00	0.00	1095.18

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 105 mph Wind	-65.85	-45.75	0.00	-5401.5	0.00	-5401.5	6109.19	3054.6	14553.3	7187.37	0.00	0.763
0.9D + 1.6W 105 mph Wind	-49.37	-45.72	0.00	-5336.5	0.00	-5336.5	6109.19	3054.6	14553.3	7187.37	0.00	0.751
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-114.04	-9.55	0.00	-1235.5	0.00	-1235.5	6109.19	3054.6	14553.3	7187.37	0.00	0.191
1.2D + 1.0E	-65.93	-1.75	0.00	-199.86	0.00	-199.86	6109.19	3054.6	14553.3	7187.37	0.00	0.039
0.9D + 1.0E	-13.12	-1.02	0.00	-33.43	0.00	-33.43	1872.41	936.20	2368.25	1169.59	129.00	0.036
1.0D + 1.0W 60 mph Wind	-54.94	-9.33	0.00	-1095.1	0.00	-1095.1	6109.19	3054.6	14553.3	7187.37	0.00	0.161

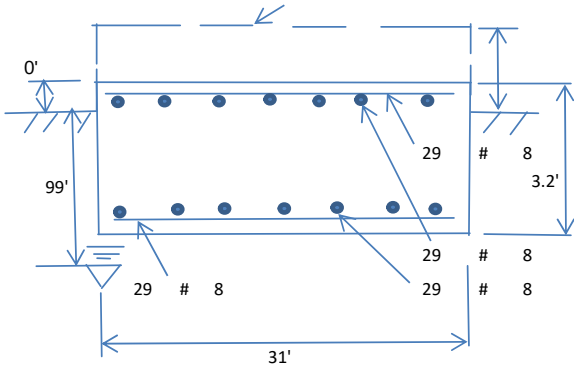
Monopole Mat Foundation Design

			Date: 7/30/2020
Customer Name:	T-Mobile	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	178
Site Number:	CT00594-S-SBA	**Engineer Name:**	Rama K.
Engr. Number:	106382	**Engineer Login ID:**	

Foundation Info Obtained from: Mapping Operation

Structure Type: Monopole

Analysis or Design? Analysis

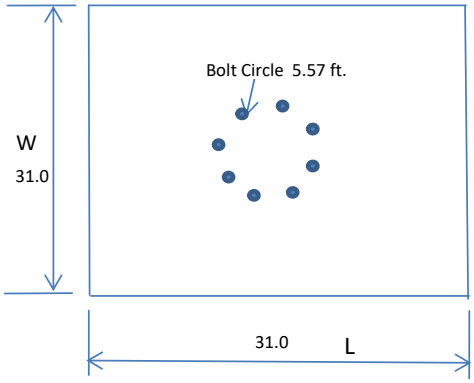


Base Reactions (Factored):

Axial Load (Kips):	65.9	Shear Force (Kips):	45.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5401.6
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Anchor Bolt Circle (ft.):	5.57	Depth of Base BG (ft.):	3.20
Thickness of Pad (ft):	3.20		
Length of Pad (ft.):	31	Width of Pad (ft.):	31
Final Length of pad (ft)	31.0	Final width of pad (ft):	31.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	12.0	
Pad Steel Rebar Size (#):	8			
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	29	Qty. of Rebar in Pad (W):	29	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	29	Qty. of Rebar in Pad (W):	29	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	8000	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):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	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.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3075.20	Total Dry Concrete Weight (Kips):	461.28
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	461.28	Total Vertical Load on Base (Kips):	527.13

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2424	<	Allowable Factored Soil Bearing (psf): 6000	0.40	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7455.5	>	Design Factored Momont (kips-ft): 5550	0.74	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.34	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

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1066.6	>	One-Way Factored Shear (L-D. Kips):	375.3	0.35	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1066.6	>	One-Way Factored Shear (W-D., Kips)	375.3	0.35	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1299.6	>	One-Way Factored Shear (C-C, Kips):	580.6	0.45	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3523.3	>	Moment at Bottom (L-Direct. K-Ft):	1793.3	0.51	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3523.3	>	Moment at Bottom (W-Direct. K-Ft):	1793.3	0.51	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4965.7	>	Moment at Bottom (C-C Dir. K-Ft):	2536.1	0.51	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	3523.3	>	Moment at the top (L-Dir Kips-Ft):	467.3	0.13	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	3523.3	>	Moment at the top (W-Dir Kips-Ft):	467.3	0.13	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4965.7	>	Moment at the top (C-C Direc. K-Ft):	802.6	0.16	OK!

EXHIBIT 8

Antenna Mount Structural Analysis

Source: SBA Date: 11.14.2017

SBA Site:	CT00594-S Plainfield North
T-Mobile Site Number:	CT11155F
Project:	L600 Project
Prepared For:	T-Mobile
Mount Description:	(1) Platform w/ Handrail and PRK w/ Handrail V-Brace Augment
Site Location:	56 Roper Rd, Plainfield, CT Windham County 41.746002°, -71.880158°
Design Codes:	ANSI/TIA-222-G IBC 2015 w/ 2018 CT Building Code
Analysis Load Case:	T-Mobile Final Configuration
Analysis Result:	**Adequate @ 52%** - Once Augmented See Conclusion

STATE OF CONNECTICUT
GREGORY DURGIN
No.32155
LICENSED
PROFESSIONAL ENGINEER

Revision 1
April 6, 2021

GeoStructural ▪ P.O. Box 2621, Boise, ID 83701 ▪ Office: (530) 539-4787
Professional Engineers | Tower Technicians | Climbers | sUAS Mapping

1.0 Introduction

An antenna mount structural analysis has been performed on T-Mobile's existing mount assembly with augments located at the CT00594-S Plainfield North communications site in Windham County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria considering wind forces in 30° increments:

- 2018 Connecticut State Building Code.
- IBC 2015 – International Building Code.
- ANSI/TIA-222-G – Structural Standard for Antenna Supporting Structures and Antennas.
- AISC – Steel Construction Manual.
- ANSI/AWS D1.1 – Structural Welding Code.

Wind w/o ice = 135 mph (3-sec gust Ultimate Wind Speed) Wind w/o ice = 105 mph (3-sec gust Basic Wind Speed) Wind w/ ice = 50 mph (3-sec gust Basic) with 1" Design Ice, Escalated with Height
Topographic Category 1; Exposure Category B; Structure Class (Risk Category) II Gust Effect Factor = 1.0; Directionality Factor = 0.95 Site Class D "Stiff Soil"; F_a = 1.6; F_v = 2.4; S_{DS} = 0.182
Maintenance Loads**: Lm = 500 lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed) Lv = 250 lb @ Worst Case Member Location (Center Span or Cantilever) ** *The mount face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading.*

The following documents were provided:

- Mount and Tower Record Documents
  SBA
- Colo Application
  SBA 600 MHz, App # 116838 v3.
- RFDS
  T-Mobile L600 Project, V3, CT11155F, 2/22/21.

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

3.0 Appurtenance Information

Table 3.1 – T-Mobile Final Configuration[1,2,3]

COR	(Quantity) Appurtenance Make/Model	Mount Description
165.0'±	(3) RFS APXV18-206516S-C-A20	*(1) Platform w/ Handrail and PRK w/ Handrail V-Brace Augment*
	(3) RFS APXVAARR24_43-U-NA20	
	(3) ERICSSON 4449 B71+B12 RRH	
	(3) Twin Style 1A PCS TMA	

1. *Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.*
2. *Panel antennas to be installed as follows:*
   - 2.1. *APXV18 panels to be installed on mount pipes in Position 1 similar to existing.*
   - 2.2. *AARR panels to be installed on mount pipes in Positions 2 similar to existing.*
3. *RRH/TMA units to be installed as follows:*
   - 3.1. *TMAs to be installed on mount pipes behind panels in Position 1 similar to existing.*
   - 3.2. *4449 RRHs to be installed on mount pipe behind panels in Position 2.*

4.0 Analysis Results

Table 4.1 – Augmented Mount Capacity

Load Case	Governing Mount Component[1]	% Capacity[2]	Result
Final T-Mobile Configuration	New V-Brace Angle	33%	**Adequate Once Augmented[3]**
	Standoff	24%	
	Bottom Rail	44%	
	Mount Pipe	52%	
	PRK Double Angles	25%	
	Top Handrail	52%	

1. *Refer to the Calculations & Software Output portion of this report for mount component and structural information.*
2. *Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.2. 105% is an acceptable allowable stress percentage for mount components.*
3. *Refer to Section 5.0 for information regarding required mount augments.*

Table 4.2 – Structural Component Material Strengths

Structural Component	Nominal Strength/Material[1]
Pipe	F_y = 35 ksi (A53, Gr. B)
Tube	F_y = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F_y = 36 ksi (A36)
Uni-Strut	F_y = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F_y = 74 ksi (Yield) & F_u = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F_y = 57 ksi (Yield) & F_u = 74 ksi (Tension)
Welds	E70XX Electrodes

1. *Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.*

5.0 Conclusion & Recommendations

Based on T-Mobile's final equipment loading configuration, the mount assemblies do not have sufficient capacity to support the loading considered in this analysis pursuant to the listed standards. Structural modifications (augments) will be required and are briefly summarized below:

- Install V-Brace Kit;
  - Sitepro1 PRK-SFS, (1) kit total, or approved equivalent.

Once the recommended augments are successfully implemented, the augmented mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Augmentation Requirements:

- Antennas and equipment shall be installed centered vertically on the mount front face rails (limit vertical installation eccentricity) same as existing. This analysis accounts for vertical eccentricities necessary to install all panel antennas at the same relative top tip elevation.
- Panel antennas to be installed as follows:
  - APXV18 panels to be installed on mount pipes in Position 1 similar to existing.
  - AALL panels to be installed on mount pipes in Positions 2 similar to existing.
- RRH/TMA units to be installed as follows:
  - TMAs to be installed on mount pipes behind panels in Position 1 similar to existing.
  - 4449 RRHs to be installed on mount pipe behind panels in Position 2.
- In order to obtain a mount structure capable of supporting the currently proposed final loading configuration, upgrade augments must be installed in accordance with GeoStructural's *mount augment CDs and recommendations*.

All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study, nor have they been provided a mount mapping to verify existing conditions and the results of this analysis are based solely on the information provided.

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:

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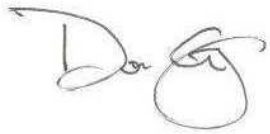
Reviewed and Approved by:



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6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.

- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.

- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.

- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.

- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.

- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.

- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.

- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Calculations & Software Output

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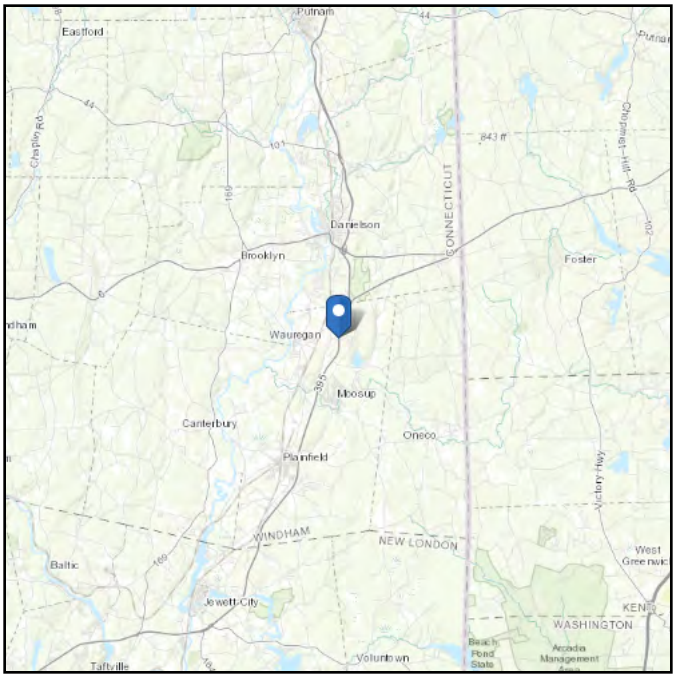
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 307.52 ft (NAVD 88)
Latitude: 41.746002
Longitude: -71.880158



Wind

Results:

Wind Speed:	130 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	97 Vmph
100-year MRI	106 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Tue Apr 06 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

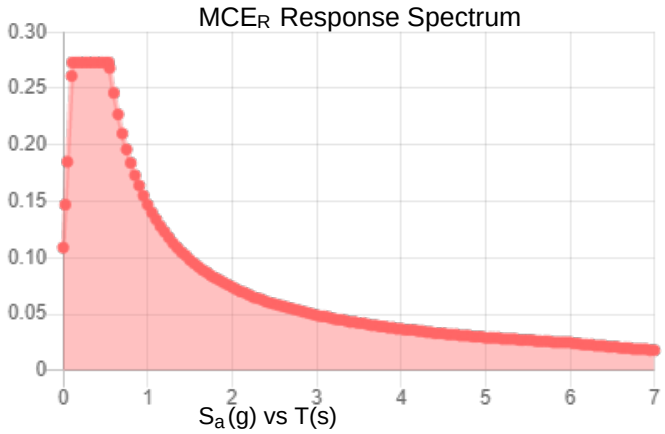
Seismic

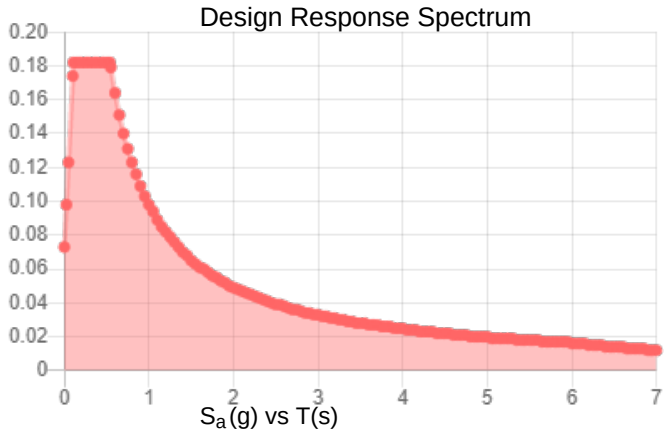
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.171	S_{DS} :	0.182
S_1 :	0.061	S_{D1} :	0.098
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.273	PGA_M :	0.137
S_{M1} :	0.147	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Apr 06 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Apr 06 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Distributed
1	D	DL	-1	18	3
2	Di	SL		18	45
3	Lm [500]	LL		1	
4	Lv [250]	LL		2	
5	Woz	WL		18	45
6	Wox	WL		18	45
7	Wiz	WL		18	45
8	Wix	WL		18	45
9	Ez	EL		18	
10	Ex	EL		18	

Load Combination Design

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1) 1.4D		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2) 1.2D+1.0Wo [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2) 1.2D+1.0Wo [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2) 1.2D+1.0Wo [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2) 1.2D+1.0Wo [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2) 1.2D+1.0Wo [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2) 1.2D+1.0Wo [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2) 1.2D+1.0Wo [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2) 1.2D+1.0Wo [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2) 1.2D+1.0Wo [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2) 1.2D+1.0Wo [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	2) 1.2D+1.0Wo [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	2) 1.2D+1.0Wo [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3) 0.9D+1.0Wo [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3) 0.9D+1.0Wo [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3) 0.9D+1.0Wo [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3) 0.9D+1.0Wo [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	3) 0.9D+1.0Wo [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	3) 0.9D+1.0Wo [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	3) 0.9D+1.0Wo [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	3) 0.9D+1.0Wo [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	3) 0.9D+1.0Wo [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	3) 0.9D+1.0Wo [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	3) 0.9D+1.0Wo [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	3) 0.9D+1.0Wo [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	4) 1.2D+1.0Di+1.0Wi [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	4) 1.2D+1.0Di+1.0Wi [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	4) 1.2D+1.0Di+1.0Wi [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	4) 1.2D+1.0Di+1.0Wi [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	4) 1.2D+1.0Di+1.0Wi [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	4) 1.2D+1.0Di+1.0Wi [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	4) 1.2D+1.0Di+1.0Wi [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	4) 1.2D+1.0Di+1.0Wi [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	4) 1.2D+1.0Di+1.0Wi [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	4) 1.2D+1.0Di+1.0Wi [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	4) 1.2D+1.0Di+1.0Wi [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	4) 1.2D+1.0Di+1.0Wi [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	5) 1.2D+1.5Lm+1.0WL [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5Lm+1.0WL [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5Lm+1.0WL [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5Lm+1.0WL [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	5) 1.2D+1.5Lm+1.0WL [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	5) 1.2D+1.5Lm+1.0WL [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	5) 1.2D+1.5Lm+1.0WL [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	5) 1.2D+1.5Lm+1.0WL [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
46	5) 1.2D+1.5Lm+1.0WL [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	5) 1.2D+1.5Lm+1.0WL [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	5) 1.2D+1.5Lm+1.0WL [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	5) 1.2D+1.5Lm+1.0WL [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	6) 1.2D+1.5Lv		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	7) (1.2+0.2Sds)D+E [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	7) (1.2+0.2Sds)D+E [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	7) (1.2+0.2Sds)D+E [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	7) (1.2+0.2Sds)D+E [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	7) (1.2+0.2Sds)D+E [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	7) (1.2+0.2Sds)D+E [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	7) (1.2+0.2Sds)D+E [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	7) (1.2+0.2Sds)D+E [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	7) (1.2+0.2Sds)D+E [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	7) (1.2+0.2Sds)D+E [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	7) (1.2+0.2Sds)D+E [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7) (1.2+0.2Sds)D+E [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	8) (0.9-0.2Sds)D+E [0deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	8) (0.9-0.2Sds)D+E [30deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	8) (0.9-0.2Sds)D+E [60deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	8) (0.9-0.2Sds)D+E [90deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	8) (0.9-0.2Sds)D+E [120deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	8) (0.9-0.2Sds)D+E [150deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	8) (0.9-0.2Sds)D+E [180deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	8) (0.9-0.2Sds)D+E [210deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	8) (0.9-0.2Sds)D+E [240deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	8) (0.9-0.2Sds)D+E [270deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	8) (0.9-0.2Sds)D+E [300deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	8) (0.9-0.2Sds)D+E [330deg]		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^3]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^3]	Yield [ksi]	Fu [ksi]
1	A653 Gr.33	29500	11346	0.3	0.65	0.49	33	45
2	A570 Gr.33	29500	11346	0.3	0.65	0.49	33	52
3	A607 C1 Gr.55	29500	11346	0.3	0.65	0.49	55	70

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in^2]	Iyy [in^4]	Izz [in^4]	J [in^4]
1	PIPE_1.5	PIPE_1.5	Beam	None	A53 Gr.B	Typical	0.749	0.293	0.293	0.586
2	PIPE_2.0	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	PIPE_2.5	PIPE_2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE_3.0	PIPE_3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE_3.5	PIPE_3.5	Beam	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE_4.0	PIPE_4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE_5.0	PIPE_5.0	Beam	None	A53 Gr.B	Typical	4.01	14.3	14.3	28.6
8	HSS2x2x3	HSS2X2X3	Beam	None	A500 Gr.B Rect	Typical	1.19	0.641	0.641	1.09
9	HSS3x3x3	HSS3X3X3	Beam	None	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03
10	HSS4x4x3	HSS4X4X3	Beam	None	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
11	HSS4x4x4	HSS4X4X4	Beam	None	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5X5X4	Beam	None	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3X3.5	Beam	None	A36 Gr.36	Typical	1.09	0.169	1.57	0.023
14	C4x4.5	C4X4.5_HRA	Beam	None	A36 Gr.36	Typical	1.38	0.289	3.65	0.032
15	C5x6.7	C5X6.7	Beam	None	A36 Gr.36	Typical	1.97	0.47	7.48	0.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	0.901	0.535	0.535	0.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
18	L3x3x3	L3X3X3	Beam	None	A36 Gr.36	Typical	1.09	0.948	0.948	0.014
19	L3x3x4	L3X3X4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
20	L3x3x6	L3X3X6	Beam	None	A36 Gr.36	Typical	2.11	1.75	1.75	0.101
21	L4x4x4	L4X4X4	Beam	None	A36 Gr.36	Typical	1.93	3	3	0.044
22	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	0.023
23	1/2"x6"	1/2"x6"	Beam	None	A36 Gr.36	Typical	3	0.063	9	0.237
24	1/2"x9"	1/2"x9"	Beam	None	A36 Gr.36	Typical	4.5	0.094	30.375	0.362
25	3/8"x3"	3/8"x3"	Beam	None	A36 Gr.36	Typical	1.125	0.013	0.844	0.049
26	L6x3.5x5	L6X3.5X5	Beam	None	A36 Gr.36	Typical	2.89	2.84	10.9	0.099
27	L5x3.5x4	L5X3.5X4	Beam	None	A36 Gr.36	Typical	2.07	2.2	5.36	0.046
28	1/2"x3"	1/2"x3"	Beam	None	A36 Gr.36	Typical	1.5	0.031	1.125	0.112

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	P1000UNI	P1000UNI	Beam	None	A653 Gr.33	Typical	0.555	0.185	0.236	0.002
2	CF1	1.5CU1.25X035	Beam	None	A570 Gr.33	Typical	0.131	0.022	0.052	5.4e-05

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N1	N3	180	L3x3x4	Beam	None	A36 Gr.36	Typical
2	M2	N4	N6	180	L3x3x4	Beam	None	A36 Gr.36	Typical
3	M3	N5	N2	180	L3x3x4	Beam	None	A36 Gr.36	Typical
4	M4	N7	N8	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
5	M5	N9	N10		RIGID	None	None	RIGID	DR1
6	M6	N11	N12		RIGID	None	None	RIGID	DR1
7	M7	N15	N16	90	HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical
8	M8	N19	N20	90	HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical
9	M9	N42	N43	90	L4x4x4	Beam	None	A36 Gr.36	Typical
10	M10	N23	N24	90	HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical
11	M11	N25	N26		RIGID	None	None	RIGID	DR1
12	M12	N28	N27		RIGID	None	None	RIGID	DR1
13	M13	N29	N30	90	1/2"x9"	Beam	None	A36 Gr.36	Typical
14	M14	N31	N32		RIGID	None	None	RIGID	DR1
15	M19	N22	N43		3/8"x3"	Beam	None	A36 Gr.36	Typical
16	M20	N21	N42		3/8"x3"	Beam	None	A36 Gr.36	Typical
17	M21	N44	N45	90	L4x4x4	Beam	None	A36 Gr.36	Typical
18	M22	N14	N45		3/8"x3"	Beam	None	A36 Gr.36	Typical
19	M23	N13	N44		3/8"x3"	Beam	None	A36 Gr.36	Typical
20	M24	N46	N47	90	L4x4x4	Beam	None	A36 Gr.36	Typical
21	M25	N17	N47		3/8"x3"	Beam	None	A36 Gr.36	Typical
22	M26	N18	N46		3/8"x3"	Beam	None	A36 Gr.36	Typical
23	M27	N49	N48	180	C5x6.7	Beam	None	A36 Gr.36	Typical
24	M28	N50	N52	180	C5x6.7	Beam	None	A36 Gr.36	Typical
25	M29	N51	N53	180	C5x6.7	Beam	None	A36 Gr.36	Typical
26	M30	N56	N57	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
27	M31	N58	N59		RIGID	None	None	RIGID	DR1
28	M32	N60	N61		RIGID	None	None	RIGID	DR1
29	M33	N62	N63		RIGID	None	None	RIGID	DR1
30	M34	N65	N64		RIGID	None	None	RIGID	DR1
31	M35	N68	N69	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
32	M36	N70	N71		RIGID	None	None	RIGID	DR1
33	M37	N72	N73		RIGID	None	None	RIGID	DR1
34	M38	N74	N75		RIGID	None	None	RIGID	DR1
35	M39	N77	N76		RIGID	None	None	RIGID	DR1
36	M40	N80	N81	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
37	M41	N82	N83		RIGID	None	None	RIGID	DR1
38	M42	N84	N85		RIGID	None	None	RIGID	DR1
39	M43	N86	N87		RIGID	None	None	RIGID	DR1
40	M44	N89	N88		RIGID	None	None	RIGID	DR1
41	M45	N92	N93	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
42	M46	N94	N95		RIGID	None	None	RIGID	DR1
43	M47	N96	N97		RIGID	None	None	RIGID	DR1
44	M48	N98	N99		RIGID	None	None	RIGID	DR1
45	M49	N101	N100		RIGID	None	None	RIGID	DR1
46	M50	N104	N105	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
47	M51	N106	N107		RIGID	None	None	RIGID	DR1
48	M52	N108	N109		RIGID	None	None	RIGID	DR1
49	M53	N110	N111		RIGID	None	None	RIGID	DR1
50	M54	N113	N112		RIGID	None	None	RIGID	DR1
51	M55	N116	N117	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
52	M56	N41	N118		RIGID	None	None	RIGID	DR1
53	M57	N119	N120		RIGID	None	None	RIGID	DR1
54	M58	N121	N122		RIGID	None	None	RIGID	DR1
55	M59	N124	N123		RIGID	None	None	RIGID	DR1
56	M60	N127	N128	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
57	M61	N129	N130	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
58	M62	N131	N132	90	1/2"x6"	Beam	None	A36 Gr.36	Typical
59	M63	N133	N134		LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
60	M66	N139	N140		RIGID	None	None	RIGID	DR1
61	M67	N141	N142		RIGID	None	None	RIGID	DR1
62	M68	N143	N144		RIGID	None	None	RIGID	DR1
63	M69	N145	N146		RIGID	None	None	RIGID	DR1
64	M70	N147	N148		RIGID	None	None	RIGID	DR1
65	M71	N149	N150		RIGID	None	None	RIGID	DR1
66	M72	N151	N150	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
67	M73	N151	N140	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
68	M74	N152	N142	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
69	M75	N152	N144	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
70	M76	N153	N146	180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
71	M77	N153	N148	90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
72	M78	N154	N155	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
73	M79	N156	N157		RIGID	None	None	RIGID	DR1
74	M80	N158	N159		RIGID	None	None	RIGID	DR1
75	M81	N160	N161		RIGID	None	None	RIGID	DR1
76	M82	N163	N162		RIGID	None	None	RIGID	DR1
77	M83	N166	N167	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
78	M84	N168	N169		RIGID	None	None	RIGID	DR1
79	M85	N170	N171		RIGID	None	None	RIGID	DR1
80	M86	N172	N173		RIGID	None	None	RIGID	DR1
81	M87	N175	N174		RIGID	None	None	RIGID	DR1
82	M88	N178	N179	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
83	M89	N180	N181		RIGID	None	None	RIGID	DR1
84	M90	N182	N183		RIGID	None	None	RIGID	DR1
85	M91	N184	N185		RIGID	None	None	RIGID	DR1
86	M92	N187	N186		RIGID	None	None	RIGID	DR1
87	M93	N190	N191	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
88	M94	N192	N193		RIGID	None	None	RIGID	DR1
89	M95	N194	N195		RIGID	None	None	RIGID	DR1

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
90	M96	N196	N197		RIGID	None	None	RIGID	DR1
91	M97	N199	N198		RIGID	None	None	RIGID	DR1
92	M98	N202	N203	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
93	M99	N204	N205		RIGID	None	None	RIGID	DR1
94	M100	N206	N207		RIGID	None	None	RIGID	DR1
95	M101	N208	N209		RIGID	None	None	RIGID	DR1
96	M102	N211	N210		RIGID	None	None	RIGID	DR1
97	M103	N214	N215	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
98	M104	N216	N217		RIGID	None	None	RIGID	DR1
99	M105	N218	N219		RIGID	None	None	RIGID	DR1
100	M106	N220	N221		RIGID	None	None	RIGID	DR1
101	M107	N223	N222		RIGID	None	None	RIGID	DR1
102	M108	N226	N227	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
103	M109	N228	N229		RIGID	None	None	RIGID	DR1
104	M110	N230	N231		RIGID	None	None	RIGID	DR1
105	M111	N232	N233		RIGID	None	None	RIGID	DR1
106	M112	N235	N234		RIGID	None	None	RIGID	DR1
107	M113	N238	N239	180	PIPE_2.0	Beam	None	A53 Gr.B	Typical
108	M114	N240	N241		RIGID	None	None	RIGID	DR1
109	M115	N242	N243		RIGID	None	None	RIGID	DR1
110	M116	N244	N245		RIGID	None	None	RIGID	DR1
111	M117	N247	N246		RIGID	None	None	RIGID	DR1
112	M116A	N246A	N247A		LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
113	M117A	N248A	N249A		LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
114	M118A	N250A	N251A	90	1/2"x9"	Beam	None	A36 Gr.36	Typical
115	M119A	N252A	N253A		RIGID	None	None	RIGID	DR1
116	M124	N262	N263	90	1/2"x9"	Beam	None	A36 Gr.36	Typical
117	M125	N264	N265		RIGID	None	None	RIGID	DR1

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N15	max	5.974	6	0.512	24	3.014	24	0.298	5	1.054	11	0.446	18
2		min	-4.991	24	-0.548	6	-3.607	6	-0.252	23	-1.032	5	-0.535	12
3	N19	max	4.854	16	0.509	16	3.178	16	0.174	23	1.637	10	0.53	16
4		min	-5.835	10	-0.546	10	-3.778	10	-0.278	5	-1.628	16	-0.529	10
5	N23	max	0.584	5	0.482	20	6.524	2	0.556	8	2.136	11	0.282	11
6		min	-0.584	23	-0.52	2	-5.371	20	-0.503	14	-2.116	17	-0.197	17
7	N134	max	0.008	12	3.369	26	1.18	20	0	74	0	21	0	26
8		min	-0.01	4	-0.446	20	-8.4	26	0	1	0	26	0	21
9	N151	max	0.541	5	0.076	29	0.224	14	0.009	4	0	74	0.006	7
10		min	-0.537	11	0.007	72	-0.227	8	-0.009	10	0	1	-0.006	25
11	N152	max	0.267	17	0.076	33	0.609	2	0.007	13	0	74	0.008	15
12		min	-0.272	11	0.007	64	-0.604	8	-0.007	19	0	1	-0.009	9
13	N153	max	0.564	5	0.076	37	0.403	13	0.005	20	0	74	0.01	23
14		min	-0.562	11	0.007	68	-0.397	19	-0.005	2	0	1	-0.01	5
15	N247A	max	1.209	24	3.38	30	4.215	30	0	4	0	22	0	22
16		min	-7.299	30	-0.529	24	-0.695	24	0	22	0	4	0	4
17	N249A	max	7.296	34	3.379	34	4.216	34	0	24	0	24	0	24
18		min	-1.197	16	-0.524	16	-0.687	16	0	5	0	5	0	5
19	Totals:	max	6.85	17	9.425	36	6.399	2						
20		min	-6.85	11	1.492	67	-6.399	20						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M108	PIPE_2.0	0.524	3.38	5	0.144	3.323		10	22.356	32.13	1.872	1.872	1.32	H1-1b
2	M113	PIPE_2.0	0.524	3.38	11	0.144	3.323		12	22.356	32.13	1.872	1.872	1.35	H1-1b
3	M103	PIPE_2.0	0.524	3.38	2	0.089	3.323		6	22.356	32.13	1.872	1.872	2.153	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
4	M93	PIPE_2.0	0.521	0.75	9	0.143	0.75		9	26.521	32.13	1.872	1.872	1.737	H1-1b
5	M1	L3X3X4	0.511	9.139	8	0.436	7.742	z	2	5.207	46.656	1.688	2.878	1.5	H2-1
6	M3	L3X3X4	0.508	9.139	4	0.422	7.742	z	11	5.207	46.656	1.688	2.878	1.5	H2-1
7	M40	PIPE_2.0	0.505	0.75	3	0.1	0.75		3	26.521	32.13	1.872	1.872	1.574	H1-1b
8	M2	L3X3X4	0.496	9.012	11	0.429	7.742	z	12	5.207	46.656	1.688	2.878	1.5	H2-1
9	M45	PIPE_2.0	0.495	0.75	9	0.137	0.75		9	26.521	32.13	1.872	1.872	1.598	H1-1b
10	M118A	1/2"x9"	0.485	0.398	29	0.246	0.398	y	30	110.855	145.8	1.519	27.338	1.324	H1-1b
11	M13	1/2"x9"	0.484	0.398	26	0.248	0.398	y	37	110.855	145.8	1.519	27.338	1.331	H1-1b
12	M124	1/2"x9"	0.483	0.398	34	0.25	0.398	y	33	110.855	145.8	1.519	27.338	1.331	H1-1b
13	M78	PIPE_2.0	0.482	0.75	9	0.133	0.75		9	26.521	32.13	1.872	1.872	1.592	H1-1b
14	M98	PIPE_2.0	0.469	0.75	13	0.129	0.75		12	26.521	32.13	1.872	1.872	1.572	H1-1b
15	M50	PIPE_2.0	0.463	0.75	6	0.093	0.75		6	26.521	32.13	1.872	1.872	1.607	H1-1b
16	M55	PIPE_2.0	0.447	0.75	13	0.124	0.75		12	26.521	32.13	1.872	1.872	1.659	H1-1b
17	M28	C5X6.7	0.442	9.335	29	0.426	5.964	y	12	27.031	63.828	1.604	5.456	1.17	H1-1b
18	M83	PIPE_2.0	0.441	0.75	12	0.12	0.75		12	26.521	32.13	1.872	1.872	1.599	H1-1b
19	M88	PIPE_2.0	0.436	0.75	5	0.118	0.75		5	26.521	32.13	1.872	1.872	1.63	H1-1b
20	M29	C5X6.7	0.436	9.335	32	0.447	6.094	y	5	27.031	63.828	1.604	5.429	1.164	H1-1b
21	M4	PIPE_2.0	0.427	0.75	11	0.08	0.75		11	26.521	32.13	1.872	1.872	1.584	H1-1b
22	M30	PIPE_2.0	0.42	0.75	5	0.115	0.75		5	26.521	32.13	1.872	1.872	1.631	H1-1b
23	M35	PIPE_2.0	0.391	0.75	5	0.107	0.75		5	26.521	32.13	1.872	1.872	1.632	H1-1b
24	M27	C5X6.7	0.351	9.335	37	0.421	6.224	z	9	27.031	63.828	1.604	7.48	1	H1-1b
25	M116A	LL2.5x2.5x3x3	0.254	2.464	30	0.007	4.828	y	28	42.8	58.32	3.954	2.55	1	H1-1a
26	M117A	LL2.5x2.5x3x3	0.254	2.464	34	0.007	4.828	y	30	42.8	58.32	3.954	2.55	1	H1-1a
27	M63	LL2.5x2.5x3x3	0.253	2.464	26	0.007	4.828	y	26	42.8	58.32	3.954	2.55	1	H1-1a
28	M7	HSS4X4X3	0.241	5.699	35	0.111	4.559	z	29	90.409	106.812	12.662	12.662	1.12	H1-1b
29	M8	HSS4X4X3	0.241	5.699	27	0.112	4.559	z	33	90.409	106.812	12.662	12.662	1.976	H1-1b
30	M10	HSS4X4X3	0.24	5.699	31	0.111	4.559	z	36	90.409	106.812	12.662	12.662	1.894	H1-1b
31	M20	3/8"x3"	0.179	0	3	0.012	0	y	35	31.007	36.45	0.285	2.278	1.135	H1-1b
32	M23	3/8"x3"	0.157	0	11	0.012	0	y	33	31.007	36.45	0.285	2.278	1.39	H1-1b
33	M22	3/8"x3"	0.15	0.5	11	0.012	0	y	27	31.005	36.45	0.285	2.278	1.044	H1-1b
34	M25	3/8"x3"	0.136	0	6	0.029	0	y	50	31.005	36.45	0.285	2.278	1.347	H1-1b
35	M26	3/8"x3"	0.136	0	11	0.012	0	y	34	31.007	36.45	0.285	2.278	1.123	H1-1b
36	M19	3/8"x3"	0.132	0	2	0.012	0	y	35	31.005	36.45	0.285	2.278	1.18	H1-1b
37	M60	1/2"x6"	0.116	0	4	0.071	1.412	y	11	47.04	97.2	1.012	12.15	1.457	H1-1b
38	M62	1/2"x6"	0.109	0	13	0.073	0	y	8	47.04	97.2	1.012	12.15	1.647	H1-1b
39	M61	1/2"x6"	0.103	1.412	5	0.069	0	y	4	47.04	97.2	1.012	12.15	2.167	H1-1b
40	M9	L4X4X4	0.074	2.595	8	0.009	5.085	z	35	42.591	62.532	3.138	6.502	1.5	H2-1
41	M24	L4X4X4	0.074	2.701	4	0.009	5.085	z	31	42.591	62.532	3.138	6.502	1.5	H2-1
42	M21	L4X4X4	0.073	2.807	12	0.009	5.085	z	27	42.591	62.532	3.138	6.502	1.5	H2-1
43	M74	L2.5x2.5x3	0.059	1.653	16	0.079	3.306	y	8	20.224	29.192	0.873	1.823	1.136	H2-1
44	M75	L2.5x2.5x3	0.053	1.653	8	0.059	3.306	y	12	20.224	29.192	0.873	1.823	1.136	H2-1
45	M72	L2.5x2.5x3	0.053	1.618	9	0.076	3.306	z	4	20.224	29.192	0.873	1.823	1.136	H2-1
46	M73	L2.5x2.5x3	0.052	1.653	5	0.054	3.306	z	8	20.224	29.192	0.873	1.823	1.136	H2-1
47	M76	L2.5x2.5x3	0.047	1.618	5	0.078	3.306	z	12	20.224	29.192	0.873	1.823	1.136	H2-1
48	M77	L2.5x2.5x3	0.041	1.653	12	0.064	3.306	y	4	20.224	29.192	0.873	1.823	1.136	H2-1

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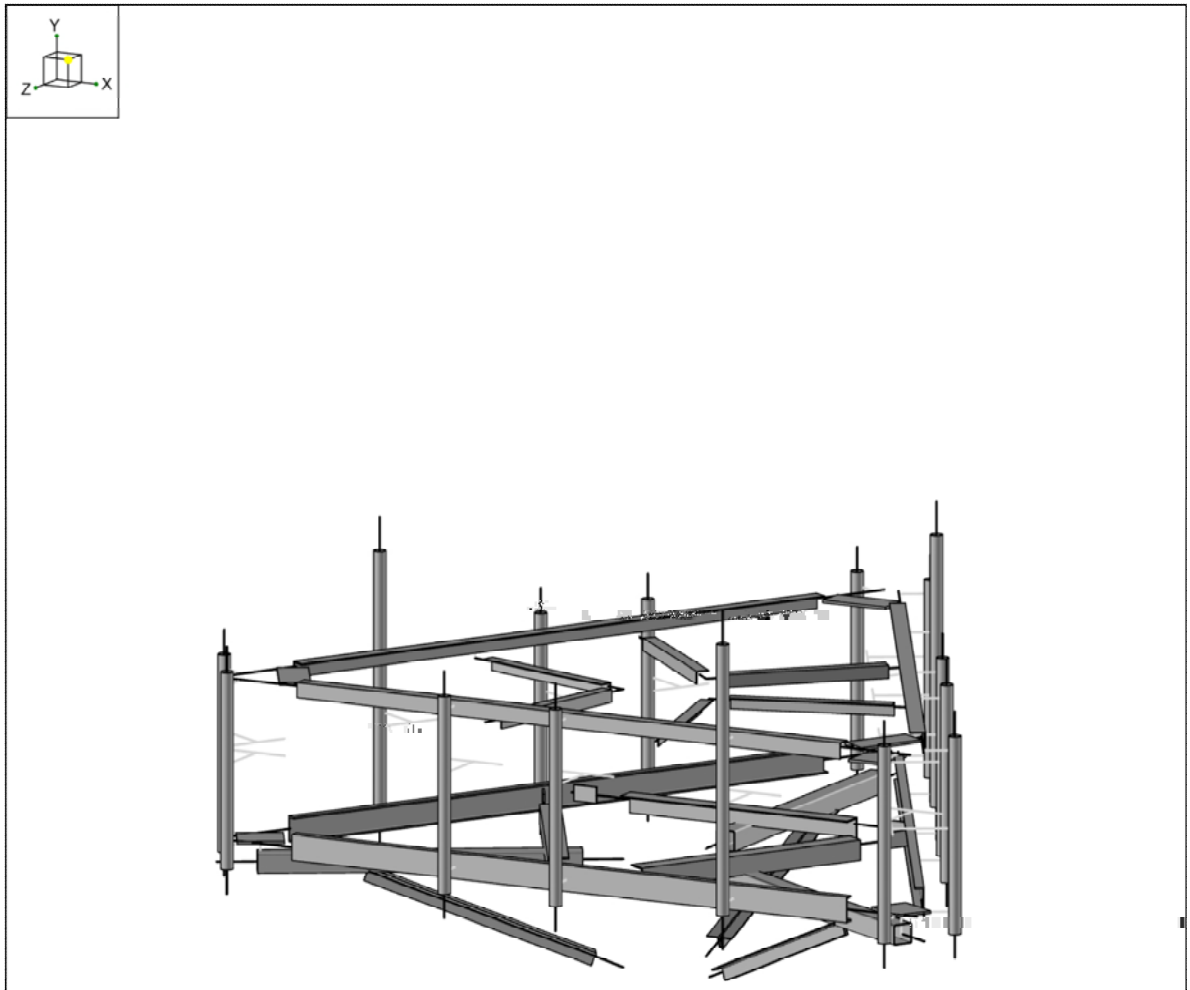

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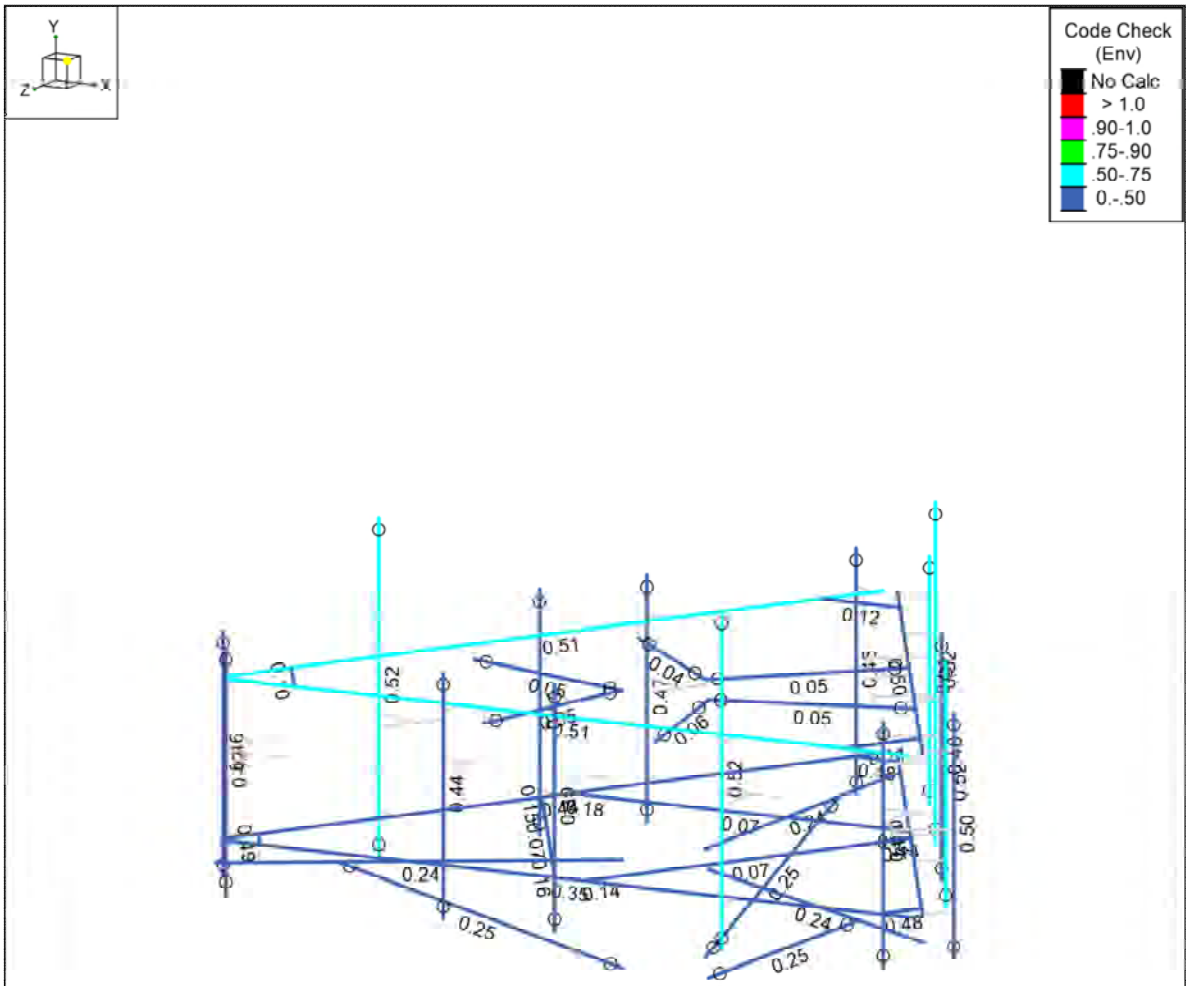

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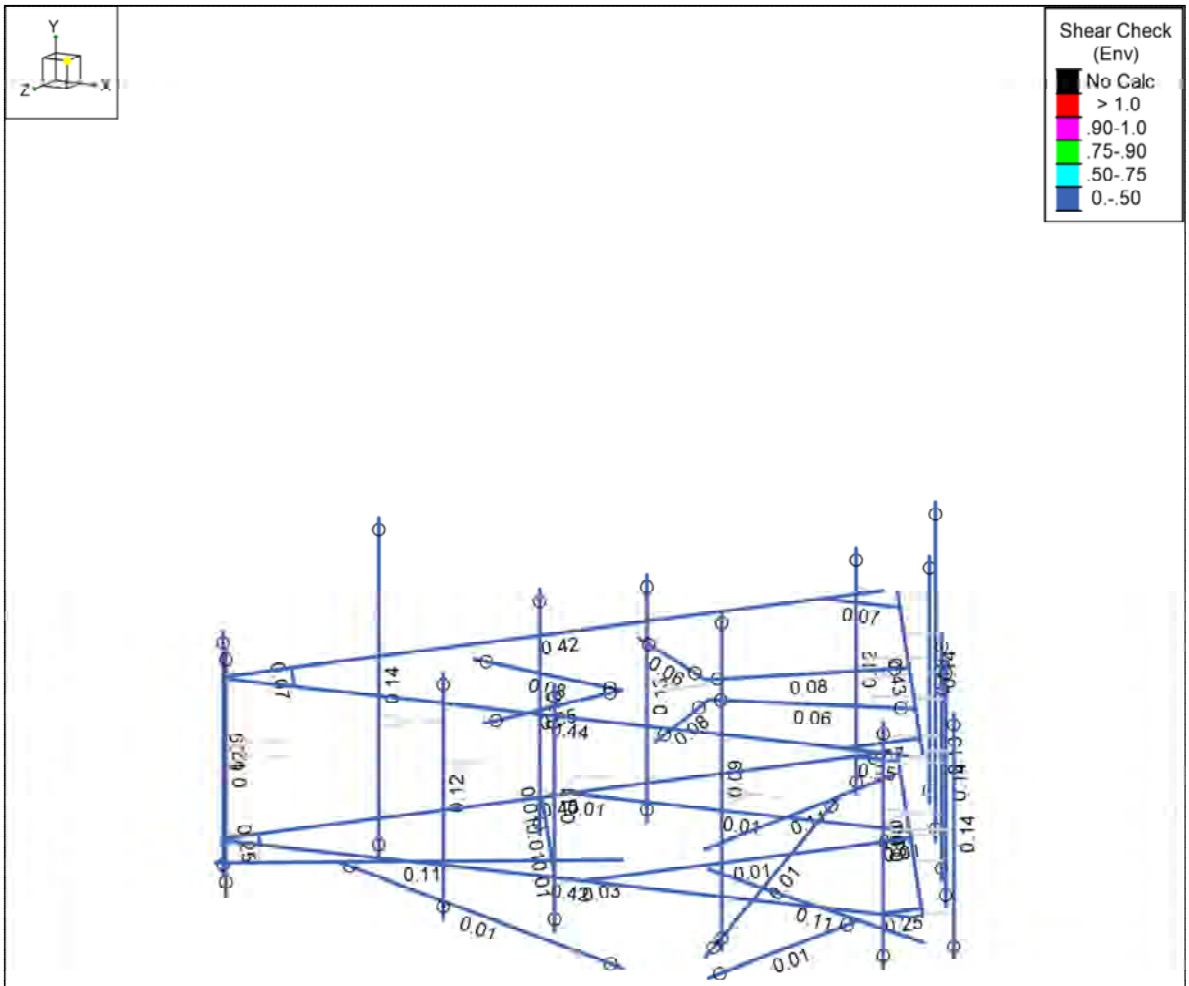

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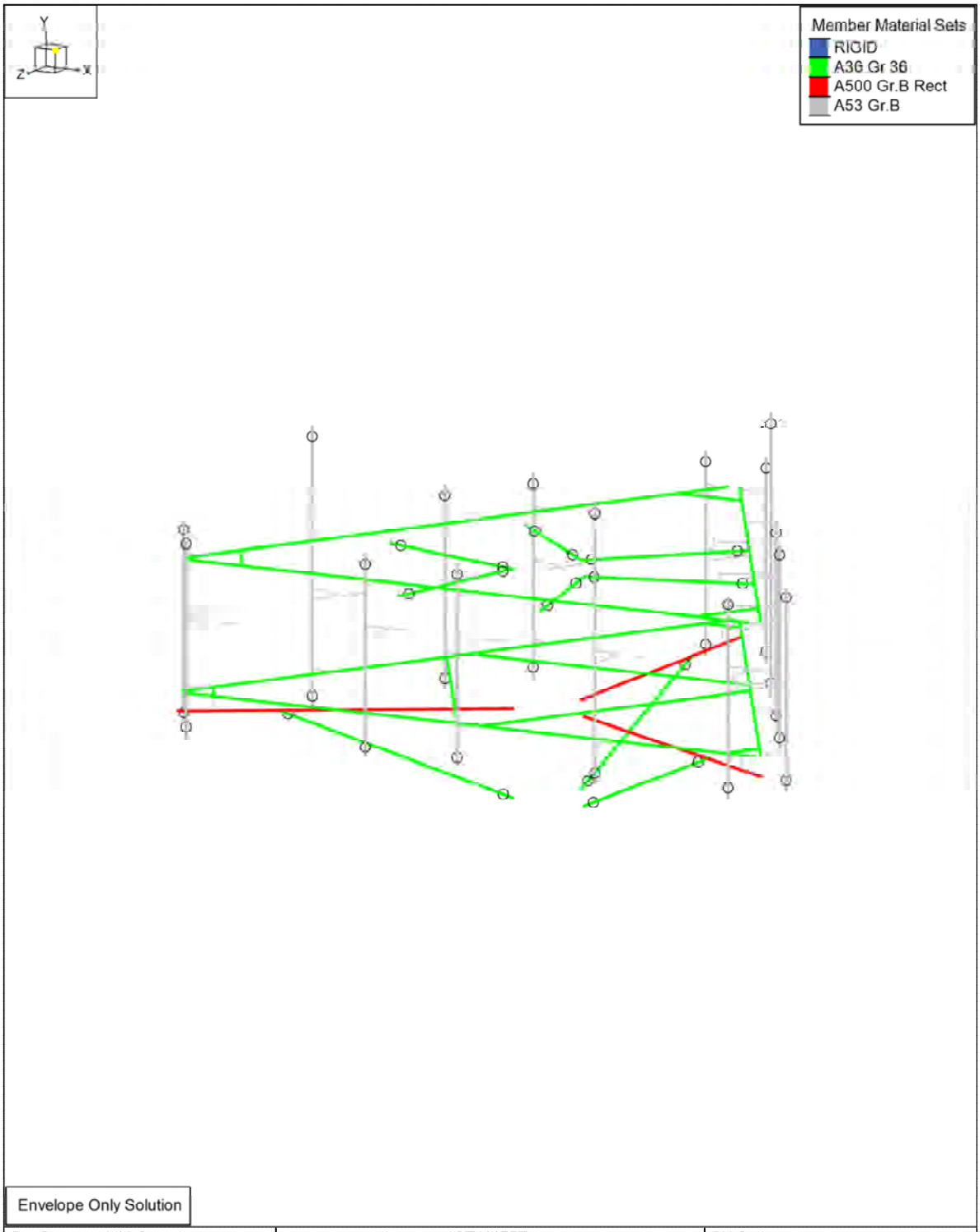

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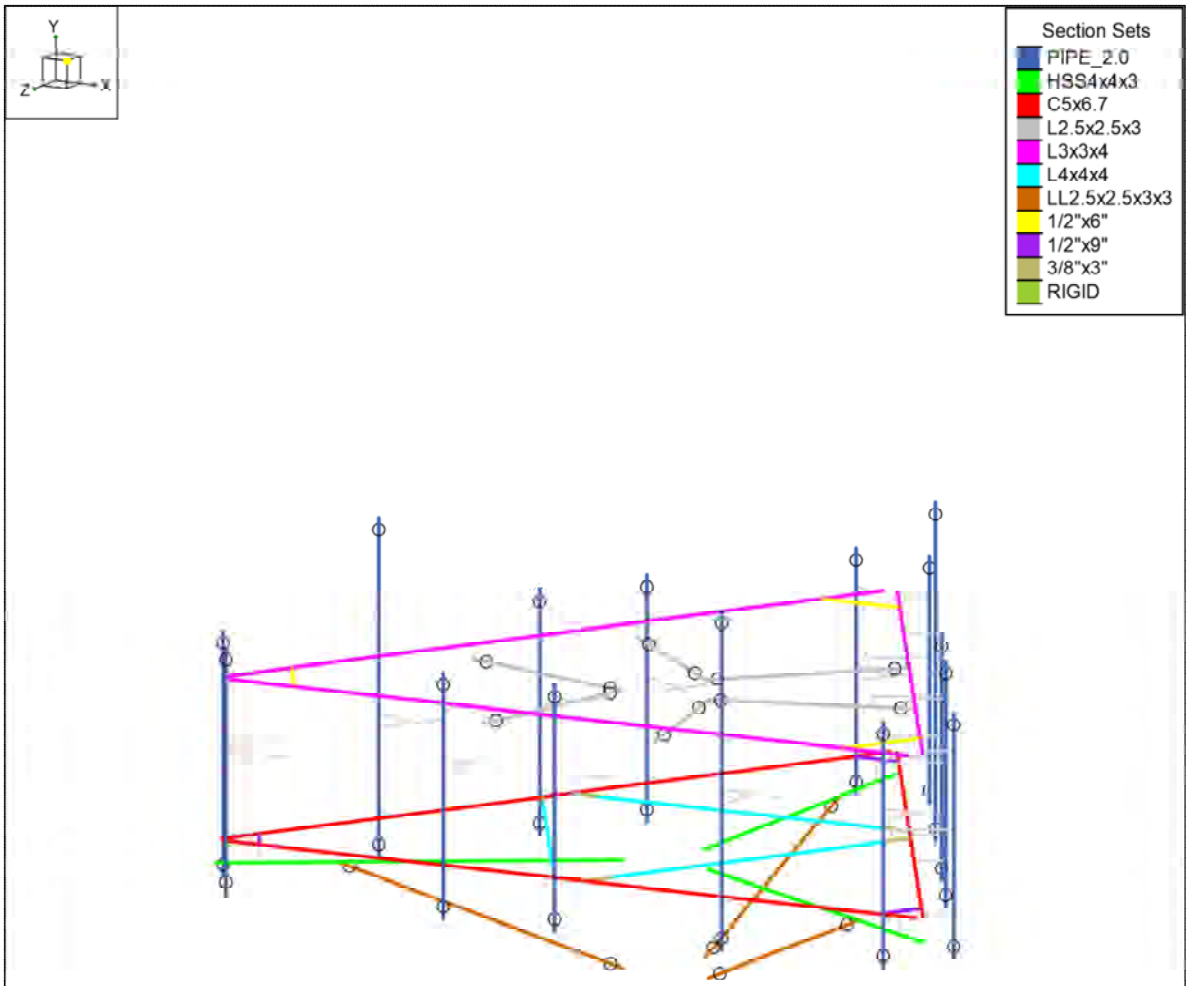

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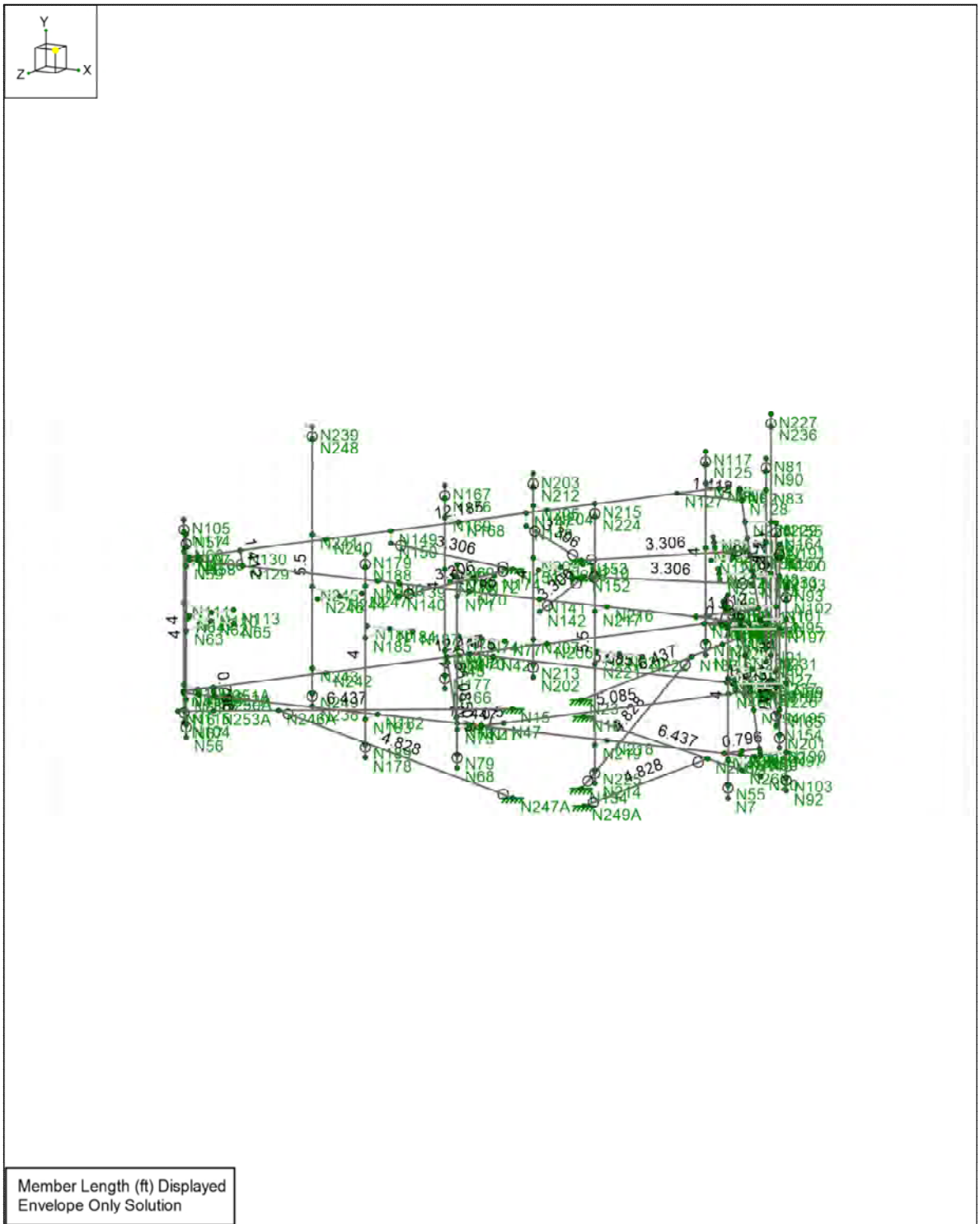

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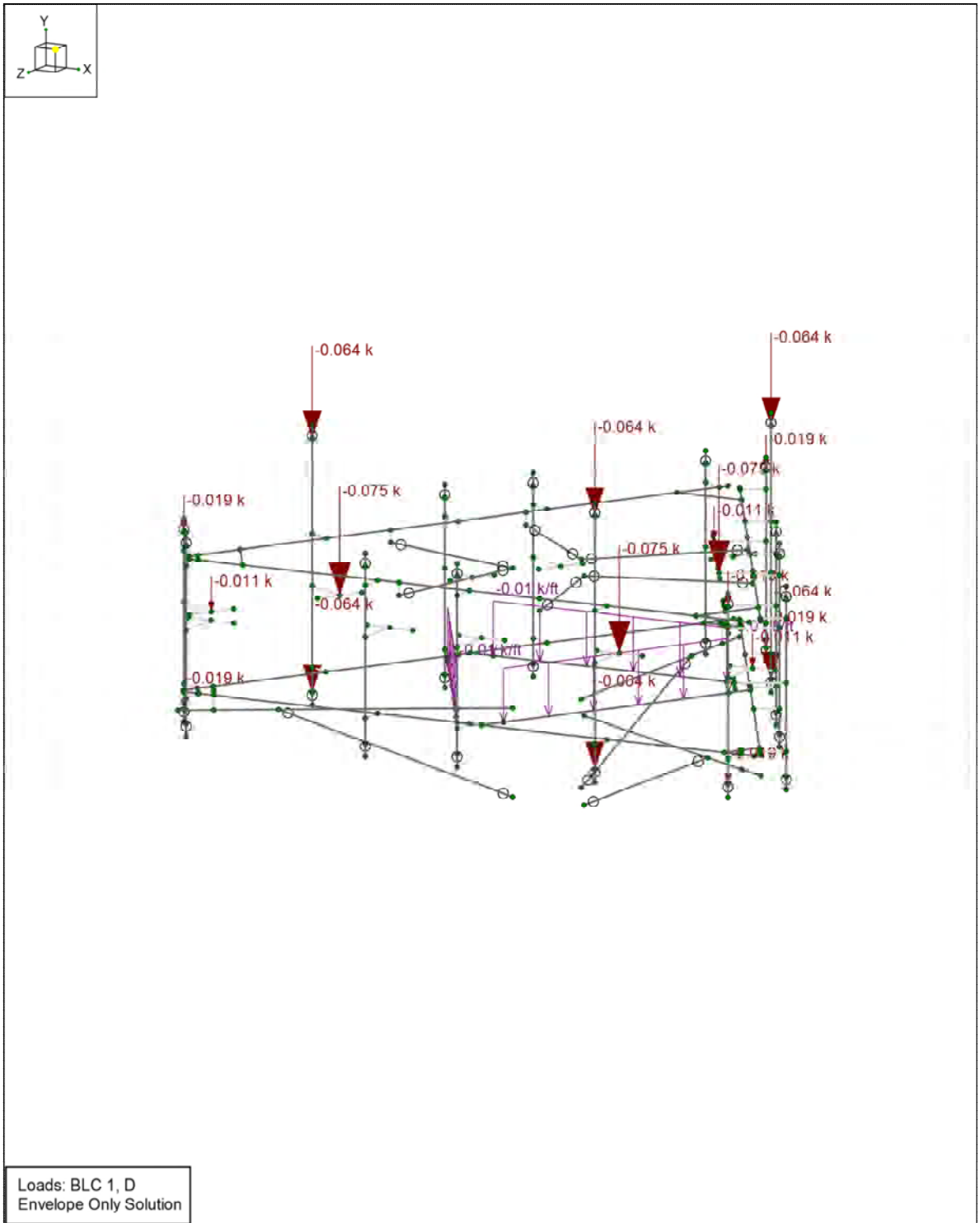

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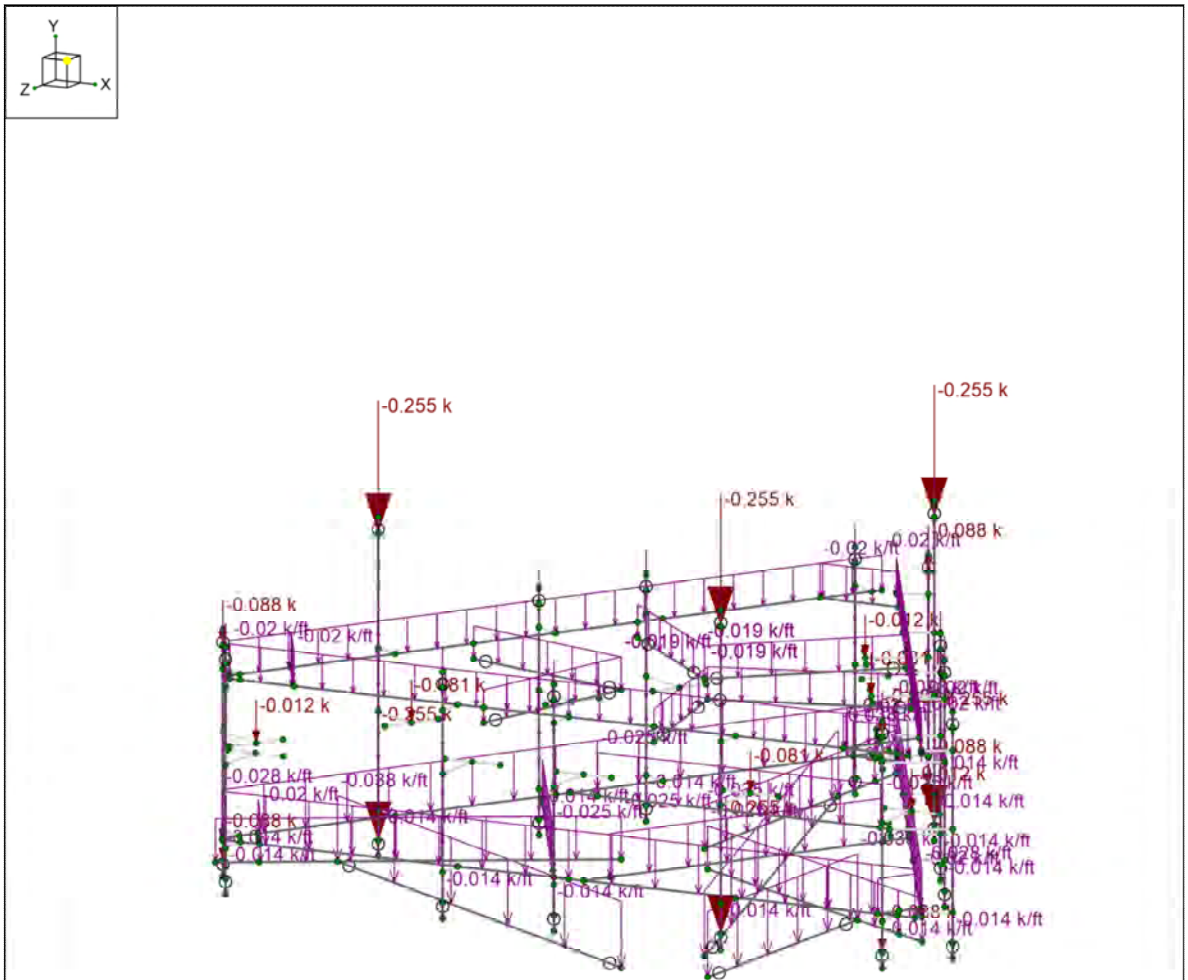

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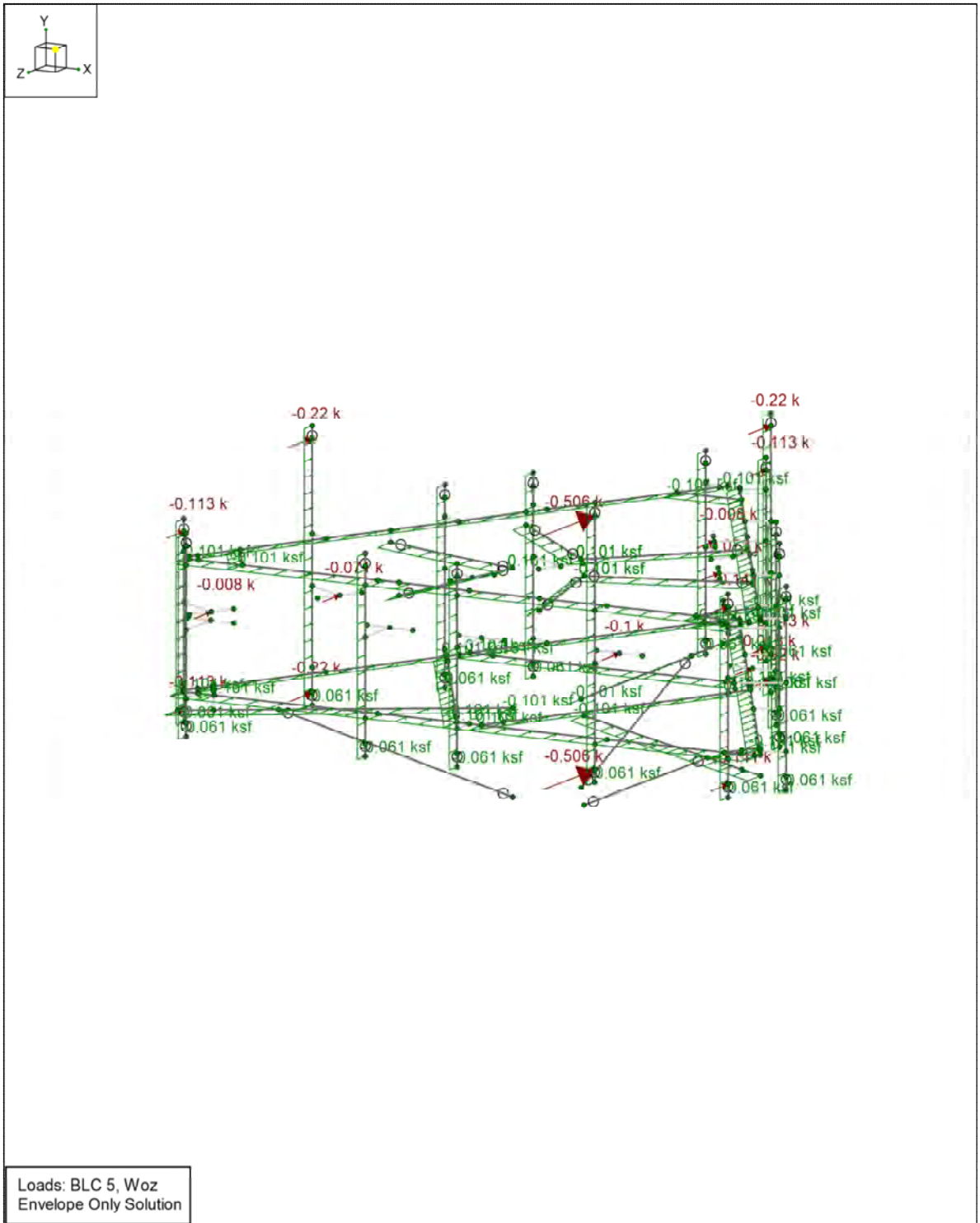

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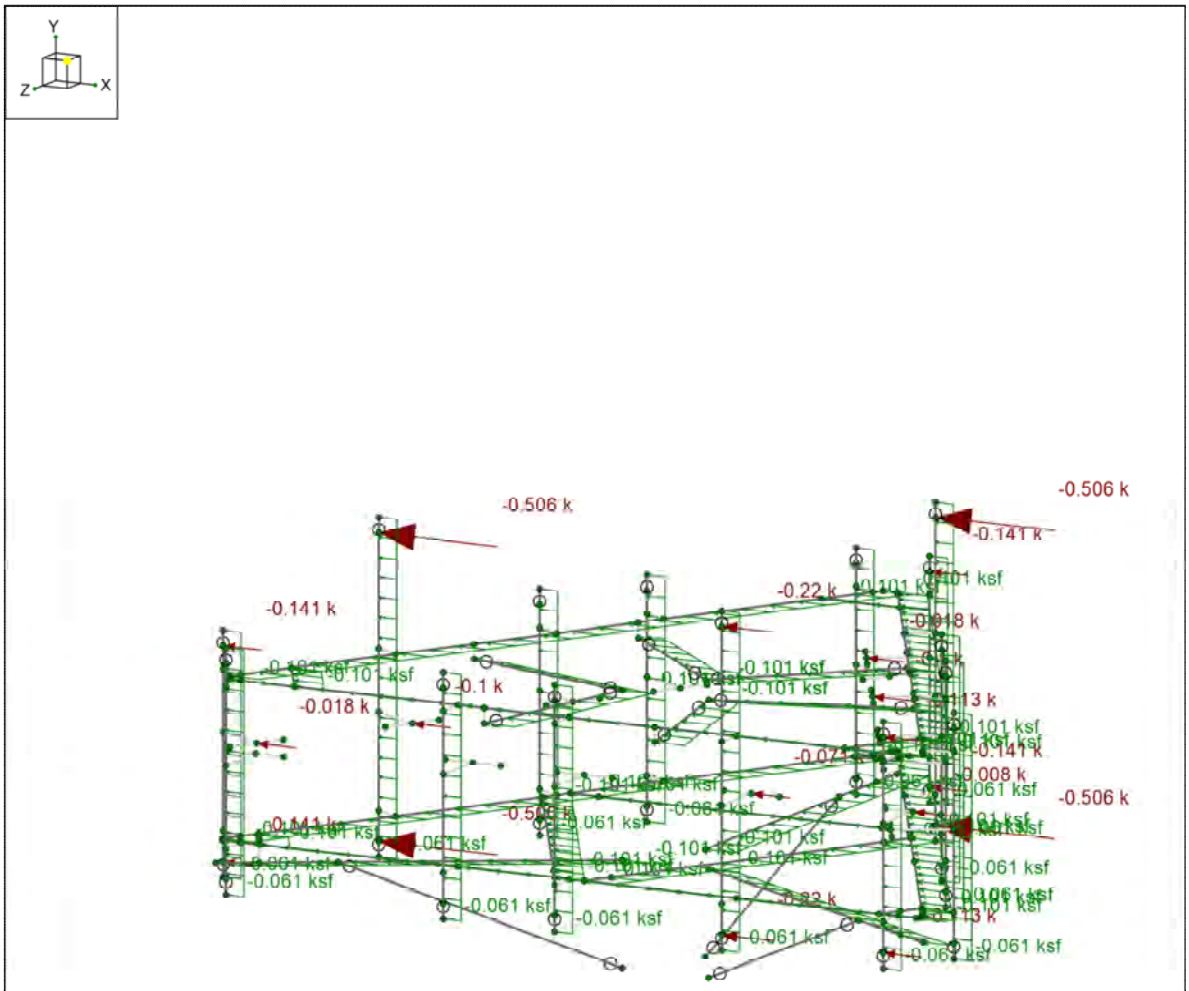

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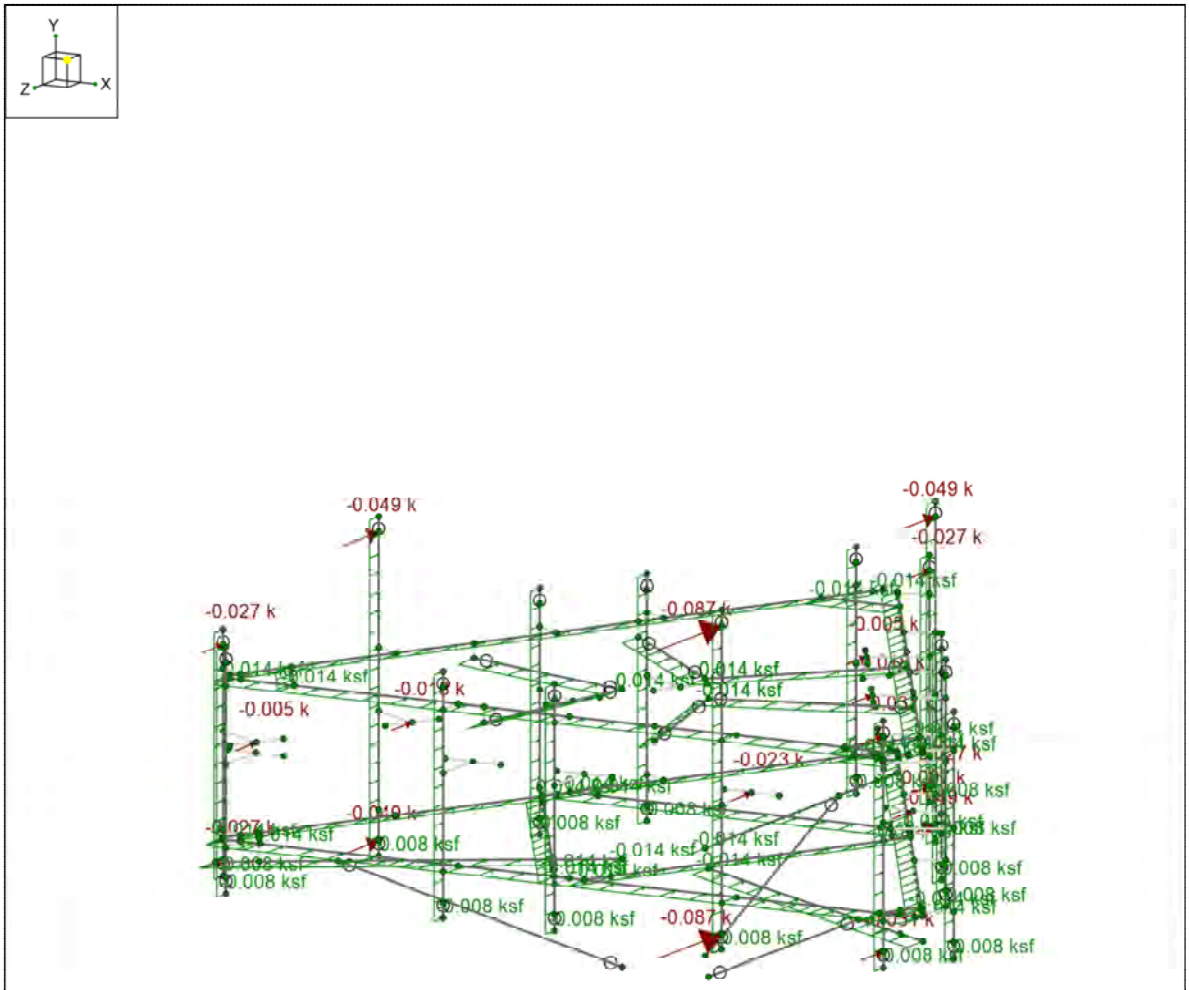

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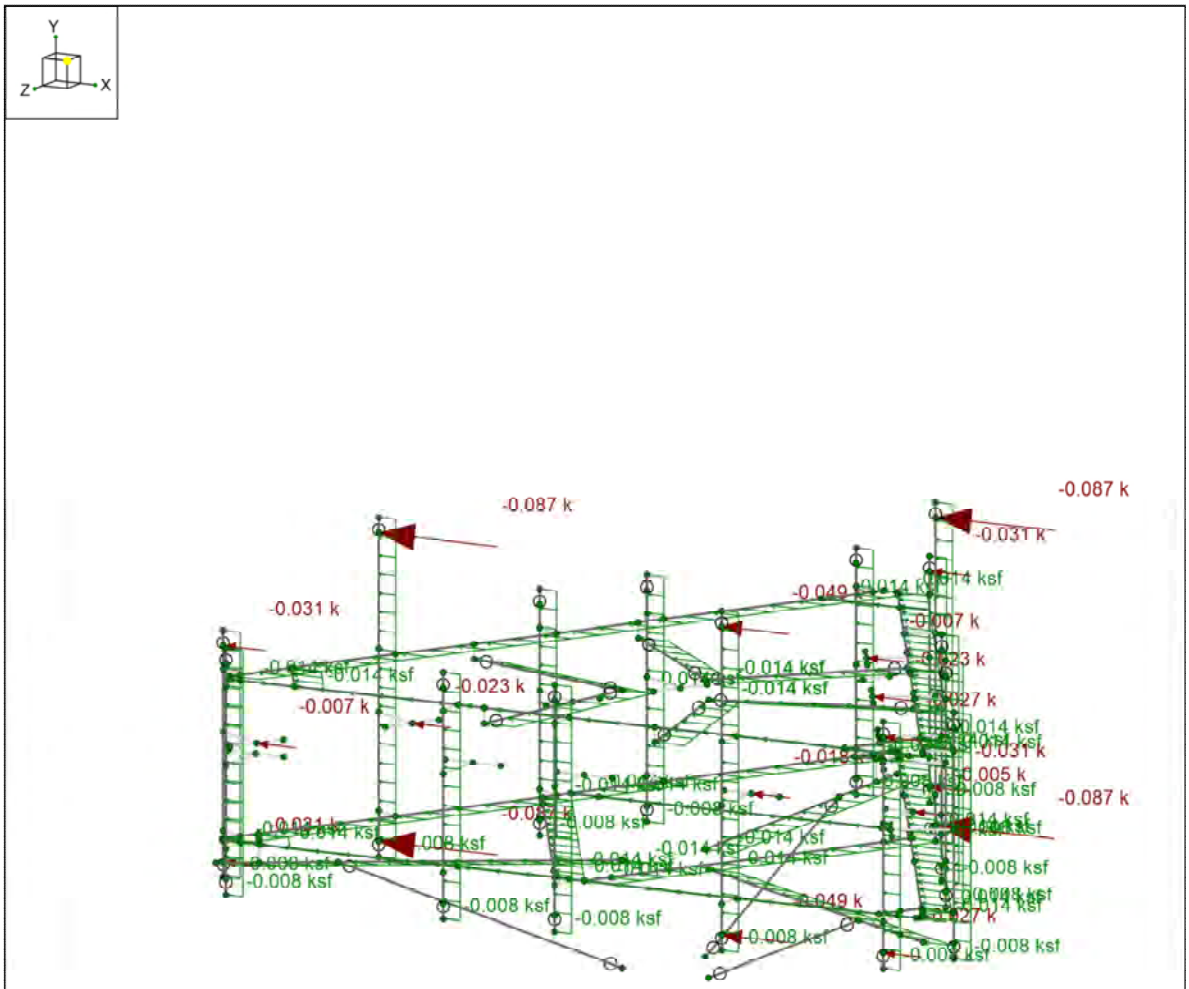

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EXHIBIT 9

T-MOBILE: CT11155F
SBA: CT00594-S PLAINFIELD NORTH

MOUNT AUGMENTATION @ 165'

MONOPOLE TOWER

PLAINFIELD, CT
WINDHAM COUNTY

SITE INFORMATION

STRUCTURE TYPE:	MONOPOLE
MOUNT TYPE:	PLATFORM
LATITUDE:	41.746002 (NAD 83)
LONGITUDE:	-71.880158 (NAD 83)
CITY / STATE:	PLAINFIELD, CT
COUNTY:	WINDHAM

COORDINATES ARE FOR NAVIGATIONAL PURPOSES ONLY, NOT TO 1A ACCURACY.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE LABOR & MATERIALS FOR THE DISCREPANCIES.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

BUILDING CODE AND DESIGN STANDARD: 2015 IBC / TIA-222 / 2018 CT BUILDING CODE

A&E INFORMATION

GEOSTRUCTURAL

DON GEORGE, SE

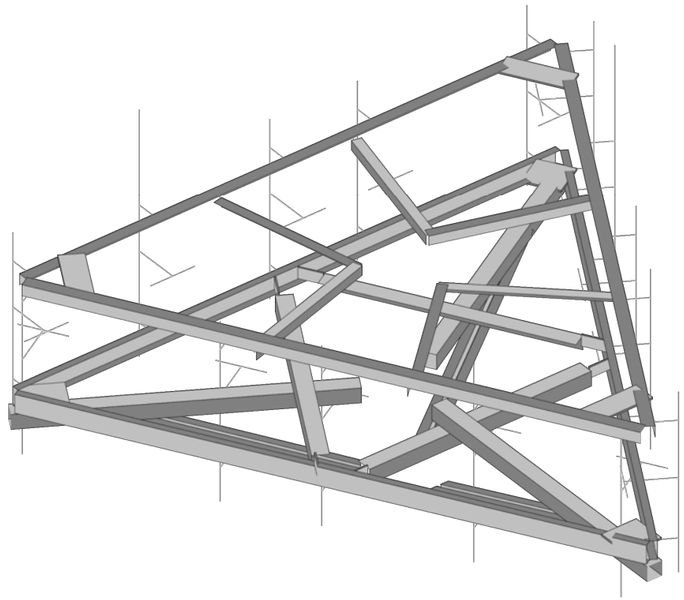
PO BOX 2621, BOISE, ID 83701
530.539.4787
CONTACT@GEOSTRUCTURAL.COM
WWW.GEOSTRUCTURAL.COM

GENERAL DESIGN NOTES

1. THIS PLAN HAS BEEN DESIGNED UTILIZING THE CORRESPONDING MOUNT STRUCTURAL ANALYSIS.
2. THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, ASCE 7, AWS, ACI, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE-MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.
3. ALL STRUCTURE INFORMATION OBTAINED IN THE FORM OF INFORMATION PROVIDED BY THE CLIENT. CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH THE REFERENCED DOCUMENTS. CONTRACTOR SHALL ISSUE A REQUEST FOR INFORMATION (RFI) IN THE EVENT ANY DISCREPANCIES ARE DISCOVERED BETWEEN THESE DOCUMENTS AND THE AS-BUILT CONDITIONS IN THE FIELD IN A SITE VISIT THAT SHALL BE PERFORMED PRIOR TO STARTING FABRICATION OR CONSTRUCTION.
4. ALL MATERIALS UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS.
5. ALL PRODUCT OR MATERIAL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER SUITABLE TO DETERMINE IF SUBSTITUTE IS ACCEPTABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
6. PROVIDE STRUCTURAL STEEL SHOP DRAWING(S) TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION (ONLY IF SPECIFICALLY REQUESTED BY ENGINEER).
7. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS AND REINFORCING SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
8. ANY CONTRACTOR-CAUSED DAMAGE TO PROPERTY OF THE LAND OWNER, PROPERTY OF THE STRUCTURE OWNER, PROPERTY OF THE CUSTOMER, SITE FENCING OR GATES, ANY AND ALL UTILITY AND/OR SERVICE LINES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE REPAIRED OR REPLACED AT THE SOLE COST OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED BY THE CONTRACTOR OR SUBCONTRACTOR AS APPROVED BY THE ENGINEER OF RECORD AND LAND OWNER. DAMAGE TO EQUIPMENT OR PROPERTY OF ANY KIND BELONGING TO OTHER COMPANIES (BESIDES THE INDICATED CUSTOMER) SHALL BE ADDRESSED BY THE CONTRACTOR WITH THE COMPANIES THAT OWN THE DAMAGED ITEMS.

SHEET INDEX

MOUNT AUGMENTATION CONFIGURATION



AUGMENTATION SCOPE

MODIFY ALL SECTORS OF CARRIER'S EXISTING MOUNT INSTALLATION AS REQUIRED (UNLESS NOTED OTHERWISE)

T-Mobile

SBA

GEOSTRUCTURAL

PO BOX 2621, BOISE, ID 83701
530.539.4787
CONTACT@GEOSTRUCTURAL.COM
WWW.GEOSTRUCTURAL.COM

REVISIONS:

0	06/17/19	ISSUE FOR CONSTRUCTION	GGD

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED PROFESSIONAL ENGINEER

SITE INFORMATION:
MOUNT AUGMENTATION

T-MOBILE: CT11155F
SBA: CT00594-S
PLAINFIELD NORTH

PLAINFIELD, CT

LATITUDE: 41.746002
LONGITUDE: -71.880158

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
S-1

GENERAL PROJECT NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ERECTING TEMPORARY BARRICADES AND/OR FENCING TO PROTECT THE SAFETY OF THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY BARRIERS AND REPAIR ALL DAMAGE TO PROPERTY ON THE SITE CAUSED BY THIS CONSTRUCTION. THE COST OF REPAIR IS THE CONTRACTOR'S RESPONSIBILITY.
2. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE PRIOR TO ORDERING ANY MATERIALS OR CONDUCTING ANY WORK.
4. THESE PLANS DO NOT ADDRESS THE SAFETY AND STABILITY OF THE STRUCTURE DURING ASSEMBLY AND ERECTION, WHICH ARE THE RESPONSIBILITY OF THE ERECTOR, BASED ON THE MEANS AND METHODS CHOSEN BY THE ERECTOR.

CONTRACTOR NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS MUST ACKNOWLEDGE IN WRITING TO TOWER OWNER THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW STRUCTURE OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND STRUCTURE/TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED MODIFICATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGEMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR STRUCTURE OWNER ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM ANY SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO THE STRUCTURE OWNER.
2. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, THE ENGINEER OF RECORD SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF THE DEVIATION.
3. THE CONTRACTOR SHALL SOLICIT AND HIRE THE SERVICES OF A QUALIFIED AUGMENTATION INSPECTOR PRIOR TO BEGINNING CONSTRUCTION. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION AS REQUIRED ON THE "AUGMENTATION INSPECTION NOTES" SHEET.
4. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNER OF THE PLANNED CONSTRUCTION & INSPECTION SCHEDULE, AS WELL AS ANY CHANGES TO THE SCHEDULE, WITHIN TWO BUSINESS DAYS OF THE COMPLETION OF THE SCHEDULE OR SCHEDULE REVISION BOTH PRIOR TO BEGINNING CONSTRUCTION AND DURING CONSTRUCTION AS THE SCHEDULE CHANGES. THE STRUCTURE OWNER WHEN THE WORK HAS BEEN COMPLETED WITHIN 2 BUSINESS DAYS OF THE COMPLETION OF THE WORK AND ASSOCIATED AUGMENTATION INSPECTIONS & TESTING (WHEN APPLICABLE).
5. IT IS ASSUMED THAT ANY STRUCTURAL AUGMENTATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE STRUCTURE OWNER AND ENGINEER INCLUDING BUT NOT LIMITED TO TOWER CLIMBER AND RESCUE CLIMBER CERTIFICATIONS, ET CETERA.
6. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
7. CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE STRUCTURE OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

1. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
2. THE CONTRACTOR SHALL PROVIDE SHORING AND BRACING AS REQUIRED DURING CONSTRUCTION TO ENSURE STABILITY. DESIGN AND SEQUENCING OF CONSTRUCTION SHORING AND BRACING IS OUTSIDE THE SCOPE OF THIS WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, GUYING, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC STEEL CONSTRUCTION MANUAL AND SECTION 4 OF THE TIA CODE.
2. PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MINIMUM GRADES UNLESS OTHERWISE NOTED:
   - CHANNELS & ANGLES ..... ASTM A36, (Fy = 36 KSI)
   - PLATES ..... ASTM A36, (Fy = 36 KSI)
   - PIPES ..... ASTM A53 GR.B, (Fy = 35 KSI)
   - HSS ROUND ..... ASTM A500 GR.B, (Fy = 42 KSI)
   - HSS RECTANGULAR ..... ASTM A500 GR.B, (Fy = 46 KSI)
   - W-FLANGE ..... ASTM A992 (Fy = 50 KSI)
   - STRUCTURAL BOLTS ..... ASTM A325
   - U-BOLTS ..... ASTM A307 GR.A
   - NUTS FOR BOLTS ..... ASTM A563 (THREADING TO MATCH BOLT)
   - WASHERS FOR BOLTS ..... ASTM F436
   - SEE TABLE 5-1 OF THE TIA CODE FOR ADDITIONAL SHAPES AND STANDARDS THAT ARE NOT LISTED ABOVE.
3. NON PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS PER THE TIA CODE:
   - THE CARBON EQUIVALENT OF STEEL SHALL NOT EXCEED 0.65 PER SECTION 5.4.2 OF THE TIA CODE
   - ELONGATION OF STEEL SHALL NOT BE LESS THAN 18%
   - TEST REPORTS SHALL BE IN ACCORDANCE WITH ASTM A6 OR A568
   - TOLERANCES SHALL BE IN ACCORDANCE WITH ASTM A6
4. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH AND COLD GALVANIZED.
5. ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. WELDING ELECTRODES SHALL BE E70XX.
6. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECS AND CODES, LATEST EDITION.
7. UPON REQUEST, THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER OF RECORD TO REVIEW FOR COMPLIANCE WITH DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION. GEOSTRUCTURAL IS ABSOLVED OF ALL LIABILITY ASSOCIATED WIT THE MISINTERPRETATION OF THE CONSTRUCTION DOCUMENTS IF CONTRACTOR CHOOSES NOT TO SUBMIT SHOP DRAWINGS.
8. TORCH-CUTTING OF ANY KIND SHALL NOT BE PERMITTED.
9. ALL BOLT HOLES SHALL BE STANDARD SIZE BOLT HOLES PER AISC 360, UNLESS OTHERWISE NOTED. ALL HOLES SHALL BE SHOP DRILLED OR SUB-PUNCHED AND REAMED. BURNING OF HOLES IS NOT PERMITTED. WHERE SLOTTED OR OVERSIZE HOLES ARE SPECIFIED ON THE DRAWINGS, EXTRA-THICK ASTM F436 PLATE WASHERS SHALL BE USED (3/16" MINIMUM THICKNESS) WITH A DIAMETER SUITABLE TO COVER THE EXTENTS OF THE SLOT OR HOLE. BOLTS SHALL BE HEAVY-HEX WHERE AVAILABLE IN THE SIZE AND GRADE SPECIFIED, OTHERWISE BOLTS SHALL BE HEX HEAD CAP SCREWS.
10. ALL STEEL HARDWARE, INCLUDING ADHESIVE OR EMBEDDED ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 (EXCEPT BOLTS SMALLER THAN ½" SHALL CONFORM TO FE/ZN 3 AT PER ASTM F1941 WHERE HOT-DIP GALVANIZED BOLTS ARE NOT AVAILABLE). ALL STEEL MEMBERS, INCLUDING WELDMENTS, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR DAMAGE TO GALVANIZED COATINGS USING ASTM A780 PROCEDURES WITH A ZINC RICH PAINT (SUCH AS ZINC GALVILITE) FOR GALVANIZING DAMAGED BY HANDLING, TRANSPORTING, CUTTING, WELDING, OR BOLTING. DO NOT HEAT SURFACES TO WHICH REPAIR PAINT HAS BEEN APPLIED. CALL OUT HOLES REQUIRED FOR HOT-DIP GALVANIZING ON SHOP DRAWINGS.
11. MEMBERS SHALL BE SHOP-FABRICATED AND WELDED TO THE EXTENT PRACTICABLE IN ORDER TO REDUCE FIELD INSTALLATION COSTS.

STRUCTURAL BOLTS

1. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED GALVANIZED HIGH STRENGTH ASTM A325 OR A490 BOLTS WITH THREADS EXCLUDED FROM SHEAR PLANE.
2. FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES, WITH BOLT HEADS FACING DOWN WHERE APPLICABLE.
3. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG-TIGHT UNTIL THE SECTION IS FULLY COMPACTED AND ALL PLIES ARE JOINED, AND THEN TIGHTENED FURTHER BY AISC - "TURN OF THE NUT" METHOD. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
4. BOLT LENGTHS UP TO AND INCLUDING 4 DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG-TIGHT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1½ TURNS BEYOND SNUG-TIGHT.
5. ALL BOLTED CONNECTIONS SHALL USE LOCK WASHERS.
6. MINIMUM EDGE DISTANCE FOR BOLTS SHALL BE 1½" CENTER TO EDGE UNLESS OTHERWISE NOTED.

NOMINAL HOLE DIMENSIONS:

BOLT Ø	STANDARD HOLE Ø
1/2"Ø	9/16"Ø
5/8"Ø	11/16"Ø
3/4"Ø	13/16"Ø
7/8"Ø	15/16"Ø
1"Ø	1 1/16"Ø

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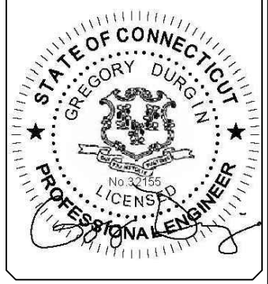

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CT11155F
SBA: CT00594-S
PLAINFIELD NORTH

PLAINFIELD, CT

LATITUDE: 41.746002
LONGITUDE: -71.880158

SHEET TITLE:

NOTES AND SPECIFICATIONS

SHEET NUMBER:

S-2

PRE-CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	AUGMENTATION INSPECTION CHECKLIST
√	APPROVED SHOP DRAWINGS (LATEST REVISION)
√	FABRICATION INSPECTION
	FABRICATOR'S CERTIFIED WELD INSPECTOR (CWI)
	FABRICATOR'S QUALIFIED PERSONNEL FOR WELDING
√	MATERIAL TEST REPORT(S) / MILL CERTIFICATE(S)
	FABRICATOR'S NON-DESTRUCTIVE TESTING (NDT) TECHNICIAN
√	PACKING SLIPS FOR STRUCTURAL MATERIALS

CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	CONSTRUCTION INSPECTIONS
	FOUNDATION INSPECTIONS
	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTING RESULTS/CERTIFICATES
	ADHESIVE ANCHOR ROD(S) INSTALLATION INSPECTION
	BASE PLATE GROUT INSPECTION
	THIRD-PARTY CERTIFIED WELD INSPECTION (INCLUDING IBC SPECIAL INSPECTIONS)
	SOIL EXCAVATION — DENSITY TESTING, COMPACTION INSPECTION/VERIFICATION, USE OF SUITABLE FILL
√	GALVANIZING REPAIR MATERIAL PREPARATION, INSPECTION, & PAINT APPLICATION
	GUY WIRE (RE-)TENSION REPORT AND INSPECTION
√	PRIME CONTRACTOR'S AS-BUILT DOCUMENTS (SIGNED & DATED)

POST-CONSTRUCTION INSPECTION CHECKLIST

CONSTRUCTION AND/OR INSTALLATION INSPECTIONS REQUIRED FOR REPORT? (CHECK=YES, BLANK=NO)	INSPECTION REPORT ITEM
√	AUGMENTATION INSPECTOR'S ISSUE LIST (INCLUDING CORRECTIVE ACTIONS TAKEN) AND/OR REDLINED RECORD DRAWINGS
	POST-INSTALLED ADHESIVE ANCHOR ROD PULL-OUT TESTING
√	PHOTOGRAPHS OF AUGMENTATIONS (INCLUDE PHOTOS OF BOTH SIDES OF WELDED OR BOLTED CONNECTIONS, OF OVERALL AND DETAIL VIEWS OF INSTALLED AUGMENTATIONS, AND BEFORE/AFTER PHOTOS OF ANY ISSUES IDENTIFIED BY THE INSPECTOR)

GENERAL NOTES

1. THE POST-AUGMENTATION INSPECTION IS A VISUAL EXAMINATION OF STRUCTURE AUGMENTATIONS AND A REVIEW OF ANY REQUIRED CONSTRUCTION INSPECTIONS, TESTING, AND OTHER DATA TO VERIFY THAT THE AUGMENTATIONS ARE INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AS DESIGNED BY THE ENGINEER OF RECORD. THE CONTRACT DOCUMENTS INCLUDE THESE AUGMENTATION DRAWINGS, ANY PROJECT SPECIFICATIONS REFERENCED TO IN THE PROJECT NOTES OR OTHERWISE PROVIDED WITH THE DRAWINGS, AND OTHER DOCUMENTS OR DRAWINGS PROVIDED WITH THE AUGMENTATION DRAWINGS WITH THE INTENT THAT THEY BE USED AS A DESIGN AID OR GUIDELINE FOR CONSTRUCTION.
2. THE POST-AUGMENTATION INSPECTION SHALL CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A QUALITATIVE REVIEW OF THE ENGINEERING ASPECTS OF THE DESIGN OR THE DESIGN DRAWINGS. THE AUGMENTATION INSPECTOR IS NOT TAKING OWNERSHIP OF THE AUGMENTATION DESIGN IN THE PERFORMANCE OF THEIR DUTIES. OWNERSHIP OF THE AUGMENTATION DESIGN'S EFFECTIVENESS AND INTENT, LIES WITH THE ENGINEER OF RECORD.
3. TO ENSURE THAT THE REQUIREMENTS OF THE POST-AUGMENTATION INSPECTION ARE MET, IT IS ESSENTIAL THAT COORDINATION BETWEEN THE PRIME CONTRACTOR AND THE AUGMENTATION INSPECTOR BEGIN AS SOON AS THE PROJECT IS FUNDED AND WORK ENTERS THE PLANNING STAGE. THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR SHALL BE PROACTIVE IN IDENTIFYING CONSTRUCTION ISSUES AND COMMUNICATING THESE ISSUES TO EACH OTHER AND TO THE ENGINEER OF RECORD AND STRUCTURE OWNER AND/OR CUSTOMER, AS REQUIRED.

INSPECTION AND REPORT RECOMMENDATIONS

1. THE FOLLOWING ARE PROVIDED IN THE INTENT OF ENHANCING THE EFFECTIVENESS OF THE AUGMENTATION INSPECTION AND IMPROVING THE EFFICIENCY OF THE PROCESS OF COLLECTING AND COMPILING THE INFORMATION INTO A USABLE REPORT:

1.1. IT IS RECOMMENDED THAT THE PRIME CONTRACTOR PROVIDE THE AUGMENTATION INSPECTOR AT LEAST 5 BUSINESS DAYS NOTICE FOR WHEN THE SITE WILL BE READY FOR THE AUGMENTATION INSPECTION.

1.2. THE PRIME CONTRACTOR AND THE AUGMENTATION INSPECTOR SHALL COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.

1.3. THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR SHALL BOTH BE PRESENT DURING THE INITIAL INSPECTION IN ORDER TO ALLOW FOR THE REMEDIATION OF DEFICIENCIES DURING THE INSPECTION, AS PRACTICABLE. IT MAY BE PREFERABLE TO KEEP WORK CREWS AND THEIR EQUIPMENT ON SITE TO REMEDIATE DEFICIENCIES DURING INSPECTIONS.

INSPECTION RESCHEDULING AND CANCELLATION

1. IF THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR HAVE AGREED UPON A TIME AND DATE FOR A GIVEN INSPECTION AND EITHER PARTY RESCHEDULES OR CANCELS THE INSPECTION, THE STRUCTURE OWNER SHALL NOT BE RESPONSIBLE FOR COSTS, FEES, LOST DEPOSITS, OR OTHER EXPENSES INCURRED BY THE PRIME CONTRACTOR, THEIR SUBCONTRACTOR(S), OR THE AUGMENTATION INSPECTOR DUE TO THESE SCHEDULING CHANGES. EXCEPTIONS MAY BE MADE IN THE EVENT OF UNCONTROLLABLE SITUATIONS SUCH AS NATURAL DISASTERS, SEVERE WEATHER, OR OTHER CONDITIONS THAT COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

REMEDIATION OF FAILING INSPECTION

1. IN THE EVENT THAT ANY PORTION OF THE AUGMENTATION WORK IS DETERMINED TO BE UNSATISFACTORY BY THE MODIFICATION INSPECTOR, THE PRIME CONTRACTOR SHALL WORK WITH THE AUGMENTATION INSPECTOR TO CREATE A PLAN OF ACTION THAT WILL EITHER:

1.1. REPAIR THE DEFICIENT WORK TO SATISFACTORY CONDITION AND INCLUDE A SUBSEQUENT RE-INSPECTION OF THE WORK TO VERIFY THAT IT IS SATISFACTORY.

1.2. OR, WITH THE PERMISSION OF THE STRUCTURE OWNER AND/OR CUSTOMER, THE PRIME CONTRACTOR MAY WORK WITH THE ENGINEER OF RECORD TO REVIEW THE AS-BUILT CONDITION OF THE AUGMENTATION TO DETERMINE IF IT IS STRUCTURALLY ACCEPTABLE. IF THIS ACTION IS NOT ACCEPTABLE TO ANY PARTY, THE PRIME CONTRACTOR SHALL PROCEED TO REPAIR THE DEFICIENT WORK TO A SATISFACTORY CONDITION.

AUGMENTATION INSPECTOR'S RESPONSIBILITIES

1. THE AUGMENTATION INSPECTOR MAY BE AN EMPLOYEE OF THE CONTRACTOR'S FIRM, HOWEVER THE INSPECTOR'S ONLY DUTIES SHALL BE INSPECTION, TESTING, AND REPORT CREATION.
2. THE AUGMENTATION INSPECTOR SHALL CONTACT THE PRIME CONTRACTOR AS SOON AS THEY HAVE RECEIVED A PURCHASE ORDER OR PAYMENT FOR THIS INSPECTION. THE AUGMENTATION INSPECTOR SHALL REVIEW THE REQUIREMENTS OF THE INSPECTION CHECKLIST, SHALL WORK WITH THE PRIME CONTRACTOR TO DEVELOP A SCHEDULE OF NECESSARY ON-SITE INSPECTIONS, AND SHALL DISCUSS ANY SITE-SPECIFIC INSPECTION REQUIREMENTS OR OTHER CONCERNS.
3. THE AUGMENTATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL PRIME CONTRACTOR INSPECTION AND TEST REPORTS (INCLUDING THOSE OF ASSIGNED SUB-CONTRACTORS), SHALL REVIEW THE REPORTS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHALL CONDUCT THE NECESSARY ON-SITE INSPECTIONS.

PRIME CONTRACTOR'S RESPONSIBILITIES

1. THE PRIME CONTRACTOR SHALL CONTACT THE AUGMENTATION INSPECTOR AS SOON AS THEY HAVE RECEIVED A PURCHASE ORDER OR PAYMENT FOR THE AUGMENTATION INSTALLATION OR PROJECT. THE PRIME CONTRACTOR SHALL REVIEW THE REQUIREMENTS OF THE AUGMENTATION INSPECTION CHECKLIST, SHALL WORK WITH THE AUGMENTATION INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, AND SHALL DISCUSS SPECIFIC INSPECTION AND TESTING REQUIREMENTS WITH THE AUGMENTATION INSPECTOR IN DETAIL TO OBTAIN A FULL UNDERSTANDING OF THE REQUIRED INSPECTIONS AND TESTING.
2. THE PRIME CONTRACTOR SHALL PERFORM AND RECORD THE TESTING AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUGMENTATION INSPECTION CHECKLIST.

PHOTOGRAPHY REQUIREMENTS

1. THE PRIME CONTRACTOR AND AUGMENTATION INSPECTOR SHALL BETWEEN THE EFFORTS OF BOTH PARTIES AND THEIR EMPLOYED PERSONNEL PROVIDE PHOTOGRAPHS WITH THE INSPECTION REPORT TO INCLUDE THE FOLLOWING:

a. GENERAL SITE PHOTOGRAPHS PRE-CONSTRUCTION

b. AUGMENTATION INSTALLATION PHOTOGRAPHS DURING CONSTRUCTION/ERECTION OPERATIONS AND INSPECTIONS

b.1. RAW MATERIALS

b.2. PHOTOS OF DETAILED WORK REQUIRED ON THE DRAWINGS (CONNECTIONS, WELDMENTS, FIELD-FABRICATED MEMBERS, ETC)

b.3. BOLT INSTALLATION AND TORQUE/PRETENSION.

b.4. FINAL INSTALLED CONDITION (AFTER DEFICIENT CONDITIONS, IF ANY, ARE REMEDIATED).

b.5. REPAIR OF SURFACE COATINGS (INCLUDING GALVANIZING AND/OR PAINT COATING)

c. POST-AUGMENTATION PHOTOGRAPHS OF THE SITE & WORK.

d. PHOTOGRAPHS OF THE FINAL STATE OF THE SITE AT CONCLUSION OF THE WORK BY THE PRIME CONTRACTOR, ASSOCIATED SUBCONTRACTORS, AND THE AUGMENTATION INSPECTOR.

e. OTHER PHOTOS MAY BE INCLUDED AT PRIME CONTRACTOR & AUGMENTATION INSPECTOR'S DISCRETION.

NOTE: PHOTOS OF AUGMENTATIONS INSTALLED ON THE STRUCTURE ABOVE AN ELEVATION OF 20 FT SHALL REQUIRE PHOTOS TAKEN FROM THE STRUCTURE AS WELL AS OVERALL PHOTOGRAPHS OF THE AUGMENTATIONS TAKEN FROM THE GROUND.

OWNER INSPECTIONS

1. THE STRUCTURE OWNER MAY CONDUCT INSPECTIONS TO VERIFY THE QUALITY AND COMPLETENESS OF THE PREVIOUSLY COMPLETED AUGMENTATION INSPECTION REPORTS FOR THE AUGMENTATION INSTALLATION WORK.
2. INSPECTIONS MAY BE COMPLETED BY A 3RD-PARTY FIRM OF THE STRUCTURE OWNER'S CHOOSING AFTER A AUGMENTATION PROJECT IS COMPLETED AND A PASSING AUGMENTATION INSPECTION REPORT IS ISSUED.

T-Mobile

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REVISIONS:

0	06/17/19	ISSUE FOR CONSTRUCTION	GGD

CHECKED BY: DWG

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CT11155F
SBA: CT00594-S
PLAINFIELD NORTH

PLAINFIELD, CT

LATITUDE: 41.746002
LONGITUDE: -71.880158

SHEET TITLE:

INSPECTION NOTES

SHEET NUMBER:

S-3

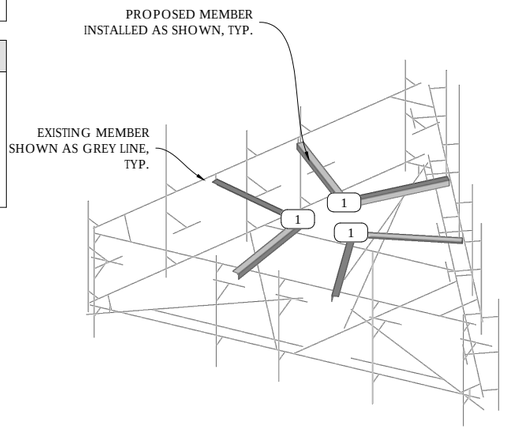
NEW MOUNT AUGMENTATIONS

1	INSTALL V-BRACE KIT; LOCATED AT THE TOP ANGLE HANDRAIL ELEVATION AND ATTACHING FROM FACE ANGLE RAIL TO THE COLLAR MOUNT ON MONOPOLE SHAFT. - SITEPRO1 PRK-SFS, (1) KIT TOTAL, OR APPROVED EQUIVALENT. ▪ PRK COLLAR AND V-BRACE ANGLES SHALL BE ORIENTED SUCH THAT THE V-BRACE ANGLES DO NOT BLOCK OR ALTER THE CLIMBING PATH. ▪ SFS ANGLE BRACING MEMBERS SHALL BE DIRECTLY THRU-BOLTED TO THE FACE ANGLE HANDRAIL W/ KIT-SUPPLIED ½"Ø HDG GRADE5 HEX BOLT (INSTEAD OF UTILIZING THE PROVIDED CLAMP SET). DRILL ANGLE FACE RAIL AS REQUIRED TO RECEIVE BOLT AND COVER HOLE W/ (2) COATS OF COLD-GALV COMPOUND SPRAY. ▪ INSTALL SFS ANGLE BRACING W/ APPROXIMATELY 36" OF HORIZONTAL SEPARATION.
AUGMENTATIONS SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF ANY NEW EQUIPMENT.	

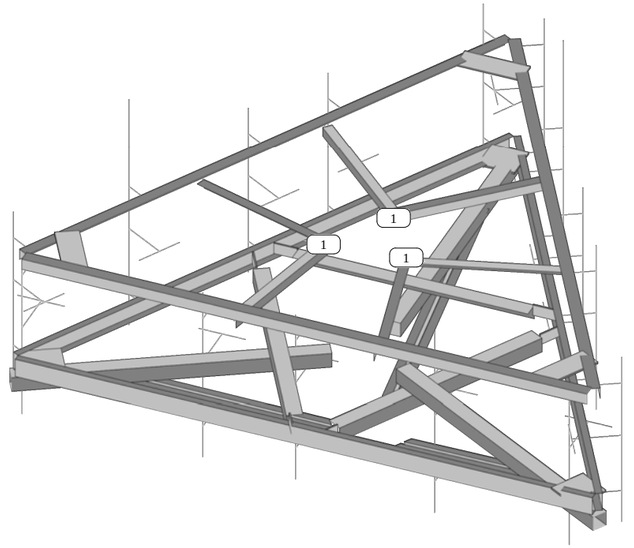
CONSTRUCTION NOTES

1. SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH.
2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHOULD FIELD-VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
3. CONTRACTOR TO COORDINATE THE TEMPORARY REMOVAL/RELOCATION/REPLACEMENT OF ELEMENTS (E.G. COAX, CLIPS, TMAs, ETC.) CONNECTED TO, OR IN THE DIRECT PATH, OF NEW AUGMENTATION MEMBERS.

PLATFORM @ 165' AUGMENTATION



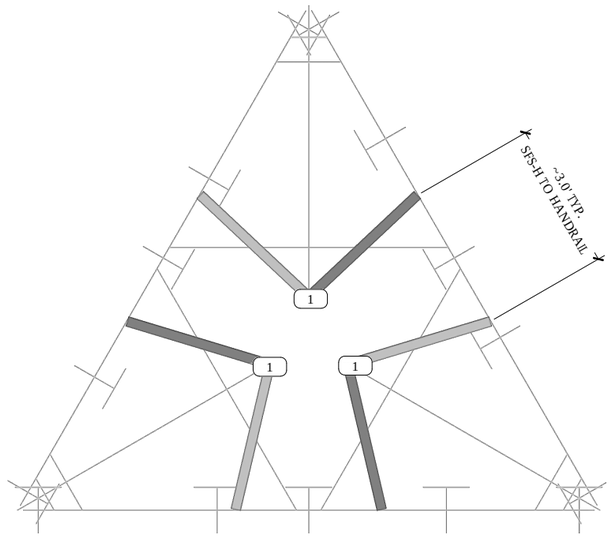
MOUNT AUGMENTATION ISOLATION
SCALE: N.T.S.



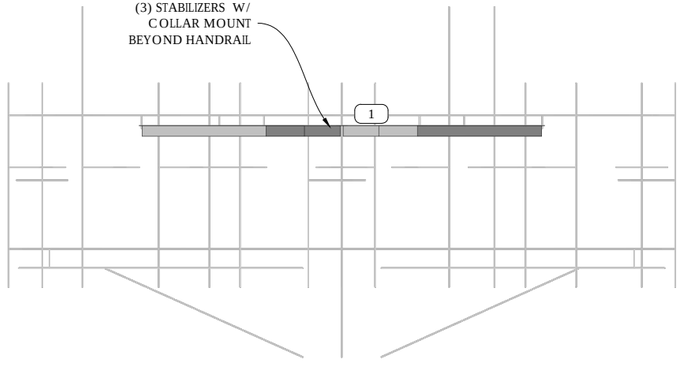
AUGMENTED MOUNT ISOMETRIC
SCALE: N.T.S.

INSTALLATION NOTES

1. AUGMENTATION MEMBER(S) MAY NEED TO BE FIELD-CUT TO LENGTH TO ACCOMMODATE THIS INSTALLATION. CONTRACTOR TO CUT AND DRILL TO SUIT AS REQUIRED AND APPLY (2) COATS OF COLD-GALV. COMPOUND TO CUT MEMBER ENDS.
2. CONTRACTOR TO CHECK ALL EXISTING MEMBER CONNECTION BOLTS, PARTICULARLY STANDOFF TO TOWER BOLTS, FOR PROPER INSTALLATION AND TIGHTNESS.
3. COORDINATE PLACEMENT OF NEW AUGMENTATION MEMBERS WITH EXISTING TOWER AND CLIMBING FACILITY ELEMENTS (E.G. STEP PEGS, COAX PORTS, ETC.)
4. REFER TO CONSTRUCTION DRAWINGS (BY OTHERS) AND MOUNT STRUCTURAL ANALYSIS FOR APPROVED INSTALLATION LOCATIONS AND QUANTITIES OF APPURTENANCES.



AUGMENTED MOUNT PLAN
SCALE: N.T.S.



AUGMENTED MOUNT FRONT ELEVATION
SCALE: N.T.S.

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REVISIONS:

0	06/17/19	ISSUE FOR CONSTRUCTION	GGD

CHECKED BY: DWG

STATE OF CONNECTICUT
GREGORY DURGIN
No. 32155
LICENSED
PROFESSIONAL ENGINEER

SITE INFORMATION:

MOUNT AUGMENTATION

T-MOBILE: CT11155F
SBA: CT00594-S
PLAINFIELD NORTH

PLAINFIELD, CT

LATITUDE: 41.746002
LONGITUDE: -71.880158

SHEET TITLE:

MODIFICATIONS, SECTIONS & DETAILS

SHEET NUMBER:

S-4

EXHIBIT 10

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: CT11155F

Plainfield/ I-395 X90_1
56 Roper Road
Plainfield, Connecticut 06374

May 21, 2021

EBI Project Number: 6221002575

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**11.12%**

May 21, 2021

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

Emissions Analysis for Site: CT11155F - Plainfield/ I-395 X90_1

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **56 Roper Road** in **Plainfield, 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 56 Roper Road in Plainfield, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 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.

7) 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.

8) The antennas used in this modeling are the RFS APXV18-206516S-C-A20 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector A, the RFS APXV18-206516S-C-A20 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector B, the RFS APXV18-206516S-C-A20 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 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.

9) The antenna mounting height centerline of the proposed antennas is 165 feet above ground level (AGL).

10) 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.

11) 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:	RFS APXV18-206516S-C-A20	Make / Model:	RFS APXV18-206516S-C-A20	Make / Model:	RFS APXV18-206516S-C-A20
Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz
Gain:	16.3 dBd / 16.3 dBd	Gain:	16.3 dBd / 16.3 dBd	Gain:	16.3 dBd / 16.3 dBd
Height (AGL):	165 feet	Height (AGL):	165 feet	Height (AGL):	165 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	10,237.91	ERP (W):	10,237.91	ERP (W):	10,237.91
Antenna A1 MPE %:	**1.46%**	Antenna B1 MPE %:	**1.46%**	Antenna C1 MPE %:	**1.46%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd
Height (AGL):	165 feet	Height (AGL):	165 feet	Height (AGL):	165 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts
ERP (W):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A2 MPE %:	**1.41%**	Antenna B2 MPE %:	**1.41%**	Antenna C2 MPE %:	**1.41%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	2.86%
Verizon	3.32%
AT&T	1.6%
Metro PCS	0.29%
Sprint	2.84%
Nextel	0.21%
Site Total MPE % :	11.12%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	2.86%
T-Mobile Sector B Total:	2.86%
T-Mobile Sector C Total:	2.86%
Site Total MPE % :	11.12%

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 1900 MHz GSM	4	1279.74	165.0	7.28	1900 MHz GSM	1000	0.73%
T-Mobile 1900 MHz LTE	2	2559.48	165.0	7.28	1900 MHz LTE	1000	0.73%
T-Mobile 600 MHz LTE	2	591.73	165.0	1.68	600 MHz LTE	400	0.42%
T-Mobile 600 MHz NR	1	1577.94	165.0	2.24	600 MHz NR	400	0.56%
T-Mobile 700 MHz LTE	2	695.22	165.0	1.98	700 MHz LTE	467	0.42%
						Total:	**2.86%**

• 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:	2.86%
Sector B:	2.86%
Sector C:	2.86%
T-Mobile Maximum MPE % (Sector A):	2.86%
Site Total:	11.12%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **11.12%** 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.