Filed by:
Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbasite.com

February 7, 2022

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

RE: Notice of Exempt Modification
100 Tatnic Hill Road, Brooklyn, CT 06234
Latitude: 41.767160
Longitude: -71.971949
T-Mobile Site #: CT11512C_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 140-foot level of the existing 175-foot Monopole Tower at 100 Tatnic Hill Road, Brooklyn, CT. The 175-foot tower is owned by SBA Towers, LLC. The property is owned by Benjamin and Sophie Davidson. T-Mobile now intends to replace three (3) antennas with three (3) new 2500 MHz antennas.

- The new antennas would be installed at the 140-foot level of the tower and support 5G services.

Planned Modifications:

TOWER

Remove:
- N/A

Remove and Replace:
- (3) APXV18-206516S-C-A20 L1900 (Remove) -- (3) Ericsson AIR6449 B41 2500 MHz antennas (Replace)
- (3) Ericsson 4449 B71+B12 RRUs (remove) – (3) Ericsson 4449 B71+B85 RRUs (replace)

Install New:
- (3) Ericsson Radio 4460 B25+B66 RRUs
- (2) 1.9” Fiber

Remain:
- (3) RFS – APXVAARR24-43-U-NA20 – Panel
- (3) Kathrein - 782 11056 - Bias T
- (3) Ericsson KRY 112 489/2 TMAs
- (1) Platform w/Handrails (HRK CommScope P/N MT-195-12)
- (8) 1-5/8” Coax

- (1) 1-5/8" fiber

Entitlements:

- (1) 1-5/8" Coax
- (2) 1-5/8" fiber

GROUND

Install New:

- (1) 1" RGS Conduit for Power to exist. AAV Cabinet
- (1) 2" RGS conduit for AAV to exist. AAV Cabinet
- (1) 2" RGS conduit w/LBs for DC power
- (1) 5'-2" x 3' Concrete pad for proposed equip. cabinets
- Ericsson B160 Battery Cabinet
- (2) 2" RGS conduits for Alarm & Spare
- Ericsson 6160 Equip. Cabinet
- (1) 2" RGS conduit for Exist. PPC
- Slackbox for storing additional fiber lengths to Ice bridge

Remain:

- 6201 ODE Equip. Cabinet
- Battery Cabinet
- GPS antenna mounted to existing Ice Bridge
- Transfer Switch
- 10' x 11' concrete pad
- Existing generator
- Ice Bridge
- PPC
- AAV Cabinet

This facility was approved by the Town of Brooklyn's Planning and Zoning Commission on August 4, 1999. Approval was given under SPR-99-17 for the construction of a telecommunications facility. There were no post construction stipulations set. 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 Brooklyn's First Selectman, Austin Tanner, and Planning & Zoning Chair, Michelle Sigfridson, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modification will not require the extension of the site boundary.

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

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

Sincerely,

Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581

508.251.0720 x3807 + T
508.366.2610 + F
kpelletier@sbasite.com

Attachments

cc: Austin Tanner, First Selectman / with attachments
The Town of Brooklyn, 4 Wolf Den Road, Brooklyn, CT 06234
Michelle Sigfridson, Planning & Zoning Chair / with attachments
The Town of Brooklyn, 4 Wolf Den Road, Brooklyn, CT 06234
Benjamin and Sophie Davidson / with attachments
18 Nicks Close, St Helens Tasmania 7216 Australia (SBA address on file for overnight international – Town address on file is SBA corporate offices)

EXHIBIT LIST

Exhibit 1	Check Copy	x
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Town of Brooklyn P&Z Commission 8/4/99
Exhibit 6	Construction Drawings	Chappell 2/4/22
Exhibit 7	Structural Analysis	TES dated 1/24/22
Exhibit 8	Post Mod Mount Analysis	TES dated 11/24/21
Exhibit 9	Mount Mod Drawings	TES 11/24/21 (Job# 119776)
Exhibit 10	EME Report	EBI Consulting 2/4/22

EXHIBIT 1

Copy of Check

EXHIBIT 2

Mailing Labels

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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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.

FedEx

FedEx Tracking Track Another Shipment Help

775971021356

ADD NICKNAME

ON TIME

Scheduled delivery:
Tuesday, February 8, 2022 before 10:30 am

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Sherri Knapik
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Melanie A. Bachman Exec. Dir
Connecticut Siting Council
Ten Franklin Square
NEW BRITAIN, CT US 06051
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

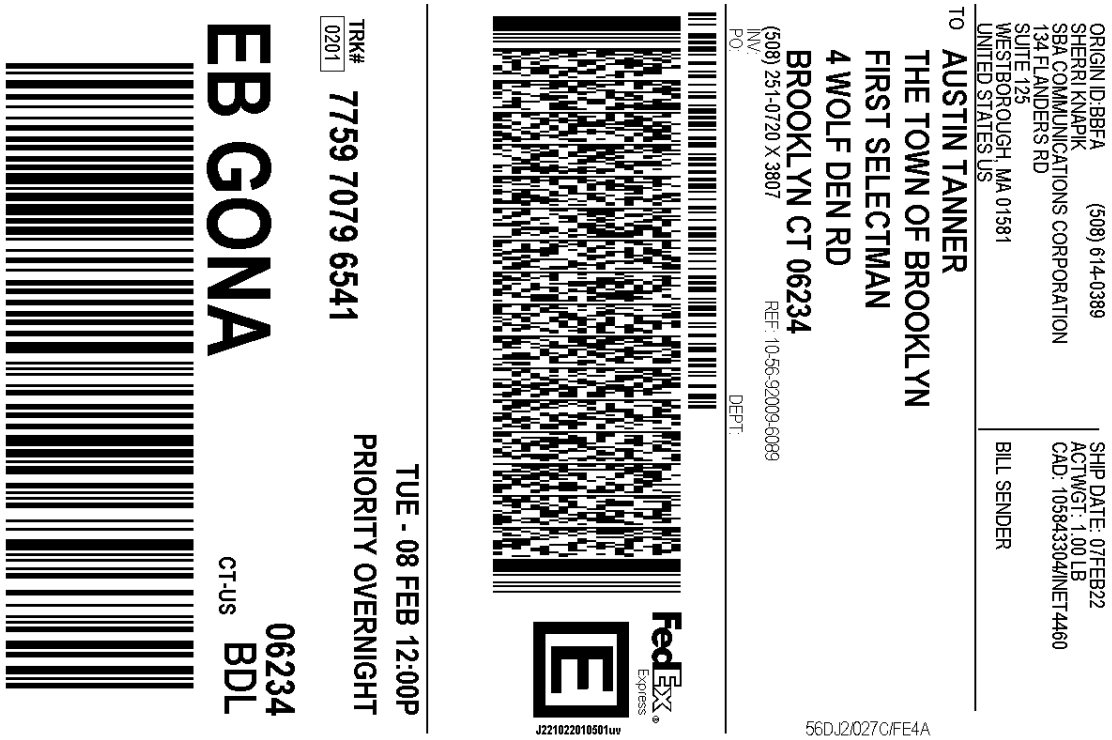
Travel History

TIME ZONE
Local Scan Time

Monday, February 7, 2022		
12:55 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:15 AM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER 775971021356	**SERVICE** FedEx Priority Overnight	**WEIGHT** 2 lbs / 0.91 kgs
TOTAL PIECES 1	**TOTAL SHIPMENT WEIGHT** 2 lbs / 0.91 kgs	**TERMS** Shipper
SHIPPER REFERENCE 10-56-92009-6089	**PACKAGING** FedEx Pak	**SPECIAL HANDLING SECTION** Deliver Weekday
ACTUAL PICK UP 2/7/22	**SHIPMENT-FACTS.COD-DETAIL** $0.00	**STANDARD TRANSIT** 2/8/22 before 10:30 am



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

FedEx

FedEx Tracking Track Another Shipment Help

775970796541

ADD NICKNAME

ON TIME

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Tuesday, February 8, 2022 before 12:00 pm

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WESTBOROUGH, MA

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FROM
SBA COMMUNICATIONS CORPORATION
Sherri Knapik
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Austin Tanner
The Town of Brooklyn
First Selectman
4 Wolf Den Rd
BROOKLYN, CT US 06234
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

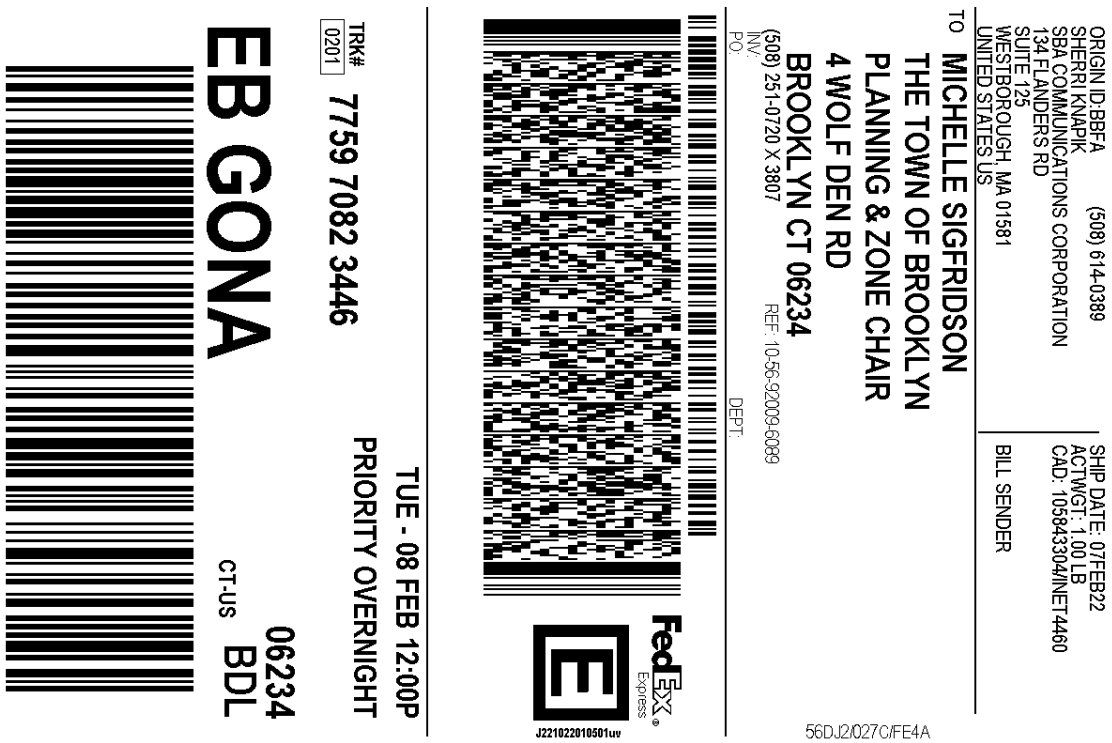
Travel History

TIME ZONE
Local Scan Time

Monday, February 7, 2022		
12:55 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:03 AM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER 775970796541	**SERVICE** FedEx Priority Overnight	**WEIGHT** 0.5 lbs / 0.23 kgs
TOTAL PIECES 1	**TOTAL SHIPMENT WEIGHT** 0.5 lbs / 0.23 kgs	**TERMS** Shipper
SHIPPER REFERENCE 10-56-92009-6089	**PACKAGING** FedEx Envelope	**SPECIAL HANDLING SECTION** Deliver Weekday
ACTUAL PICK UP 2/7/22	**SHIPMENT-FACTS.COD-DETAIL** $0.00	**STANDARD TRANSIT** 2/8/22 before 12:00 pm



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FedEx

FedEx Tracking Track Another Shipment Help

775970823446

ADD NICKNAME

ON TIME

Scheduled delivery:
Tuesday, February 8, 2022 before 12:00 pm

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Sherri Knapik
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Michelle Sigfridson
The Town of Brooklyn
Planning & Zone Chair
4 Wolf Den Rd
BROOKLYN, CT US 06234
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Monday, February 7, 2022		
12:55 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:04 AM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER 775970823446	**SERVICE** FedEx Priority Overnight	**WEIGHT** 0.5 lbs / 0.23 kgs
TOTAL PIECES 1	**TOTAL SHIPMENT WEIGHT** 0.5 lbs / 0.23 kgs	**TERMS** Shipper
SHIPPER REFERENCE 10-56-92009-6089	**PACKAGING** FedEx Envelope	**SPECIAL HANDLING SECTION** Deliver Weekday
ACTUAL PICK UP 2/7/22	**SHIPMENT-FACTS.COD-DETAIL** $0.00	**STANDARD TRANSIT** 2/8/22 before 12:00 pm

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CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH

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FedEx

FedEx Tracking Track Another Shipment Help

775971001983

ADD NICKNAME

ON TIME

Scheduled delivery:
Monday, February 14, 2022 before 6:00 pm

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
SHERRI KNAPIK
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
BENJAMIN SOPHIE DAVIDSON
18 NICKS CLOSE ST.
ST. HELENS TASMANIA, AU 7216
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts | Commodity Information

Travel History

TIME ZONE
Local Scan Time

Monday, February 7, 2022		
12:55 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:14 AM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER 775971001983	**SERVICE** International Priority	**WEIGHT** 1 lbs / 0.45 kgs
TOTAL PIECES 1	**TOTAL SHIPMENT WEIGHT** 1 lbs / 0.45 kgs	**TERMS** Shipper
SHIPPER REFERENCE 10-56-92009-6089	**PACKAGING** FedEx Envelope	**SPECIAL HANDLING SECTION** Deliver Weekday
ACTUAL PICK UP 2/7/22	**SHIPMENT-FACTS.COD-DETAIL** $0.00	**STANDARD TRANSIT** 2/14/22 before 6:00 pm

Commodity Information

COUNTRY OF MANUFACTURING	HARMONIZED CODE(S)	DESCRIPTION
US		PERMITS

All (30) Inbound (8) Outbound (22) Watch list (0)

ORIGIN ID:BBFA (508) 614-0389
Sherri Knapik
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd
Suite 125
WESTBOROUGH, MA 01581
UNITED STATES, US

SHIP DATE: 07FEB22
ACTWGT: 1.00 LB
CAD: 105843304/INET4460

BILL SENDER
EINVAT:

TO Benjamin & Sophie Davidson

18 Nicks Close St.

St. Helens Tasmania, 7216
AUSTRALIA, AU

(AU)

5082510720 X 3807

FedEx Express

AWB

J221022010520uv

XQ LSTA

PKG:ENV

TRK# 7759 7100 1983

Form 0430

PM

INTL PRIORITY

REF: 10-56-92009-6089
DESC1:Permits
DESC2:
DESC3:
DESC4:
EEI: NO EEI 30.37(a)

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.

COUNTRY MFG: US
CARRIAGE VALUE: 25.00 USD
CUSTOMS VALUE: 25.00 USD

SIGN: Sherri Knapik
T/C: S 50057546
D/T: S 50057546

The Montreal or Warsaw Convention may apply and will govern and in most cases limit the liability of Federal Express for loss or delay of or damage to your shipment. Subject to the conditions of the contract on the reverse.

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After printing this label:
FEDEX AWB COPY - PLEASE PLACE BEHIND CONSIGNEE COPY
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID:BBFA (508) 614-0389
Sherri Knapik
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd
Suite 125
WESTBOROUGH, MA 01581
UNITED STATES, US

SHIP DATE: 07FEB22
ACTWGT: 1.00 LB
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BILL SENDER
ENVVAT:

TO Benjamin & Sophie Davidson

18 Nicks Close St.

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AUSTRALIA, AU

(AU)

5082510720 X 3807

FedEx Express

AWB

J221022010520uv

XQ LSTA

PKG:ENV

TRK# 7759 7100 1983

Form 0430

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After printing this label:
FEDEX AWB COPY - PLEASE PLACE BEHIND CONSIGNEE COPY
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

EXHIBIT 3

Property Card

100 TATNIC HILL RD

Location	100 TATNIC HILL RD	**Mblu**	15/ / 16-5/ /
Acct#	00116805	**Owner**	DAVIDSON BENJAMIN & SOPHIE
Assessment	$193,800	**Appraisal**	$276,900
PID	1241	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$276,900	$276,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$193,800	$193,800

Owner of Record

Owner	DAVIDSON BENJAMIN & SOPHIE	**Sale Price**	$0
Co-Owner	C/O SBA TOWERS	**Certificate**	
Care Of		**Book & Page**	216/ 6
Address	ATTN: TAX DEPT CT01915-S 8051 CONGRESS AVE BOCA RATON, FL 33487-1307	**Sale Date**	09/09/1999
		Qualified	U

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
DAVIDSON BENJAMIN & SOPHIE	$0		216/ 6	09/09/1999
HALE NEWELL D	$0		112/ 259	04/29/1991

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	Vacant Land
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:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	

Building Photo

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

Building Layout

(http://images.vgsi.com/photos/BrooklynCTPhotos//Sketches/12

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	1300
Description	VACANT
Zone	RA
Neighborhood	0050
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.67
Frontage	
Depth	
Assessed Value	$193,800
Appraised Value	$276,900

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

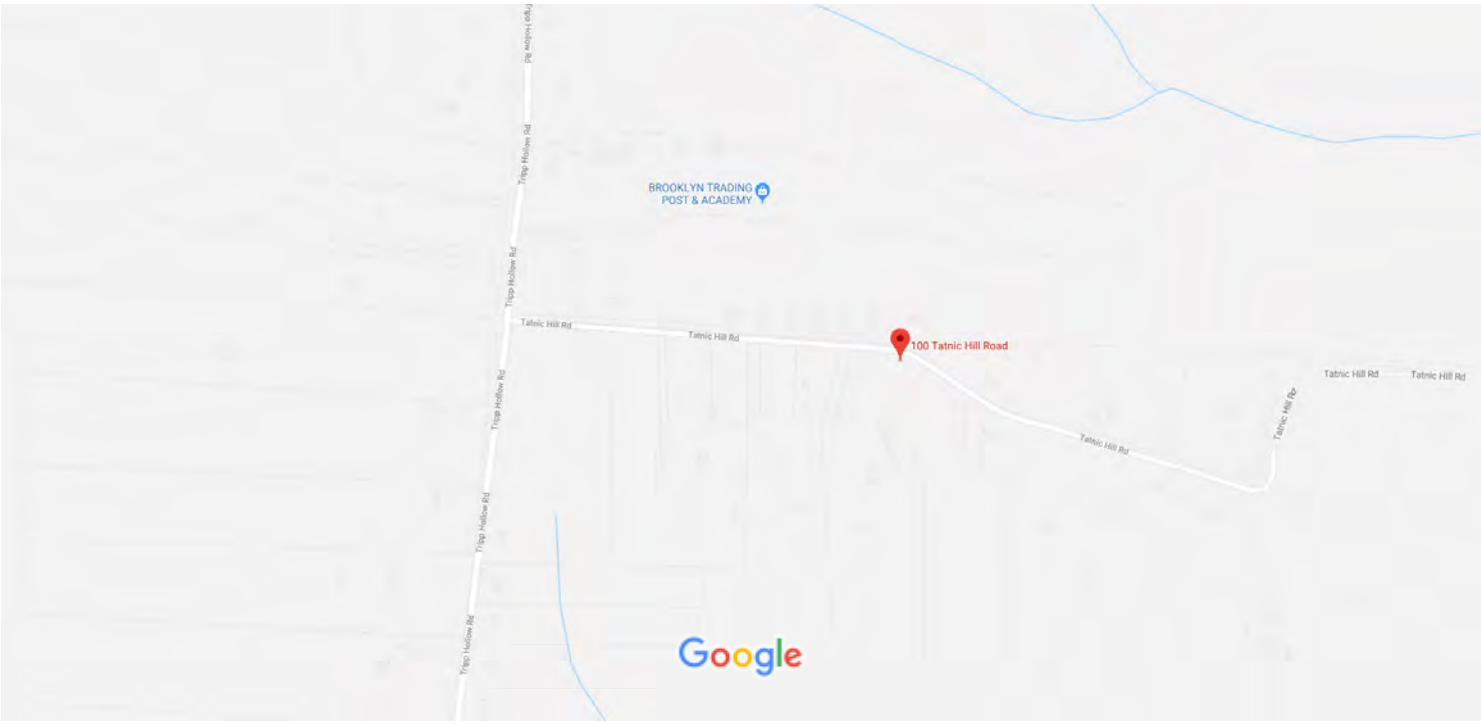
Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$0	$276,900	$276,900
2017	$0	$276,900	$276,900
2016	$0	$276,900	$276,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$0	$193,800	$193,800
2017	$0	$193,800	$193,800
2016	$0	$193,800	$193,800

EXHIBIT 4

Property Map

Google Maps 100 Tatnic Hill Rd



Map data ©2019 200 ft

100 Tatnic Hill Rd

Brooklyn, CT 06234

Directions Save Nearby Send to your phone Share

Q2CG+39 Brooklyn, Connecticut

EXHIBIT 5

Zoning Documents

PLANNING AND ZONING COMMISSION
TOWN OF BROOKLYN
CONNECTICUT 06234

Norwich Bulletin Classified/Legals Department
Please run the following Legal Ad One Time Only:
Monday, August 9, 1999

(Bill to the Town of Brooklyn, Account #10089300)
Contact Chuck Dobrowski at 779-3411 with any question/problems
Thank you.)

Town of Brooklyn
Planning and Zoning Commission
Notice of Decision

At the Regular Meeting of the Brooklyn Planning and Zoning Commission held on August 4, 1999, the following decisions were rendered.

Zone Change Application 99-02 of Angela C. Revera, request for Zone Change at 207 Day Street, from R30 to RA. – APPLICATION WAS DENIED

SPR-99-17 of SBA Inc./Sprint PCS, construction of telecommunications facility at 130 Old Tatnic Hill Road, Map 15, Lot 16. – APPLICATION WAS APPROVED

SPR-99-18 of Nextel Communications, construction of telecommunications facility at Tatnic Hill Road, Map 14, Lot 10. – APPLICATION WAS WITHDRAWN

SD-99-06, Theodore Stever, Allen Hill Road, three lot subdivision. – APPLICATION WAS APPROVED WITH CONDITIONS

SPR99-19 Kenyon Oil Company, 409 Providence Road, construction of Convenience Store and Gas Station. – APPLICATION TABLED.

Madeline P. Adams
for Bruce Parsons
Chairman

EXHIBIT 6

Construction Drawings

CT512/SBA – S BROOKLYN

130 TATNIC HILL ROAD
BROOKLYN, CT 06234
COUNTY: WINDHAM

SITE NO.: CT11512C

RF DESIGN GUIDELINE: 67D5A998E ODE+6160

T–MOBILE TECHNICIAN SITE SAFETY NOTES

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

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA–222–G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

PROJECT SCOPE OF WORK

REMOVE:
- 3 ANTENNAS
- 3 TMAS
- ALL COAX CABLES AS NECESSARY
- 1 BATTERY

RETAIN:
- 3 RADIOS
- 3 ANTENNAS
- 1 HYBRID CABLE
- 1 6201 RBS CABINET
- 1 AAV CABINET
- 1 GENERATOR
- 1 PPC

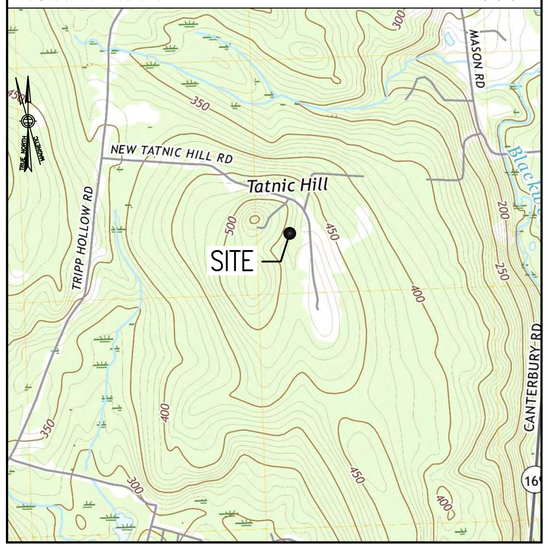
INSTALL:
- 3 ANTENNAS
- 3 RADIOS
- 2 HYBRID CABLES
- 1 6160 EQUIPMENT CABINET
- 1 B160 BATTERY CABINET
- 1 SLACKBOX

GENERAL NOTES

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

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

VICINITY MAP: 1"=1000'



DIRECTIONS

FROM COMMERCE WAY TRAVELING NE TOWARDS N BOUNDARY RD/S WASHINGTON ST, TURN LEFT ONTO S WASHINGTON ST, TURN RIGHT ONTO MA–123 E, TURN LEFT TO MERGE ONTO I–495 N RAMP TOWARDS MANSFIELD/MARLBORO, TRAVELING I–495 N, TAKE EXIT 33B FOR I–95 S TOWARD PROVIDENCE, RI. TAKE EXIT 6 FOR I–295 S TOWARD WOONSOCKET/WARWICK. CONTINUE ONTO I–295 S TAKE EXIT 9C–A FOR US–6 W TOWARD HARTFORD, CT. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR JOHNSTON/SCITUATE/FOSTER AND MERGE ONTO US–6 W. CONTINUE STRAIGHT TO STAY ON US–6 W. TURN LEFT ONTO TATNIC RD. TURN LEFT ONTO TRIPP HOLLOW RD. TURN LEFT ONTO TATNIC HILL RD. DESTINATION WILL BE THE RIGHT.

SHEET INDEX

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DO NOT SCALE DRAWINGS

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

PROJECT SUMMARY

SITE NUMBER:	CT11512C
SITE NAME:	CT512/SBA – S BROOKLYN
SBA SITE NUMBER:	CT01915–S
SBA SITE NAME:	SOUTH BROOKLYN
SITE ADDRESS:	130 TATNIC HILL ROAD BROOKLYN, CT 06234
ASSESSOR'S PARCEL NO.:	MAP 15 ; LOT 16–5
ZONING DISTRICT:	RA, RESIDENTIAL – AGRICULTURAL
CONSTRUCTION TYPE:	ANCHOR UPGRADE
LAND OWNER:	SOPHIE & BENJAMIN DAVIDSON P.O. BOX 242 ST HELENS, AUSTRALIA 7216
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561–226–9523
APPLICANT:	T–MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.76727400' N41°46'02.19" LONGITUDE: –71.97182100' W71°58'18.56"

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

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

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

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
2/4/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	02/03/22	ISSUED FOR CONSTRUCTION	BDJ
1	12/08/21	ISSUED FOR CONSTRUCTION	BDJ
0	11/22/21	ISSUED FOR REVIEW	BDJ

SITE NUMBER:
CT11512C
SITE ADDRESS:
130 TATNIC HILL ROAD
BROOKLYN, CT 06234

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.346

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – T–MOBILE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

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

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

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

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

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

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

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

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

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

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

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

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

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

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.

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

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

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

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

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

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

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

CONCRETE AND REINFORCING STEEL NOTES:

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

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

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

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

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.

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

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

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

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

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

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

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

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

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

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

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

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

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

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

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

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.

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

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

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

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

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

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

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

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

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

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

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

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

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

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

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

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

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

25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

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

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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

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

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
2/4/2022

CHECKED BY: JMT

APPROVED BY: JMT

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SITE NUMBER:

CT11512C

SITE ADDRESS:
130 TATNIC HILL ROAD
BROOKLYN, CT 06234

SHEET TITLE

GENERAL NOTES

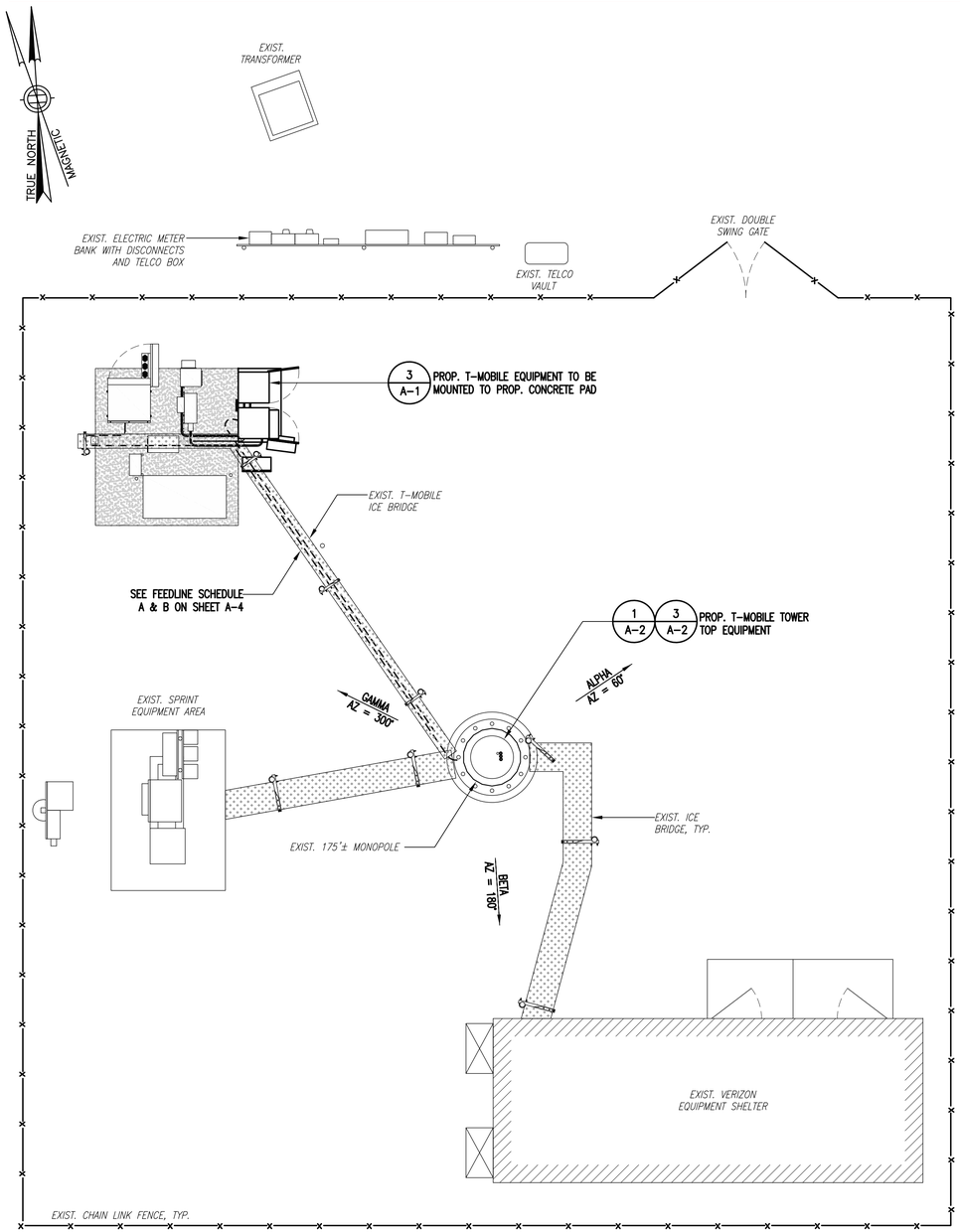
SHEET NUMBER

GN-1

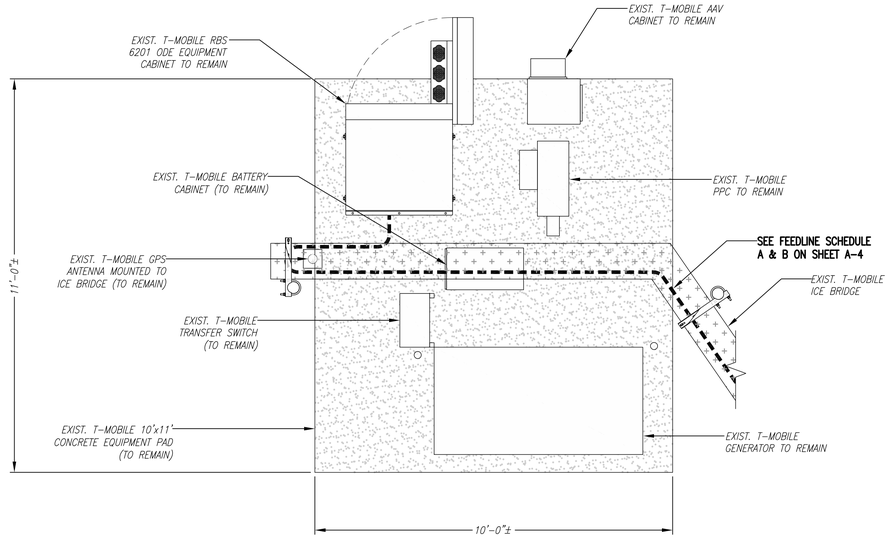
1815.346

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

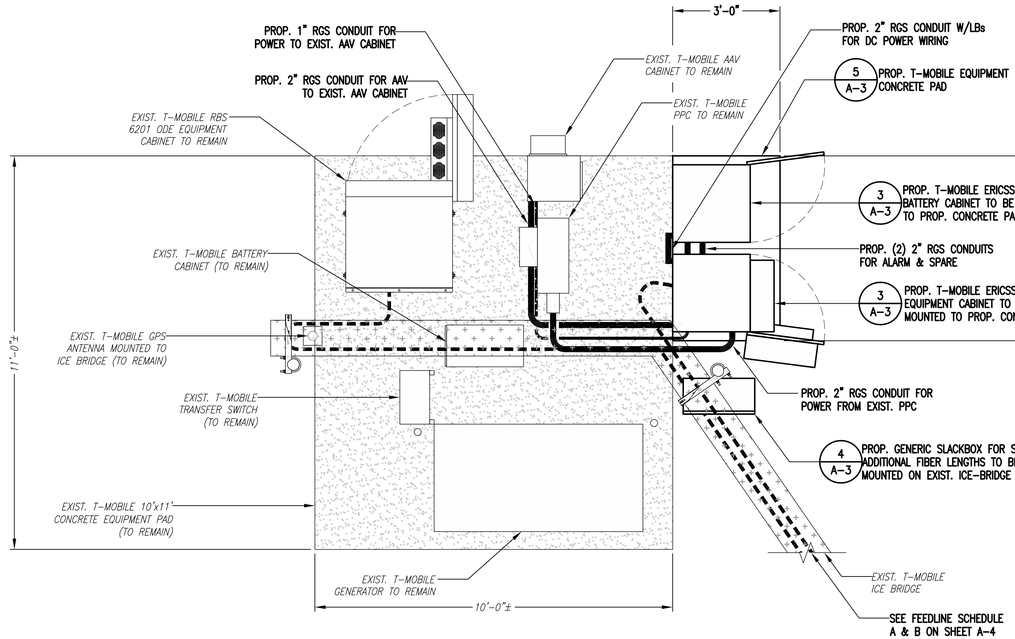
SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE T-MOBILE RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED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



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



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



NOTE:
ALL PROPOSED CONDUITS TO BE BURIED TO AVOID TRIP HAZARD.

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

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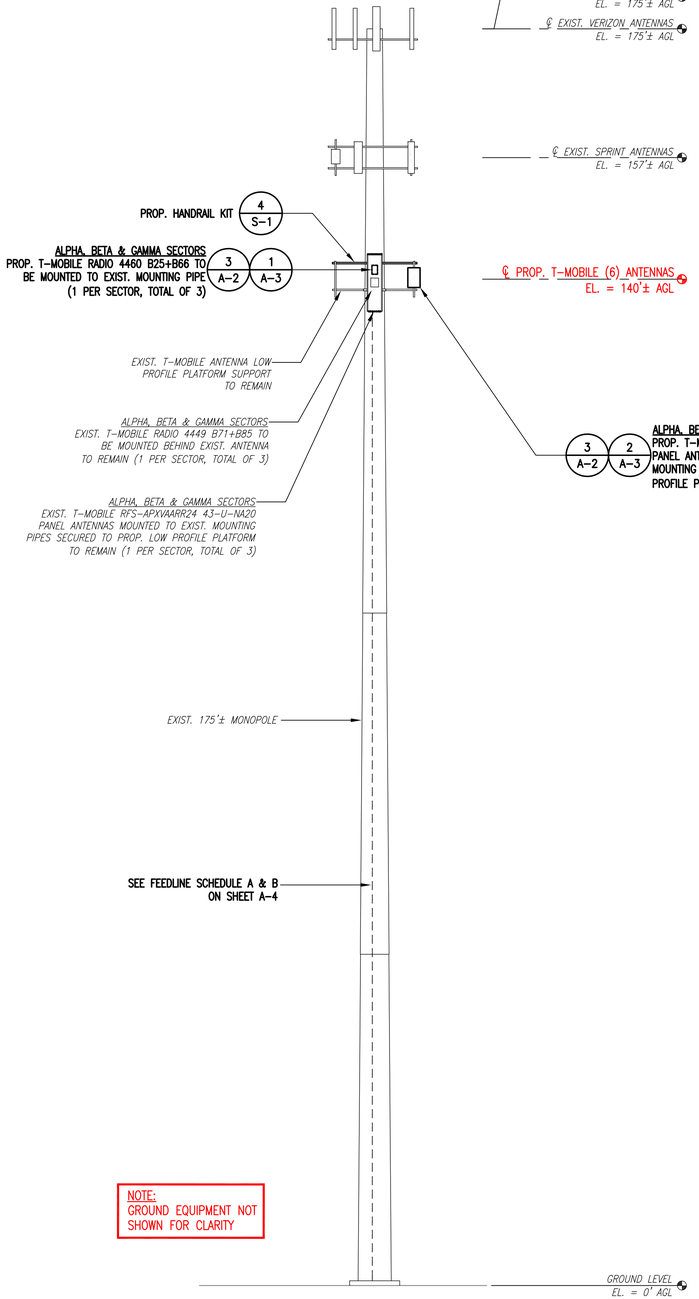
SHEET TITLE
COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
A-1

1815.346



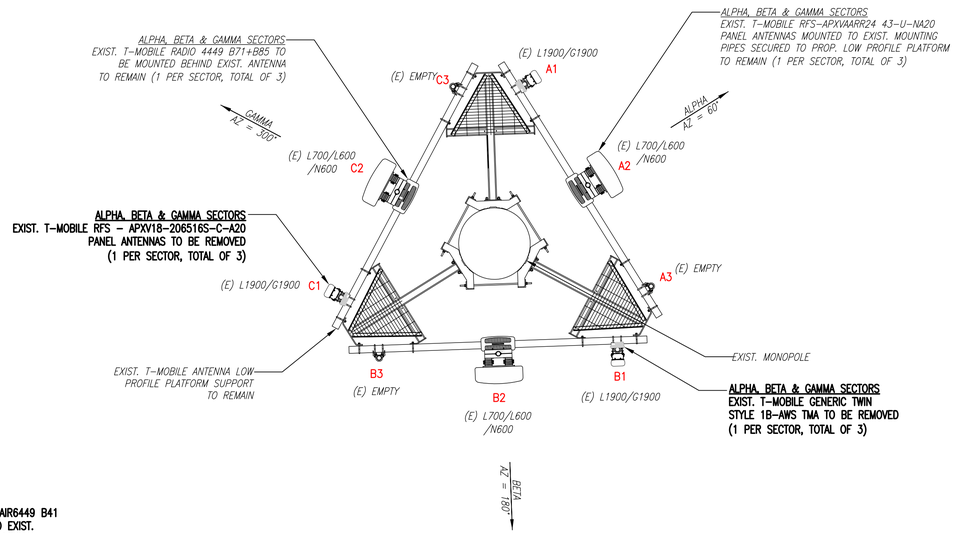
NOTE:
GROUND EQUIPMENT NOT
SHOWN FOR CLARITY

ELEVATION

SCALE: 1" = 10'-0"

1
A-2

0 5' 10' 20' 30'

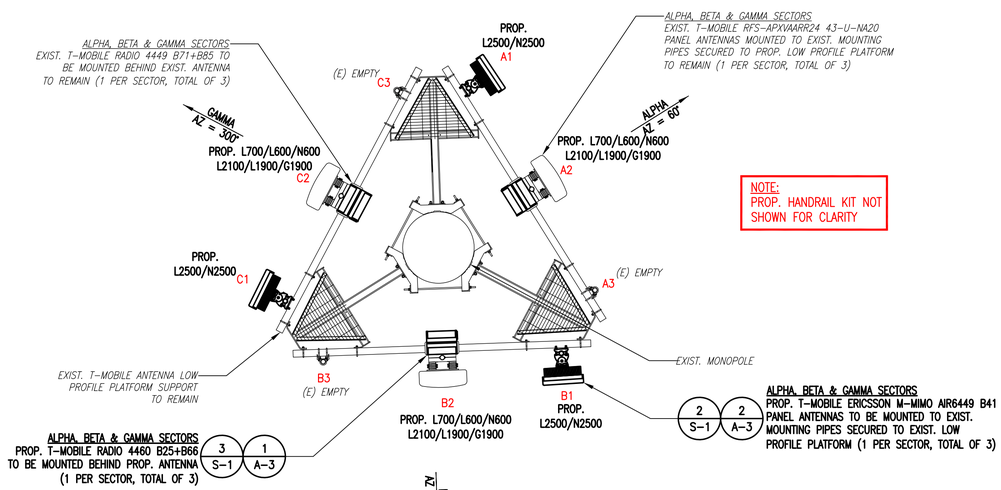


EXISTING ANTENNA PLAN

SCALE: N.T.S.

2
A-2

NORTH



NOTE:
PROP. HANDRAIL KIT NOT
SHOWN FOR CLARITY

PROPOSED ANTENNA PLAN

SCALE: N.T.S.

3
A-2

NORTH

ANTENNA LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING

(P) - INSTALL

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

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SHEET TITLE

ELEVATION & ANTENNA PLANS

SHEET NUMBER

A-2

1815.346

ERICSSON RADIO 4460 B25+B66

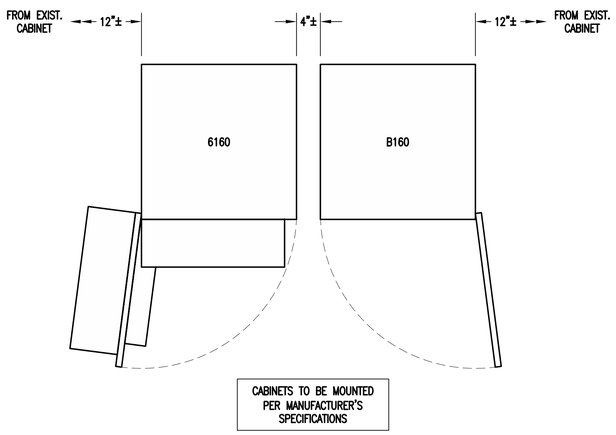
DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

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

ERICSSON M-MIMO AIR6449 B41 ANTENNA

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

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



ERICSSON 6161 SITE SUPPORT CABINET

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

ERICSSON B160 BATTERY CABINET

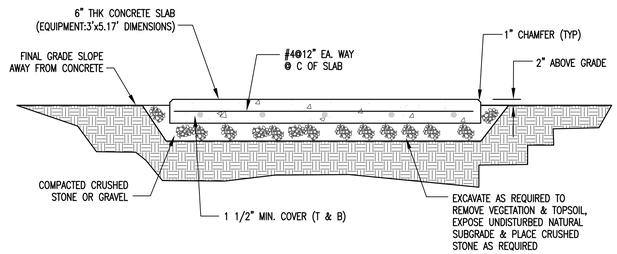
DIMENSIONS: 63.25"H x 26.0W x 26.0"D
QUANTITY: TOTAL OF 1

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

SLACKBOX – HOFFMAN 32FH91 NEMA 3R ENCLOSURE

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

SSC DETAILS (4 / A-3)
SCALE: N.T.S.



CONCRETE PAD DETAIL (5 / A-3)
SCALE: N.T.S.

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SHEET TITLE

SITE DETAILS

SHEET NUMBER

A-3

1815.346

FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 ERICSSON M-MIMO AIR6449 B41	140'-0"± AGL	60°	0°	2°	L2500/N2500	-	(P) (2) 1-¾" (6x24) HCS FIBER CABLES *(E) (1) 1-1/4" (6x12) HCS FIBER CABLE*
	A2 *RFS APXVAARR24_43-U-NA20*	140'-0"± AGL	60°	0°	2°	L700/L600/N600	*ERICSSON RADIO 4449 B71+B85*	
						L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
	A3 *EMPTY*							
BETA	B1 ERICSSON M-MIMO AIR6449 B41	140'-0"± AGL	180°	0°	2°	L2500/N2500	-	
	B2 *RFS APXVAARR24_43-U-NA20*	140'-0"± AGL	180°	0°	2°	L700/L600/N600	*ERICSSON RADIO 4449 B71+B85*	
						L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
	B3 *EMPTY*							
GAMMA	C1 ERICSSON M-MIMO AIR6449 B41	140'-0"± AGL	300°	0°	2°	L2500/N2500	-	
	C2 *RFS APXVAARR24_43-U-NA20*	140'-0"± AGL	300°	0°	2°	L700/L600/N600	*ERICSSON RADIO 4449 B71+B85*	
						L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
	C3 *EMPTY*							

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

NOTE: RFDS REV3 - 09/16/21

FEEDLINE SCHEDULE

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

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

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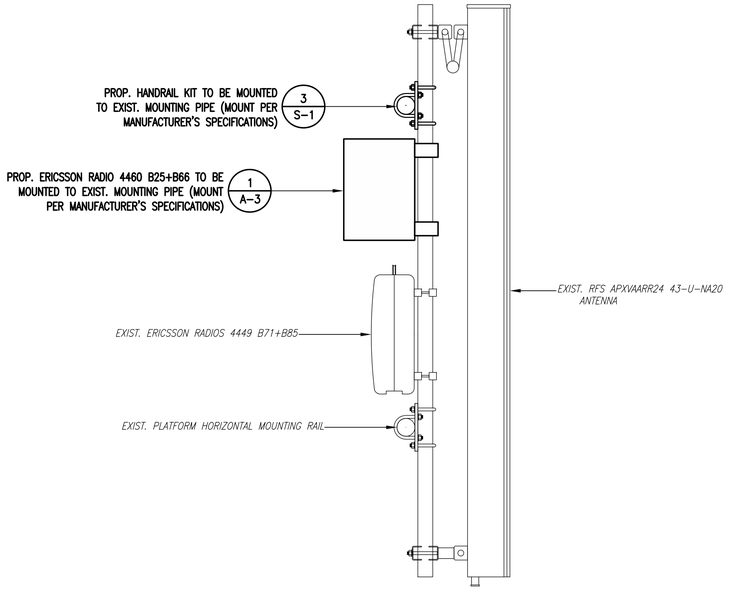
130 TATNIC HILL ROAD
BROOKLYN, CT 06234

SHEET TITLE
ANTENNA & FEEDLINE CHARTS

SHEET NUMBER
A-4

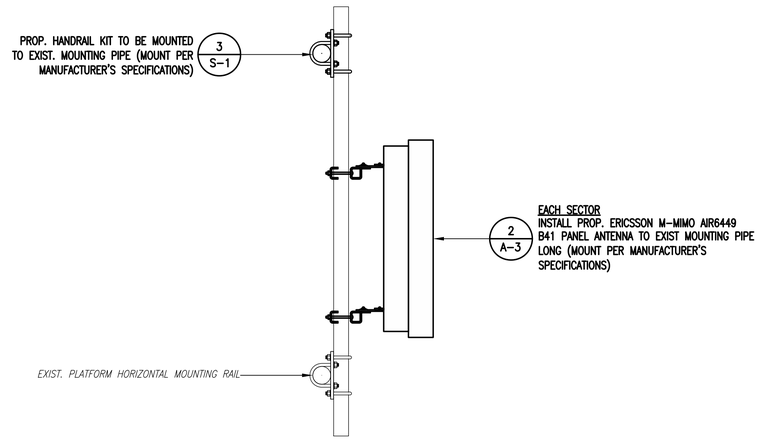
1815.346



ANTENNA & RADIO MOUNT DETAIL

SCALE: N.T.S.

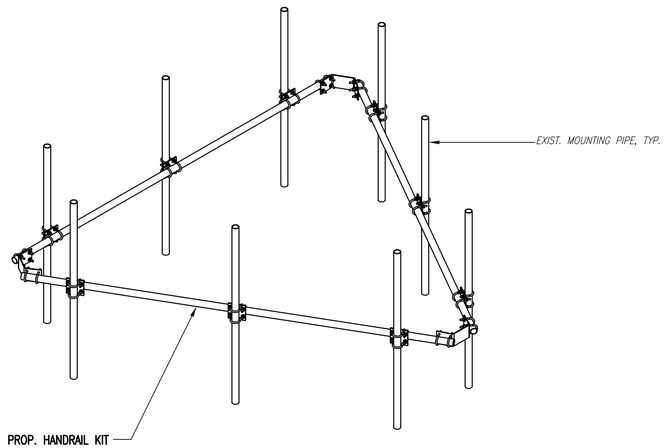
1
S-1



ANTENNA MOUNT DETAIL

SCALE: N.T.S.

2
S-1



NOTE:
ANTENNAS & ANTENNA MOUNT NOT SHOWN, FOR CLARITY.

SITE-PRO HANDRAIL KIT
PART NUMBER: HRK12

HANDRAIL DETAIL

SCALE: N.T.S.

3
S-1

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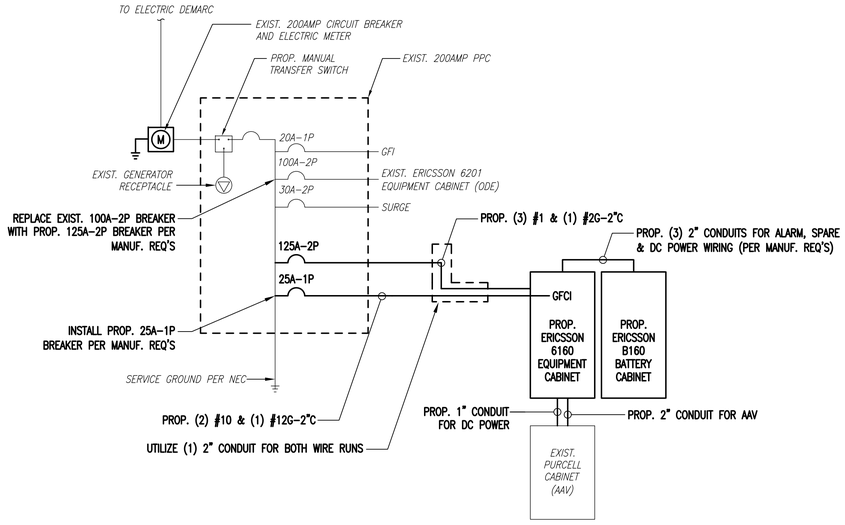
SHEET TITLE

ANTENNA MOUNTING DETAILS

SHEET NUMBER

S-1

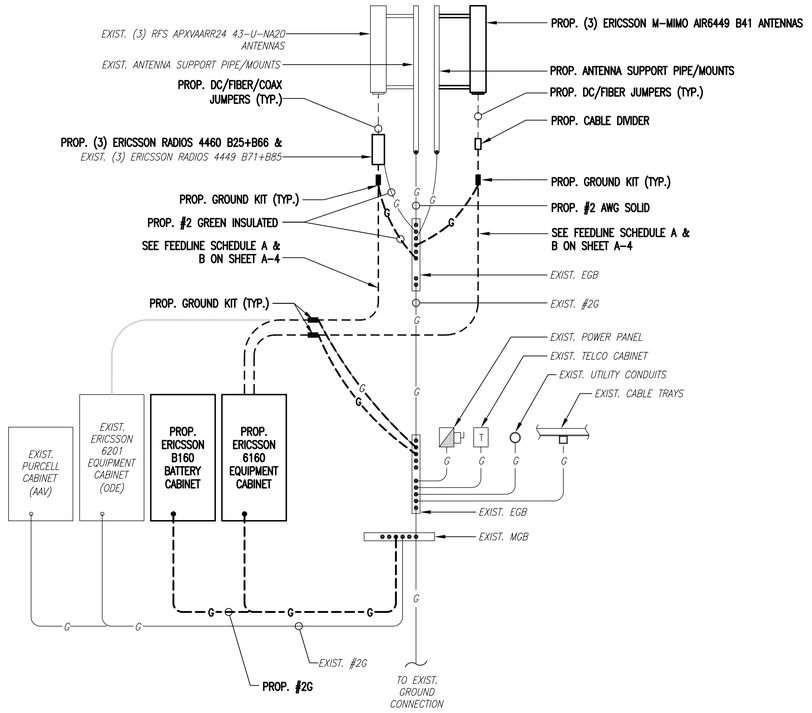
1815.346



ONE LINE DIAGRAM

SCALE: NOT TO SCALE

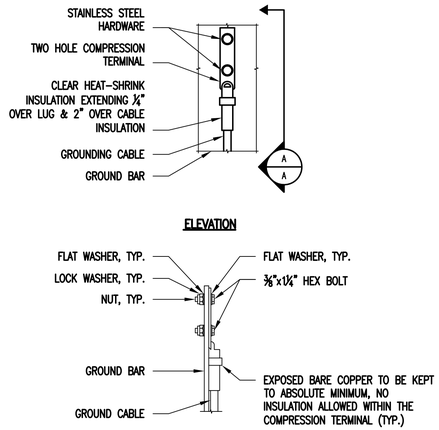
1 / E-1



GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

2 / E-1



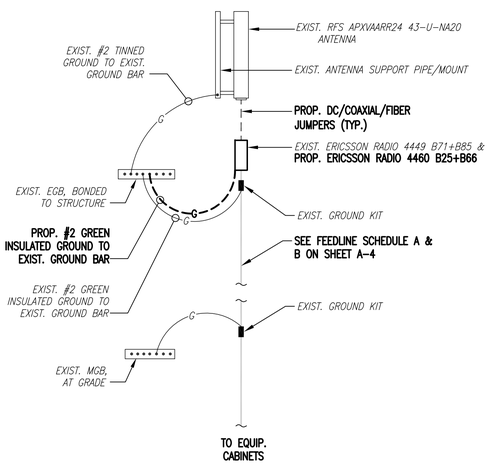
NOTES:

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

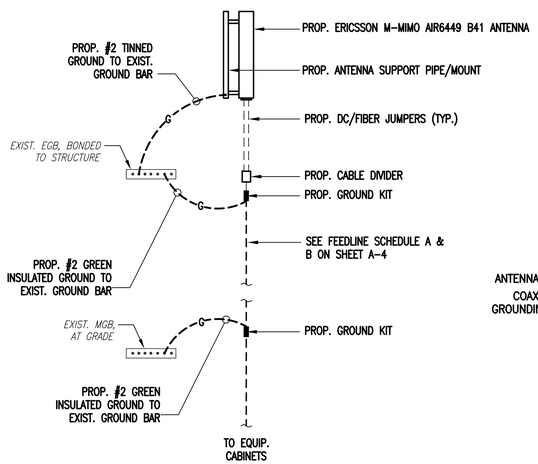
TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE

3 / E-1



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

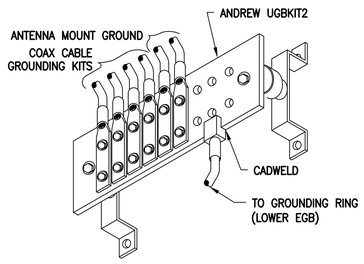


L2500/N2500 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL

SCALE: NOT TO SCALE

4 / E-1



GROUND BAR (EGB)

SCALE: NOT TO SCALE

5 / E-1

ELECTRICAL AND GROUNDING NOTES

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

T-Mobile

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

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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CHAPPELL ENGINEERING ASSOCIATES, LLC
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www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
2/4/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	02/03/22	ISSUED FOR CONSTRUCTION	BDJ
1	12/08/21	ISSUED FOR CONSTRUCTION	BDJ
0	11/22/21	ISSUED FOR REVIEW	BDJ

SITE NUMBER:

CT11512C

SITE ADDRESS:
130 TATNIC HILL ROAD
BROOKLYN, CT 06234

SHEET TITLE

ELECTRIC & GROUNDING DETAILS

SHEET NUMBER

E-1

1815.346

EXHIBIT 7

Structural Analysis

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

Structural Analysis Report

Existing 175 ft SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01915-S

Customer Site Name: South Brooklyn

Carrier Name: T-Mobile (App#: 178995, V1)

Carrier Site ID / Name: CT11512C / South Brooklyn

Site Location: 100 Old Tatnic Hill Road

Brooklyn, Connecticut

Windham County

Latitude: 41.767160

Longitude: -71.971949

Analysis Result:

Max Structural Usage: 82.2% [Pass]

Max Foundation Usage: 58.0% [Pass]

Additional Usage Caused by Mount Modification: +1.8%

Report Prepared By: Younus Alkarawi

Introduction

The purpose of this report is to summarize the analysis results on the 175 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed.

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

Sources of Information

Tower Drawings	Tower Drawings prepared by Paul J. Ford and Company, Job # 29200-401 Dated 04/05/2000
Foundation Drawing	Foundation Drawings prepared by Paul J. Ford and Company, Job # 29200-401 Dated 04/05/2000
Geotechnical Report	Geotechnical Report prepared by FDH Engineering, Project # 1201186EG1 Dated 08/16/2012
Mount Analysis	T-Mobile MA by TES # 119776, dated 11/24/2021 T-Mobile MMD by TES # 119776, dated 11/24/2021
Modification Drawings	N/A
Pending Modification	TES Pending Job # 121972, Dated 01/18/2022

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G**.** 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} = 130.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 101.0 mph (3-Sec. Gust)
Basic Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	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:	SS = 0.171, S1 = 0.062

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	Samsung MT6407-77A - Panel	LP Platform w/ Mount Mods [(12) VZWSMART-MSK1, (6) VZWSMART-PLK3 Support Rail, (1) ZWSMART-PLK5 Kicker Kit, (1) VZWSMART-PLK7 Collar Mount, (3) 24" P2 1/2 STD, (3) 14' P2 1/2 STD, (1) HSS 3x2 1/2x1/4 SHIM]	(1) 1 5/8" 6x12 Hybriflex LI (11) 1 5/8" (1) 1 5/8" Hybrid	Verizon
2		3	Antel BXA-70080-6CF - Panel			
3		6	JMA Wireless MX06FRO660-03 - Panel			
4		3	Samsung B2/B66A RRU			
5		3	Samsung B5/B13 RRU			
6		1	Raycap RVZDC-6627-PF-48 OVP			
7	157.0	3	RFS - APXVTM14-C-I20 - Panel	(1) LP Platform w/ handrail kit & v-brace kit [(1) SitePro PRK-1245L (1) SitePro HRK-14-U & (1) SitePro PRK-SFS-H-L]	(4) 1 1/4" Fiber	Sprint Nextel
8		3	Commscope - NNVV-65B-R4 - Panel			
9		3	ALU - 1900 MHz - RRU			
10		6	ALU - 800 MHz - RRU			
11		3	ALU - TD-RRH8x20-25 - RRU			
-	140.0	3	RFS APXV18-206516S-C-A20	Platform w/ Handrails Commscope MT-195-12	(9) 1 5/8" (3) 1 5/8"Fiber	T-Mobile
-		3	RFS APXVAARR24_43-U-NA20			
-		3	Ericsson KRY 112 489/2			
-		3	Ericsson Radio 4449 B71+B12			
-		3	Kathrein 782 11056			
18	75.0	1	GPS	Direct	(1) 1/2"	Sprint Nextel

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
12	140.0	3	Ericsson AIR6449 B41 - Panel	Modified Platform w/ Handrails Commscope MT-195-12 W/ (1) MS-HRECP-35 (SUPPORT RAIL PIPE W/ END CONNECTION KIT)	(8) 1 5/8" (1) 1 5/8" Fiber (2) 1.9" Fiber	T-Mobile
13		3	RFS - APXVAARR24_43-U-NA20 - Panel			
14		3	Ericsson - KRY 112 489/2 - TMA			
15		3	Ericsson 4449 B71 + B85 RRU			
16		3	Ericsson 4460 B25 + B66 RRU			
17		3	Kathrein 782 11056 Bias Ts			

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	Bridge Stiffener	Flange bolt
Max. Usage:	**82.2%**	**41.1%**	**80.3%**	**40.2%**	**21.9%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4337.2	33.6	58.6

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 1.7860 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard after the following pending modification is successfully completed.

- Pending modification design drawing by **TES** Job # 121972

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 82.23% at 83.8ft

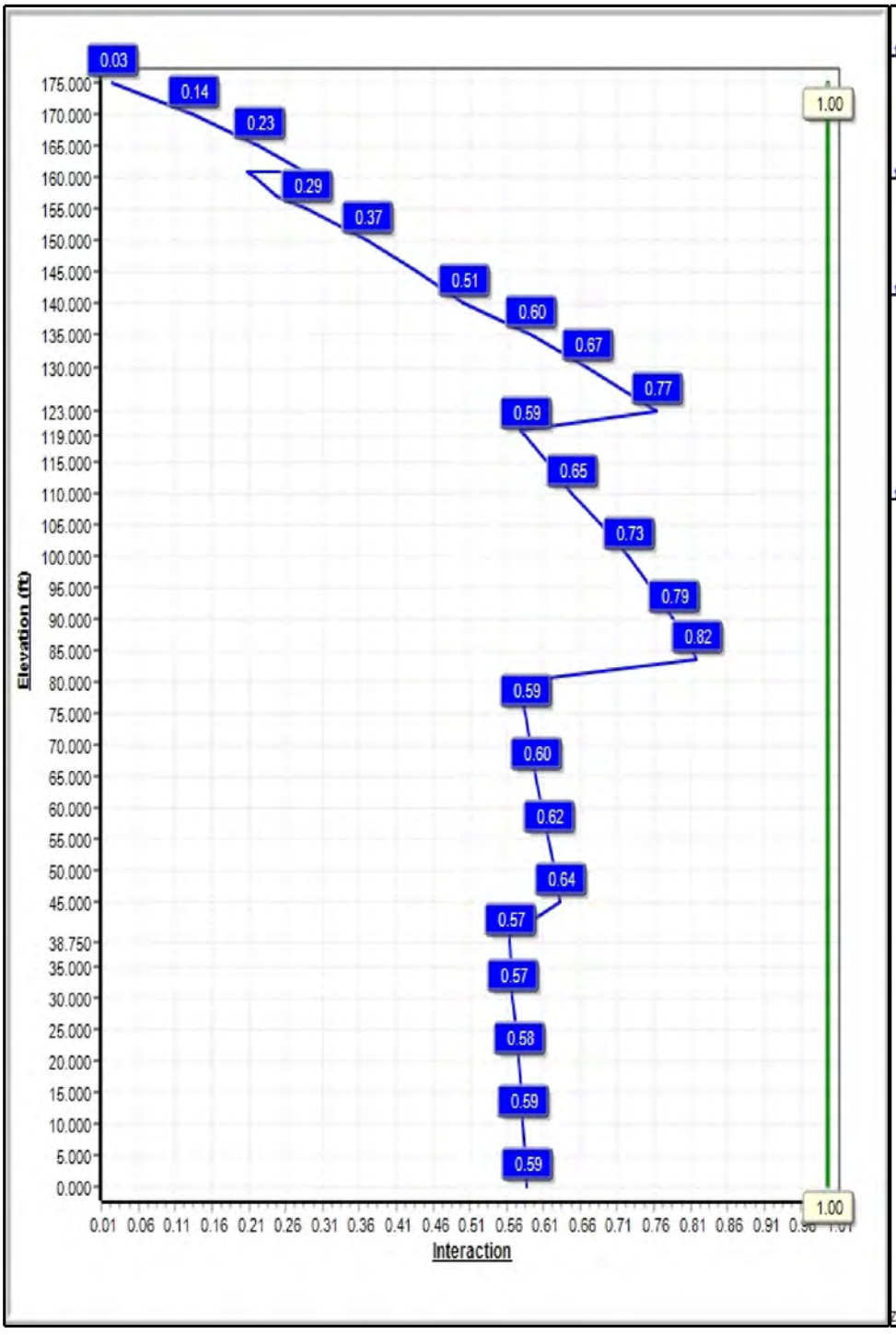
Structure:	CT01915-S-SBA	**Code:**	EIA/TIA-222-G	1/24/2022
Site Name:	South Brooklyn	**Exposure:**	B	
Height:	175.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

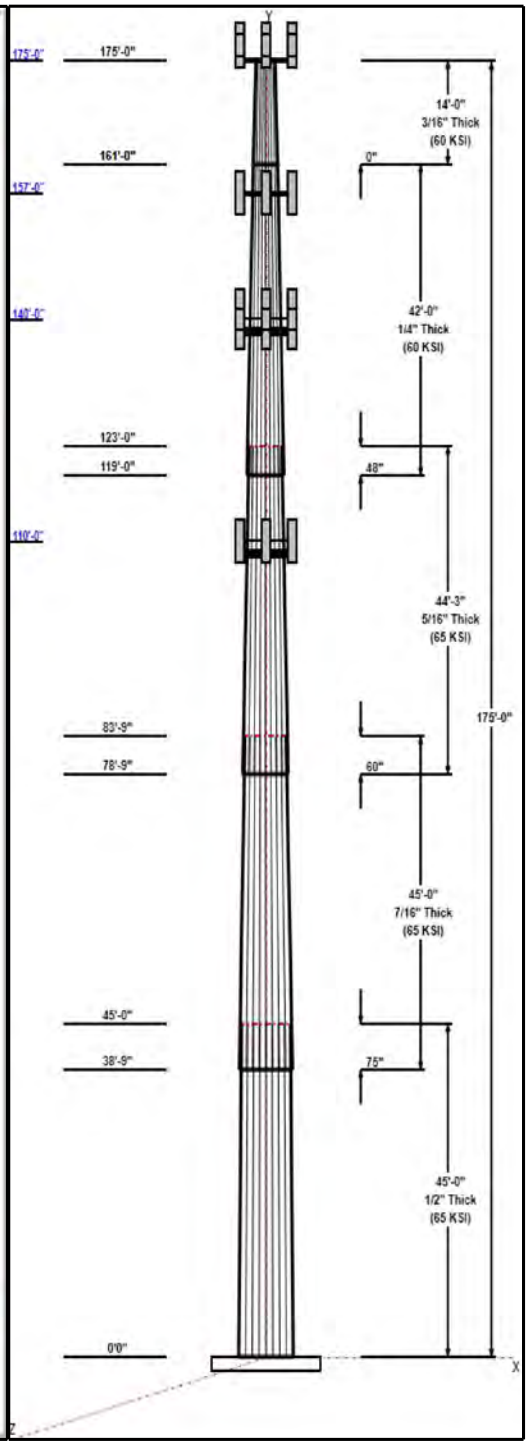
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 101 mph Wind

Iterations: 26





Structure: CT01915-S-SBA

Type: Tapered
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23000

1/24/2022

Tower Engineering Solutions

Shaft Properties

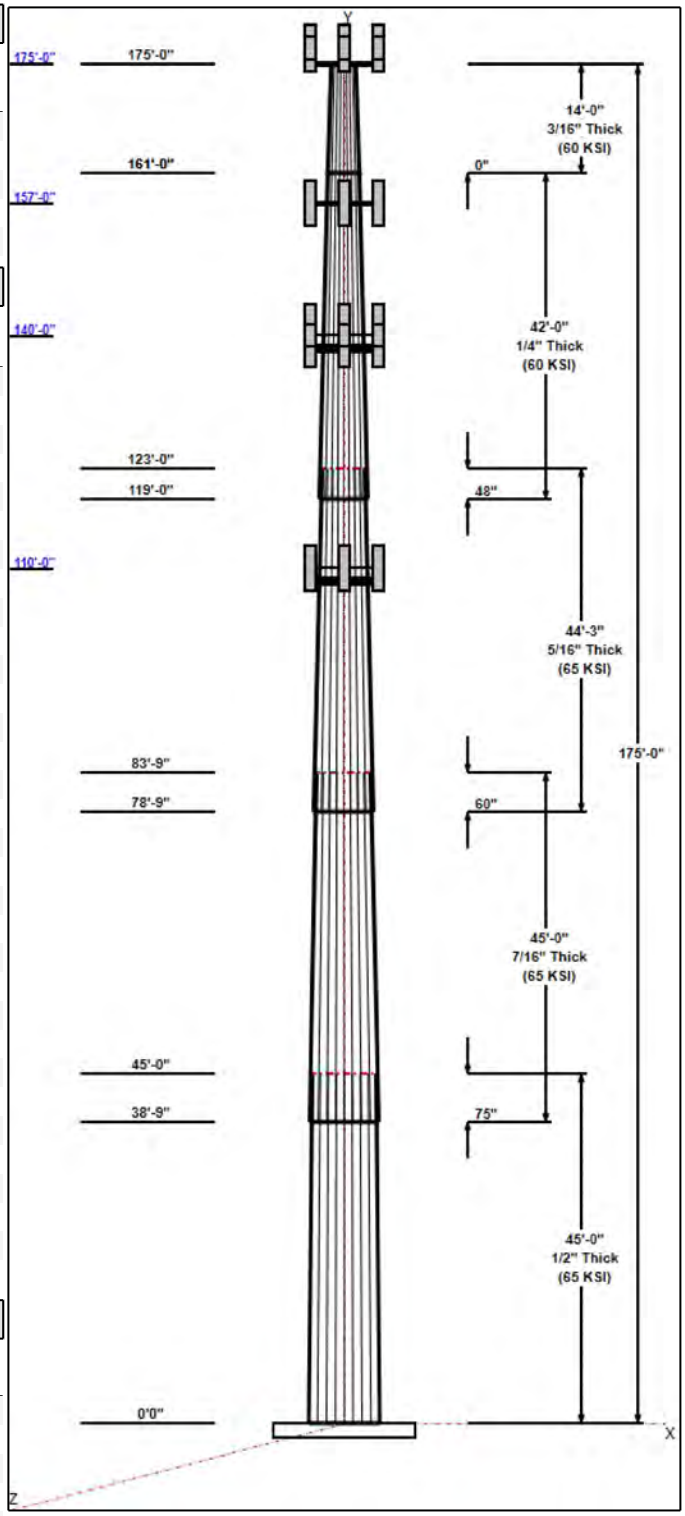
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	46.68	57.03	0.500		0.23000	65
2	45.00	38.64	48.99	0.438	Slip	0.23000	65
3	44.25	30.24	40.42	0.313	Slip	0.23000	65
4	42.00	22.00	31.66	0.250	Slip	0.23000	60
5	14.00	18.78	22.00	0.188	Butt	0.23000	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
175.00	175.00	1	6' Lightning rod	
175.00	175.00	1	Low Profile Platform-flat	Verizon
175.00	177.00	3	Samsung MT6407-77A	Verizon
175.00	177.00	3	Antel BXA-70080-6CF	Verizon
175.00	177.00	6	JMA Wireless	Verizon
175.00	177.00	3	Samsung B2/B66A	Verizon
175.00	177.00	3	Samsung B5/B13	Verizon
175.00	177.00	1	RVZDC-6627-PF-48	Verizon
175.00	175.00	1	MS-KI22-5 (Kickers w/o	Verizon
175.00	177.00	1	MS-HRECP	Verizon
175.00	175.00	1	MS-H1242 (Heavy Collar	Verizon
161.00	161.00	1	Bridge Stiffener	
157.00	157.00	3	APXVTM14-C-I20	Sprint Nextel
157.00	157.00	3	NNVV-65B-R4	Sprint Nextel
157.00	157.00	3	ALU - 1900 MHz - RRU	Sprint Nextel
157.00	157.00	6	ALU - 800 MHz - RRU	Sprint Nextel
157.00	157.00	3	ALU - TD-RRH8x20-25 -	Sprint Nextel
157.00	157.00	1	Platform w/ Handrail +	Sprint Nextel
140.00	140.00	3	APXVAARR24_43-U-NA20	T-Mobile
140.00	140.00	3	KRY 112 489/2	T-Mobile
140.00	140.00	1	MT-195-12	T-Mobile
140.00	140.00	3	Ericsson AIR6449 B41	T-Mobile
140.00	140.00	3	Ericsson 4449 B71 + B85	T-Mobile
140.00	140.00	3	Ericsson 4460 B25 + B66	T-Mobile
140.00	140.00	3	Kathrein 782 11056	T-Mobile
140.00	140.00	1	MS-HRECP-35	T-Mobile
110.00	110.00	3	Commscope	Dish Wireless
110.00	110.00	1	MC-PK8-DSH	Dish Wireless
110.00	110.00	3	Fujitsu TA08025-B605	Dish Wireless
110.00	110.00	3	Fujitsu TA08025-B604	Dish Wireless
110.00	110.00	1	Raycap	Dish Wireless
75.00	75.00	1	GPS	Sprint Nextel

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	175.00	Inside	1 5/8" 6x12 Hybriflex LI	Verizon
0.00	175.00	Inside	1 5/8" Coax	Verizon
0.00	175.00	Inside	1 5/8" Hybrid	Verizon
0.00	157.00	Inside	1 1/4" Fiber	Sprint Nextel
0.00	140.00	Inside	1 5/8" Coax	T-Mobile
0.00	140.00	Inside	1 5/8" Fiber	T-Mobile
0.00	140.00	Inside	1.9" Fiber	T-Mobile
0.00	110.00	Inside	1.6" Hybrid	Dish Wireless
0.00	75.00	Inside	1/2" Coax	Sprint Nextel



Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
32	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.5000	68.0	50.0	Clipped

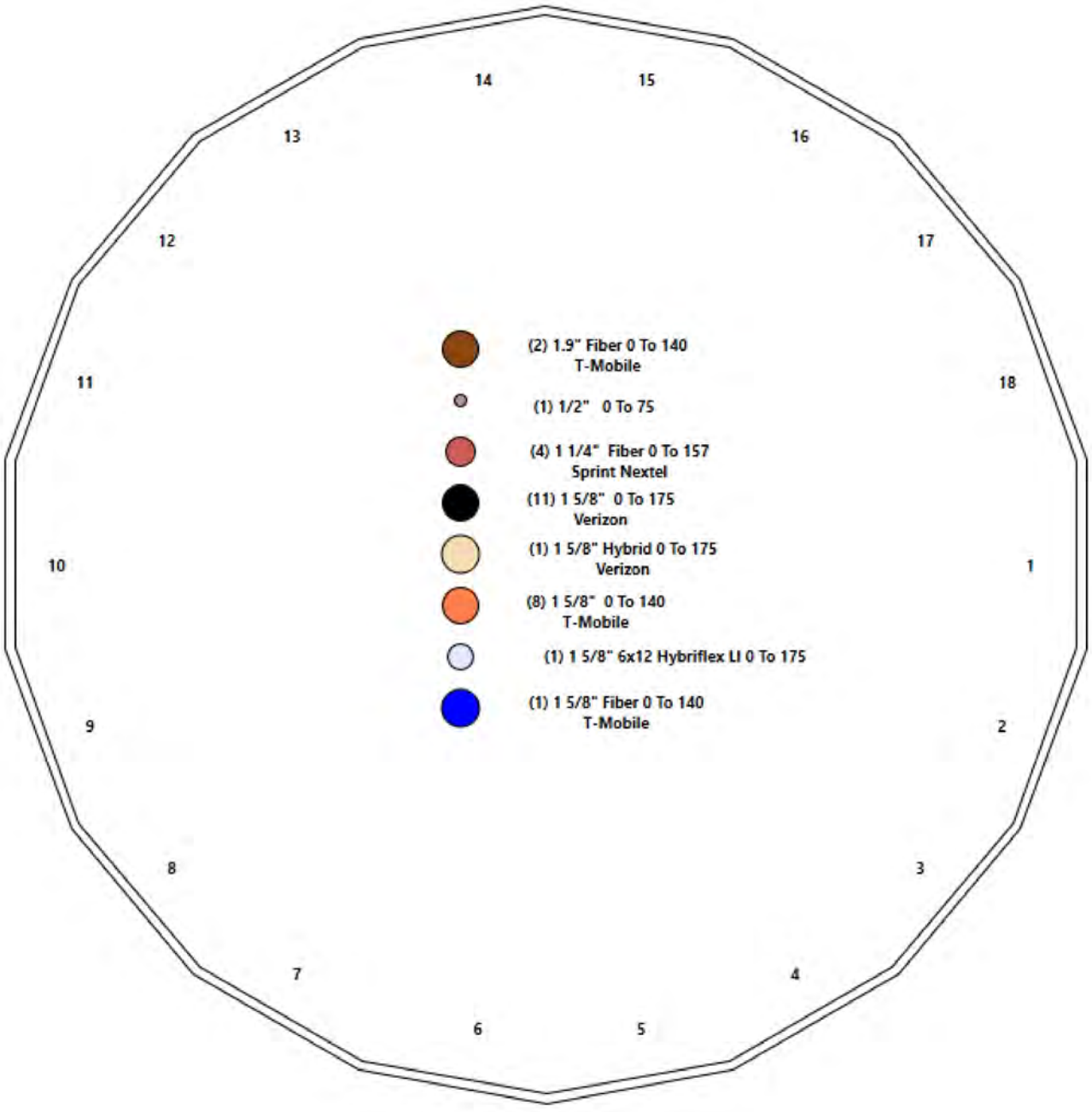
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	4337.2	33.6	58.6
0.9D + 1.6W 101 mph Wind	4275.8	33.6	44.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1311.0	9.6	101.0
1.2D + 1.0E	268.5	2.0	58.7
0.9D + 1.0E	264.3	2.0	44.0
1.0D + 1.0W 60 mph Wind	949.6	7.4	48.9

Structure: CT01915-S-SBA - Coax Line Placement

Type: Monopole
Site Name: South Brooklyn
Height: 175.00 (ft)

1/24/2022



Shaft Properties

Structure:	CT01915-S-SBA		**Code:**	TIA-222-G	1/24/2022
Site Name:	South Brooklyn		**Exposure:**	B	
Height:	175.00 (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	18	45.000	0.5000	65		0.00	12,479
2	18	45.000	0.4375	65	Slip	75.00	9,224
3	18	44.250	0.3125	65	Slip	60.00	5,229
4	18	42.000	0.2500	60	Slip	48.00	3,014
5	18	14.000	0.1875	60	Flange	0.00	573
					Total Shaft Weight:		**30,519**

	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	57.03	0.00	89.71	36220.24	18.70	114.06	46.68	45.00	73.29	19745.8	15.05	93.36	0.230000
2	48.99	38.75	67.42	20082.80	18.33	111.98	38.64	83.75	53.05	9783.25	14.16	88.33	0.230000
3	40.42	78.75	39.78	8083.32	21.39	129.34	30.24	123.00	29.68	3358.97	15.65	96.77	0.230000
4	31.66	119.0	24.92	3106.62	20.92	126.64	22.00	161.00	17.26	1031.48	14.11	88.00	0.230000
5	22.00	161.0	12.98	780.30	19.28	117.33	18.78	175.00	11.06	483.24	16.25	100.1	0.230000

Load Summary

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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	175.00	6' Lightning rod	1	6.50	0.38	1.00	55.65	1.853	1.00	0.00	0.00
2	175.00	Low Profile Platform-flat	1	1200.00	37.00	1.00	2617.86	78.969	1.00	0.00	0.00
3	175.00	Samsung MT6407-77A	3	79.40	4.69	0.70	253.55	5.994	0.70	0.00	2.00
4	175.00	Antel BXA-70080-6CF	3	18.00	5.76	0.87	189.54	8.972	0.87	0.00	2.00
5	175.00	JMA Wireless MX06FRO660-03	6	46.00	9.87	0.87	430.19	11.769	0.87	0.00	2.00
6	175.00	Samsung B2/B66A	3	84.40	1.87	0.67	197.19	2.673	0.67	0.00	2.00
7	175.00	Samsung B5/B13	3	70.30	1.87	0.67	172.98	2.673	0.67	0.00	2.00
8	175.00	RVZDC-6627-PF-48	1	32.00	4.06	1.00	186.26	5.173	1.00	0.00	2.00
9	175.00	MS-KI22-5 (Kickers w/o Collar)	1	146.00	5.33	1.00	422.01	12.887	1.00	0.00	0.00
10	175.00	MS-HRECP	1	514.00	12.00	1.00	1339.95	27.880	1.00	0.00	2.00
11	175.00	MS-H1242 (Heavy Collar Mount)	1	150.60	2.50	1.00	435.31	6.045	1.00	0.00	0.00
12	161.00	Bridge Stiffener	1	204.17	2.89	1.00	395.56	5.599	1.00	0.00	0.00
13	157.00	APXVTM14-C-I20	3	56.20	6.34	0.77	286.02	7.864	0.77	0.00	0.00
14	157.00	NNVV-65B-R4	3	84.70	12.27	0.74	503.26	14.220	0.74	0.00	0.00
15	157.00	ALU - 1900 MHz - RRU	3	60.00	2.77	0.67	171.76	4.469	0.67	0.00	0.00
16	157.00	ALU - 800 MHz - RRU	6	53.00	2.49	0.67	152.06	4.022	0.67	0.00	0.00
17	157.00	ALU - TD-RRH8x20-25 - RRU	3	70.00	4.05	0.67	228.65	5.168	0.67	0.00	0.00
18	157.00	Platform w/ Handrail +	1	2800.00	54.00	1.00	6072.63	14.590	1.00	0.00	0.00
19	140.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	704.43	22.787	0.70	0.00	0.00
20	140.00	KRY 112 489/2	3	15.40	0.67	0.67	43.19	1.522	0.67	0.00	0.00
21	140.00	MT-195-12	1	2000.00	40.00	1.00	4773.15	67.731	1.00	0.00	0.00
22	140.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	284.57	6.909	0.71	0.00	0.00
23	140.00	Ericsson 4449 B71 + B85 RRU	3	75.00	1.97	0.67	153.34	2.724	0.67	0.00	0.00
24	140.00	Ericsson 4460 B25 + B66 RRU	3	104.00	2.85	0.67	194.85	3.743	0.67	0.00	0.00
25	140.00	Kathrein 782 11056	3	1.80	0.28	0.67	7.79	0.811	0.67	0.00	0.00
26	140.00	MS-HRECP-35	1	514.00	12.25	1.00	1321.72	28.103	1.00	0.00	0.00
27	110.00	Commscope FFVV-65B-R2	3	70.80	12.27	0.74	408.44	14.152	0.74	0.00	0.00
28	110.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3908.72	98.645	1.00	0.00	0.00
29	110.00	Fujitsu TA08025-B605 RRU	3	75.00	1.96	0.67	142.61	2.685	0.67	0.00	0.00
30	110.00	Fujitsu TA08025-B604 RRU	3	63.90	1.96	0.67	129.34	2.685	0.67	0.00	0.00
31	110.00	Raycap RDIDC-9181-PF-48-OVP	1	21.90	2.01	1.00	90.73	2.745	1.00	0.00	0.00
32	75.00	GPS	1	10.00	1.00	1.00	46.47	1.886	1.00	0.00	0.00
		Totals:	**76**	**13,399.87**			**37,374.08**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	175.00	(1) 1 5/8" 6x12 Hybriflex LI	0.00	Inside
0.00	175.00	(11) 1 5/8" Coax	0.00	Inside
0.00	175.00	(1) 1 5/8" Hybrid	0.00	Inside
0.00	157.00	(4) 1 1/4" Fiber	0.00	Inside
0.00	140.00	(8) 1 5/8" Coax	0.00	Inside
0.00	140.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	140.00	(2) 1.9" Fiber	0.00	Inside
0.00	110.00	(1) 1.6" Hybrid	0.00	Inside
0.00	75.00	(1) 1/2" Coax	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)

Shaft Section Properties

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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	57.030	89.710	36220.2	18.70	114.06	79.4	1250.	0.0
5.00		0.5000	55.880	87.885	34054.4	18.30	111.76	79.9	1200.	1510.8
10.00		0.5000	54.730	86.060	31976.7	17.89	109.46	80.4	1150.	1479.7
15.00		0.5000	53.580	84.235	29985.2	17.48	107.16	80.8	1102.	1448.7
20.00		0.5000	52.430	82.410	28078.2	17.08	104.86	81.3	1054.	1417.6
25.00		0.5000	51.280	80.585	26253.8	16.67	102.56	81.8	1008.	1386.6
30.00		0.5000	50.130	78.760	24510.2	16.27	100.26	82.3	963.0	1355.5
35.00		0.5000	48.980	76.935	22845.6	15.86	97.96	82.5	918.7	1324.5
38.75	Bot - Section 2	0.5000	48.117	75.566	21647.8	15.56	96.23	82.5	886.1	973.0
40.00		0.5000	47.830	75.110	21258.1	15.46	95.66	82.5	875.4	606.4
45.00	Top - Section 1	0.4375	47.555	65.426	18351.4	17.76	108.70	0.0	0.0	2389.1
50.00		0.4375	46.405	63.829	17040.2	17.29	106.07	81.1	723.3	1099.6
55.00		0.4375	45.255	62.232	15793.0	16.83	103.44	81.6	687.4	1072.4
60.00		0.4375	44.105	60.636	14608.2	16.37	100.81	82.2	652.4	1045.2
65.00		0.4375	42.955	59.039	13484.2	15.90	98.18	82.5	618.3	1018.1
70.00		0.4375	41.805	57.442	12419.4	15.44	95.55	82.5	585.1	990.9
75.00		0.4375	40.655	55.845	11412.2	14.97	92.93	82.5	552.9	963.7
78.75	Bot - Section 3	0.4375	39.792	54.647	10693.6	14.63	90.95	82.5	529.3	705.0
80.00		0.4375	39.505	54.248	10460.9	14.51	90.30	82.5	521.6	400.2
83.75	Top - Section 2	0.3125	39.267	38.637	7407.7	20.75	125.66	0.0	0.0	1183.1
85.00		0.3125	38.980	38.352	7244.9	20.58	124.74	77.2	366.1	163.7
90.00		0.3125	37.830	37.211	6617.5	19.93	121.06	78.0	344.5	642.8
95.00		0.3125	36.680	36.071	6027.5	19.29	117.38	78.7	323.7	623.4
100.00		0.3125	35.530	34.930	5473.6	18.64	113.70	79.5	303.4	604.0
105.00		0.3125	34.380	33.789	4954.7	17.99	110.02	80.2	283.9	584.6
110.00		0.3125	33.230	32.649	4469.7	17.34	106.34	81.0	264.9	565.2
115.00		0.3125	32.080	31.508	4017.4	16.69	102.66	81.8	246.7	545.8
119.00	Bot - Section 4	0.3125	31.160	30.596	3678.4	16.17	99.71	82.4	232.5	422.7
120.00		0.3125	30.930	30.368	3596.7	16.04	98.98	82.5	229.0	188.2
123.00	Top - Section 3	0.2500	30.740	24.193	2841.6	20.27	122.96	0.0	0.0	556.3
125.00		0.2500	30.280	23.828	2714.9	19.95	121.12	72.8	176.6	163.4
130.00		0.2500	29.130	22.915	2414.8	19.14	116.52	73.6	163.3	397.6
135.00		0.2500	27.980	22.003	2137.6	18.32	111.92	74.5	150.5	382.1
140.00		0.2500	26.830	21.090	1882.6	17.51	107.32	75.3	138.2	366.6
145.00		0.2500	25.680	20.178	1648.6	16.70	102.72	76.2	126.4	351.1
150.00		0.2500	24.530	19.265	1434.9	15.89	98.12	76.2	115.2	335.5
155.00		0.2500	23.380	18.353	1240.5	15.08	93.52	76.2	104.5	320.0
157.00		0.2500	22.920	17.988	1168.0	14.76	91.68	76.2	100.4	123.7
160.00		0.2500	22.230	17.441	1064.6	14.27	88.92	76.2	94.3	180.8
161.00	Top - Section 4	0.2500	22.000	17.258	1031.5	14.11	88.00	76.2	92.3	59.0
161.00	Bot - Section 5	0.1875	22.000	12.981	780.3	18.81	117.33	73.5	69.9	
165.00		0.1875	21.080	12.433	685.7	18.41	112.43	74.4	64.1	173.0
170.00		0.1875	19.930	11.749	578.6	17.33	106.29	75.5	57.2	205.7
175.00		0.1875	18.780	11.064	483.2	16.25	100.16	76.2	50.7	194.1
										30519.4

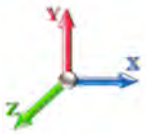
Wind Loading - Shaft

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	17.366	19.10	407.79	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.366	19.10	399.57	0.650	0.000	5.00	23.886	15.53	474.5	0.0	1812.9
10.00		1.00	0.70	17.366	19.10	391.35	0.650	0.000	5.00	23.399	15.21	464.9	0.0	1775.7
15.00		1.00	0.70	17.366	19.10	383.12	0.650	0.000	5.00	22.913	14.89	455.2	0.0	1738.4
20.00		1.00	0.70	17.366	19.10	374.90	0.650	0.000	5.00	22.426	14.58	445.5	0.0	1701.2
25.00		1.00	0.70	17.366	19.10	366.68	0.650	0.000	5.00	21.940	14.26	435.9	0.0	1663.9
30.00		1.00	0.70	17.381	19.12	358.61	0.650	0.000	5.00	21.453	13.94	426.6	0.0	1626.6
35.00		1.00	0.73	18.163	19.98	358.18	0.650	0.000	5.00	20.966	13.63	435.7	0.0	1589.4
38.75	Bot - Section 2	1.00	0.75	18.699	20.57	357.03	0.650	0.000	3.75	15.406	10.01	329.6	0.0	1167.6
40.00		1.00	0.76	18.870	20.76	356.51	0.650	0.000	1.25	5.167	3.36	111.5	0.0	727.7
45.00	Top - Section 1	1.00	0.79	19.516	21.47	353.84	0.650	0.000	5.00	20.364	13.24	454.6	0.0	2867.0
50.00		1.00	0.81	20.112	22.12	357.09	0.650	0.000	5.00	19.877	12.92	457.3	0.0	1319.5
55.00		1.00	0.83	20.667	22.73	353.02	0.650	0.000	5.00	19.390	12.60	458.5	0.0	1286.9
60.00		1.00	0.85	21.187	23.31	348.35	0.650	0.000	5.00	18.904	12.29	458.2	0.0	1254.3
65.00		1.00	0.87	21.678	23.85	343.17	0.650	0.000	5.00	18.417	11.97	456.7	0.0	1221.7
70.00		1.00	0.89	22.142	24.36	337.53	0.650	0.000	5.00	17.931	11.65	454.2	0.0	1189.1
75.00	Appurtenance(s)	1.00	0.91	22.582	24.84	331.50	0.650	0.000	5.00	17.444	11.34	450.7	0.0	1156.5
78.75	Bot - Section 3	1.00	0.92	22.899	25.19	326.74	0.650	0.000	3.75	12.764	8.30	334.4	0.0	846.0
80.00		1.00	0.93	23.003	25.30	325.11	0.650	0.000	1.25	4.260	2.77	112.1	0.0	480.2
83.75	Top - Section 2	1.00	0.94	23.306	25.64	320.10	0.650	0.000	3.75	12.597	8.19	335.9	0.0	1419.7
85.00		1.00	0.94	23.404	25.74	323.58	0.650	0.000	1.25	4.138	2.69	110.8	0.0	196.5
90.00		1.00	0.96	23.790	26.17	316.60	0.650	0.000	5.00	16.249	10.56	442.2	0.0	771.4
95.00		1.00	0.97	24.160	26.58	309.36	0.650	0.000	5.00	15.762	10.25	435.7	0.0	748.1
100.00		1.00	0.99	24.517	26.97	301.87	0.650	0.000	5.00	15.276	9.93	428.4	0.0	724.8
105.00		1.00	1.00	24.861	27.35	294.14	0.650	0.000	5.00	14.789	9.61	420.6	0.0	701.5
110.00	Appurtenance(s)	1.00	1.02	25.194	27.71	286.19	0.650	0.000	5.00	14.303	9.30	412.2	0.0	678.2
115.00		1.00	1.03	25.516	28.07	278.05	0.650	0.000	5.00	13.816	8.98	403.3	0.0	654.9
119.00	Bot - Section 4	1.00	1.04	25.766	28.34	271.40	0.650	0.000	4.00	10.703	6.96	315.5	0.0	507.2
120.00		1.00	1.04	25.828	28.41	269.72	0.650	0.000	1.00	2.669	1.74	78.9	0.0	225.9
123.00	Top - Section 3	1.00	1.05	26.011	28.61	264.63	0.650	0.000	3.00	7.891	5.13	234.8	0.0	667.5
125.00		1.00	1.05	26.131	28.74	265.59	0.650	0.000	2.00	5.163	3.36	154.4	0.0	196.1
130.00		1.00	1.07	26.425	29.07	256.94	0.650	0.000	5.00	12.568	8.17	379.9	0.0	477.2
135.00		1.00	1.08	26.712	29.38	248.13	0.650	0.000	5.00	12.081	7.85	369.2	0.0	458.5
140.00	Appurtenance(s)	1.00	1.09	26.991	29.69	239.17	0.650	0.000	5.00	11.595	7.54	358.0	0.0	439.9
145.00		1.00	1.10	27.263	29.99	230.07	0.650	0.000	5.00	11.108	7.22	346.5	0.0	421.3
150.00		1.00	1.11	27.528	30.28	220.84	0.650	0.000	5.00	10.622	6.90	334.5	0.0	402.7
155.00		1.00	1.12	27.787	30.57	211.47	0.650	0.000	5.00	10.135	6.59	322.2	0.0	384.0
157.00	Appurtenance(s)	1.00	1.12	27.889	30.68	207.69	0.650	0.000	2.00	3.918	2.55	125.0	0.0	148.4
160.00		1.00	1.13	28.040	30.84	201.98	0.650	0.000	3.00	5.731	3.73	183.8	0.0	217.0
161.00	Top - Section 4	1.00	1.13	28.090	30.90	200.07	0.650	0.000	1.00	1.871	1.22	60.1	0.0	70.8
165.00		1.00	1.14	28.288	31.12	192.38	0.650	0.000	4.00	7.291	4.74	235.9	0.0	207.5
170.00		1.00	1.15	28.530	31.38	182.66	0.650	0.000	5.00	8.676	5.64	283.2	0.0	246.9
175.00	Appurtenance(s)	1.00	1.16	28.768	31.64	172.84	0.650	0.000	5.00	8.189	5.32	269.5	0.0	232.9
								Totals:	**175.00**			**14,256.5**		**36,623.3**

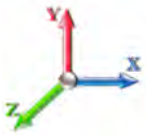
Discrete Appurtenance Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	175.00	JMA Wireless	6	28.861	31.747	0.65	0.75	38.64	331.20	0.000	2.000	1962.80	0.00	3925.60
2	175.00	6' Lightning rod	1	28.768	31.644	1.00	1.00	0.38	7.80	0.000	0.000	19.24	0.00	0.00
3	175.00	Low Profile Platform-flat	1	28.768	31.644	1.00	1.00	37.00	1440.00	0.000	0.000	1873.35	0.00	0.00
4	175.00	Samsung MT6407-77A	3	28.861	31.747	0.52	0.75	7.39	285.84	0.000	2.000	375.22	0.00	750.43
5	175.00	Antel BXA-70080-6CF	3	28.861	31.747	0.65	0.75	11.28	64.80	0.000	2.000	572.73	0.00	1145.46
6	175.00	MS-H1242 (Heavy Collar	1	28.768	31.644	1.00	1.00	2.50	180.72	0.000	0.000	126.58	0.00	0.00
7	175.00	Samsung B2/B66A	3	28.861	31.747	0.50	0.75	2.82	303.84	0.000	2.000	143.19	0.00	286.39
8	175.00	Samsung B5/B13	3	28.861	31.747	0.50	0.75	2.82	253.08	0.000	2.000	143.19	0.00	286.39
9	175.00	RVZDC-6627-PF-48	1	28.861	31.747	0.75	0.75	3.04	38.40	0.000	2.000	154.67	0.00	309.35
10	175.00	MS-KI22-5 (Kickers w/o	1	28.768	31.644	1.00	1.00	5.33	175.20	0.000	0.000	269.86	0.00	0.00
11	175.00	MS-HRECP	1	28.861	31.747	1.00	1.00	12.00	616.80	0.000	2.000	609.55	0.00	1219.10
12	161.00	Bridge Stiffener	1	28.090	30.899	1.00	1.00	2.89	245.00	0.000	0.000	142.88	0.00	0.00
13	157.00	Platform w/ Handrail +	1	27.889	30.678	1.00	1.00	54.00	3360.00	0.000	0.000	2650.59	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	27.889	30.678	0.50	0.75	6.11	252.00	0.000	0.000	299.68	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	27.889	30.678	0.50	0.75	7.51	381.60	0.000	0.000	368.50	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	27.889	30.678	0.50	0.75	4.18	216.00	0.000	0.000	204.97	0.00	0.00
17	157.00	NNVV-65B-R4	3	27.889	30.678	0.55	0.75	20.43	304.92	0.000	0.000	1002.78	0.00	0.00
18	157.00	APXVTM14-C-I20	3	27.889	30.678	0.58	0.75	10.98	202.32	0.000	0.000	539.15	0.00	0.00
19	140.00	Ericsson AIR6449 B41	3	26.991	29.690	0.53	0.75	9.03	370.80	0.000	0.000	428.76	0.00	0.00
20	140.00	APXVAARR24_43-U-NA2	3	26.991	29.690	0.52	0.75	31.88	460.80	0.000	0.000	1514.33	0.00	0.00
21	140.00	MT-195-12	1	26.991	29.690	1.00	1.00	40.00	2400.00	0.000	0.000	1900.15	0.00	0.00
22	140.00	KRY 112 489/2	3	26.991	29.690	0.50	0.75	1.01	55.44	0.000	0.000	47.98	0.00	0.00
23	140.00	Ericsson 4449 B71 + B85	3	26.991	29.690	0.50	0.75	2.97	270.00	0.000	0.000	141.08	0.00	0.00
24	140.00	Ericsson 4460 B25 + B66	3	26.991	29.690	0.50	0.75	4.30	374.40	0.000	0.000	204.09	0.00	0.00
25	140.00	Kathrein 782 11056	3	26.991	29.690	0.50	0.75	0.42	6.48	0.000	0.000	20.05	0.00	0.00
26	140.00	MS-HRECP-35	1	26.991	29.690	1.00	1.00	12.25	616.80	0.000	0.000	581.92	0.00	0.00
27	110.00	Raycap	1	25.194	27.713	1.00	1.00	2.01	26.28	0.000	0.000	89.13	0.00	0.00
28	110.00	Fujitsu TA08025-B604	3	25.194	27.713	0.50	0.75	2.95	230.04	0.000	0.000	131.01	0.00	0.00
29	110.00	Fujitsu TA08025-B605	3	25.194	27.713	0.50	0.75	2.95	270.00	0.000	0.000	131.01	0.00	0.00
30	110.00	MC-PK8-DSH	1	25.194	27.713	1.00	1.00	37.59	2072.40	0.000	0.000	1666.77	0.00	0.00
31	110.00	Commscope	3	25.194	27.713	0.55	0.75	20.43	254.88	0.000	0.000	905.86	0.00	0.00
32	75.00	GPS	1	22.582	24.841	1.00	1.00	1.00	12.00	0.000	0.000	39.74	0.00	0.00
							Totals:		**16,079.84**			**19,260.84**		

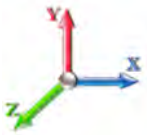
Total Applied Force Summary

Structure:	CT01915-S-SBA		**Code:**	TIA-222-G	1/24/2022
Site Name:	South Brooklyn		**Exposure:**	B	
Height:	175.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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		474.54	2006.08	0.00	0.00
10.00		464.87	1968.82	0.00	0.00
15.00		455.20	1931.56	0.00	0.00
20.00		445.54	1894.30	0.00	0.00
25.00		435.87	1857.04	0.00	0.00
30.00		426.56	1819.78	0.00	0.00
35.00		435.66	1782.52	0.00	0.00
38.75		329.56	1312.44	0.00	0.00
40.00		111.54	775.94	0.00	0.00
45.00		454.63	3060.09	0.00	0.00
50.00		457.33	1512.62	0.00	0.00
55.00		458.45	1480.01	0.00	0.00
60.00		458.20	1447.41	0.00	0.00
65.00		456.73	1414.81	0.00	0.00
70.00		454.18	1382.21	0.00	0.00
75.00	(1) attachments	490.40	1361.60	0.00	0.00
78.75		334.37	990.09	0.00	0.00
80.00		112.10	528.26	0.00	0.00
83.75		335.86	1563.82	0.00	0.00
85.00		110.80	244.53	0.00	0.00
90.00		442.22	963.55	0.00	0.00
95.00		435.66	940.26	0.00	0.00
100.00		428.45	916.97	0.00	0.00
105.00		420.62	893.69	0.00	0.00
110.00	(11) attachments	3336.02	3724.00	0.00	0.00
115.00		403.29	836.19	0.00	0.00
119.00		315.47	652.19	0.00	0.00
120.00		78.87	262.11	0.00	0.00
123.00		234.81	776.28	0.00	0.00
125.00		154.35	268.59	0.00	0.00
130.00		379.94	658.43	0.00	0.00
135.00		369.19	639.80	0.00	0.00
140.00	(20) attachments	5196.39	5175.89	0.00	0.00
145.00		346.45	522.12	0.00	0.00
150.00		334.50	503.49	0.00	0.00
155.00		322.18	484.86	0.00	0.00
157.00	(19) attachments	5190.68	4905.57	0.00	0.00
160.00		183.83	268.00	0.00	0.00
161.00	(1) attachments	203.02	332.85	0.00	0.00
165.00		235.94	275.55	0.00	0.00
170.00		283.16	331.86	0.00	0.00
175.00	(24) attachments	6519.89	4015.57	0.00	7922.71
	Totals:	**33,517.36**	**58,681.73**	**0.00**	**7,922.71**

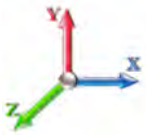
Calculated Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 26

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	-58.63	-33.60	0.00	-4337.2	0.00	4337.22	6411.04	3205.52	14877.2	7449.66	0.00	0.000	0.000	0.591
5.00	-56.53	-33.29	0.00	-4169.2	0.00	4169.20	6318.35	3159.17	14361.2	7191.28	0.09	-0.167	0.000	0.589
10.00	-54.46	-32.98	0.00	-4002.7	0.00	4002.74	6224.09	3112.04	13850.5	6935.58	0.36	-0.338	0.000	0.586
15.00	-52.43	-32.68	0.00	-3837.8	0.00	3837.82	6128.26	3064.13	13345.4	6682.66	0.80	-0.512	0.000	0.583
20.00	-50.44	-32.37	0.00	-3674.4	0.00	3674.44	6030.87	3015.43	12846.2	6432.65	1.44	-0.690	0.000	0.580
25.00	-48.49	-32.06	0.00	-3512.6	0.00	3512.60	5931.91	2965.95	12352.9	6185.64	2.26	-0.872	0.000	0.576
30.00	-46.57	-31.76	0.00	-3352.2	0.00	3352.28	5831.38	2915.69	11865.8	5941.76	3.27	-1.058	0.000	0.572
35.00	-44.71	-31.42	0.00	-3193.4	0.00	3193.48	5715.88	2857.94	11358.6	5687.79	4.48	-1.248	0.000	0.569
38.75	-43.35	-31.13	0.00	-3075.6	0.00	3075.66	5614.19	2807.10	10956.1	5486.19	5.52	-1.395	0.000	0.568
40.00	-42.51	-31.10	0.00	-3036.7	0.00	3036.74	5580.30	2790.15	10823.5	5419.80	5.89	-1.445	0.000	0.568
45.00	-39.36	-30.70	0.00	-2881.2	0.00	2881.27	4741.11	2370.56	9166.15	4589.89	7.51	-1.643	0.000	0.636
50.00	-37.75	-30.33	0.00	-2727.7	0.00	2727.79	4656.71	2328.36	8781.22	4397.14	9.34	-1.845	0.000	0.629
55.00	-36.17	-29.97	0.00	-2576.1	0.00	2576.12	4570.75	2285.37	8401.44	4206.97	11.39	-2.066	0.000	0.620
60.00	-34.62	-29.59	0.00	-2426.3	0.00	2426.30	4483.21	2241.61	8027.05	4019.49	13.67	-2.292	0.000	0.612
65.00	-33.11	-29.21	0.00	-2278.3	0.00	2278.35	4386.28	2193.14	7644.63	3828.00	16.20	-2.521	0.000	0.603
70.00	-31.63	-28.82	0.00	-2132.3	0.00	2132.31	4267.64	2133.82	7234.64	3622.70	18.96	-2.753	0.000	0.596
75.00	-30.19	-28.37	0.00	-1988.2	0.00	1988.21	4149.01	2074.50	6835.94	3423.05	21.97	-2.989	0.000	0.588
78.75	-29.16	-28.05	0.00	-1881.8	0.00	1881.82	4060.03	2030.01	6544.34	3277.03	24.39	-3.170	0.000	0.582
80.00	-28.58	-27.97	0.00	-1846.7	0.00	1846.76	4030.37	2015.18	6448.55	3229.07	25.23	-3.232	0.000	0.579
83.75	-26.98	-27.60	0.00	-1741.8	0.00	1741.88	2677.54	1338.77	4285.17	2145.77	27.84	-3.415	0.000	0.822
85.00	-26.65	-27.56	0.00	-1707.3	0.00	1707.39	2664.37	1332.18	4232.36	2119.33	28.74	-3.478	0.000	0.816
90.00	-25.56	-27.21	0.00	-1569.5	0.00	1569.57	2610.69	1305.34	4022.76	2014.37	32.55	-3.800	0.000	0.789
95.00	-24.50	-26.84	0.00	-1433.5	0.00	1433.55	2555.44	1277.72	3815.94	1910.80	36.70	-4.122	0.000	0.760
100.00	-23.47	-26.48	0.00	-1299.3	0.00	1299.33	2498.62	1249.31	3612.11	1808.74	41.19	-4.445	0.000	0.728
105.00	-22.47	-26.12	0.00	-1166.9	0.00	1166.92	2440.24	1220.12	3411.50	1708.29	46.01	-4.765	0.000	0.693
110.00	-18.93	-22.58	0.00	-1036.3	0.00	1036.35	2380.29	1190.15	3214.34	1609.56	51.17	-5.082	0.000	0.652
115.00	-18.02	-22.19	0.00	-923.47	0.00	923.47	2318.78	1159.39	3020.85	1512.67	56.65	-5.394	0.000	0.619
119.00	-17.34	-21.86	0.00	-834.73	0.00	834.73	2268.44	1134.22	2868.85	1436.56	61.27	-5.643	0.000	0.589
120.00	-17.04	-21.79	0.00	-812.88	0.00	812.88	2255.69	1127.85	2831.25	1417.73	62.46	-5.706	0.000	0.581
123.00	-16.24	-21.52	0.00	-747.51	0.00	747.51	1577.63	788.82	1975.86	989.40	66.10	-5.891	0.000	0.767
125.00	-15.90	-21.40	0.00	-704.47	0.00	704.47	1561.09	780.55	1925.40	964.13	68.59	-6.014	0.000	0.742
130.00	-15.16	-21.04	0.00	-597.45	0.00	597.45	1518.76	759.38	1800.86	901.77	75.06	-6.355	0.000	0.673
135.00	-14.46	-20.68	0.00	-492.23	0.00	492.23	1475.03	737.52	1678.77	840.64	81.88	-6.676	0.000	0.596
140.00	-9.86	-14.96	0.00	-388.82	0.00	388.82	1429.92	714.96	1559.34	780.83	89.02	-6.970	0.000	0.505
145.00	-9.33	-14.59	0.00	-314.05	0.00	314.05	1383.42	691.71	1442.75	722.45	96.44	-7.235	0.000	0.442
150.00	-8.81	-14.23	0.00	-241.11	0.00	241.11	1321.23	660.61	1314.97	658.46	104.13	-7.475	0.000	0.373
155.00	-8.34	-13.86	0.00	-169.97	0.00	169.97	1258.65	629.32	1192.75	597.26	112.05	-7.678	0.000	0.292
157.00	-4.17	-8.07	0.00	-142.25	0.00	142.25	1233.62	616.81	1145.53	573.62	115.28	-7.750	0.000	0.252
160.00	-3.92	-7.85	0.00	-118.05	0.00	118.05	1196.07	598.03	1076.49	539.05	120.16	-7.845	0.000	0.222
161.00	-3.61	-7.61	0.00	-110.20	0.00	110.20	1183.55	591.78	1053.96	527.76	121.80	-7.876	0.000	0.212
161.00	-3.61	-7.61	0.00	-110.20	0.00	110.20	858.57	429.28	768.96	385.05	121.80	-7.876	0.000	0.291
165.00	-3.35	-7.34	0.00	-79.76	0.00	79.76	832.45	416.23	713.85	357.46	128.43	-7.980	0.000	0.227
170.00	-3.05	-7.02	0.00	-43.04	0.00	43.04	798.56	399.28	646.76	323.86	136.83	-8.108	0.000	0.137
175.00	0.00	-6.52	0.00	-7.92	0.00	7.92	758.80	379.40	578.42	289.64	145.34	-8.170	0.000	0.028

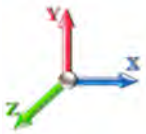
Wind Loading - Shaft

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	17.366	19.10	407.79	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.366	19.10	399.57	0.650	0.000	5.00	23.886	15.53	474.5	0.0	1359.7
10.00		1.00	0.70	17.366	19.10	391.35	0.650	0.000	5.00	23.399	15.21	464.9	0.0	1331.8
15.00		1.00	0.70	17.366	19.10	383.12	0.650	0.000	5.00	22.913	14.89	455.2	0.0	1303.8
20.00		1.00	0.70	17.366	19.10	374.90	0.650	0.000	5.00	22.426	14.58	445.5	0.0	1275.9
25.00		1.00	0.70	17.366	19.10	366.68	0.650	0.000	5.00	21.940	14.26	435.9	0.0	1247.9
30.00		1.00	0.70	17.381	19.12	358.61	0.650	0.000	5.00	21.453	13.94	426.6	0.0	1220.0
35.00		1.00	0.73	18.163	19.98	358.18	0.650	0.000	5.00	20.966	13.63	435.7	0.0	1192.0
38.75	Bot - Section 2	1.00	0.75	18.699	20.57	357.03	0.650	0.000	3.75	15.406	10.01	329.6	0.0	875.7
40.00		1.00	0.76	18.870	20.76	356.51	0.650	0.000	1.25	5.167	3.36	111.5	0.0	545.7
45.00	Top - Section 1	1.00	0.79	19.516	21.47	353.84	0.650	0.000	5.00	20.364	13.24	454.6	0.0	2150.2
50.00		1.00	0.81	20.112	22.12	357.09	0.650	0.000	5.00	19.877	12.92	457.3	0.0	989.6
55.00		1.00	0.83	20.667	22.73	353.02	0.650	0.000	5.00	19.390	12.60	458.5	0.0	965.2
60.00		1.00	0.85	21.187	23.31	348.35	0.650	0.000	5.00	18.904	12.29	458.2	0.0	940.7
65.00		1.00	0.87	21.678	23.85	343.17	0.650	0.000	5.00	18.417	11.97	456.7	0.0	916.3
70.00		1.00	0.89	22.142	24.36	337.53	0.650	0.000	5.00	17.931	11.65	454.2	0.0	891.8
75.00	Appurtenance(s)	1.00	0.91	22.582	24.84	331.50	0.650	0.000	5.00	17.444	11.34	450.7	0.0	867.4
78.75	Bot - Section 3	1.00	0.92	22.899	25.19	326.74	0.650	0.000	3.75	12.764	8.30	334.4	0.0	634.5
80.00		1.00	0.93	23.003	25.30	325.11	0.650	0.000	1.25	4.260	2.77	112.1	0.0	360.2
83.75	Top - Section 2	1.00	0.94	23.306	25.64	320.10	0.650	0.000	3.75	12.597	8.19	335.9	0.0	1064.8
85.00		1.00	0.94	23.404	25.74	323.58	0.650	0.000	1.25	4.138	2.69	110.8	0.0	147.4
90.00		1.00	0.96	23.790	26.17	316.60	0.650	0.000	5.00	16.249	10.56	442.2	0.0	578.5
95.00		1.00	0.97	24.160	26.58	309.36	0.650	0.000	5.00	15.762	10.25	435.7	0.0	561.1
100.00		1.00	0.99	24.517	26.97	301.87	0.650	0.000	5.00	15.276	9.93	428.4	0.0	543.6
105.00		1.00	1.00	24.861	27.35	294.14	0.650	0.000	5.00	14.789	9.61	420.6	0.0	526.1
110.00	Appurtenance(s)	1.00	1.02	25.194	27.71	286.19	0.650	0.000	5.00	14.303	9.30	412.2	0.0	508.7
115.00		1.00	1.03	25.516	28.07	278.05	0.650	0.000	5.00	13.816	8.98	403.3	0.0	491.2
119.00	Bot - Section 4	1.00	1.04	25.766	28.34	271.40	0.650	0.000	4.00	10.703	6.96	315.5	0.0	380.4
120.00		1.00	1.04	25.828	28.41	269.72	0.650	0.000	1.00	2.669	1.74	78.9	0.0	169.4
123.00	Top - Section 3	1.00	1.05	26.011	28.61	264.63	0.650	0.000	3.00	7.891	5.13	234.8	0.0	500.6
125.00		1.00	1.05	26.131	28.74	265.59	0.650	0.000	2.00	5.163	3.36	154.4	0.0	147.1
130.00		1.00	1.07	26.425	29.07	256.94	0.650	0.000	5.00	12.568	8.17	379.9	0.0	357.9
135.00		1.00	1.08	26.712	29.38	248.13	0.650	0.000	5.00	12.081	7.85	369.2	0.0	343.9
140.00	Appurtenance(s)	1.00	1.09	26.991	29.69	239.17	0.650	0.000	5.00	11.595	7.54	358.0	0.0	329.9
145.00		1.00	1.10	27.263	29.99	230.07	0.650	0.000	5.00	11.108	7.22	346.5	0.0	316.0
150.00		1.00	1.11	27.528	30.28	220.84	0.650	0.000	5.00	10.622	6.90	334.5	0.0	302.0
155.00		1.00	1.12	27.787	30.57	211.47	0.650	0.000	5.00	10.135	6.59	322.2	0.0	288.0
157.00	Appurtenance(s)	1.00	1.12	27.889	30.68	207.69	0.650	0.000	2.00	3.918	2.55	125.0	0.0	111.3
160.00		1.00	1.13	28.040	30.84	201.98	0.650	0.000	3.00	5.731	3.73	183.8	0.0	162.7
161.00	Top - Section 4	1.00	1.13	28.090	30.90	200.07	0.650	0.000	1.00	1.871	1.22	60.1	0.0	53.1
165.00		1.00	1.14	28.288	31.12	192.38	0.650	0.000	4.00	7.291	4.74	235.9	0.0	155.7
170.00		1.00	1.15	28.530	31.38	182.66	0.650	0.000	5.00	8.676	5.64	283.2	0.0	185.1
175.00	Appurtenance(s)	1.00	1.16	28.768	31.64	172.84	0.650	0.000	5.00	8.189	5.32	269.5	0.0	174.7
								Totals:	**175.00**			**14,256.5**		**27,467.4**

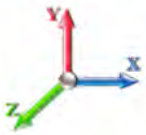
Discrete Appurtenance Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	175.00	JMA Wireless	6	28.861	31.747	0.65	0.75	38.64	248.40	0.000	2.000	1962.80	0.00	3925.60
2	175.00	6' Lightning rod	1	28.768	31.644	1.00	1.00	0.38	5.85	0.000	0.000	19.24	0.00	0.00
3	175.00	Low Profile Platform-flat	1	28.768	31.644	1.00	1.00	37.00	1080.00	0.000	0.000	1873.35	0.00	0.00
4	175.00	Samsung MT6407-77A	3	28.861	31.747	0.52	0.75	7.39	214.38	0.000	2.000	375.22	0.00	750.43
5	175.00	Antel BXA-70080-6CF	3	28.861	31.747	0.65	0.75	11.28	48.60	0.000	2.000	572.73	0.00	1145.46
6	175.00	MS-H1242 (Heavy Collar	1	28.768	31.644	1.00	1.00	2.50	135.54	0.000	0.000	126.58	0.00	0.00
7	175.00	Samsung B2/B66A	3	28.861	31.747	0.50	0.75	2.82	227.88	0.000	2.000	143.19	0.00	286.39
8	175.00	Samsung B5/B13	3	28.861	31.747	0.50	0.75	2.82	189.81	0.000	2.000	143.19	0.00	286.39
9	175.00	RVZDC-6627-PF-48	1	28.861	31.747	0.75	0.75	3.04	28.80	0.000	2.000	154.67	0.00	309.35
10	175.00	MS-KI22-5 (Kickers w/o	1	28.768	31.644	1.00	1.00	5.33	131.40	0.000	0.000	269.86	0.00	0.00
11	175.00	MS-HRECP	1	28.861	31.747	1.00	1.00	12.00	462.60	0.000	2.000	609.55	0.00	1219.10
12	161.00	Bridge Stiffener	1	28.090	30.899	1.00	1.00	2.89	183.75	0.000	0.000	142.88	0.00	0.00
13	157.00	Platform w/ Handrail +	1	27.889	30.678	1.00	1.00	54.00	2520.00	0.000	0.000	2650.59	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	27.889	30.678	0.50	0.75	6.11	189.00	0.000	0.000	299.68	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	27.889	30.678	0.50	0.75	7.51	286.20	0.000	0.000	368.50	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	27.889	30.678	0.50	0.75	4.18	162.00	0.000	0.000	204.97	0.00	0.00
17	157.00	NNVV-65B-R4	3	27.889	30.678	0.55	0.75	20.43	228.69	0.000	0.000	1002.78	0.00	0.00
18	157.00	APXVTM14-C-I20	3	27.889	30.678	0.58	0.75	10.98	151.74	0.000	0.000	539.15	0.00	0.00
19	140.00	Ericsson AIR6449 B41	3	26.991	29.690	0.53	0.75	9.03	278.10	0.000	0.000	428.76	0.00	0.00
20	140.00	APXVAARR24_43-U-NA2	3	26.991	29.690	0.52	0.75	31.88	345.60	0.000	0.000	1514.33	0.00	0.00
21	140.00	MT-195-12	1	26.991	29.690	1.00	1.00	40.00	1800.00	0.000	0.000	1900.15	0.00	0.00
22	140.00	KRY 112 489/2	3	26.991	29.690	0.50	0.75	1.01	41.58	0.000	0.000	47.98	0.00	0.00
23	140.00	Ericsson 4449 B71 + B85	3	26.991	29.690	0.50	0.75	2.97	202.50	0.000	0.000	141.08	0.00	0.00
24	140.00	Ericsson 4460 B25 + B66	3	26.991	29.690	0.50	0.75	4.30	280.80	0.000	0.000	204.09	0.00	0.00
25	140.00	Kathrein 782 11056	3	26.991	29.690	0.50	0.75	0.42	4.86	0.000	0.000	20.05	0.00	0.00
26	140.00	MS-HRECP-35	1	26.991	29.690	1.00	1.00	12.25	462.60	0.000	0.000	581.92	0.00	0.00
27	110.00	Raycap	1	25.194	27.713	1.00	1.00	2.01	19.71	0.000	0.000	89.13	0.00	0.00
28	110.00	Fujitsu TA08025-B604	3	25.194	27.713	0.50	0.75	2.95	172.53	0.000	0.000	131.01	0.00	0.00
29	110.00	Fujitsu TA08025-B605	3	25.194	27.713	0.50	0.75	2.95	202.50	0.000	0.000	131.01	0.00	0.00
30	110.00	MC-PK8-DSH	1	25.194	27.713	1.00	1.00	37.59	1554.30	0.000	0.000	1666.77	0.00	0.00
31	110.00	Commscope	3	25.194	27.713	0.55	0.75	20.43	191.16	0.000	0.000	905.86	0.00	0.00
32	75.00	GPS	1	22.582	24.841	1.00	1.00	1.00	9.00	0.000	0.000	39.74	0.00	0.00
							Totals:		**12,059.88**			**19,260.84**		

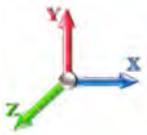
Total Applied Force Summary

Structure:	CT01915-S-SBA		**Code:**	TIA-222-G	1/24/2022
Site Name:	South Brooklyn		**Exposure:**	B	
Height:	175.00 (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 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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		474.54	1504.56	0.00	0.00
10.00		464.87	1476.62	0.00	0.00
15.00		455.20	1448.67	0.00	0.00
20.00		445.54	1420.73	0.00	0.00
25.00		435.87	1392.78	0.00	0.00
30.00		426.56	1364.84	0.00	0.00
35.00		435.66	1336.89	0.00	0.00
38.75		329.56	984.33	0.00	0.00
40.00		111.54	581.95	0.00	0.00
45.00		454.63	2295.06	0.00	0.00
50.00		457.33	1134.46	0.00	0.00
55.00		458.45	1110.01	0.00	0.00
60.00		458.20	1085.56	0.00	0.00
65.00		456.73	1061.11	0.00	0.00
70.00		454.18	1036.66	0.00	0.00
75.00	(1) attachments	490.40	1021.20	0.00	0.00
78.75		334.37	742.57	0.00	0.00
80.00		112.10	396.19	0.00	0.00
83.75		335.86	1172.86	0.00	0.00
85.00		110.80	183.39	0.00	0.00
90.00		442.22	722.66	0.00	0.00
95.00		435.66	705.20	0.00	0.00
100.00		428.45	687.73	0.00	0.00
105.00		420.62	670.26	0.00	0.00
110.00	(11) attachments	3336.02	2793.00	0.00	0.00
115.00		403.29	627.14	0.00	0.00
119.00		315.47	489.14	0.00	0.00
120.00		78.87	196.59	0.00	0.00
123.00		234.81	582.21	0.00	0.00
125.00		154.35	201.44	0.00	0.00
130.00		379.94	493.82	0.00	0.00
135.00		369.19	479.85	0.00	0.00
140.00	(20) attachments	5196.39	3881.91	0.00	0.00
145.00		346.45	391.59	0.00	0.00
150.00		334.50	377.62	0.00	0.00
155.00		322.18	363.65	0.00	0.00
157.00	(19) attachments	5190.68	3679.18	0.00	0.00
160.00		183.83	201.00	0.00	0.00
161.00	(1) attachments	203.02	249.64	0.00	0.00
165.00		235.94	206.66	0.00	0.00
170.00		283.16	248.90	0.00	0.00
175.00	(24) attachments	6519.89	3011.68	0.00	7922.71
	Totals:	**33,517.36**	**44,011.30**	**0.00**	**7,922.71**

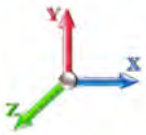
Calculated Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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	-43.96	-33.58	0.00	-4275.8	0.00	4275.82	6411.04	3205.52	14877.2	7449.66	0.00	0.000	0.000	0.581
5.00	-42.36	-33.23	0.00	-4107.9	0.00	4107.92	6318.35	3159.17	14361.2	7191.28	0.09	-0.165	0.000	0.578
10.00	-40.79	-32.88	0.00	-3941.7	0.00	3941.78	6224.09	3112.04	13850.5	6935.58	0.35	-0.333	0.000	0.575
15.00	-39.25	-32.53	0.00	-3777.3	0.00	3777.39	6128.26	3064.13	13345.4	6682.66	0.79	-0.504	0.000	0.572
20.00	-37.73	-32.19	0.00	-3614.7	0.00	3614.74	6030.87	3015.43	12846.2	6432.65	1.41	-0.680	0.000	0.568
25.00	-36.24	-31.85	0.00	-3453.8	0.00	3453.80	5931.91	2965.95	12352.9	6185.64	2.22	-0.859	0.000	0.565
30.00	-34.78	-31.51	0.00	-3294.5	0.00	3294.57	5831.38	2915.69	11865.8	5941.76	3.22	-1.042	0.000	0.561
35.00	-33.37	-31.15	0.00	-3137.0	0.00	3137.02	5715.88	2857.94	11358.6	5687.79	4.41	-1.228	0.000	0.557
38.75	-32.34	-30.85	0.00	-3020.2	0.00	3020.22	5614.19	2807.10	10956.1	5486.19	5.43	-1.372	0.000	0.556
40.00	-31.69	-30.79	0.00	-2981.6	0.00	2981.66	5580.30	2790.15	10823.5	5419.80	5.80	-1.421	0.000	0.556
45.00	-29.31	-30.37	0.00	-2827.7	0.00	2827.72	4741.11	2370.56	9166.15	4589.89	7.39	-1.616	0.000	0.622
50.00	-28.08	-29.99	0.00	-2675.8	0.00	2675.85	4656.71	2328.36	8781.22	4397.14	9.19	-1.814	0.000	0.615
55.00	-26.87	-29.59	0.00	-2525.9	0.00	2525.92	4570.75	2285.37	8401.44	4206.97	11.21	-2.031	0.000	0.606
60.00	-25.69	-29.20	0.00	-2377.9	0.00	2377.95	4483.21	2241.61	8027.05	4019.49	13.45	-2.252	0.000	0.598
65.00	-24.54	-28.79	0.00	-2231.9	0.00	2231.98	4386.28	2193.14	7644.63	3828.00	15.93	-2.476	0.000	0.589
70.00	-23.41	-28.39	0.00	-2088.0	0.00	2088.02	4267.64	2133.82	7234.64	3622.70	18.64	-2.704	0.000	0.582
75.00	-22.31	-27.92	0.00	-1946.1	0.00	1946.10	4149.01	2074.50	6835.94	3423.05	21.60	-2.935	0.000	0.574
78.75	-21.53	-27.60	0.00	-1841.3	0.00	1841.38	4060.03	2030.01	6544.34	3277.03	23.98	-3.112	0.000	0.567
80.00	-21.08	-27.51	0.00	-1806.8	0.00	1806.89	4030.37	2015.18	6448.55	3229.07	24.80	-3.173	0.000	0.565
83.75	-19.88	-27.15	0.00	-1703.7	0.00	1703.74	2677.54	1338.77	4285.17	2145.77	27.36	-3.352	0.000	0.802
85.00	-19.61	-27.09	0.00	-1669.8	0.00	1669.80	2664.37	1332.18	4232.36	2119.33	28.25	-3.413	0.000	0.796
90.00	-18.77	-26.71	0.00	-1534.3	0.00	1534.35	2610.69	1305.34	4022.76	2014.37	31.99	-3.728	0.000	0.769
95.00	-17.95	-26.32	0.00	-1400.8	0.00	1400.82	2555.44	1277.72	3815.94	1910.80	36.06	-4.043	0.000	0.741
100.00	-17.15	-25.94	0.00	-1269.2	0.00	1269.20	2498.62	1249.31	3612.11	1808.74	40.46	-4.358	0.000	0.709
105.00	-16.38	-25.56	0.00	-1139.5	0.00	1139.50	2440.24	1220.12	3411.50	1708.29	45.19	-4.671	0.000	0.674
110.00	-13.76	-22.07	0.00	-1011.7	0.00	1011.71	2380.29	1190.15	3214.34	1609.56	50.24	-4.980	0.000	0.635
115.00	-13.07	-21.68	0.00	-901.35	0.00	901.35	2318.78	1159.39	3020.85	1512.67	55.62	-5.285	0.000	0.602
119.00	-12.56	-21.35	0.00	-814.64	0.00	814.64	2268.44	1134.22	2868.85	1436.56	60.14	-5.528	0.000	0.573
120.00	-12.32	-21.28	0.00	-793.29	0.00	793.29	2255.69	1127.85	2831.25	1417.73	61.31	-5.590	0.000	0.565
123.00	-11.71	-21.02	0.00	-729.45	0.00	729.45	1577.63	788.82	1975.86	989.40	64.87	-5.771	0.000	0.745
125.00	-11.44	-20.89	0.00	-687.41	0.00	687.41	1561.09	780.55	1925.40	964.13	67.31	-5.891	0.000	0.721
130.00	-10.88	-20.52	0.00	-582.96	0.00	582.96	1518.76	759.38	1800.86	901.77	73.65	-6.223	0.000	0.654
135.00	-10.33	-20.16	0.00	-480.35	0.00	480.35	1475.03	737.52	1678.77	840.64	80.33	-6.537	0.000	0.579
140.00	-7.02	-14.58	0.00	-379.57	0.00	379.57	1429.92	714.96	1559.34	780.83	87.32	-6.823	0.000	0.491
145.00	-6.61	-14.21	0.00	-306.69	0.00	306.69	1383.42	691.71	1442.75	722.45	94.59	-7.082	0.000	0.430
150.00	-6.22	-13.86	0.00	-235.62	0.00	235.62	1321.23	660.61	1314.97	658.46	102.11	-7.316	0.000	0.363
155.00	-5.87	-13.51	0.00	-166.32	0.00	166.32	1258.65	629.32	1192.75	597.26	109.87	-7.515	0.000	0.284
157.00	-2.90	-7.88	0.00	-139.31	0.00	139.31	1233.62	616.81	1145.53	573.62	113.02	-7.585	0.000	0.245
160.00	-2.71	-7.67	0.00	-115.67	0.00	115.67	1196.07	598.03	1076.49	539.05	117.80	-7.678	0.000	0.217
161.00	-2.48	-7.44	0.00	-108.00	0.00	108.00	1183.55	591.78	1053.96	527.76	119.41	-7.708	0.000	0.207
161.00	-2.48	-7.44	0.00	-108.00	0.00	108.00	858.57	429.28	768.96	385.05	119.41	-7.708	0.000	0.284
165.00	-2.30	-7.19	0.00	-78.23	0.00	78.23	832.45	416.23	713.85	357.46	125.90	-7.811	0.000	0.222
170.00	-2.08	-6.87	0.00	-42.30	0.00	42.30	798.56	399.28	646.76	323.86	134.12	-7.936	0.000	0.133
175.00	0.00	-6.52	0.00	-7.92	0.00	7.92	758.80	379.40	578.42	289.64	142.45	-7.998	0.000	0.028

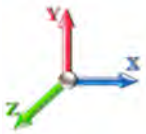
Wind Loading - Shaft

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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	25.266	30.32	141.9	596.8	2409.8
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.775	5.00	24.878	29.85	139.8	628.2	2403.9
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.848	5.00	24.453	29.34	137.4	641.7	2380.1
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.902	5.00	24.011	28.81	134.9	647.4	2348.5
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.945	5.00	23.561	28.27	132.4	648.5	2312.4
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.981	5.00	23.104	27.72	129.9	646.6	2273.2
35.00		1.00	0.73	4.451	4.90	0.00	1.200	2.012	5.00	22.643	27.17	133.0	642.5	2231.9
38.75	Bot - Section 2	1.00	0.75	4.583	5.04	0.00	1.200	2.032	3.75	16.676	20.01	100.9	478.7	1646.3
40.00		1.00	0.76	4.625	5.09	0.00	1.200	2.039	1.25	5.592	6.71	34.1	162.0	889.6
45.00	Top - Section 1	1.00	0.79	4.783	5.26	0.00	1.200	2.063	5.00	22.083	26.50	139.4	641.1	3508.0
50.00		1.00	0.81	4.929	5.42	0.00	1.200	2.085	5.00	21.614	25.94	140.6	633.1	1952.6
55.00		1.00	0.83	5.065	5.57	0.00	1.200	2.105	5.00	21.144	25.37	141.4	624.3	1911.1
60.00		1.00	0.85	5.193	5.71	0.00	1.200	2.123	5.00	20.673	24.81	141.7	614.7	1868.9
65.00		1.00	0.87	5.313	5.84	0.00	1.200	2.140	5.00	20.201	24.24	141.7	604.4	1826.1
70.00		1.00	0.89	5.426	5.97	0.00	1.200	2.156	5.00	19.728	23.67	141.3	593.6	1782.6
75.00	Appurtenance(s)	1.00	0.91	5.534	6.09	0.00	1.200	2.171	5.00	19.253	23.10	140.7	582.2	1738.7
78.75	Bot - Section 3	1.00	0.92	5.612	6.17	0.00	1.200	2.182	3.75	14.127	16.95	104.7	430.1	1276.0
80.00		1.00	0.93	5.637	6.20	0.00	1.200	2.185	1.25	4.715	5.66	35.1	144.7	625.0
83.75	Top - Section 2	1.00	0.94	5.712	6.28	0.00	1.200	2.195	3.75	13.969	16.76	105.3	427.4	1847.1
85.00		1.00	0.94	5.736	6.31	0.00	1.200	2.198	1.25	4.596	5.52	34.8	141.7	338.2
90.00		1.00	0.96	5.830	6.41	0.00	1.200	2.211	5.00	18.092	21.71	139.2	554.3	1325.7
95.00		1.00	0.97	5.921	6.51	0.00	1.200	2.223	5.00	17.615	21.14	137.7	541.5	1289.6
100.00		1.00	0.99	6.008	6.61	0.00	1.200	2.234	5.00	17.138	20.57	135.9	528.3	1253.1
105.00		1.00	1.00	6.093	6.70	0.00	1.200	2.245	5.00	16.660	19.99	134.0	514.9	1216.4
110.00	Appurtenance(s)	1.00	1.02	6.174	6.79	0.00	1.200	2.256	5.00	16.183	19.42	131.9	501.2	1179.4
115.00		1.00	1.03	6.253	6.88	0.00	1.200	2.266	5.00	15.704	18.85	129.6	487.2	1142.2
119.00	Bot - Section 4	1.00	1.04	6.315	6.95	0.00	1.200	2.274	4.00	12.218	14.66	101.8	380.7	887.9
120.00		1.00	1.04	6.330	6.96	0.00	1.200	2.276	1.00	3.049	3.66	25.5	96.0	321.9
123.00	Top - Section 3	1.00	1.05	6.375	7.01	0.00	1.200	2.281	3.00	9.032	10.84	76.0	282.9	950.5
125.00		1.00	1.05	6.404	7.04	0.00	1.200	2.285	2.00	5.925	7.11	50.1	186.3	382.4
130.00		1.00	1.07	6.476	7.12	0.00	1.200	2.294	5.00	14.480	17.38	123.8	451.2	928.4
135.00		1.00	1.08	6.546	7.20	0.00	1.200	2.303	5.00	14.000	16.80	121.0	436.5	895.0
140.00	Appurtenance(s)	1.00	1.09	6.615	7.28	0.00	1.200	2.311	5.00	13.521	16.22	118.1	421.5	861.4
145.00		1.00	1.10	6.681	7.35	0.00	1.200	2.319	5.00	13.041	15.65	115.0	406.4	827.7
150.00		1.00	1.11	6.746	7.42	0.00	1.200	2.327	5.00	12.561	15.07	111.9	391.1	793.8
155.00		1.00	1.12	6.810	7.49	0.00	1.200	2.335	5.00	12.081	14.50	108.6	375.7	759.7
157.00	Appurtenance(s)	1.00	1.12	6.835	7.52	0.00	1.200	2.338	2.00	4.697	5.64	42.4	147.8	296.2
160.00		1.00	1.13	6.872	7.56	0.00	1.200	2.342	3.00	6.902	8.28	62.6	216.1	433.1
161.00	Top - Section 4	1.00	1.13	6.884	7.57	0.00	1.200	2.343	1.00	2.262	2.71	20.6	71.4	142.2
165.00		1.00	1.14	6.933	7.63	0.00	1.200	2.349	4.00	8.857	10.63	81.1	275.5	483.1
170.00		1.00	1.15	6.992	7.69	0.00	1.200	2.356	5.00	10.639	12.77	98.2	328.5	575.4
175.00	Appurtenance(s)	1.00	1.16	7.050	7.76	0.00	1.200	2.363	5.00	10.158	12.19	94.5	312.6	545.5
								Totals:	**175.00**			**4,510.2**		**55,060.6**

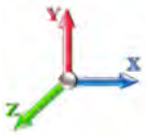
Discrete Appurtenance Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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	175.00	JMA Wireless	6	7.073	7.780	0.65	0.75	46.07	2636.36	0.000	2.000	358.48	0.00	716.96
2	175.00	6' Lightning rod	1	7.050	7.755	1.00	1.00	1.85	51.65	0.000	0.000	14.37	0.00	0.00
3	175.00	Low Profile Platform-flat	1	7.050	7.755	1.00	1.00	78.97	2557.86	0.000	0.000	612.42	0.00	0.00
4	175.00	Samsung MT6407-77A	3	7.073	7.780	0.52	0.75	9.44	808.29	0.000	2.000	73.45	0.00	146.91
5	175.00	Antel BXA-70080-6CF	3	7.073	7.780	0.65	0.75	17.56	470.52	0.000	2.000	136.65	0.00	273.30
6	175.00	MS-H1242 (Heavy Collar	1	7.050	7.755	1.00	1.00	6.04	399.13	0.000	0.000	46.88	0.00	0.00
7	175.00	Samsung B2/B66A	3	7.073	7.780	0.50	0.75	4.03	642.20	0.000	2.000	31.35	0.00	62.70
8	175.00	Samsung B5/B13	3	7.073	7.780	0.50	0.75	4.03	561.13	0.000	2.000	31.35	0.00	62.70
9	175.00	RVZDC-6627-PF-48	1	7.073	7.780	0.75	0.75	3.88	167.46	0.000	2.000	30.19	0.00	60.37
10	175.00	MS-KI22-5 (Kickers w/o	1	7.050	7.755	1.00	1.00	12.89	387.21	0.000	0.000	99.94	0.00	0.00
11	175.00	MS-HRECP	1	7.073	7.780	1.00	1.00	27.88	1956.75	0.000	2.000	216.92	0.00	433.84
12	161.00	Bridge Stiffener	1	6.884	7.573	1.00	1.00	5.60	640.56	0.000	0.000	42.40	0.00	0.00
13	157.00	Platform w/ Handrail +	1	6.835	7.518	1.00	1.00	114.59	7932.63	0.000	0.000	861.54	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	6.835	7.518	0.50	0.75	7.79	727.95	0.000	0.000	58.57	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	6.835	7.518	0.50	0.75	12.13	849.39	0.000	0.000	91.17	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	6.835	7.518	0.50	0.75	6.74	479.57	0.000	0.000	50.65	0.00	0.00
17	157.00	NNVV-65B-R4	3	6.835	7.518	0.55	0.75	23.68	1385.10	0.000	0.000	178.01	0.00	0.00
18	157.00	APXVTM14-C-I20	3	6.835	7.518	0.58	0.75	13.62	891.79	0.000	0.000	102.43	0.00	0.00
19	140.00	Ericsson AIR6449 B41	3	6.615	7.276	0.53	0.75	11.04	820.40	0.000	0.000	80.30	0.00	0.00
20	140.00	APXVAARR24_43-U-NA2	3	6.615	7.276	0.52	0.75	35.89	2190.09	0.000	0.000	261.13	0.00	0.00
21	140.00	MT-195-12	1	6.615	7.276	1.00	1.00	67.73	4573.15	0.000	0.000	492.83	0.00	0.00
22	140.00	KRY 112 489/2	3	6.615	7.276	0.50	0.75	2.29	130.10	0.000	0.000	16.69	0.00	0.00
23	140.00	Ericsson 4449 B71 + B85	3	6.615	7.276	0.50	0.75	4.11	335.22	0.000	0.000	29.88	0.00	0.00
24	140.00	Ericsson 4460 B25 + B66	3	6.615	7.276	0.50	0.75	5.64	580.94	0.000	0.000	41.06	0.00	0.00
25	140.00	Kathrein 782 11056	3	6.615	7.276	0.50	0.75	1.22	16.34	0.000	0.000	8.90	0.00	0.00
26	140.00	MS-HRECP-35	1	6.615	7.276	1.00	1.00	28.10	1938.52	0.000	0.000	204.48	0.00	0.00
27	110.00	Raycap	1	6.174	6.792	1.00	1.00	2.74	82.41	0.000	0.000	18.64	0.00	0.00
28	110.00	Fujitsu TA08025-B604	3	6.174	6.792	0.50	0.75	4.05	390.07	0.000	0.000	27.49	0.00	0.00
29	110.00	Fujitsu TA08025-B605	3	6.174	6.792	0.50	0.75	4.05	435.03	0.000	0.000	27.49	0.00	0.00
30	110.00	MC-PK8-DSH	1	6.174	6.792	1.00	1.00	98.65	3881.12	0.000	0.000	669.97	0.00	0.00
31	110.00	Commscope	3	6.174	6.792	0.55	0.75	23.56	1050.61	0.000	0.000	160.04	0.00	0.00
32	75.00	GPS	1	5.534	6.088	1.00	1.00	1.89	40.47	0.000	0.000	11.48	0.00	0.00
							Totals:		**40,010.02**			**5,087.16**		

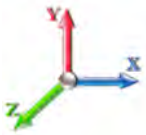
Total Applied Force Summary

Structure:	CT01915-S-SBA		**Code:**	TIA-222-G	1/24/2022
Site Name:	South Brooklyn		**Exposure:**	B	
Height:	175.00 (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: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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		141.94	2602.93	0.00	0.00
10.00		139.76	2597.01	0.00	0.00
15.00		137.37	2573.26	0.00	0.00
20.00		134.89	2541.66	0.00	0.00
25.00		132.36	2505.50	0.00	0.00
30.00		129.91	2466.33	0.00	0.00
35.00		133.05	2425.00	0.00	0.00
38.75		100.88	1791.18	0.00	0.00
40.00		34.13	937.92	0.00	0.00
45.00		139.41	3701.15	0.00	0.00
50.00		140.63	2145.73	0.00	0.00
55.00		141.37	2104.28	0.00	0.00
60.00		141.70	2062.07	0.00	0.00
65.00		141.66	2019.21	0.00	0.00
70.00		141.30	1975.77	0.00	0.00
75.00	(1) attachments	152.13	1972.31	0.00	0.00
78.75		104.65	1420.16	0.00	0.00
80.00		35.09	673.01	0.00	0.00
83.75		105.32	1991.26	0.00	0.00
85.00		34.80	386.24	0.00	0.00
90.00		139.23	1517.89	0.00	0.00
95.00		137.67	1481.75	0.00	0.00
100.00		135.92	1445.31	0.00	0.00
105.00		133.99	1408.57	0.00	0.00
110.00	(11) attachments	1035.52	7210.81	0.00	0.00
115.00		129.63	1323.41	0.00	0.00
119.00		101.84	1032.90	0.00	0.00
120.00		25.47	358.15	0.00	0.00
123.00		76.00	1059.22	0.00	0.00
125.00		50.09	454.90	0.00	0.00
130.00		123.78	1109.64	0.00	0.00
135.00		120.98	1076.25	0.00	0.00
140.00	(20) attachments	1253.33	11627.45	0.00	0.00
145.00		115.01	928.52	0.00	0.00
150.00		111.86	894.61	0.00	0.00
155.00		108.59	860.55	0.00	0.00
157.00	(19) attachments	1384.75	12602.93	0.00	0.00
160.00		62.61	484.07	0.00	0.00
161.00	(1) attachments	62.95	799.80	0.00	0.00
165.00		81.05	551.07	0.00	0.00
170.00		98.19	660.41	0.00	0.00
175.00	(24) attachments	1746.53	11269.02	0.00	1756.78
	Totals:	**9,597.38**	**101,049.22**	**0.00**	**1,756.78**

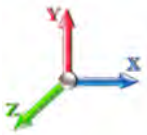
Calculated Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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	-101.0	-9.64	0.00	-1311.0	0.00	1311.02	6411.04	3205.52	14877.2	7449.66	0.00	0.000	0.000	0.192
5.00	-98.43	-9.59	0.00	-1262.8	0.00	1262.80	6318.35	3159.17	14361.2	7191.28	0.03	-0.051	0.000	0.191
10.00	-95.83	-9.53	0.00	-1214.8	0.00	1214.87	6224.09	3112.04	13850.5	6935.58	0.11	-0.102	0.000	0.191
15.00	-93.25	-9.48	0.00	-1167.2	0.00	1167.21	6128.26	3064.13	13345.4	6682.66	0.24	-0.155	0.000	0.190
20.00	-90.70	-9.42	0.00	-1119.8	0.00	1119.83	6030.87	3015.43	12846.2	6432.65	0.43	-0.210	0.000	0.189
25.00	-88.18	-9.36	0.00	-1072.7	0.00	1072.74	5931.91	2965.95	12352.9	6185.64	0.68	-0.265	0.000	0.188
30.00	-85.71	-9.31	0.00	-1025.9	0.00	1025.92	5831.38	2915.69	11865.8	5941.76	0.99	-0.322	0.000	0.187
35.00	-83.27	-9.23	0.00	-979.39	0.00	979.39	5715.88	2857.94	11358.6	5687.79	1.36	-0.380	0.000	0.187
38.75	-81.48	-9.16	0.00	-944.76	0.00	944.76	5614.19	2807.10	10956.1	5486.19	1.68	-0.425	0.000	0.187
40.00	-80.54	-9.18	0.00	-933.31	0.00	933.31	5580.30	2790.15	10823.5	5419.80	1.79	-0.440	0.000	0.187
45.00	-76.83	-9.09	0.00	-887.43	0.00	887.43	4741.11	2370.56	9166.15	4589.89	2.28	-0.501	0.000	0.210
50.00	-74.67	-9.01	0.00	-841.99	0.00	841.99	4656.71	2328.36	8781.22	4397.14	2.84	-0.564	0.000	0.208
55.00	-72.56	-8.94	0.00	-796.92	0.00	796.92	4570.75	2285.37	8401.44	4206.97	3.47	-0.632	0.000	0.205
60.00	-70.49	-8.86	0.00	-752.23	0.00	752.23	4483.21	2241.61	8027.05	4019.49	4.17	-0.702	0.000	0.203
65.00	-68.46	-8.78	0.00	-707.94	0.00	707.94	4386.28	2193.14	7644.63	3828.00	4.94	-0.773	0.000	0.201
70.00	-66.47	-8.69	0.00	-664.06	0.00	664.06	4267.64	2133.82	7234.64	3622.70	5.79	-0.845	0.000	0.199
75.00	-64.49	-8.58	0.00	-620.60	0.00	620.60	4149.01	2074.50	6835.94	3423.05	6.72	-0.919	0.000	0.197
78.75	-63.07	-8.50	0.00	-588.41	0.00	588.41	4060.03	2030.01	6544.34	3277.03	7.46	-0.975	0.000	0.195
80.00	-62.39	-8.49	0.00	-577.79	0.00	577.79	4030.37	2015.18	6448.55	3229.07	7.72	-0.995	0.000	0.194
83.75	-60.40	-8.39	0.00	-545.95	0.00	545.95	2677.54	1338.77	4285.17	2145.77	8.52	-1.052	0.000	0.277
85.00	-60.00	-8.41	0.00	-535.46	0.00	535.46	2664.37	1332.18	4232.36	2119.33	8.80	-1.072	0.000	0.275
90.00	-58.47	-8.35	0.00	-493.40	0.00	493.40	2610.69	1305.34	4022.76	2014.37	9.98	-1.173	0.000	0.267
95.00	-56.98	-8.28	0.00	-451.66	0.00	451.66	2555.44	1277.72	3815.94	1910.80	11.26	-1.274	0.000	0.259
100.00	-55.52	-8.21	0.00	-410.27	0.00	410.27	2498.62	1249.31	3612.11	1808.74	12.65	-1.376	0.000	0.249
105.00	-54.11	-8.13	0.00	-369.23	0.00	369.23	2440.24	1220.12	3411.50	1708.29	14.15	-1.477	0.000	0.238
110.00	-46.91	-6.99	0.00	-328.55	0.00	328.55	2380.29	1190.15	3214.34	1609.56	15.75	-1.578	0.000	0.224
115.00	-45.58	-6.89	0.00	-293.61	0.00	293.61	2318.78	1159.39	3020.85	1512.67	17.45	-1.677	0.000	0.214
119.00	-44.55	-6.80	0.00	-266.04	0.00	266.04	2268.44	1134.22	2868.85	1436.56	18.89	-1.756	0.000	0.205
120.00	-44.19	-6.79	0.00	-259.25	0.00	259.25	2255.69	1127.85	2831.25	1417.73	19.26	-1.776	0.000	0.202
123.00	-43.12	-6.72	0.00	-238.87	0.00	238.87	1577.63	788.82	1975.86	989.40	20.40	-1.835	0.000	0.269
125.00	-42.66	-6.71	0.00	-225.43	0.00	225.43	1561.09	780.55	1925.40	964.13	21.17	-1.875	0.000	0.261
130.00	-41.55	-6.63	0.00	-191.88	0.00	191.88	1518.76	759.38	1800.86	901.77	23.20	-1.984	0.000	0.240
135.00	-40.46	-6.54	0.00	-158.74	0.00	158.74	1475.03	737.52	1678.77	840.64	25.33	-2.087	0.000	0.216
140.00	-28.88	-4.90	0.00	-126.05	0.00	126.05	1429.92	714.96	1559.34	780.83	27.57	-2.182	0.000	0.182
145.00	-27.95	-4.79	0.00	-101.56	0.00	101.56	1383.42	691.71	1442.75	722.45	29.90	-2.268	0.000	0.161
150.00	-27.06	-4.67	0.00	-77.63	0.00	77.63	1321.23	660.61	1314.97	658.46	32.32	-2.345	0.000	0.138
155.00	-26.20	-4.55	0.00	-54.27	0.00	54.27	1258.65	629.32	1192.75	597.26	34.81	-2.411	0.000	0.112
157.00	-13.66	-2.64	0.00	-45.18	0.00	45.18	1233.62	616.81	1145.53	573.62	35.82	-2.433	0.000	0.090
160.00	-13.18	-2.56	0.00	-37.26	0.00	37.26	1196.07	598.03	1076.49	539.05	37.36	-2.464	0.000	0.080
161.00	-12.39	-2.47	0.00	-34.70	0.00	34.70	1183.55	591.78	1053.96	527.76	37.88	-2.473	0.000	0.076
161.00	-12.39	-2.47	0.00	-34.70	0.00	34.70	858.57	429.28	768.96	385.05	37.88	-2.473	0.000	0.105
165.00	-11.84	-2.37	0.00	-24.84	0.00	24.84	832.45	416.23	713.85	357.46	39.96	-2.506	0.000	0.084
170.00	-11.18	-2.25	0.00	-12.99	0.00	12.99	798.56	399.28	646.76	323.86	42.61	-2.545	0.000	0.054
175.00	0.00	-1.75	0.00	-1.76	0.00	1.76	758.80	379.40	578.42	289.64	45.29	-2.563	0.000	0.006

Seismic Segment Forces (Factored)

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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 + 1.0E							**Iterations**	23
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)**	0.30		**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		1510.7	0.00	0.03	0.02	25.80	
10.00		1479.7	0.01	0.05	0.03	37.22	
15.00		1448.6	0.01	0.06	0.03	42.62	
20.00		1417.6	0.02	0.07	0.04	45.02	
25.00		1386.5	0.04	0.07	0.04	45.90	
30.00		1355.5	0.06	0.07	0.04	46.08	
35.00		1324.4	0.08	0.07	0.04	46.01	
38.75	Bot - Section 2	972.99	0.09	0.07	0.04	34.32	
40.00		606.38	0.10	0.07	0.04	21.50	
45.00	Top - Section 1	2389.1	0.12	0.07	0.03	86.46	
50.00		1099.5	0.15	0.07	0.03	40.49	
55.00		1072.4	0.19	0.06	0.02	39.86	
60.00		1045.2	0.22	0.06	0.02	38.57	
65.00		1018.0	0.26	0.05	0.02	36.23	
70.00		990.89	0.30	0.04	0.01	32.41	
75.00	Appurtenance(s)	973.73	0.35	0.03	0.01	26.96	
78.75	Bot - Section 3	704.96	0.38	0.02	0.01	15.69	
80.00		400.18	0.39	0.02	0.01	8.05	
83.75	Top - Section 2	1183.0	0.43	0.01	0.01	15.08	
85.00		163.74	0.45	0.00	0.01	1.64	
90.00		642.81	0.50	-0.02	0.01	-1.23	
95.00		623.41	0.56	-0.04	0.01	-8.85	
100.00		604.00	0.62	-0.06	0.02	-15.17	
105.00		584.59	0.68	-0.08	0.03	-19.45	
110.00	Appurtenance(s)	2943.1	0.75	-0.10	0.04	-111.65	
115.00		545.78	0.82	-0.11	0.06	-21.21	
119.00	Bot - Section 4	422.65	0.87	-0.12	0.08	-15.60	
120.00		188.22	0.89	-0.12	0.08	-6.79	
123.00	Top - Section 3	556.27	0.93	-0.12	0.10	-18.17	
125.00		163.40	0.96	-0.12	0.11	-4.85	
130.00		397.64	1.04	-0.10	0.15	-7.86	
135.00		382.12	1.12	-0.05	0.20	-2.45	
140.00	Appurtenance(s)	4162.1	1.21	0.01	0.26	43.26	
145.00		351.07	1.30	0.12	0.33	10.77	
150.00		335.54	1.39	0.26	0.42	18.27	
155.00		320.02	1.48	0.46	0.52	26.19	
157.00	Appurtenance(s)	4054.3	1.52	0.55	0.57	380.25	
160.00		180.83	1.58	0.72	0.64	20.41	
161.00	Top - Section 4	263.21	1.60	0.78	0.67	31.45	
165.00		172.96	1.68	1.05	0.78	25.52	
170.00		205.72	1.78	1.46	0.95	38.29	
175.00	Appurtenance(s)	3275.4	1.89	1.98	1.14	748.62	
	Totals:	**43,919.3**				**1,795.7**	**Total Wind:** **33,517.4**

Calculated Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Iterations 23

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)**	0.30	**SA**	0.03			**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	-58.68	-2.03	0.00	-268.50	0.00	268.50	6411.04	3205.52	14877.2	7449.66		0.00	0.00	0.045
5.00	-56.68	-2.02	0.00	-258.34	0.00	258.34	6318.35	3159.17	14361.2	7191.28		0.01	-0.01	0.045
10.00	-54.71	-1.99	0.00	-248.25	0.00	248.25	6224.09	3112.04	13850.5	6935.58		0.02	-0.02	0.045
15.00	-52.77	-1.96	0.00	-238.30	0.00	238.30	6128.26	3064.13	13345.4	6682.66		0.05	-0.03	0.044
20.00	-50.88	-1.92	0.00	-228.51	0.00	228.51	6030.87	3015.43	12846.2	6432.65		0.09	-0.04	0.044
25.00	-49.02	-1.88	0.00	-218.91	0.00	218.91	5931.91	2965.95	12352.9	6185.64		0.14	-0.05	0.044
30.00	-47.20	-1.84	0.00	-209.50	0.00	209.50	5831.38	2915.69	11865.8	5941.76		0.20	-0.07	0.043
35.00	-45.42	-1.80	0.00	-200.28	0.00	200.28	5715.88	2857.94	11358.6	5687.79		0.28	-0.08	0.043
38.75	-44.11	-1.77	0.00	-193.51	0.00	193.51	5614.19	2807.10	10956.1	5486.19		0.34	-0.09	0.043
40.00	-43.33	-1.76	0.00	-191.29	0.00	191.29	5580.30	2790.15	10823.5	5419.80		0.37	-0.09	0.043
45.00	-40.27	-1.67	0.00	-182.51	0.00	182.51	4741.11	2370.56	9166.15	4589.89		0.47	-0.10	0.048
50.00	-38.76	-1.64	0.00	-174.14	0.00	174.14	4656.71	2328.36	8781.22	4397.14		0.58	-0.12	0.048
55.00	-37.28	-1.61	0.00	-165.95	0.00	165.95	4570.75	2285.37	8401.44	4206.97		0.71	-0.13	0.048
60.00	-35.83	-1.57	0.00	-157.92	0.00	157.92	4483.21	2241.61	8027.05	4019.49		0.85	-0.14	0.047
65.00	-34.41	-1.54	0.00	-150.05	0.00	150.05	4386.28	2193.14	7644.63	3828.00		1.01	-0.16	0.047
70.00	-33.03	-1.51	0.00	-142.34	0.00	142.34	4267.64	2133.82	7234.64	3622.70		1.19	-0.17	0.047
75.00	-31.67	-1.49	0.00	-134.77	0.00	134.77	4149.01	2074.50	6835.94	3423.05		1.38	-0.19	0.047
78.75	-30.68	-1.48	0.00	-129.18	0.00	129.18	4060.03	2030.01	6544.34	3277.03		1.53	-0.20	0.047
80.00	-30.15	-1.47	0.00	-127.33	0.00	127.33	4030.37	2015.18	6448.55	3229.07		1.59	-0.21	0.047
83.75	-28.59	-1.45	0.00	-121.81	0.00	121.81	2677.54	1338.77	4285.17	2145.77		1.75	-0.22	0.067
85.00	-28.34	-1.46	0.00	-120.00	0.00	120.00	2664.37	1332.18	4232.36	2119.33		1.81	-0.22	0.067
90.00	-27.38	-1.47	0.00	-112.70	0.00	112.70	2610.69	1305.34	4022.76	2014.37		2.06	-0.25	0.066
95.00	-26.44	-1.47	0.00	-105.37	0.00	105.37	2555.44	1277.72	3815.94	1910.80		2.33	-0.27	0.065
100.00	-25.52	-1.48	0.00	-98.01	0.00	98.01	2498.62	1249.31	3612.11	1808.74		2.63	-0.29	0.064
105.00	-24.63	-1.48	0.00	-90.61	0.00	90.61	2440.24	1220.12	3411.50	1708.29		2.95	-0.32	0.063
110.00	-20.90	-1.47	0.00	-83.19	0.00	83.19	2380.29	1190.15	3214.34	1609.56		3.30	-0.34	0.060
115.00	-20.06	-1.48	0.00	-75.83	0.00	75.83	2318.78	1159.39	3020.85	1512.67		3.67	-0.37	0.059
119.00	-19.41	-1.48	0.00	-69.93	0.00	69.93	2268.44	1134.22	2868.85	1436.56		3.99	-0.39	0.057
120.00	-19.15	-1.48	0.00	-68.45	0.00	68.45	2255.69	1127.85	2831.25	1417.73		4.07	-0.40	0.057
123.00	-18.37	-1.48	0.00	-64.02	0.00	64.02	1577.63	788.82	1975.86	989.40		4.32	-0.41	0.076
125.00	-18.10	-1.48	0.00	-61.07	0.00	61.07	1561.09	780.55	1925.40	964.13		4.50	-0.42	0.075
130.00	-17.44	-1.48	0.00	-53.67	0.00	53.67	1518.76	759.38	1800.86	901.77		4.95	-0.45	0.071
135.00	-16.80	-1.49	0.00	-46.24	0.00	46.24	1475.03	737.52	1678.77	840.64		5.44	-0.48	0.066
140.00	-11.63	-1.41	0.00	-38.80	0.00	38.80	1429.92	714.96	1559.34	780.83		5.96	-0.51	0.058
145.00	-11.10	-1.39	0.00	-31.78	0.00	31.78	1383.42	691.71	1442.75	722.45		6.51	-0.54	0.052
150.00	-10.60	-1.38	0.00	-24.80	0.00	24.80	1321.23	660.61	1314.97	658.46		7.09	-0.56	0.046
155.00	-10.12	-1.35	0.00	-17.92	0.00	17.92	1258.65	629.32	1192.75	597.26		7.68	-0.58	0.038
157.00	-5.21	-0.92	0.00	-15.23	0.00	15.23	1233.62	616.81	1145.53	573.62		7.93	-0.59	0.031
160.00	-4.95	-0.90	0.00	-12.47	0.00	12.47	1196.07	598.03	1076.49	539.05		8.30	-0.60	0.027
161.00	-4.61	-0.86	0.00	-11.58	0.00	11.58	1183.55	591.78	1053.96	527.76		8.43	-0.60	0.026
161.00	-4.61	-0.86	0.00	-11.58	0.00	11.58	858.57	429.28	768.96	385.05		8.43	-0.60	0.035
165.00	-4.34	-0.83	0.00	-8.13	0.00	8.13	832.45	416.23	713.85	357.46		8.94	-0.61	0.028
170.00	-4.01	-0.79	0.00	-3.96	0.00	3.96	798.56	399.28	646.76	323.86		9.59	-0.63	0.017
175.00	0.00	-0.75	0.00	0.00	0.00	0.00	758.80	379.40	578.42	289.64		10.25	-0.63	0.000

Seismic Segment Forces (Factored)

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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:	0.9D + 1.0E							**Iterations**	23
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)**	0.30		**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		1510.7	0.00	0.03	0.02	25.80	
10.00		1479.7	0.01	0.05	0.03	37.22	
15.00		1448.6	0.01	0.06	0.03	42.62	
20.00		1417.6	0.02	0.07	0.04	45.02	
25.00		1386.5	0.04	0.07	0.04	45.90	
30.00		1355.5	0.06	0.07	0.04	46.08	
35.00		1324.4	0.08	0.07	0.04	46.01	
38.75	Bot - Section 2	972.99	0.09	0.07	0.04	34.32	
40.00		606.38	0.10	0.07	0.04	21.50	
45.00	Top - Section 1	2389.1	0.12	0.07	0.03	86.46	
50.00		1099.5	0.15	0.07	0.03	40.49	
55.00		1072.4	0.19	0.06	0.02	39.86	
60.00		1045.2	0.22	0.06	0.02	38.57	
65.00		1018.0	0.26	0.05	0.02	36.23	
70.00		990.89	0.30	0.04	0.01	32.41	
75.00	Appurtenance(s)	973.73	0.35	0.03	0.01	26.96	
78.75	Bot - Section 3	704.96	0.38	0.02	0.01	15.69	
80.00		400.18	0.39	0.02	0.01	8.05	
83.75	Top - Section 2	1183.0	0.43	0.01	0.01	15.08	
85.00		163.74	0.45	0.00	0.01	1.64	
90.00		642.81	0.50	-0.02	0.01	-1.23	
95.00		623.41	0.56	-0.04	0.01	-8.85	
100.00		604.00	0.62	-0.06	0.02	-15.17	
105.00		584.59	0.68	-0.08	0.03	-19.45	
110.00	Appurtenance(s)	2943.1	0.75	-0.10	0.04	-111.65	
115.00		545.78	0.82	-0.11	0.06	-21.21	
119.00	Bot - Section 4	422.65	0.87	-0.12	0.08	-15.60	
120.00		188.22	0.89	-0.12	0.08	-6.79	
123.00	Top - Section 3	556.27	0.93	-0.12	0.10	-18.17	
125.00		163.40	0.96	-0.12	0.11	-4.85	
130.00		397.64	1.04	-0.10	0.15	-7.86	
135.00		382.12	1.12	-0.05	0.20	-2.45	
140.00	Appurtenance(s)	4162.1	1.21	0.01	0.26	43.26	
145.00		351.07	1.30	0.12	0.33	10.77	
150.00		335.54	1.39	0.26	0.42	18.27	
155.00		320.02	1.48	0.46	0.52	26.19	
157.00	Appurtenance(s)	4054.3	1.52	0.55	0.57	380.25	
160.00		180.83	1.58	0.72	0.64	20.41	
161.00	Top - Section 4	263.21	1.60	0.78	0.67	31.45	
165.00		172.96	1.68	1.05	0.78	25.52	
170.00		205.72	1.78	1.46	0.95	38.29	
175.00	Appurtenance(s)	3275.4	1.89	1.98	1.14	748.62	
	Totals:	**43,919.3**				**1,795.7**	**Total Wind:** **33,517.4**

Calculated Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Tower Engineering Solutions

Load Case:	0.9D + 1.0E							**Iterations**	23
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)**	0.30	**SA**	0.03	**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	-44.01	-2.03	0.00	-264.35	0.00	264.35	6411.04	3205.52	14877.2	7449.66		0.00	0.00	0.042
5.00	-42.51	-2.01	0.00	-254.19	0.00	254.19	6318.35	3159.17	14361.2	7191.28		0.01	-0.01	0.042
10.00	-41.03	-1.98	0.00	-244.12	0.00	244.12	6224.09	3112.04	13850.5	6935.58		0.02	-0.02	0.042
15.00	-39.58	-1.95	0.00	-234.20	0.00	234.20	6128.26	3064.13	13345.4	6682.66		0.05	-0.03	0.042
20.00	-38.16	-1.91	0.00	-224.46	0.00	224.46	6030.87	3015.43	12846.2	6432.65		0.09	-0.04	0.041
25.00	-36.77	-1.87	0.00	-214.92	0.00	214.92	5931.91	2965.95	12352.9	6185.64		0.14	-0.05	0.041
30.00	-35.40	-1.83	0.00	-205.57	0.00	205.57	5831.38	2915.69	11865.8	5941.76		0.20	-0.06	0.041
35.00	-34.06	-1.79	0.00	-196.42	0.00	196.42	5715.88	2857.94	11358.6	5687.79		0.27	-0.08	0.040
38.75	-33.08	-1.76	0.00	-189.72	0.00	189.72	5614.19	2807.10	10956.1	5486.19		0.34	-0.09	0.040
40.00	-32.50	-1.74	0.00	-187.53	0.00	187.53	5580.30	2790.15	10823.5	5419.80		0.36	-0.09	0.040
45.00	-30.20	-1.65	0.00	-178.84	0.00	178.84	4741.11	2370.56	9166.15	4589.89		0.46	-0.10	0.045
50.00	-29.07	-1.62	0.00	-170.57	0.00	170.57	4656.71	2328.36	8781.22	4397.14		0.57	-0.11	0.045
55.00	-27.96	-1.58	0.00	-162.49	0.00	162.49	4570.75	2285.37	8401.44	4206.97		0.70	-0.13	0.045
60.00	-26.87	-1.55	0.00	-154.57	0.00	154.57	4483.21	2241.61	8027.05	4019.49		0.84	-0.14	0.044
65.00	-25.81	-1.52	0.00	-146.83	0.00	146.83	4386.28	2193.14	7644.63	3828.00		0.99	-0.16	0.044
70.00	-24.77	-1.49	0.00	-139.25	0.00	139.25	4267.64	2133.82	7234.64	3622.70		1.17	-0.17	0.044
75.00	-23.75	-1.46	0.00	-131.82	0.00	131.82	4149.01	2074.50	6835.94	3423.05		1.35	-0.19	0.044
78.75	-23.01	-1.45	0.00	-126.34	0.00	126.34	4060.03	2030.01	6544.34	3277.03		1.50	-0.20	0.044
80.00	-22.61	-1.44	0.00	-124.53	0.00	124.53	4030.37	2015.18	6448.55	3229.07		1.56	-0.20	0.044
83.75	-21.44	-1.43	0.00	-119.12	0.00	119.12	2677.54	1338.77	4285.17	2145.77		1.72	-0.22	0.064
85.00	-21.26	-1.43	0.00	-117.34	0.00	117.34	2664.37	1332.18	4232.36	2119.33		1.78	-0.22	0.063
90.00	-20.53	-1.43	0.00	-110.20	0.00	110.20	2610.69	1305.34	4022.76	2014.37		2.02	-0.24	0.063
95.00	-19.83	-1.44	0.00	-103.03	0.00	103.03	2555.44	1277.72	3815.94	1910.80		2.29	-0.26	0.062
100.00	-19.14	-1.44	0.00	-95.84	0.00	95.84	2498.62	1249.31	3612.11	1808.74		2.58	-0.29	0.061
105.00	-18.47	-1.45	0.00	-88.63	0.00	88.63	2440.24	1220.12	3411.50	1708.29		2.89	-0.31	0.059
110.00	-15.67	-1.44	0.00	-81.39	0.00	81.39	2380.29	1190.15	3214.34	1609.56		3.23	-0.34	0.057
115.00	-15.05	-1.44	0.00	-74.20	0.00	74.20	2318.78	1159.39	3020.85	1512.67		3.60	-0.36	0.056
119.00	-14.56	-1.44	0.00	-68.44	0.00	68.44	2268.44	1134.22	2868.85	1436.56		3.91	-0.38	0.054
120.00	-14.36	-1.44	0.00	-67.00	0.00	67.00	2255.69	1127.85	2831.25	1417.73		3.99	-0.39	0.054
123.00	-13.78	-1.44	0.00	-62.68	0.00	62.68	1577.63	788.82	1975.86	989.40		4.24	-0.40	0.072
125.00	-13.58	-1.44	0.00	-59.80	0.00	59.80	1561.09	780.55	1925.40	964.13		4.41	-0.41	0.071
130.00	-13.08	-1.45	0.00	-52.58	0.00	52.58	1518.76	759.38	1800.86	901.77		4.86	-0.44	0.067
135.00	-12.60	-1.45	0.00	-45.35	0.00	45.35	1475.03	737.52	1678.77	840.64		5.34	-0.47	0.062
140.00	-8.72	-1.38	0.00	-38.10	0.00	38.10	1429.92	714.96	1559.34	780.83		5.84	-0.50	0.055
145.00	-8.33	-1.37	0.00	-31.21	0.00	31.21	1383.42	691.71	1442.75	722.45		6.38	-0.52	0.049
150.00	-7.95	-1.35	0.00	-24.38	0.00	24.38	1321.23	660.61	1314.97	658.46		6.94	-0.55	0.043
155.00	-7.58	-1.32	0.00	-17.64	0.00	17.64	1258.65	629.32	1192.75	597.26		7.53	-0.57	0.036
157.00	-3.91	-0.90	0.00	-15.00	0.00	15.00	1233.62	616.81	1145.53	573.62		7.77	-0.58	0.029
160.00	-3.71	-0.88	0.00	-12.29	0.00	12.29	1196.07	598.03	1076.49	539.05		8.14	-0.59	0.026
161.00	-3.46	-0.85	0.00	-11.40	0.00	11.40	1183.55	591.78	1053.96	527.76		8.26	-0.59	0.025
161.00	-3.46	-0.85	0.00	-11.40	0.00	11.40	858.57	429.28	768.96	385.05		8.26	-0.59	0.034
165.00	-3.25	-0.82	0.00	-8.01	0.00	8.01	832.45	416.23	713.85	357.46		8.76	-0.60	0.026
170.00	-3.00	-0.78	0.00	-3.90	0.00	3.90	798.56	399.28	646.76	323.86		9.40	-0.61	0.016
175.00	0.00	-0.75	0.00	0.00	0.00	0.00	758.80	379.40	578.42	289.64		10.04	-0.62	0.000

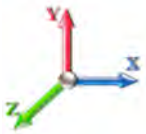
Wind Loading - Shaft

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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	6.129	6.74	242.25	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	237.37	0.650	0.000	5.00	23.886	15.53	104.7	0.0	1510.8
10.00		1.00	0.70	6.129	6.74	232.48	0.650	0.000	5.00	23.399	15.21	102.5	0.0	1479.7
15.00		1.00	0.70	6.129	6.74	227.60	0.650	0.000	5.00	22.913	14.89	100.4	0.0	1448.7
20.00		1.00	0.70	6.129	6.74	222.71	0.650	0.000	5.00	22.426	14.58	98.3	0.0	1417.6
25.00		1.00	0.70	6.129	6.74	217.83	0.650	0.000	5.00	21.940	14.26	96.1	0.0	1386.6
30.00		1.00	0.70	6.134	6.75	213.03	0.650	0.000	5.00	21.453	13.94	94.1	0.0	1355.5
35.00		1.00	0.73	6.410	7.05	212.78	0.650	0.000	5.00	20.966	13.63	96.1	0.0	1324.5
38.75	Bot - Section 2	1.00	0.75	6.599	7.26	212.10	0.650	0.000	3.75	15.406	10.01	72.7	0.0	973.0
40.00		1.00	0.76	6.659	7.33	211.79	0.650	0.000	1.25	5.167	3.36	24.6	0.0	606.4
45.00	Top - Section 1	1.00	0.79	6.887	7.58	210.20	0.650	0.000	5.00	20.364	13.24	100.3	0.0	2389.1
50.00		1.00	0.81	7.098	7.81	212.13	0.650	0.000	5.00	19.877	12.92	100.9	0.0	1099.6
55.00		1.00	0.83	7.294	8.02	209.71	0.650	0.000	5.00	19.390	12.60	101.1	0.0	1072.4
60.00		1.00	0.85	7.477	8.22	206.94	0.650	0.000	5.00	18.904	12.29	101.1	0.0	1045.2
65.00		1.00	0.87	7.650	8.42	203.86	0.650	0.000	5.00	18.417	11.97	100.7	0.0	1018.1
70.00		1.00	0.89	7.814	8.60	200.52	0.650	0.000	5.00	17.931	11.65	100.2	0.0	990.9
75.00	Appurtenance(s)	1.00	0.91	7.969	8.77	196.93	0.650	0.000	5.00	17.444	11.34	99.4	0.0	963.7
78.75	Bot - Section 3	1.00	0.92	8.081	8.89	194.10	0.650	0.000	3.75	12.764	8.30	73.8	0.0	705.0
80.00		1.00	0.93	8.118	8.93	193.13	0.650	0.000	1.25	4.260	2.77	24.7	0.0	400.2
83.75	Top - Section 2	1.00	0.94	8.225	9.05	190.16	0.650	0.000	3.75	12.597	8.19	74.1	0.0	1183.1
85.00		1.00	0.94	8.260	9.09	192.22	0.650	0.000	1.25	4.138	2.69	24.4	0.0	163.7
90.00		1.00	0.96	8.396	9.24	188.08	0.650	0.000	5.00	16.249	10.56	97.5	0.0	642.8
95.00		1.00	0.97	8.526	9.38	183.78	0.650	0.000	5.00	15.762	10.25	96.1	0.0	623.4
100.00		1.00	0.99	8.652	9.52	179.33	0.650	0.000	5.00	15.276	9.93	94.5	0.0	604.0
105.00		1.00	1.00	8.774	9.65	174.74	0.650	0.000	5.00	14.789	9.61	92.8	0.0	584.6
110.00	Appurtenance(s)	1.00	1.02	8.891	9.78	170.02	0.650	0.000	5.00	14.303	9.30	90.9	0.0	565.2
115.00		1.00	1.03	9.005	9.91	165.18	0.650	0.000	5.00	13.816	8.98	89.0	0.0	545.8
119.00	Bot - Section 4	1.00	1.04	9.093	10.00	161.23	0.650	0.000	4.00	10.703	6.96	69.6	0.0	422.7
120.00		1.00	1.04	9.115	10.03	160.23	0.650	0.000	1.00	2.669	1.74	17.4	0.0	188.2
123.00	Top - Section 3	1.00	1.05	9.179	10.10	157.21	0.650	0.000	3.00	7.891	5.13	51.8	0.0	556.3
125.00		1.00	1.05	9.222	10.14	157.78	0.650	0.000	2.00	5.163	3.36	34.0	0.0	163.4
130.00		1.00	1.07	9.326	10.26	152.64	0.650	0.000	5.00	12.568	8.17	83.8	0.0	397.6
135.00		1.00	1.08	9.427	10.37	147.41	0.650	0.000	5.00	12.081	7.85	81.4	0.0	382.1
140.00	Appurtenance(s)	1.00	1.09	9.525	10.48	142.08	0.650	0.000	5.00	11.595	7.54	79.0	0.0	366.6
145.00		1.00	1.10	9.621	10.58	136.68	0.650	0.000	5.00	11.108	7.22	76.4	0.0	351.1
150.00		1.00	1.11	9.715	10.69	131.19	0.650	0.000	5.00	10.622	6.90	73.8	0.0	335.5
155.00		1.00	1.12	9.806	10.79	125.63	0.650	0.000	5.00	10.135	6.59	71.1	0.0	320.0
157.00	Appurtenance(s)	1.00	1.12	9.842	10.83	123.38	0.650	0.000	2.00	3.918	2.55	27.6	0.0	123.7
160.00		1.00	1.13	9.896	10.89	119.99	0.650	0.000	3.00	5.731	3.73	40.5	0.0	180.8
161.00	Top - Section 4	1.00	1.13	9.913	10.90	118.85	0.650	0.000	1.00	1.871	1.22	13.3	0.0	59.0
165.00		1.00	1.14	9.983	10.98	114.28	0.650	0.000	4.00	7.291	4.74	52.0	0.0	173.0
170.00		1.00	1.15	10.069	11.08	108.51	0.650	0.000	5.00	8.676	5.64	62.5	0.0	205.7
175.00	Appurtenance(s)	1.00	1.16	10.152	11.17	102.67	0.650	0.000	5.00	8.189	5.32	59.4	0.0	194.1
								Totals:	**175.00**			**3,144.5**		**30,519.4**

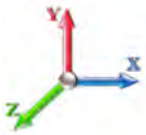
Discrete Appurtenance Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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	175.00	JMA Wireless	6	10.185	11.204	0.65	0.75	38.64	276.00	0.000	2.000	432.93	0.00	865.86
2	175.00	6' Lightning rod	1	10.152	11.168	1.00	1.00	0.38	6.50	0.000	0.000	4.24	0.00	0.00
3	175.00	Low Profile Platform-flat	1	10.152	11.168	1.00	1.00	37.00	1200.00	0.000	0.000	413.20	0.00	0.00
4	175.00	Samsung MT6407-77A	3	10.185	11.204	0.52	0.75	7.39	238.20	0.000	2.000	82.76	0.00	165.52
5	175.00	Antel BXA-70080-6CF	3	10.185	11.204	0.65	0.75	11.28	54.00	0.000	2.000	126.33	0.00	252.65
6	175.00	MS-H1242 (Heavy Collar	1	10.152	11.168	1.00	1.00	2.50	150.60	0.000	0.000	27.92	0.00	0.00
7	175.00	Samsung B2/B66A	3	10.185	11.204	0.50	0.75	2.82	253.20	0.000	2.000	31.58	0.00	63.17
8	175.00	Samsung B5/B13	3	10.185	11.204	0.50	0.75	2.82	210.90	0.000	2.000	31.58	0.00	63.17
9	175.00	RVZDC-6627-PF-48	1	10.185	11.204	0.75	0.75	3.04	32.00	0.000	2.000	34.12	0.00	68.23
10	175.00	MS-KI22-5 (Kickers w/o	1	10.152	11.168	1.00	1.00	5.33	146.00	0.000	0.000	59.52	0.00	0.00
11	175.00	MS-HRECP	1	10.185	11.204	1.00	1.00	12.00	514.00	0.000	2.000	134.45	0.00	268.89
12	161.00	Bridge Stiffener	1	9.913	10.905	1.00	1.00	2.89	204.17	0.000	0.000	31.51	0.00	0.00
13	157.00	Platform w/ Handrail +	1	9.842	10.827	1.00	1.00	54.00	2800.00	0.000	0.000	584.63	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	9.842	10.827	0.50	0.75	6.11	210.00	0.000	0.000	66.10	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	9.842	10.827	0.50	0.75	7.51	318.00	0.000	0.000	81.28	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	9.842	10.827	0.50	0.75	4.18	180.00	0.000	0.000	45.21	0.00	0.00
17	157.00	NNVV-65B-R4	3	9.842	10.827	0.55	0.75	20.43	254.10	0.000	0.000	221.18	0.00	0.00
18	157.00	APXVTM14-C-I20	3	9.842	10.827	0.58	0.75	10.98	168.60	0.000	0.000	118.92	0.00	0.00
19	140.00	Ericsson AIR6449 B41	3	9.525	10.478	0.53	0.75	9.03	309.00	0.000	0.000	94.57	0.00	0.00
20	140.00	APXVAARR24_43-U-NA2	3	9.525	10.478	0.52	0.75	31.88	384.00	0.000	0.000	334.01	0.00	0.00
21	140.00	MT-195-12	1	9.525	10.478	1.00	1.00	40.00	2000.00	0.000	0.000	419.11	0.00	0.00
22	140.00	KRY 112 489/2	3	9.525	10.478	0.50	0.75	1.01	46.20	0.000	0.000	10.58	0.00	0.00
23	140.00	Ericsson 4449 B71 + B85	3	9.525	10.478	0.50	0.75	2.97	225.00	0.000	0.000	31.12	0.00	0.00
24	140.00	Ericsson 4460 B25 + B66	3	9.525	10.478	0.50	0.75	4.30	312.00	0.000	0.000	45.02	0.00	0.00
25	140.00	Kathrein 782 11056	3	9.525	10.478	0.50	0.75	0.42	5.40	0.000	0.000	4.42	0.00	0.00
26	140.00	MS-HRECP-35	1	9.525	10.478	1.00	1.00	12.25	514.00	0.000	0.000	128.35	0.00	0.00
27	110.00	Raycap	1	8.891	9.780	1.00	1.00	2.01	21.90	0.000	0.000	19.66	0.00	0.00
28	110.00	Fujitsu TA08025-B604	3	8.891	9.780	0.50	0.75	2.95	191.70	0.000	0.000	28.90	0.00	0.00
29	110.00	Fujitsu TA08025-B605	3	8.891	9.780	0.50	0.75	2.95	225.00	0.000	0.000	28.90	0.00	0.00
30	110.00	MC-PK8-DSH	1	8.891	9.780	1.00	1.00	37.59	1727.00	0.000	0.000	367.63	0.00	0.00
31	110.00	Commscope	3	8.891	9.780	0.55	0.75	20.43	212.40	0.000	0.000	199.80	0.00	0.00
32	75.00	GPS	1	7.969	8.766	1.00	1.00	1.00	10.00	0.000	0.000	8.77	0.00	0.00
							Totals:		**13,399.87**			**4,248.30**		

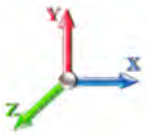
Total Applied Force Summary

Structure:	CT01915-S-SBA		**Code:**	TIA-222-G	1/24/2022
Site Name:	South Brooklyn		**Exposure:**	B	
Height:	175.00 (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: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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		104.67	1671.73	0.00	0.00
10.00		102.53	1640.68	0.00	0.00
15.00		100.40	1609.63	0.00	0.00
20.00		98.27	1578.58	0.00	0.00
25.00		96.14	1547.53	0.00	0.00
30.00		94.09	1516.48	0.00	0.00
35.00		96.09	1485.43	0.00	0.00
38.75		72.69	1093.70	0.00	0.00
40.00		24.60	646.61	0.00	0.00
45.00		100.28	2550.07	0.00	0.00
50.00		100.87	1260.51	0.00	0.00
55.00		101.12	1233.35	0.00	0.00
60.00		101.06	1206.18	0.00	0.00
65.00		100.74	1179.01	0.00	0.00
70.00		100.18	1151.84	0.00	0.00
75.00	(1) attachments	108.17	1134.67	0.00	0.00
78.75		73.75	825.07	0.00	0.00
80.00		24.73	440.22	0.00	0.00
83.75		74.08	1303.18	0.00	0.00
85.00		24.44	203.77	0.00	0.00
90.00		97.54	802.96	0.00	0.00
95.00		96.09	783.55	0.00	0.00
100.00		94.50	764.14	0.00	0.00
105.00		92.78	744.74	0.00	0.00
110.00	(11) attachments	735.81	3103.33	0.00	0.00
115.00		88.95	696.83	0.00	0.00
119.00		69.58	543.49	0.00	0.00
120.00		17.40	218.43	0.00	0.00
123.00		51.79	646.90	0.00	0.00
125.00		34.05	223.82	0.00	0.00
130.00		83.80	548.69	0.00	0.00
135.00		81.43	533.16	0.00	0.00
140.00	(20) attachments	1146.15	4313.24	0.00	0.00
145.00		76.42	435.10	0.00	0.00
150.00		73.78	419.58	0.00	0.00
155.00		71.06	404.05	0.00	0.00
157.00	(19) attachments	1144.89	4087.97	0.00	0.00
160.00		40.55	223.33	0.00	0.00
161.00	(1) attachments	44.78	277.37	0.00	0.00
165.00		52.04	229.62	0.00	0.00
170.00		62.46	276.55	0.00	0.00
175.00	(24) attachments	1438.07	3346.31	0.00	1747.49
	Totals:	**7,392.81**	**48,901.44**	**0.00**	**1,747.49**

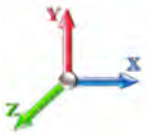
Calculated Forces

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

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	-48.90	-7.41	0.00	-949.57	0.00	949.57	6411.04	3205.52	14877.2	7449.66	0.00	0.000	0.000	0.135
5.00	-47.22	-7.33	0.00	-912.53	0.00	912.53	6318.35	3159.17	14361.2	7191.28	0.02	-0.037	0.000	0.134
10.00	-45.58	-7.26	0.00	-875.86	0.00	875.86	6224.09	3112.04	13850.5	6935.58	0.08	-0.074	0.000	0.134
15.00	-43.96	-7.19	0.00	-839.57	0.00	839.57	6128.26	3064.13	13345.4	6682.66	0.18	-0.112	0.000	0.133
20.00	-42.38	-7.11	0.00	-803.64	0.00	803.64	6030.87	3015.43	12846.2	6432.65	0.31	-0.151	0.000	0.132
25.00	-40.83	-7.04	0.00	-768.08	0.00	768.08	5931.91	2965.95	12352.9	6185.64	0.49	-0.191	0.000	0.131
30.00	-39.31	-6.97	0.00	-732.87	0.00	732.87	5831.38	2915.69	11865.8	5941.76	0.72	-0.232	0.000	0.130
35.00	-37.82	-6.89	0.00	-698.03	0.00	698.03	5715.88	2857.94	11358.6	5687.79	0.98	-0.273	0.000	0.129
38.75	-36.72	-6.83	0.00	-672.19	0.00	672.19	5614.19	2807.10	10956.1	5486.19	1.21	-0.305	0.000	0.129
40.00	-36.07	-6.82	0.00	-663.66	0.00	663.66	5580.30	2790.15	10823.5	5419.80	1.29	-0.316	0.000	0.129
45.00	-33.52	-6.73	0.00	-629.58	0.00	629.58	4741.11	2370.56	9166.15	4589.89	1.64	-0.359	0.000	0.144
50.00	-32.25	-6.64	0.00	-595.95	0.00	595.95	4656.71	2328.36	8781.22	4397.14	2.04	-0.403	0.000	0.142
55.00	-31.01	-6.56	0.00	-562.74	0.00	562.74	4570.75	2285.37	8401.44	4206.97	2.49	-0.452	0.000	0.141
60.00	-29.80	-6.47	0.00	-529.95	0.00	529.95	4483.21	2241.61	8027.05	4019.49	2.99	-0.501	0.000	0.139
65.00	-28.62	-6.39	0.00	-497.58	0.00	497.58	4386.28	2193.14	7644.63	3828.00	3.54	-0.551	0.000	0.137
70.00	-27.46	-6.30	0.00	-465.65	0.00	465.65	4267.64	2133.82	7234.64	3622.70	4.15	-0.602	0.000	0.135
75.00	-26.32	-6.20	0.00	-434.15	0.00	434.15	4149.01	2074.50	6835.94	3423.05	4.80	-0.653	0.000	0.133
78.75	-25.50	-6.13	0.00	-410.90	0.00	410.90	4060.03	2030.01	6544.34	3277.03	5.33	-0.693	0.000	0.132
80.00	-25.05	-6.11	0.00	-403.24	0.00	403.24	4030.37	2015.18	6448.55	3229.07	5.52	-0.706	0.000	0.131
83.75	-23.75	-6.03	0.00	-380.33	0.00	380.33	2677.54	1338.77	4285.17	2145.77	6.09	-0.746	0.000	0.186
85.00	-23.54	-6.02	0.00	-372.79	0.00	372.79	2664.37	1332.18	4232.36	2119.33	6.29	-0.760	0.000	0.185
90.00	-22.73	-5.94	0.00	-342.69	0.00	342.69	2610.69	1305.34	4022.76	2014.37	7.12	-0.830	0.000	0.179
95.00	-21.94	-5.86	0.00	-312.99	0.00	312.99	2555.44	1277.72	3815.94	1910.80	8.03	-0.901	0.000	0.172
100.00	-21.17	-5.78	0.00	-283.69	0.00	283.69	2498.62	1249.31	3612.11	1808.74	9.01	-0.971	0.000	0.165
105.00	-20.42	-5.70	0.00	-254.80	0.00	254.80	2440.24	1220.12	3411.50	1708.29	10.06	-1.041	0.000	0.158
110.00	-17.33	-4.92	0.00	-226.32	0.00	226.32	2380.29	1190.15	3214.34	1609.56	11.19	-1.110	0.000	0.148
115.00	-16.63	-4.84	0.00	-201.70	0.00	201.70	2318.78	1159.39	3020.85	1512.67	12.39	-1.178	0.000	0.141
119.00	-16.08	-4.77	0.00	-182.35	0.00	182.35	2268.44	1134.22	2868.85	1436.56	13.40	-1.233	0.000	0.134
120.00	-15.86	-4.75	0.00	-177.58	0.00	177.58	2255.69	1127.85	2831.25	1417.73	13.66	-1.247	0.000	0.132
123.00	-15.22	-4.70	0.00	-163.32	0.00	163.32	1577.63	788.82	1975.86	989.40	14.46	-1.287	0.000	0.175
125.00	-14.99	-4.67	0.00	-153.93	0.00	153.93	1561.09	780.55	1925.40	964.13	15.00	-1.314	0.000	0.169
130.00	-14.44	-4.59	0.00	-130.58	0.00	130.58	1518.76	759.38	1800.86	901.77	16.42	-1.389	0.000	0.154
135.00	-13.90	-4.51	0.00	-107.62	0.00	107.62	1475.03	737.52	1678.77	840.64	17.91	-1.459	0.000	0.137
140.00	-9.61	-3.27	0.00	-85.06	0.00	85.06	1429.92	714.96	1559.34	780.83	19.47	-1.523	0.000	0.116
145.00	-9.18	-3.19	0.00	-68.73	0.00	68.73	1383.42	691.71	1442.75	722.45	21.10	-1.581	0.000	0.102
150.00	-8.76	-3.11	0.00	-52.80	0.00	52.80	1321.23	660.61	1314.97	658.46	22.79	-1.633	0.000	0.087
155.00	-8.36	-3.03	0.00	-37.26	0.00	37.26	1258.65	629.32	1192.75	597.26	24.52	-1.678	0.000	0.069
157.00	-4.30	-1.77	0.00	-31.20	0.00	31.20	1233.62	616.81	1145.53	573.62	25.23	-1.694	0.000	0.058
160.00	-4.08	-1.72	0.00	-25.90	0.00	25.90	1196.07	598.03	1076.49	539.05	26.30	-1.715	0.000	0.051
161.00	-3.80	-1.67	0.00	-24.18	0.00	24.18	1183.55	591.78	1053.96	527.76	26.66	-1.721	0.000	0.049
161.00	-3.80	-1.67	0.00	-24.18	0.00	24.18	858.57	429.28	768.96	385.05	26.66	-1.721	0.000	0.067
165.00	-3.58	-1.61	0.00	-17.51	0.00	17.51	832.45	416.23	713.85	357.46	28.11	-1.744	0.000	0.053
170.00	-3.30	-1.54	0.00	-9.45	0.00	9.45	798.56	399.28	646.76	323.86	29.95	-1.772	0.000	0.033
175.00	0.00	-1.44	0.00	-1.75	0.00	1.75	758.80	379.40	578.42	289.64	31.82	-1.786	0.000	0.006

Final Analysis Summary

Structure:	CT01915-S-SBA	**Code:**	TIA-222-G	1/24/2022	
Site Name:	South Brooklyn	**Exposure:**	B		
Height:	175.00 (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	

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 101 mph Wind	33.6	0.00	58.63	0.00	0.00	4337.22
0.9D + 1.6W 101 mph Wind	33.6	0.00	43.96	0.00	0.00	4275.82
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.6	0.00	101.04	0.00	0.00	1311.02
1.2D + 1.0E	2.0	0.00	58.68	0.00	0.00	268.50
0.9D + 1.0E	2.0	0.00	44.01	0.00	0.00	264.35
1.0D + 1.0W 60 mph Wind	7.4	0.00	48.90	0.00	0.00	949.57

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 101 mph Wind	-26.98	-27.60	0.00	-1741.8	0.00	-1741.8	2677.54	1338.7	4285.17	2145.77	83.75	0.822
0.9D + 1.6W 101 mph Wind	-19.88	-27.15	0.00	-1703.7	0.00	-1703.7	2677.54	1338.7	4285.17	2145.77	83.75	0.802
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-60.40	-8.39	0.00	-545.95	0.00	-545.95	2677.54	1338.7	4285.17	2145.77	83.75	0.277
1.2D + 1.0E	-18.37	-1.48	0.00	-64.02	0.00	-64.02	1577.63	788.82	1975.86	989.40	123.00	0.076
0.9D + 1.0E	-13.78	-1.44	0.00	-62.68	0.00	-62.68	1577.63	788.82	1975.86	989.40	123.00	0.072
1.0D + 1.0W 60 mph Wind	-23.75	-6.03	0.00	-380.33	0.00	-380.33	2677.54	1338.7	4285.17	2145.77	83.75	0.186

Base Plate Summary

Structure:	CT01915-S-SB		**Code:**	TIA-222-G	1/24/2022
Site Name:	South Brooklyn		**Exposure:**	B	
Height:	175.00 (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

Reactions	
Original Design	
Moment (kip-ft):	3710.00
Axial (kip):	38.30
Shear (kip):	29.70
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	4337.22
Axial (kip):	58.63
Shear (kip):	33.60

Base Plate	
Yield (ksi):	50.00
Width (in):	68.00
Style:	Clipped
Polygon Sides:	8.00
Clip Length (in):	18.50
Effective Len (in):	6.47
Moment (kip-in):	365.27
Allow Stress (ksi):	67.50
Applied Stress (ksi):	54.00
Stress Ratio:	0.80

Anchor Bolts	
Bolt Circle:	64.00
Number Bolts:	32.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	6.00
Start Angle (deg):	45.00
Compression	
Force (kip):	104.81
Allowable (kip):	260.00
Ratio:	0.41
Tension	
Force (kip):	98.50
Allowable (kip):	260.00
Ratio:	0.39

Monopole Mat Foundation Design

			Date: 1/24/2022
Customer Name:	T-Mobile	**TIA Standard:**	TIA-222-G
Site Name:		**Structure Height (Ft.):**	175
Site Number:	CT01915-S-SBA	**Engineer Name:**	H. You
Engr. Number:	119775	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

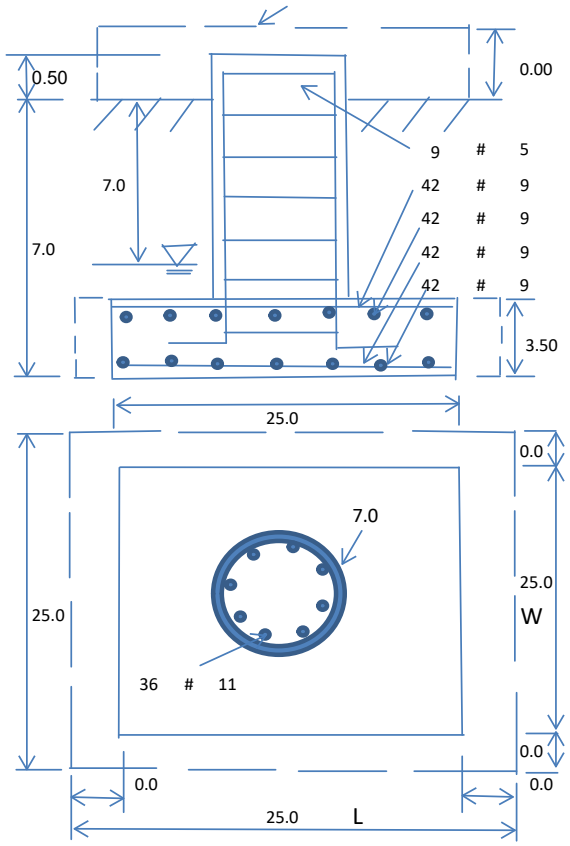
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	58.6	Shear Force (Kips):	33.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4337.2
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	7.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	40	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	11.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	42	Qty. of Rebar in Pad (W):	42

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	42	Qty. of Rebar in Pad (W):	42
Apply 1.35 factor for e/w Per G:	1.35		

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	7.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	425	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.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			

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

Total Dry Soil Volume (cu. Ft.):	2052.80	Total Dry Soil Weight (Kips):	256.60
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	256.60	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2341.44	Total Dry Concrete Weight (Kips):	351.22
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	351.22	Total Vertical Load on Base (Kips):	666.42

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3558	<	Allowable Factored Soil Bearing (psf):	22500	0.16	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7570.4	>	Design Factored Momont (kips-ft):	4366	0.58	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.73	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	8832.5	>	Design Factored Moment (Mu, Kips-F	4471.6	0.51	OK!
Calculated Shear Capacity (Kips):	606.8	>	Design Factored Shear (Kips):	33.6	0.06	OK!
Calculated Tension Capacity (Tn, Kips):	3032.6	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7273.9	>	Design Factored Axial Load (Pu Kips):	58.6	0.01	OK!
Moment & Axial Strength Combination:	0.51	OK!	Check Tie Spacing (Design/Required):		0.9167	OK!
Pier Reinforcement Ratio:	0.010		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	947.4	>	One-Way Factored Shear (L-D. Kips):	322.8	0.34	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	947.4	>	One-Way Factored Shear (W-D., Kips)	322.8	0.34	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	831.8	>	One-Way Factored Shear (C-C, Kips):	303.8	0.37	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0036	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0036		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	6953.4	>	Moment at Bottom (L-Dir. K-Ft):	1963.1	0.28	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	6953.4	>	Moment at Bottom (W-Dir. K-Ft):	1963.1	0.28	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	9724.9	>	Moment at Bottom (C-C Dir. K-Ft):	2776.2	0.29	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0036	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0036		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	6953.4	>	Moment at the top (L-Dir K-Ft):	674.4	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	6953.4	>	Moment at the top (W-Dir K-Ft):	674.4	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	9724.9	>	Moment at the top (C-C Dir. K-Ft):	632.7	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1734.9	k-ft.	Max. factored shear stress v_{u_CD}:		4.1	Psi
Max. factored shear stress v_{u_AB}:	10.2	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	10.2	Psi	Check Usage of Punching Shear Capacity:		0.06	OK!

EXHIBIT 8

Mount Analysis

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

Post-Mod Antenna Mount Analysis Report

Existing Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT01915-S-SBA / South Brooklyn

Customer Site Name: South Brooklyn

Carrier Name: T-Mobile (App#: 178995, V1)

Carrier Site ID / Name: CT11512C / South Brooklyn

Site Location: 100 Old Tatnic Hill Road

Brooklyn, Connecticut

Windham County

Latitude: 41.767160

Longitude: -71.971949

Analysis Result:

Max Structural Usage: 66.9% [Pass]

Report Prepared By: Bikkey Shah

Introduction

The purpose of this report is to summarize the analysis results on the (1) Low profile platform with handrails at 140.00' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

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

Sources of Information

Mount Drawings	Mount Mapping by SkyTowers LLC, Dated: 5/7/2019
Antenna Loading	SBA Application #: 178995, v1, Dated: 11/15/2021
Existing Modification	
Proposed Modification	TES Project No. 119776

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 130 mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 101 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent
Operational Wind Speed: 60 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G
Exposure Category: B
Structure Class: II
Topographic Category: 1
Crest Height (Ft): 0

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

Mount Information

(1) Low profile platform with handrails at 140.00' elevation.

Final Antenna Configuration

3 Ericsson AIR6449 B41
3 RFS APXVAARR24_43-U-NA20
3 Ericsson KRY 112 489/2*
3 Ericsson 4449 B71 + B85
3 Ericsson 4460 B25 + B66
3 Kathrein 782 11056*

* Equipment's are entitlements only.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 66.9%, which occurs in the grating support member. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

1. Mount Photos Before Modification
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.

2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.

4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.

5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.

6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.

7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.

8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.

9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.

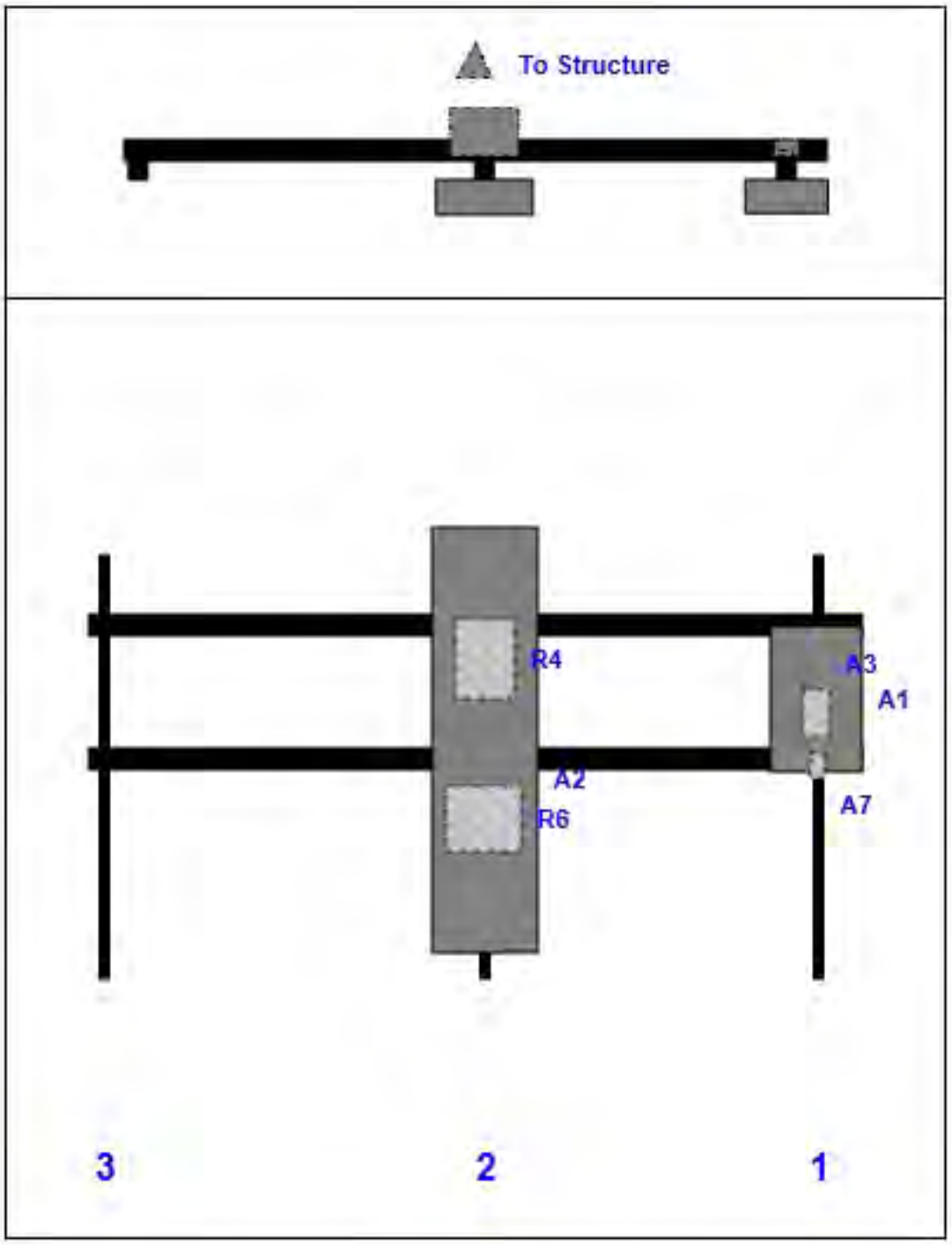

05.03.2019

Sector: A
Structure Type: Monopole
Mount Elev: 140.00

11/23/2021

Tower Engineering Solutions

Plan View

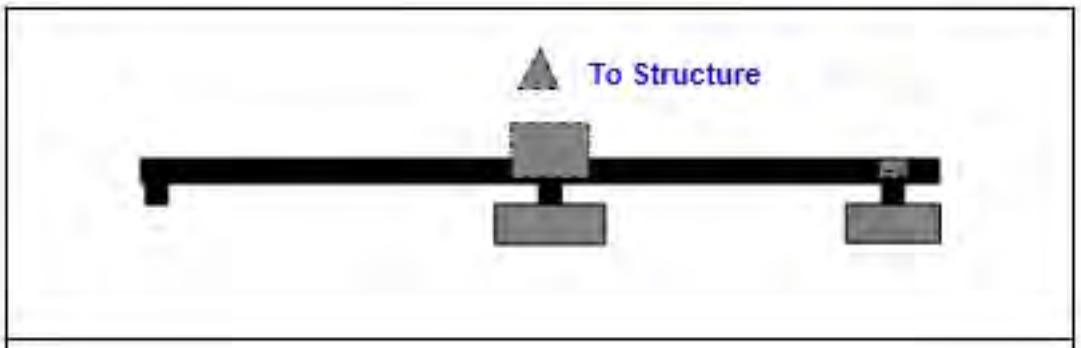


Front View

Looking Toward Structure

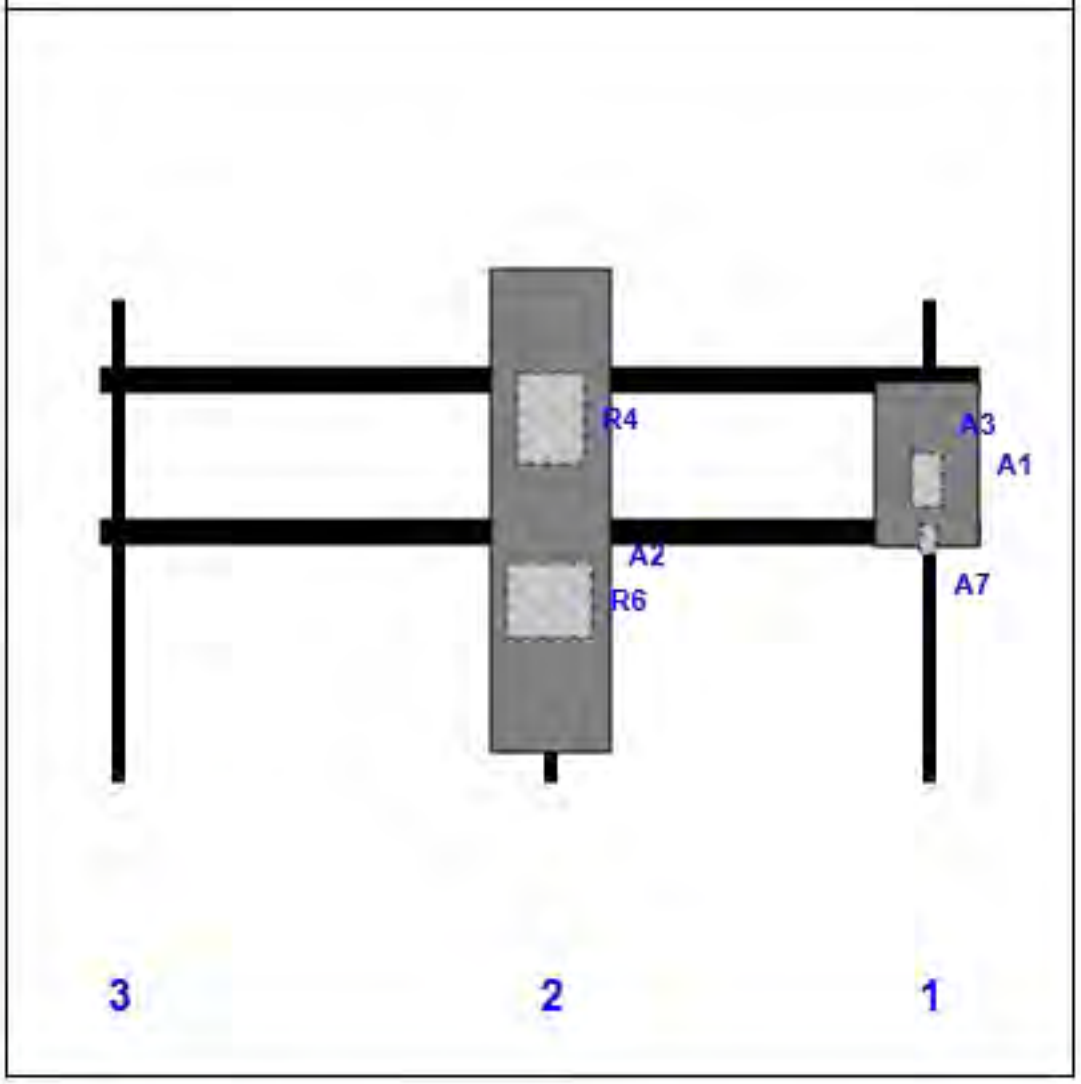
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	165.00	1	a	Front	33.00			
A3	KRY 112 489/2	11.00	6.10	165.00	1	a	Behind	36.00			
A7	782 11056	5.50	3.20	165.00	1	a	Behind	48.00			
A2	APXVAARR24_43-U-NA20	95.90	24.00	90.00	2	a	Front	42.00			
R4	4449 B71 + B85	17.90	13.10	90.00	2	a	Behind	24.00			
R6	4460 B25 + B66	15.10	17.00	90.00	2	a	Behind	60.00			

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
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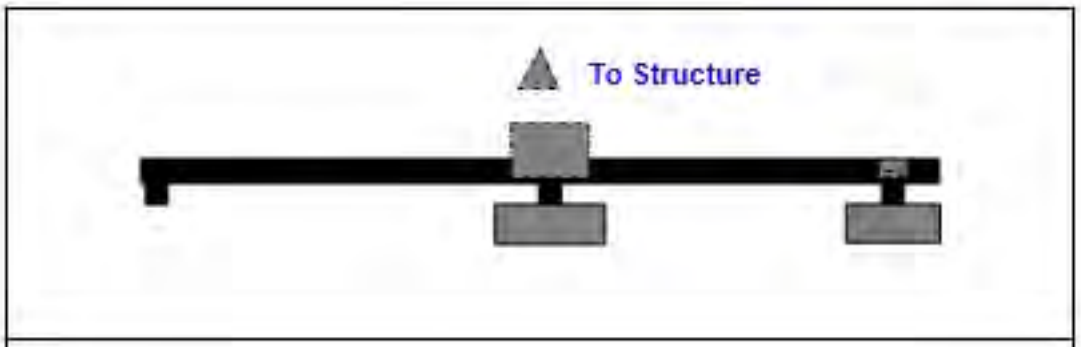
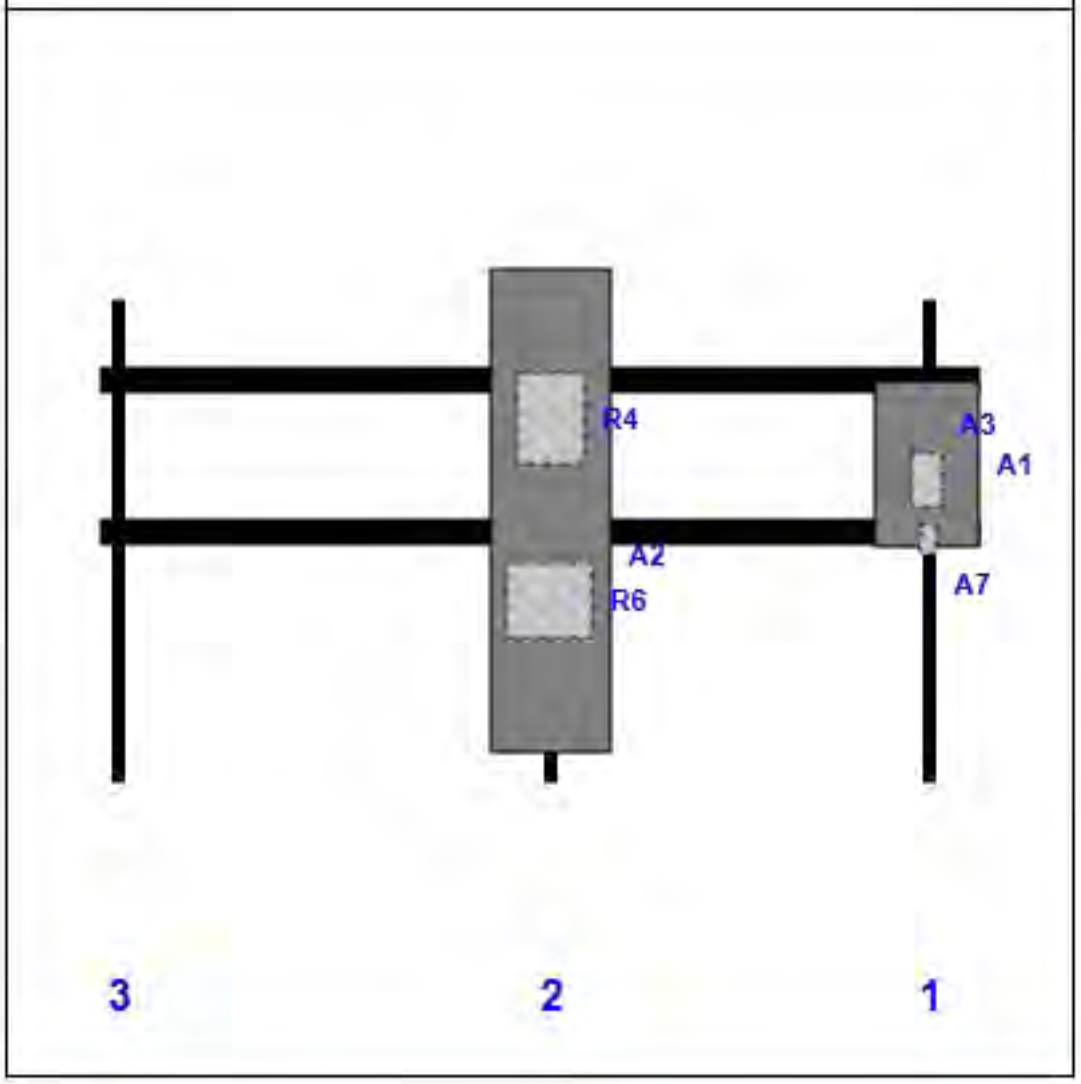
R6	4460 B25 + B66	15.10	17.00	90.00	2	a	Behind	60.00			

Plan View



Front View

Looking Toward Structure



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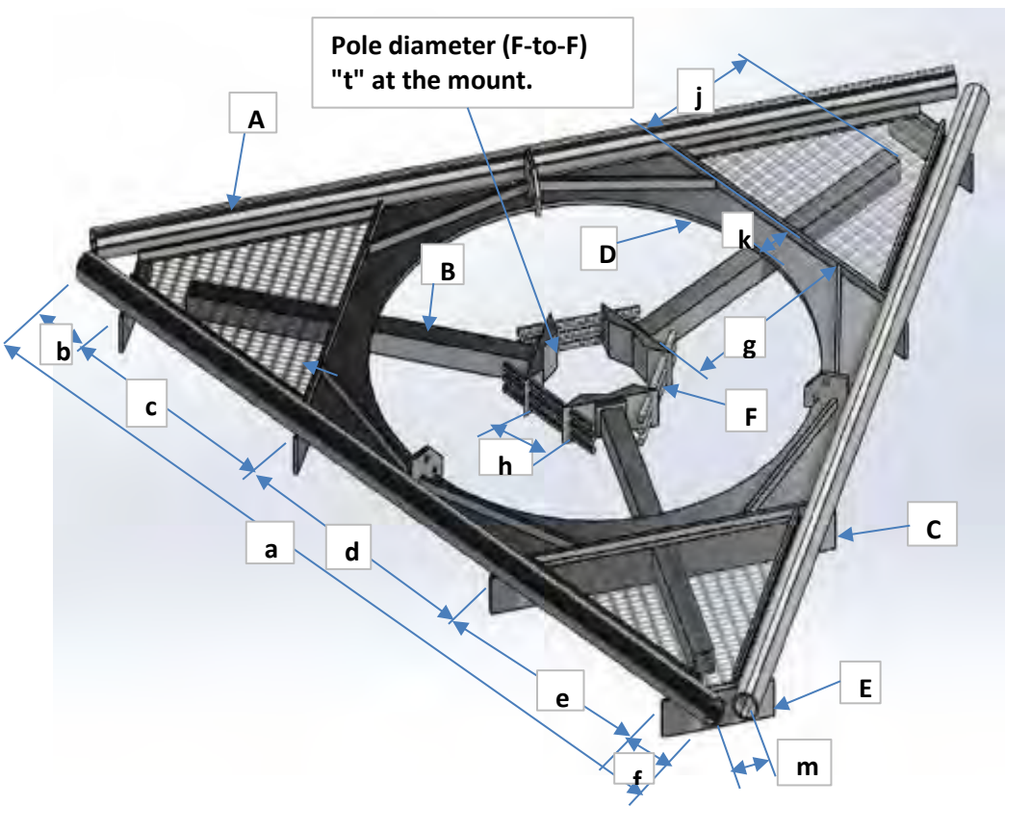
R6	4460 B25 + B66	15.10	17.00	90.00	2	a	Behind	60.00			

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

TES Tower Engineering Solutions

FCC #
1231795

Tower Owner:	SBA Corp.	**Mapping Date:**	5/2/19
Site Name:	South Brooklyn	**Structure Type:**	Monopole
Site Number or ID:	CT01915	**Structure Height (Ft.):**	176
Mapping Contractor:	SkyTower LLC	**Mount Height (Ft.):**	142



Geometries (Unit: inches)

a	175	**e**	35	**j**	18	**o**		**s**	
b	15	**f**	15	**k**	21	**p**		**t**	28
c	34	**g**	20	**m**	7.5	**q**		**u ***	34
d	76	**h**	5.5	**n**		**r**		**v ***	72

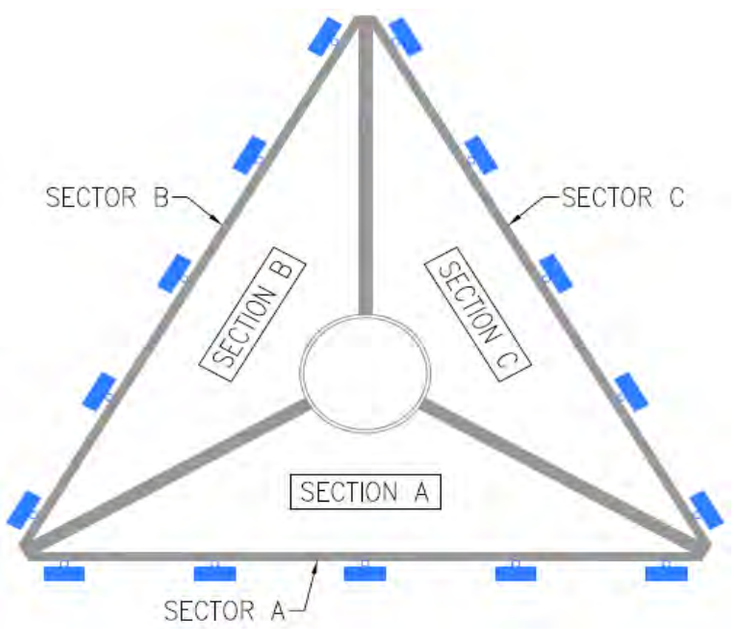
Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)

Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	**F**	3/4" Bolt			
B	Tubing 4x4x1/4	4	4	0.25	**G**				
C	1/2" Thick. Plate	0	0	0.5	**H**				
D	1/4" Thick. Plate	0	0	0.25	**J**				
E	3/8" Thick. Plate	0	0	0.375	**K* (pipe)**	2.375 OD x 0.154 Pipe	2.375	2.067	0.154

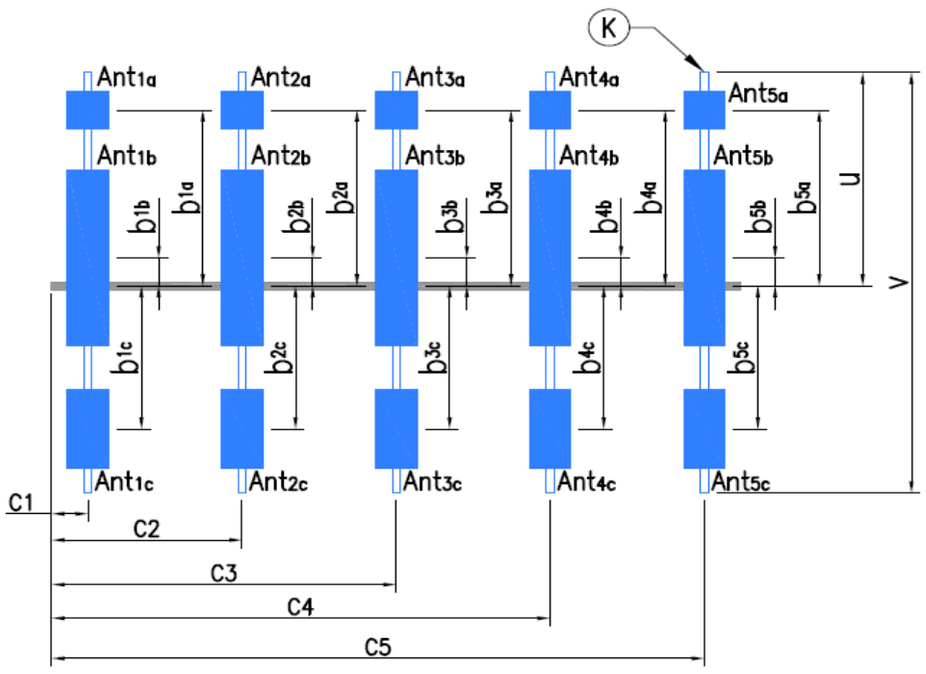
Please enter the infomation below if members can't be found from the drop down lists

One antenna pipe is 2.87

2.38 handrails are 99" in length connecting to the POS 2 mast pipe on each sector forming a triangle and 29" above the footrail



Climbing ladder is , at 25 Degree Azimuth



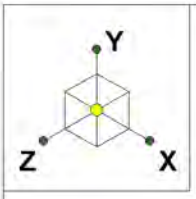
Antenna Layout

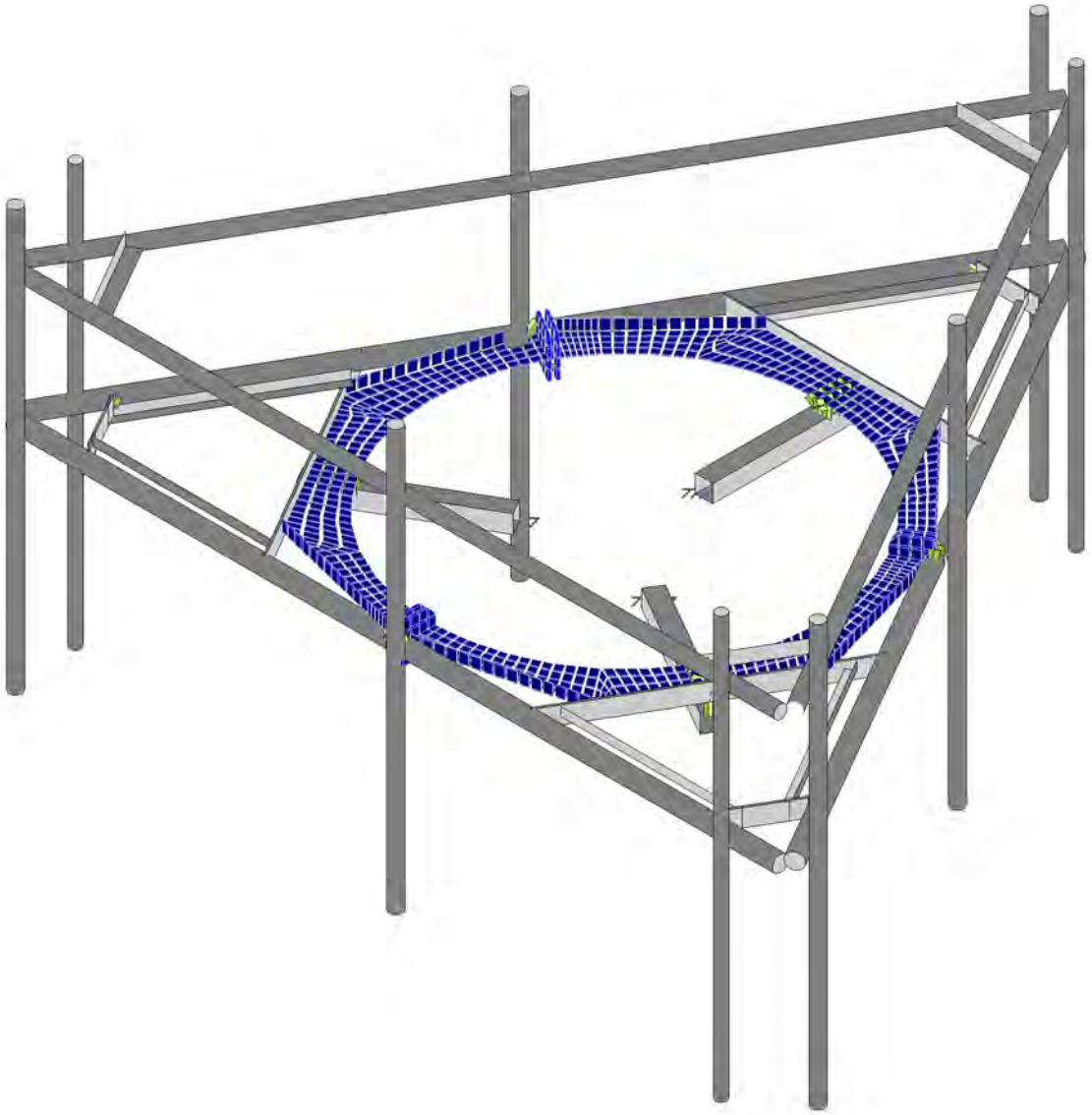
	Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (In.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C_1, C_2, C_3, C_4, C_5" (in.)	Photo Numbers
Sector A									
Ant_{1a}	Unknown	7	3.5	53	2 (1/2)	0	3	19	122-131
Ant_{1b}	DTMA1900	6	4.5	11		-8			
Ant_{1c}									
Ant_{2a}	LNX-6515DS-A1M	12	7.5	96	2 (1/2)	6.5	3	88	132-136
Ant_{2b}									
Ant_{2c}									
Ant_{3a}									
Ant_{3b}									
Ant_{3c}									
Ant_{4a}									
Ant_{4b}									
Ant_{4c}									
Ant_{5a}									
Ant_{5b}									
Ant_{5c}									

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

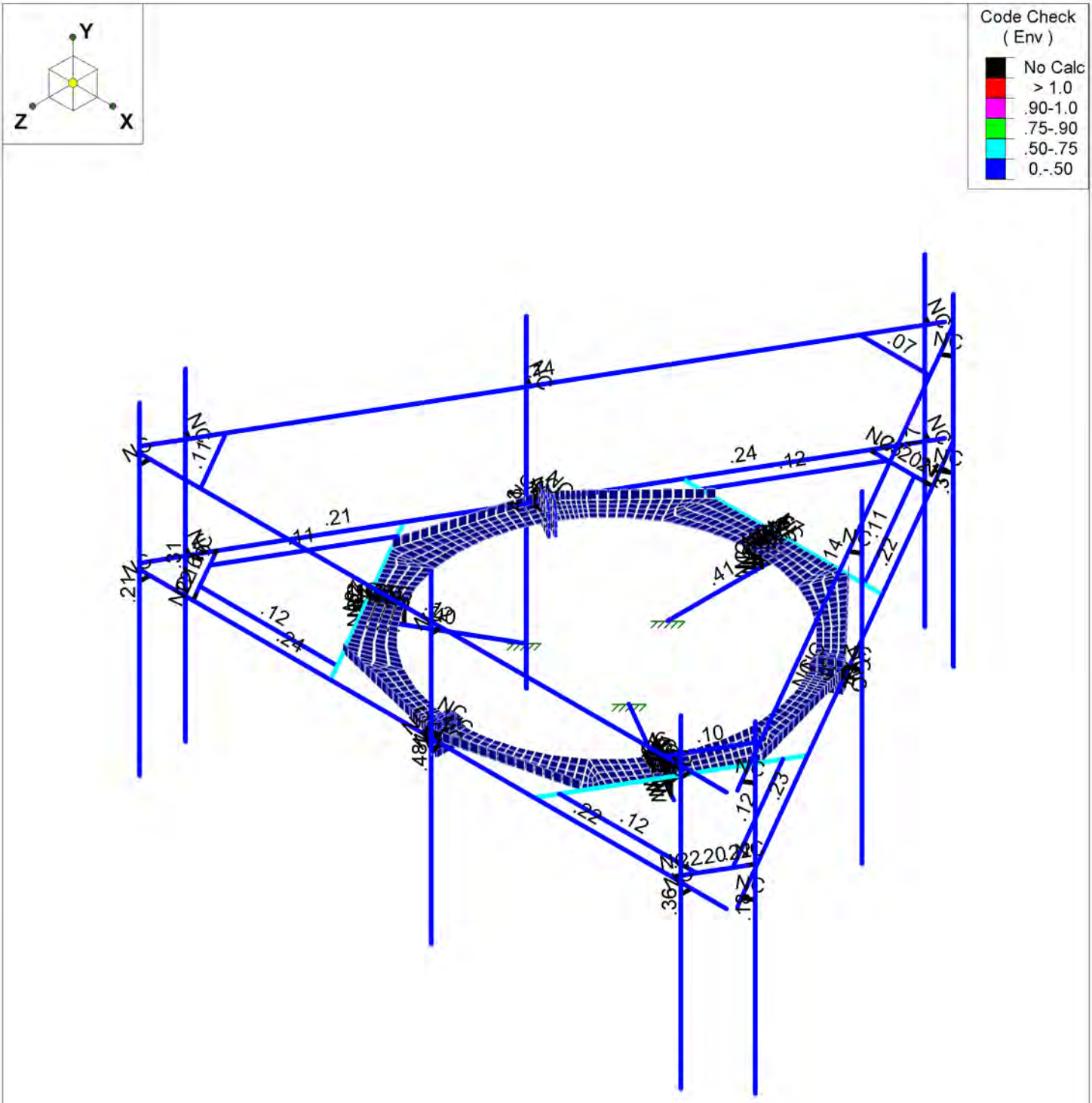
Azimuth (Degree) of Each Sector and Climbing Information

Sector A:	65	Deg	
Sector B:	185	Deg	
Sector C:	305	Deg	
Climbing	25	Deg	
Climbing Facility	Corrosion Type:	Good condition	
	Access:	Climbing path was obstructed.	
	Condition:	Climbing member found bent.	



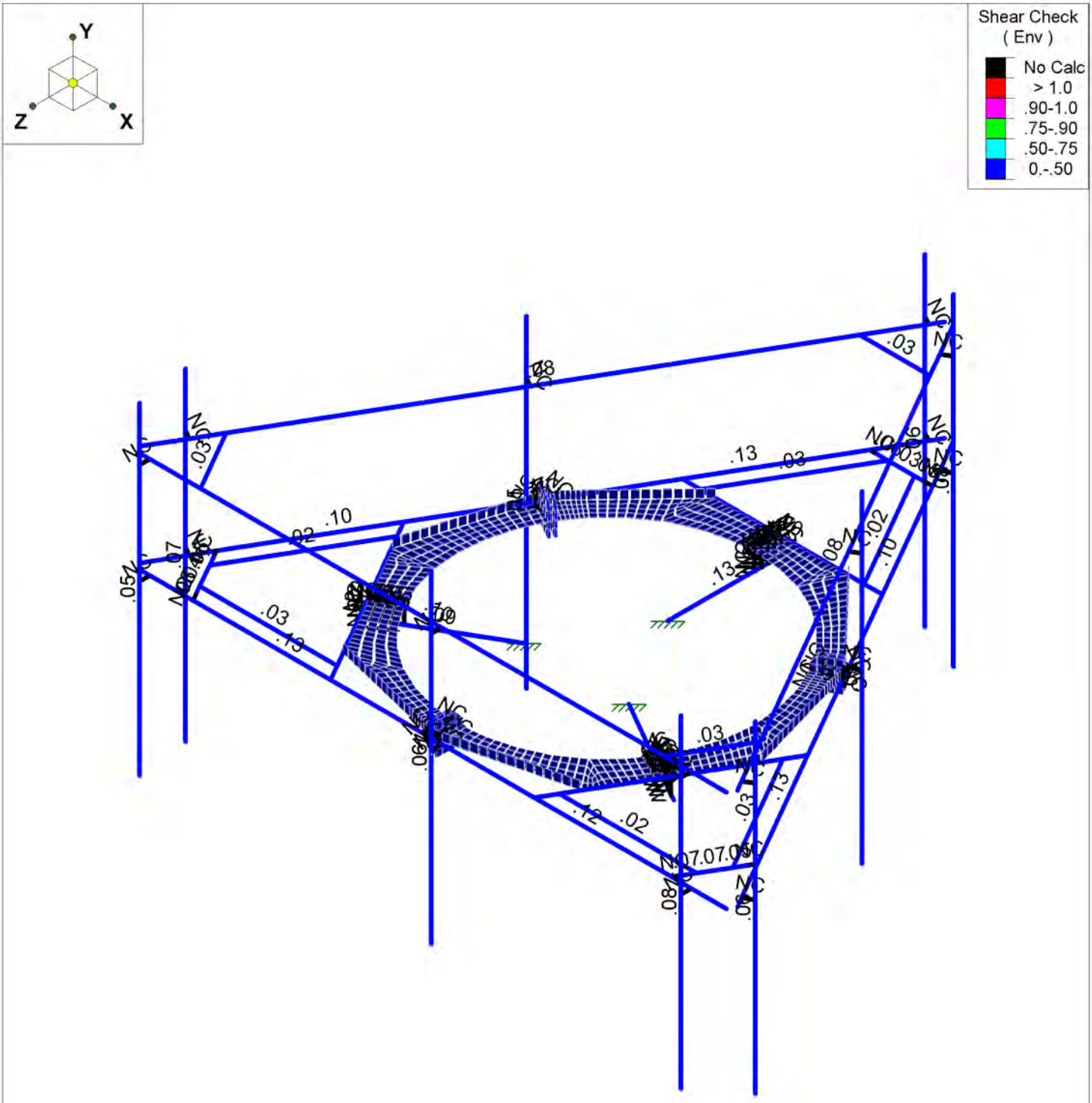


Tower Engineering Solutio...	CT01915-S-SBA_MT_LO_Loads Only_G	SK - 1
		Nov 23, 2021 at 5:00 PM
TES Project No. 119776		CT01915-S-SBA_119776_G_RISA_...



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

Tower Engineering Solutio...	CT01915-S-SBA_MT_LO_Loads Only_G	SK - 2
		Nov 23, 2021 at 5:00 PM
TES Project No. 119776		CT01915-S-SBA_119776_G_RISA_...



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

Tower Engineering Solutio...	CT01915-S-SBA_MT_LO_Loads Only_G	SK - 3
		Nov 23, 2021 at 5:00 PM
TES Project No. 119776		CT01915-S-SBA_119776_G_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					24			
2	Antenna Di	None					24			
3	Antenna W Front	None					24			
4	Antenna Wi Front	None					24			
5	Antenna W Side	None					24			
6	Antenna Wi Side	None					24			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						42	3	
11	Structure W Front	None						42		
12	Structure Wi Front	None						42		
13	Structure W Side	None						42		
14	Structure Wi Side	None						42		
15	BLC 9 Transient Area...	None						33		
16	BLC 10 Transient Are...	None						33		

Load Combinations

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

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	-7.291666	0	4.322333	0	
2	N2	7.291666	0	4.322333	0	
3	CG	0	0	0	0	
4	N4	-5.930166	0	4.322333	0	
5	N5	-2.528166	0	4.322333	0	
6	N6	2.528166	0	4.322333	0	
7	N7	5.930166	0	4.322333	0	
8	N8	7.389083	0	4.153601	0	
9	N9	0.097417	0	-8.475934	0	
10	N11	6.708333	0	2.974508	0	
11	N12	5.007333	0	0.02829	0	
12	N13	2.479167	0	-4.350623	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
13	N14	0.778167	0	-7.296841	0	
14	N15	-0.097417	0	-8.475934	0	
15	N16	-7.389083	0	4.153601	0	
16	N18	-0.778167	0	-7.296841	0	
17	N19	-2.479167	0	-4.350623	0	
18	N20	-5.007333	0	0.02829	0	
19	N21	-6.708333	0	2.974508	0	
20	N22	-6.154466	0	3.933833	0	
21	N23	-2.752467	0	3.933833	0	
22	N24	6.154466	0	3.933833	0	
23	N25	2.752467	0	3.933833	0	
24	N25A	6.484032	0	3.363008	0	
25	N26	4.783032	0	0.41679	0	
26	N27	0.329566	0	-7.296841	0	
27	N28	2.030566	0	-4.350623	0	
28	N30	-0.329566	0	-7.296841	0	
29	N31	-2.030566	0	-4.350623	0	
30	N32	-6.484032	0	3.363008	0	
31	N33	-4.783032	0	0.41679	0	
32	N34	-0.060763	0	4.322333	0	
33	N86	0	-0.3885	-1.50862	0	
34	N89	-2.946717	0	3.597382	0	
35	N93	2.946717	0	3.597382	0	
36	N92A	-6e-14	0	-4.350623	0	
37	N93A	-2e-14	0	-3.670456	0	
38	N117	-3.178708	0	1.835228	0	
39	N119	-2.811732	0	2.359324	0	
40	N121	-2.359324	0	2.811732	0	
41	N123	-1.835228	0	3.178708	0	
42	N125	-1.25537	0	3.4491	0	
43	N127	-0.637368	0	3.614694	0	
44	N129	-0.060763	0	3.670456	0	
45	N131	0.637368	0	3.614694	0	
46	N133	1.25537	0	3.4491	0	
47	N135	1.835228	0	3.178708	0	
48	N137	2.359324	0	2.811732	0	
49	N139	2.811732	0	2.359324	0	
50	N141	3.178708	0	1.835228	0	
51	N134	-3.76775	0	2.175311	0	
52	N137A	-3.476083	0	2.680493	0	
53	N138	-3.184416	0	3.185674	0	
54	N140	3.76775	0	2.175311	0	
55	N141A	3.476083	0	2.680493	0	
56	N142	3.184416	0	3.185674	0	
57	N143B	-2.210038	0	3.77862	0	
58	N144A	-1.473358	0	3.959857	0	
59	N145A	-0.736679	0	4.141095	0	
60	N146	0.736679	0	4.141095	0	
61	N147A	1.473358	0	3.959857	0	
62	N148	2.210038	0	3.77862	0	
63	N163A	-0.318684	0	3.642575	0	
64	N164	-0.370187	0	4.231259	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
65	N200	-5e-14	0	-4.180581	0	
66	N204	-5e-14	0	-4.010539	0	
67	N208	-5e-14	0	-3.840498	0	
68	N407	3.325969	0	1.920249	0	
69	N411	3.473229	0	2.00527	0	
70	N415	3.620489	0	2.09029	0	
71	N419	3.086964	0	1.966252	0	
72	N420	2.99522	0	2.097276	0	
73	N421	2.903476	0	2.2283	0	
74	N422	3.238931	0	2.050091	0	
75	N423	3.151894	0	2.179932	0	
76	N424	3.064857	0	2.309774	0	
77	N425	2.97782	0	2.439616	0	
78	N426	3.390899	0	2.133929	0	
79	N427	3.308568	0	2.262589	0	
80	N428	3.226238	0	2.391249	0	
81	N429	3.143908	0	2.519908	0	
82	N430	3.542866	0	2.217768	0	
83	N431	3.465242	0	2.345245	0	
84	N432	3.387619	0	2.472723	0	
85	N433	3.309995	0	2.6002	0	
86	N434	3.694833	0	2.301607	0	
87	N435	3.621916	0	2.427902	0	
88	N436	3.549	0	2.554197	0	
89	N437	2.69863	0	2.472426	0	
90	N438	2.585528	0	2.585528	0	
91	N439	2.472426	0	2.69863	0	
92	N440	2.874764	0	2.556016	0	
93	N441	2.771708	0	2.672417	0	
94	N442	2.668653	0	2.788817	0	
95	N443	2.565597	0	2.905218	0	
96	N444	3.050898	0	2.639607	0	
97	N445	2.957889	0	2.759306	0	
98	N446	2.864879	0	2.879005	0	
99	N447	2.77187	0	2.998703	0	
100	N448	3.227032	0	2.723198	0	
101	N449	3.144069	0	2.846195	0	
102	N450	3.061106	0	2.969192	0	
103	N451	2.978143	0	3.092189	0	
104	N452	3.403166	0	2.806788	0	
105	N453	3.33025	0	2.933083	0	
106	N454	3.257333	0	3.059379	0	
107	N455	2.799869	0	3.400969	0	
108	N456	2.65302	0	3.204557	0	
109	N457	2.506172	0	3.008145	0	
110	N458	2.762547	0	3.642691	0	
111	N459	2.628985	0	3.457888	0	
112	N460	2.495423	0	3.273084	0	
113	N461	2.361862	0	3.08828	0	
114	N462	2.2283	0	2.903476	0	
115	N463	2.578377	0	3.688001	0	
116	N464	2.458102	0	3.514806	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
117	N465	2.337827	0	3.34161	0	
118	N466	2.217551	0	3.168415	0	
119	N467	2.097276	0	2.99522	0	
120	N468	2.394207	0	3.73331	0	
121	N469	2.287219	0	3.571724	0	
122	N470	2.18023	0	3.410137	0	
123	N471	2.073241	0	3.248551	0	
124	N472	1.966252	0	3.086964	0	
125	N473	2.116335	0	3.628642	0	
126	N474	2.022633	0	3.478664	0	
127	N475	1.92893	0	3.328686	0	
128	N476	2.025868	0	3.823929	0	
129	N477	1.941967	0	3.679523	0	
130	N478	1.858066	0	3.535118	0	
131	N479	1.774165	0	3.390712	0	
132	N480	1.690263	0	3.246306	0	
133	N481	1.841698	0	3.869238	0	
134	N482	1.767598	0	3.730405	0	
135	N483	1.693498	0	3.591571	0	
136	N484	1.619399	0	3.452738	0	
137	N485	1.545299	0	3.313904	0	
138	N486	1.657528	0	3.914548	0	
139	N487	1.59323	0	3.781286	0	
140	N488	1.528931	0	3.648025	0	
141	N489	1.464633	0	3.514764	0	
142	N490	1.400334	0	3.381502	0	
143	N491	1.418861	0	3.832168	0	
144	N492	1.364364	0	3.704479	0	
145	N493	1.309867	0	3.57679	0	
146	N494	1.289189	0	4.005167	0	
147	N495	1.242109	0	3.8765	0	
148	N496	1.195029	0	3.747833	0	
149	N497	1.147949	0	3.619166	0	
150	N498	1.100869	0	3.490499	0	
151	N499	1.105019	0	4.050476	0	
152	N500	1.065356	0	3.920831	0	
153	N501	1.025694	0	3.791187	0	
154	N502	0.986031	0	3.661542	0	
155	N503	0.946369	0	3.531897	0	
156	N504	0.920849	0	4.095786	0	
157	N505	0.888604	0	3.965163	0	
158	N506	0.856359	0	3.83454	0	
159	N507	0.824114	0	3.703918	0	
160	N508	0.791868	0	3.573295	0	
161	N509	0.711851	0	4.009495	0	
162	N510	0.687024	0	3.877894	0	
163	N511	0.662196	0	3.746294	0	
164	N512	0.478026	0	3.628634	0	
165	N513	0.318684	0	3.642575	0	
166	N514	0.159342	0	3.656515	0	
167	N515	0.496647	0	3.768077	0	
168	N516	0.331098	0	3.78986	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
169	N517	0.165549	0	3.811642	0	
170	N518	-0.060763	0	3.833425	0	
171	N519	0.515268	0	3.907519	0	
172	N520	0.343512	0	3.937144	0	
173	N521	0.171756	0	3.966769	0	
174	N522	-0.060763	0	3.996394	0	
175	N523	0.533889	0	4.046962	0	
176	N524	0.355926	0	4.084429	0	
177	N525	0.177963	0	4.121896	0	
178	N526	-0.060763	0	4.159363	0	
179	N527	0.552509	0	4.186404	0	
180	N528	0.36834	0	4.231714	0	
181	N529	0.18417	0	4.277023	0	
182	N530	-0.791868	0	3.573295	0	
183	N531	-0.946369	0	3.531897	0	
184	N532	-1.100869	0	3.490499	0	
185	N533	-0.662196	0	3.746294	0	
186	N534	-0.824114	0	3.703918	0	
187	N535	-0.986031	0	3.661542	0	
188	N536	-1.147949	0	3.619166	0	
189	N537	-1.309867	0	3.57679	0	
190	N538	-0.687024	0	3.877894	0	
191	N539	-0.856359	0	3.83454	0	
192	N540	-1.025694	0	3.791187	0	
193	N541	-1.195029	0	3.747833	0	
194	N542	-1.364364	0	3.704479	0	
195	N543	-0.711851	0	4.009495	0	
196	N544	-0.888604	0	3.965163	0	
197	N545	-1.065356	0	3.920831	0	
198	N546	-1.242109	0	3.8765	0	
199	N547	-1.418861	0	3.832168	0	
200	N548	-0.920849	0	4.095786	0	
201	N549	-1.105019	0	4.050476	0	
202	N550	-1.289189	0	4.005167	0	
203	N551	-1.690263	0	3.246306	0	
204	N552	-1.545299	0	3.313904	0	
205	N553	-1.400334	0	3.381502	0	
206	N554	-1.92893	0	3.328686	0	
207	N555	-1.774165	0	3.390712	0	
208	N556	-1.619399	0	3.452738	0	
209	N557	-1.464633	0	3.514764	0	
210	N558	-2.022633	0	3.478664	0	
211	N559	-1.858066	0	3.535118	0	
212	N560	-1.693498	0	3.591571	0	
213	N561	-1.528931	0	3.648025	0	
214	N562	-2.116335	0	3.628642	0	
215	N563	-1.941967	0	3.679523	0	
216	N564	-1.767598	0	3.730405	0	
217	N565	-1.59323	0	3.781286	0	
218	N566	-2.025868	0	3.823929	0	
219	N567	-1.841698	0	3.869238	0	
220	N568	-1.657528	0	3.914548	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
221	N569	-1.966252	0	3.086964	0	
222	N570	-2.097276	0	2.99522	0	
223	N571	-2.2283	0	2.903476	0	
224	N572	-2.1131	0	3.283377	0	
225	N573	-2.226224	0	3.188837	0	
226	N574	-2.339349	0	3.094297	0	
227	N575	-2.452473	0	2.999758	0	
228	N576	-2.565597	0	2.905218	0	
229	N577	-2.390972	0	3.388045	0	
230	N578	-2.486197	0	3.29071	0	
231	N579	-2.581421	0	3.193374	0	
232	N580	-2.676646	0	3.096039	0	
233	N581	-2.77187	0	2.998703	0	
234	N582	-2.668845	0	3.492713	0	
235	N583	-2.746169	0	3.392582	0	
236	N584	-2.823494	0	3.292451	0	
237	N585	-2.900819	0	3.19232	0	
238	N586	-2.978143	0	3.092189	0	
239	N587	-3.006142	0	3.494455	0	
240	N588	-3.065567	0	3.391528	0	
241	N589	-3.124992	0	3.288601	0	
242	N590	-2.472426	0	2.69863	0	
243	N591	-2.585528	0	2.585528	0	
244	N592	-2.69863	0	2.472426	0	
245	N593	-2.668653	0	2.788817	0	
246	N594	-2.771708	0	2.672417	0	
247	N595	-2.874764	0	2.556016	0	
248	N596	-2.97782	0	2.439616	0	
249	N597	-2.864879	0	2.879005	0	
250	N598	-2.957889	0	2.759306	0	
251	N599	-3.050898	0	2.639607	0	
252	N600	-3.143908	0	2.519908	0	
253	N601	-3.061106	0	2.969192	0	
254	N602	-3.144069	0	2.846195	0	
255	N603	-3.227032	0	2.723198	0	
256	N604	-3.309995	0	2.6002	0	
257	N605	-3.257333	0	3.059379	0	
258	N606	-3.33025	0	2.933083	0	
259	N607	-3.403166	0	2.806788	0	
260	N608	-2.903476	0	2.2283	0	
261	N609	-2.99522	0	2.097276	0	
262	N610	-3.086964	0	1.966252	0	
263	N611	-3.064857	0	2.309774	0	
264	N612	-3.151894	0	2.179932	0	
265	N613	-3.238931	0	2.050091	0	
266	N614	-3.325969	0	1.920249	0	
267	N615	-3.226238	0	2.391249	0	
268	N616	-3.308568	0	2.262589	0	
269	N617	-3.390899	0	2.133929	0	
270	N618	-3.473229	0	2.00527	0	
271	N619	-3.387619	0	2.472723	0	
272	N620	-3.465242	0	2.345245	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
273	N621	-3.542866	0	2.217768	0	
274	N622	-3.620489	0	2.09029	0	
275	N623	-3.549	0	2.554197	0	
276	N624	-3.621916	0	2.427902	0	
277	N625	-3.694833	0	2.301607	0	
278	N794	-0.557697	0	3.621664	0	
279	N795	-0.478026	0	3.628634	0	
280	N796	-0.398355	0	3.635604	0	
281	N797	-0.579537	0	3.757157	0	
282	N798	-0.496878	0	3.76802	0	
283	N799	-0.414219	0	3.778883	0	
284	N800	-0.33156	0	3.789746	0	
285	N801	-0.601377	0	3.89265	0	
286	N802	-0.51573	0	3.907406	0	
287	N803	-0.430083	0	3.922161	0	
288	N804	-0.344436	0	3.936917	0	
289	N805	-0.623216	0	4.028143	0	
290	N806	-0.534581	0	4.046791	0	
291	N807	-0.445946	0	4.06544	0	
292	N808	-0.357311	0	4.084088	0	
293	N809	-0.645056	0	4.163636	0	
294	N810	-0.553433	0	4.186177	0	
295	N811	-0.46181	0	4.208718	0	
296	N812	-0.239013	0	3.649545	0	
297	N813	-0.159342	0	3.656515	0	
298	N815	-0.24867	0	3.800666	0	
299	N816	-0.16578	0	3.811586	0	
300	N818	-0.258327	0	3.951786	0	
301	N819	-0.172218	0	3.966656	0	
302	N821	-0.267984	0	4.102907	0	
303	N822	-0.178656	0	4.121726	0	
304	N824	-0.27764	0	4.254028	0	
305	N825	-0.185094	0	4.276796	0	
306	N899	3.065567	0	3.391528	0	
307	N900	2.830152	0	3.198263	0	
308	N901	-2.578377	0	3.688001	0	
309	N902	-2.330661	0	3.518237	0	
310	N902A	-6e-14	-0.3885	-4.350623	0	
311	N903B	-2e-14	-0.3885	-3.670456	0	
312	N904B	-5e-14	-0.3885	-4.180581	0	
313	N905	-5e-14	-0.3885	-4.010539	0	
314	N906	-5e-14	-0.3885	-3.840498	0	
315	N912	-3.76775	-0.3885	2.175311	0	
316	N913	-3.178708	-0.3885	1.835228	0	
317	N914	-3.620489	-0.3885	2.09029	0	
318	N915	-3.473229	-0.3885	2.00527	0	
319	N916	-3.325969	-0.3885	1.920249	0	
320	N922	3.76775	-0.3885	2.175311	0	
321	N923	3.178708	-0.3885	1.835228	0	
322	N924	3.620489	-0.3885	2.09029	0	
323	N925	3.473229	-0.3885	2.00527	0	
324	N926	3.325969	-0.3885	1.920249	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
325	N911	-2.360817	0	3.453141	0	
326	N912A	-2.561682	0	3.547916	0	
327	N913A	-2.762547	0	3.642691	0	
328	N914A	-2.454519	0	3.603119	0	
329	N915A	-2.144874	0	3.390913	0	
330	N916A	-2.176647	0	3.49845	0	
331	N917	-2.285427	0	3.61588	0	
332	N918	-2.394207	0	3.73331	0	
333	N919	3.006142	0	3.494455	0	
334	N920	2.873864	0	3.347932	0	
335	N921	2.947859	0	3.294895	0	
336	N922A	2.741586	0	3.20141	0	
337	N923A	3.124992	0	3.288601	0	
338	N924A	2.963001	0	3.193542	0	
339	N925A	2.801011	0	3.098483	0	
340	N926A	2.653592	0	3.053314	0	
341	N952A	0.060765	0	4.322333	0	
342	N953A	0.060765	0	3.670456	0	
343	N954A	0.060765	0	3.833425	0	
344	N955A	0.060765	0	3.996394	0	
345	N956A	0.060765	0	4.159363	0	
346	N952B	-0.060763	0.388888	4.322333	0	
347	N955B	-0.060763	0.388888	3.833425	0	
348	N956B	-0.060763	0.388888	3.996394	0	
349	N957A	-0.060763	0.388888	4.159363	0	
350	N958	0.060765	0.388888	4.322333	0	
351	N960	0.060765	0.388888	3.833425	0	
352	N961	0.060765	0.388888	3.996394	0	
353	N962	0.060765	0.388888	4.159363	0	
354	N963	-0.060763	-0.388888	4.322333	0	
355	N964	-0.060763	-0.388888	3.670456	0	
356	N966	-0.060763	-0.388888	3.833425	0	
357	N967	-0.060763	-0.388888	3.996394	0	
358	N968	-0.060763	-0.388888	4.159363	0	
359	N969	0.060765	-0.388888	4.322333	0	
360	N970	0.060765	-0.388888	3.670456	0	
361	N971	0.060765	-0.388888	3.833425	0	
362	N972	0.060765	-0.388888	3.996394	0	
363	N973	0.060765	-0.388888	4.159363	0	
364	N976	-0.060763	-0.194444	4.322333	0	
365	N977	-0.060763	-0.194444	3.670456	0	
366	N979	-0.060763	-0.194444	3.833425	0	
367	N980	-0.060763	-0.194444	3.996394	0	
368	N981	-0.060763	-0.194444	4.159363	0	
369	N982	0.060765	-0.194444	4.322333	0	
370	N983	0.060765	-0.194444	3.670456	0	
371	N984	0.060765	-0.194444	3.833425	0	
372	N985	0.060765	-0.194444	3.996394	0	
373	N986	0.060765	-0.194444	4.159363	0	
374	N992	-0.060763	0.194445	4.322333	0	
375	N993	-0.060763	0.194445	3.670456	0	
376	N995	-0.060763	0.194445	3.833425	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
377	N996	-0.060763	0.194445	3.996394	0	
378	N997	-0.060763	0.194445	4.159363	0	
379	N998	0.060765	0.194445	4.322333	0	
380	N999	0.060765	0.194445	3.670456	0	
381	N1000	0.060765	0.194445	3.833425	0	
382	N1001	0.060765	0.194445	3.996394	0	
383	N1002	0.060765	0.194445	4.159363	0	
384	N426A	3.773632	0	-2.108544	0	
385	N427A	4.588783	0	0.753241	0	
386	N428A	1.642066	0	-4.350623	0	
387	N430A	3.4491	0	1.25537	0	
388	N431A	3.614694	0	0.637368	0	
389	N432A	3.670456	0	-4.9e-13	0	
390	N433A	3.614694	0	-0.637368	0	
391	N434A	3.4491	0	-1.25537	0	
392	N435A	3.20909	0	-1.782605	0	
393	N436A	2.811732	0	-2.359324	0	
394	N437A	2.359324	0	-2.811732	0	
395	N438A	1.835228	0	-3.178708	0	
396	N439A	1.25537	0	-3.4491	0	
397	N440A	0.637368	0	-3.614694	0	
398	N443A	4.059416	0	1.67013	0	
399	N444A	4.351083	0	1.164948	0	
400	N446A	0.583333	0	-4.350623	0	
401	N447A	1.166667	0	-4.350623	0	
402	N448A	4.377399	0	0.024639	0	
403	N449A	4.166016	0	-0.703963	0	
404	N450A	3.954633	0	-1.432565	0	
405	N451A	3.217954	0	-2.70853	0	
406	N452A	2.692658	0	-3.255894	0	
407	N453A	2.167362	0	-3.803259	0	
408	N454A	3.313904	0	-1.545299	0	
409	N455A	3.849472	0	-1.795038	0	
410	N459A	0.159342	0	-3.656515	0	
411	N460A	0.318684	0	-3.642575	0	
412	N461A	0.478026	0	-3.628634	0	
413	N462A	0.155965	0	-3.830042	0	
414	N463A	0.31193	0	-3.819587	0	
415	N464A	0.467894	0	-3.809131	0	
416	N465A	0.623859	0	-3.798676	0	
417	N466A	0.152588	0	-4.003569	0	
418	N467A	0.305175	0	-3.996599	0	
419	N468A	0.457763	0	-3.989628	0	
420	N469A	0.610351	0	-3.982658	0	
421	N470A	0.14921	0	-4.177096	0	
422	N471A	0.298421	0	-4.173611	0	
423	N472A	0.447631	0	-4.170125	0	
424	N473A	0.596842	0	-4.16664	0	
425	N474A	0.145833	0	-4.350623	0	
426	N475A	0.291667	0	-4.350623	0	
427	N476A	0.4375	0	-4.350623	0	
428	N477A	0.791868	0	-3.573295	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
429	N478A	0.946369	0	-3.531897	0	
430	N479A	1.100869	0	-3.490499	0	
431	N480A	0.776193	0	-3.767627	0	
432	N481A	0.928527	0	-3.736578	0	
433	N482A	1.08086	0	-3.70553	0	
434	N483A	1.233194	0	-3.674481	0	
435	N484A	0.760518	0	-3.961959	0	
436	N485A	0.910684	0	-3.94126	0	
437	N486A	1.060851	0	-3.920561	0	
438	N487A	1.211018	0	-3.899862	0	
439	N488A	0.744842	0	-4.156291	0	
440	N489A	0.892842	0	-4.145941	0	
441	N490A	1.040842	0	-4.135592	0	
442	N491A	1.188842	0	-4.125242	0	
443	N492A	0.729167	0	-4.350623	0	
444	N493A	0.875	0	-4.350623	0	
445	N494A	1.020833	0	-4.350623	0	
446	N495A	1.545392	0	-4.125242	0	
447	N496A	1.448718	0	-3.899862	0	
448	N497A	1.352044	0	-3.674481	0	
449	N498A	1.77339	0	-4.213782	0	
450	N499A	1.680126	0	-4.005712	0	
451	N500A	1.586862	0	-3.797642	0	
452	N501A	1.493598	0	-3.589572	0	
453	N502A	1.400334	0	-3.381502	0	
454	N503A	1.904714	0	-4.076941	0	
455	N504A	1.81486	0	-3.886181	0	
456	N505A	1.725006	0	-3.695422	0	
457	N506A	1.635153	0	-3.504663	0	
458	N507A	1.545299	0	-3.313904	0	
459	N508A	2.036038	0	-3.9401	0	
460	N509A	1.949594	0	-3.766651	0	
461	N510A	1.863151	0	-3.593203	0	
462	N511A	1.776707	0	-3.419755	0	
463	N512A	1.690263	0	-3.246306	0	
464	N513A	2.084328	0	-3.647121	0	
465	N514A	2.001295	0	-3.490983	0	
466	N515A	1.918261	0	-3.334846	0	
467	N516A	2.298686	0	-3.666418	0	
468	N517A	2.215577	0	-3.521554	0	
469	N518A	2.132469	0	-3.376691	0	
470	N519A	2.04936	0	-3.231828	0	
471	N520A	1.966252	0	-3.086964	0	
472	N521A	2.43001	0	-3.529576	0	
473	N522A	2.346826	0	-3.395987	0	
474	N523A	2.263643	0	-3.262398	0	
475	N524A	2.180459	0	-3.128809	0	
476	N525A	2.097276	0	-2.99522	0	
477	N526A	2.561334	0	-3.392735	0	
478	N527A	2.478075	0	-3.270421	0	
479	N528A	2.394817	0	-3.148106	0	
480	N529A	2.311558	0	-3.025791	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
481	N530A	2.2283	0	-2.903476	0	
482	N531A	2.609324	0	-3.144854	0	
483	N532A	2.525991	0	-3.033813	0	
484	N533A	2.442657	0	-2.922773	0	
485	N534A	2.823982	0	-3.119053	0	
486	N535A	2.736093	0	-3.013948	0	
487	N536A	2.648204	0	-2.908842	0	
488	N537A	2.560315	0	-2.803736	0	
489	N538A	2.472426	0	-2.69863	0	
490	N539A	2.955306	0	-2.982212	0	
491	N540A	2.862861	0	-2.883041	0	
492	N541A	2.770417	0	-2.78387	0	
493	N542A	2.677972	0	-2.684699	0	
494	N543A	2.585528	0	-2.585528	0	
495	N544A	3.08663	0	-2.845371	0	
496	N545A	2.98963	0	-2.752135	0	
497	N546A	2.89263	0	-2.658899	0	
498	N547A	2.79563	0	-2.565662	0	
499	N548A	2.69863	0	-2.472426	0	
500	N549A	3.116398	0	-2.621229	0	
501	N550A	3.014843	0	-2.533927	0	
502	N551A	2.913288	0	-2.446625	0	
503	N552A	2.903476	0	-2.2283	0	
504	N553A	2.99522	0	-2.097276	0	
505	N554A	3.086964	0	-1.966252	0	
506	N555A	3.014927	0	-2.314147	0	
507	N556A	3.116566	0	-2.181669	0	
508	N557A	3.218205	0	-2.049191	0	
509	N558A	3.350225	0	-1.86409	0	
510	N559A	3.126377	0	-2.399995	0	
511	N560A	3.237911	0	-2.266062	0	
512	N561A	3.349445	0	-2.13213	0	
513	N562A	3.491361	0	-1.945574	0	
514	N563A	3.237827	0	-2.485842	0	
515	N564A	3.359256	0	-2.350455	0	
516	N565A	3.480685	0	-2.215068	0	
517	N566A	3.632496	0	-2.027059	0	
518	N567A	3.349278	0	-2.571689	0	
519	N568A	3.480602	0	-2.434848	0	
520	N569A	3.611926	0	-2.298007	0	
521	N570A	3.490499	0	-1.100869	0	
522	N571A	3.531897	0	-0.946369	0	
523	N572A	3.573295	0	-0.791868	0	
524	N573A	3.575484	0	-1.299669	0	
525	N574A	3.619744	0	-1.138256	0	
526	N575A	3.664004	0	-0.976843	0	
527	N576A	3.708264	0	-0.81543	0	
528	N577A	3.752524	0	-0.654017	0	
529	N578A	3.701867	0	-1.343967	0	
530	N579A	3.748989	0	-1.175642	0	
531	N580A	3.796111	0	-1.007316	0	
532	N581A	3.843233	0	-0.838991	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
533	N582A	3.890355	0	-0.670665	0	
534	N583A	3.82825	0	-1.388266	0	
535	N584A	3.878234	0	-1.213028	0	
536	N585A	3.928218	0	-1.03779	0	
537	N586A	3.978202	0	-0.862552	0	
538	N587A	4.028186	0	-0.687314	0	
539	N588A	4.007479	0	-1.250414	0	
540	N589A	4.060325	0	-1.068264	0	
541	N590A	4.11317	0	-0.886113	0	
542	N591A	3.656515	0	-0.159342	0	
543	N592A	3.642575	0	-0.318684	0	
544	N593A	3.628634	0	-0.478026	0	
545	N594A	3.847192	0	0.00616	0	
546	N595A	3.823525	0	-0.158884	0	
547	N596A	3.799858	0	-0.323928	0	
548	N597A	3.776191	0	-0.488973	0	
549	N598A	4.023928	0	0.012319	0	
550	N599A	3.990534	0	-0.158427	0	
551	N600A	3.957141	0	-0.329173	0	
552	N601A	3.923748	0	-0.499919	0	
553	N602A	4.200664	0	0.018479	0	
554	N603A	4.157544	0	-0.157969	0	
555	N604A	4.114425	0	-0.334417	0	
556	N605A	4.071305	0	-0.510866	0	
557	N606A	4.324554	0	-0.157511	0	
558	N607A	4.271708	0	-0.339662	0	
559	N608A	4.218862	0	-0.521812	0	
560	N609A	3.656515	0	0.159342	0	
561	N610A	3.642575	0	0.318684	0	
562	N611A	3.628634	0	0.478026	0	
563	N612A	3.900038	0	0.18831	0	
564	N613A	3.874726	0	0.333548	0	
565	N614A	3.849414	0	0.478787	0	
566	N615A	3.824103	0	0.624025	0	
567	N616A	3.798791	0	0.769263	0	
568	N617A	4.129619	0	0.37662	0	
569	N618A	4.092937	0	0.507755	0	
570	N619A	4.056254	0	0.638889	0	
571	N620A	4.019571	0	0.770024	0	
572	N621A	3.982888	0	0.901158	0	
573	N622A	4.359201	0	0.564931	0	
574	N623A	4.311147	0	0.681961	0	
575	N624A	4.263093	0	0.798992	0	
576	N625A	4.215039	0	0.916023	0	
577	N626	4.166986	0	1.033053	0	
578	N627	4.529358	0	0.856168	0	
579	N628	4.469933	0	0.959095	0	
580	N629	4.410508	0	1.062022	0	
581	N630	3.573295	0	0.791868	0	
582	N631	3.531897	0	0.946369	0	
583	N632	3.490499	0	1.100869	0	
584	N633	3.749513	0	0.916712	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
585	N634	3.700235	0	1.064161	0	
586	N635	3.650957	0	1.211611	0	
587	N636	3.601679	0	1.35906	0	
588	N637	3.925731	0	1.041556	0	
589	N638	3.868573	0	1.181954	0	
590	N639	3.811416	0	1.322352	0	
591	N640	3.754258	0	1.46275	0	
592	N641	4.101949	0	1.1664	0	
593	N642	4.036911	0	1.299747	0	
594	N643	3.971874	0	1.433093	0	
595	N644	3.906837	0	1.56644	0	
596	N645	4.278166	0	1.291244	0	
597	N646	4.20525	0	1.417539	0	
598	N647	4.132333	0	1.543835	0	
599	N648	3.381502	0	1.400334	0	
600	N649	3.313904	0	1.545299	0	
601	N650	3.246306	0	1.690263	0	
602	N651	3.532752	0	1.499357	0	
603	N652	3.463824	0	1.639654	0	
604	N653	3.394896	0	1.779952	0	
605	N655	3.684001	0	1.59838	0	
606	N656	3.613744	0	1.73401	0	
607	N657	3.543486	0	1.86964	0	
608	N659	3.83525	0	1.697403	0	
609	N660	3.763663	0	1.828365	0	
610	N661	3.692076	0	1.959328	0	
611	N663	3.9865	0	1.796425	0	
612	N664	3.913583	0	1.922721	0	
613	N665	3.840666	0	2.049016	0	
614	N666	3.415301	0	-1.327852	0	
615	N667	3.381502	0	-1.400334	0	
616	N668	3.347703	0	-1.472817	0	
617	N669	3.543562	0	-1.376685	0	
618	N670	3.51164	0	-1.453701	0	
619	N671	3.479718	0	-1.530717	0	
620	N672	3.447796	0	-1.607734	0	
621	N673	3.671822	0	-1.425518	0	
622	N674	3.641777	0	-1.507068	0	
623	N675	3.611733	0	-1.588618	0	
624	N676	3.581688	0	-1.670169	0	
625	N677	3.800082	0	-1.47435	0	
626	N678	3.771915	0	-1.560435	0	
627	N679	3.743747	0	-1.646519	0	
628	N680	3.71558	0	-1.732603	0	
629	N681	3.928343	0	-1.523183	0	
630	N682	3.902052	0	-1.613801	0	
631	N683	3.875762	0	-1.70442	0	
632	N684	3.280105	0	-1.617781	0	
633	N685	3.246306	0	-1.690263	0	
634	N686	3.415808	0	-1.684978	0	
635	N687	3.38382	0	-1.762223	0	
636	N688	3.551511	0	-1.752176	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
637	N689	3.521333	0	-1.834183	0	
638	N690	3.687213	0	-1.819373	0	
639	N691	3.658847	0	-1.906143	0	
640	N692	3.822916	0	-1.88657	0	
641	N693	3.796361	0	-1.978102	0	
642	N694	1.404366	0	-4.350623	0	
643	N695	1.354701	0	-4.050115	0	
644	N696	4.483091	0	0.38894	0	
645	N697	4.212213	0	0.259293	0	
646	N698	4.170916	0	0.317957	0	
647	N699	4.353426	0	0.444524	0	
648	N700	4.535937	0	0.57109	0	
649	N701	4.347652	0	0.324117	0	
650	N702	4.009054	0	0.162058	0	
651	N703	4.11807	0	0.135806	0	
652	N704	4.274158	0	0.171298	0	
653	N705	4.430245	0	0.206789	0	
654	N706	1.523216	0	-4.350623	0	
655	N707	1.462463	0	-4.162805	0	
656	N708	1.379533	0	-4.200369	0	
657	N709	1.401709	0	-3.974988	0	
658	N710	1.285516	0	-4.350623	0	
659	N711	1.284188	0	-4.162805	0	
660	N712	1.282859	0	-3.974988	0	
661	N713	1.317452	0	-3.824735	0	
662	N714	3.712868	0	-2.21379	0	
663	N715	3.148326	0	-1.887852	0	
664	N716	3.289461	0	-1.969336	0	
665	N717	3.430597	0	-2.050821	0	
666	N718	3.571732	0	-2.132305	0	
667	N719	3.773632	0.388888	-2.108544	0	
668	N720	3.350225	0.388888	-1.86409	0	
669	N721	3.491361	0.388888	-1.945574	0	
670	N722	3.632496	0.388888	-2.027059	0	
671	N723	3.712868	0.388888	-2.21379	0	
672	N724	3.289461	0.388888	-1.969336	0	
673	N725	3.430597	0.388888	-2.050821	0	
674	N726	3.571732	0.388888	-2.132305	0	
675	N727	3.773632	-0.388888	-2.108544	0	
676	N728	3.20909	-0.388888	-1.782605	0	
677	N729	3.350225	-0.388888	-1.86409	0	
678	N730	3.491361	-0.388888	-1.945574	0	
679	N731	3.632496	-0.388888	-2.027059	0	
680	N732	3.712868	-0.388888	-2.21379	0	
681	N733	3.148326	-0.388888	-1.887852	0	
682	N734	3.289461	-0.388888	-1.969336	0	
683	N735	3.430597	-0.388888	-2.050821	0	
684	N736	3.571732	-0.388888	-2.132305	0	
685	N737	3.773632	-0.194444	-2.108544	0	
686	N738	3.20909	-0.194444	-1.782605	0	
687	N739	3.350225	-0.194444	-1.86409	0	
688	N740	3.491361	-0.194444	-1.945574	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
689	N741	3.632496	-0.194444	-2.027059	0	
690	N742	3.712868	-0.194444	-2.21379	0	
691	N743	3.148326	-0.194444	-1.887852	0	
692	N744	3.289461	-0.194444	-1.969336	0	
693	N745	3.430597	-0.194444	-2.050821	0	
694	N746	3.571732	-0.194444	-2.132305	0	
695	N747	3.773632	0.194445	-2.108544	0	
696	N748	3.20909	0.194445	-1.782605	0	
697	N749	3.350225	0.194445	-1.86409	0	
698	N750	3.491361	0.194445	-1.945574	0	
699	N751	3.632496	0.194445	-2.027059	0	
700	N752	3.712868	0.194445	-2.21379	0	
701	N753	3.148326	0.194445	-1.887852	0	
702	N754	3.289461	0.194445	-1.969336	0	
703	N755	3.430597	0.194445	-2.050821	0	
704	N756	3.571732	0.194445	-2.132305	0	
705	N760	-3.712868	0	-2.213789	0	
706	N761	-1.642066	0	-4.350623	0	
707	N762	-4.588783	0	0.753241	0	
708	N764	-0.637368	0	-3.614694	0	
709	N765	-1.25537	0	-3.4491	0	
710	N766	-1.835228	0	-3.178708	0	
711	N767	-2.359324	0	-2.811732	0	
712	N768	-2.811732	0	-2.359324	0	
713	N769	-3.148326	0	-1.887851	0	
714	N770	-3.4491	0	-1.25537	0	
715	N771	-3.614694	0	-0.637368	0	
716	N772	-3.670456	0	1e-14	0	
717	N773	-3.614694	0	0.637368	0	
718	N774	-3.4491	0	1.25537	0	
719	N777	-0.583333	0	-4.350623	0	
720	N778	-1.166667	0	-4.350623	0	
721	N780	-4.059416	0	1.67013	0	
722	N781	-4.351083	0	1.164948	0	
723	N782	-2.167362	0	-3.803259	0	
724	N783	-2.692658	0	-3.255894	0	
725	N784	-3.217954	0	-2.70853	0	
726	N785	-3.954633	0	-1.432565	0	
727	N786	-4.166016	0	-0.703963	0	
728	N787	-4.377399	0	0.024639	0	
729	N788	-2.99522	0	-2.097276	0	
730	N789	-3.479284	0	-2.436221	0	
731	N793	-3.246306	0	1.690263	0	
732	N794A	-3.313904	0	1.545299	0	
733	N795A	-3.381502	0	1.400334	0	
734	N796A	-3.394896	0	1.779952	0	
735	N797A	-3.463824	0	1.639654	0	
736	N798A	-3.532752	0	1.499357	0	
737	N799A	-3.601679	0	1.35906	0	
738	N800A	-3.543486	0	1.86964	0	
739	N801A	-3.613744	0	1.73401	0	
740	N802A	-3.684001	0	1.59838	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
741	N803A	-3.754258	0	1.46275	0	
742	N804A	-3.692076	0	1.959328	0	
743	N805A	-3.763663	0	1.828365	0	
744	N806A	-3.83525	0	1.697403	0	
745	N807A	-3.906837	0	1.56644	0	
746	N808A	-3.840666	0	2.049016	0	
747	N809A	-3.913583	0	1.922721	0	
748	N810A	-3.9865	0	1.796425	0	
749	N811A	-3.490499	0	1.100869	0	
750	N812A	-3.531897	0	0.946369	0	
751	N813A	-3.573295	0	0.791868	0	
752	N814	-3.650957	0	1.211611	0	
753	N815A	-3.700235	0	1.064161	0	
754	N816A	-3.749513	0	0.916712	0	
755	N817	-3.798791	0	0.769263	0	
756	N818A	-3.811416	0	1.322352	0	
757	N819A	-3.868573	0	1.181954	0	
758	N820	-3.925731	0	1.041556	0	
759	N821A	-3.982888	0	0.901158	0	
760	N822A	-3.971874	0	1.433093	0	
761	N823	-4.036911	0	1.299747	0	
762	N824A	-4.101949	0	1.1664	0	
763	N825A	-4.166986	0	1.033053	0	
764	N826	-4.132333	0	1.543835	0	
765	N827	-4.20525	0	1.417539	0	
766	N828	-4.278166	0	1.291244	0	
767	N829	-4.34526	0	0.724273	0	
768	N830	-4.101738	0	0.695304	0	
769	N831	-3.858216	0	0.666336	0	
770	N832	-4.535937	0	0.57109	0	
771	N833	-4.309111	0	0.547824	0	
772	N834	-4.082285	0	0.524558	0	
773	N835	-3.85546	0	0.501292	0	
774	N836	-3.628634	0	0.478026	0	
775	N837	-4.483091	0	0.38894	0	
776	N838	-4.272962	0	0.371376	0	
777	N839	-4.062833	0	0.353812	0	
778	N840	-3.852704	0	0.336248	0	
779	N841	-3.642575	0	0.318684	0	
780	N842	-4.430245	0	0.206789	0	
781	N843	-4.236813	0	0.194928	0	
782	N844	-4.04338	0	0.183066	0	
783	N845	-3.849948	0	0.171204	0	
784	N846	-3.656515	0	0.159342	0	
785	N847	-4.200664	0	0.018479	0	
786	N848	-4.023928	0	0.012319	0	
787	N849	-3.847192	0	0.00616	0	
788	N850	-4.324554	0	-0.157511	0	
789	N851	-4.157544	0	-0.157969	0	
790	N852	-3.990534	0	-0.158427	0	
791	N853	-3.823525	0	-0.158884	0	
792	N854	-3.656515	0	-0.159342	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
793	N855	-4.271708	0	-0.339662	0	
794	N856	-4.114425	0	-0.334417	0	
795	N857	-3.957141	0	-0.329173	0	
796	N858	-3.799858	0	-0.323928	0	
797	N859	-3.642575	0	-0.318684	0	
798	N860	-4.218862	0	-0.521812	0	
799	N861	-4.071305	0	-0.510866	0	
800	N862	-3.923748	0	-0.499919	0	
801	N863	-3.776191	0	-0.488973	0	
802	N864	-3.628634	0	-0.478026	0	
803	N865	-4.028186	0	-0.687314	0	
804	N866	-3.890355	0	-0.670665	0	
805	N867	-3.752524	0	-0.654017	0	
806	N868	-4.11317	0	-0.886113	0	
807	N869	-3.978202	0	-0.862552	0	
808	N870	-3.843233	0	-0.838991	0	
809	N871	-3.708264	0	-0.81543	0	
810	N872	-3.573295	0	-0.791868	0	
811	N873	-4.060325	0	-1.068264	0	
812	N874	-3.928218	0	-1.03779	0	
813	N875	-3.796111	0	-1.007316	0	
814	N876	-3.664004	0	-0.976843	0	
815	N877	-3.531897	0	-0.946369	0	
816	N878	-4.007479	0	-1.250414	0	
817	N879	-3.878234	0	-1.213028	0	
818	N880	-3.748989	0	-1.175642	0	
819	N881	-3.619744	0	-1.138256	0	
820	N882	-3.490499	0	-1.100869	0	
821	N883	-3.82825	0	-1.388266	0	
822	N884	-3.701867	0	-1.343967	0	
823	N885	-3.575484	0	-1.299669	0	
824	N886	-3.381502	0	-1.400334	0	
825	N887	-3.313904	0	-1.545299	0	
826	N888	-3.246306	0	-1.690263	0	
827	N889	-3.511574	0	-1.45393	0	
828	N890	-3.447664	0	-1.608191	0	
829	N891	-3.383754	0	-1.762452	0	
830	N892	-3.289462	0	-1.969335	0	
831	N893	-3.641645	0	-1.507525	0	
832	N894	-3.581423	0	-1.671082	0	
833	N895	-3.521201	0	-1.83464	0	
834	N896	-3.430597	0	-2.05082	0	
835	N897	-3.771716	0	-1.56112	0	
836	N898	-3.715182	0	-1.733974	0	
837	N899C	-3.658648	0	-1.906828	0	
838	N900B	-3.571733	0	-2.132304	0	
839	N901B	-3.901787	0	-1.614715	0	
840	N902B	-3.848941	0	-1.796865	0	
841	N903	-3.796096	0	-1.979016	0	
842	N904	-2.69863	0	-2.472426	0	
843	N905A	-2.585528	0	-2.585528	0	
844	N906A	-2.472426	0	-2.69863	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
845	N907	-2.913288	0	-2.446625	0	
846	N908	-2.79563	0	-2.565662	0	
847	N909	-2.677972	0	-2.684699	0	
848	N910	-2.560315	0	-2.803736	0	
849	N911A	-2.442657	0	-2.922773	0	
850	N912B	-3.014843	0	-2.533927	0	
851	N913B	-2.89263	0	-2.658899	0	
852	N914B	-2.770417	0	-2.78387	0	
853	N915B	-2.648204	0	-2.908842	0	
854	N916B	-2.525991	0	-3.033813	0	
855	N917A	-3.116398	0	-2.621229	0	
856	N918A	-2.98963	0	-2.752135	0	
857	N919A	-2.862861	0	-2.883041	0	
858	N920A	-2.736093	0	-3.013948	0	
859	N921A	-2.609324	0	-3.144854	0	
860	N922B	-3.08663	0	-2.845371	0	
861	N923B	-2.955306	0	-2.982212	0	
862	N924B	-2.823982	0	-3.119053	0	
863	N925B	-1.966252	0	-3.086964	0	
864	N926B	-2.097276	0	-2.99522	0	
865	N927	-2.2283	0	-2.903476	0	
866	N928	-1.918261	0	-3.334846	0	
867	N929	-2.04936	0	-3.231828	0	
868	N930	-2.180459	0	-3.128809	0	
869	N931	-2.311558	0	-3.025791	0	
870	N932	-2.001295	0	-3.490983	0	
871	N933	-2.132469	0	-3.376691	0	
872	N934	-2.263643	0	-3.262398	0	
873	N935	-2.394817	0	-3.148106	0	
874	N936	-2.084328	0	-3.647121	0	
875	N937	-2.215577	0	-3.521554	0	
876	N938	-2.346826	0	-3.395987	0	
877	N939	-2.478075	0	-3.270421	0	
878	N940	-2.298686	0	-3.666418	0	
879	N941	-2.43001	0	-3.529576	0	
880	N942	-2.561334	0	-3.392735	0	
881	N943	-1.690263	0	-3.246306	0	
882	N944	-1.545299	0	-3.313904	0	
883	N945	-1.400334	0	-3.381502	0	
884	N946	-1.786937	0	-3.471687	0	
885	N947	-1.648502	0	-3.522385	0	
886	N948	-1.510066	0	-3.573084	0	
887	N949	-1.37163	0	-3.623782	0	
888	N950	-1.233194	0	-3.674481	0	
889	N951A	-1.738647	0	-3.764665	0	
890	N952C	-1.60674	0	-3.798464	0	
891	N953B	-1.474833	0	-3.832263	0	
892	N954B	-1.342925	0	-3.866062	0	
893	N955C	-1.211018	0	-3.899862	0	
894	N956C	-1.690356	0	-4.057644	0	
895	N957B	-1.564978	0	-4.074544	0	
896	N958A	-1.439599	0	-4.091443	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
897	N959	-1.314221	0	-4.108343	0	
898	N960A	-1.188842	0	-4.125242	0	
899	N961A	-1.523216	0	-4.350623	0	
900	N962A	-1.404366	0	-4.350623	0	
901	N963A	-1.285516	0	-4.350623	0	
902	N964A	-1.100869	0	-3.490499	0	
903	N965	-0.946369	0	-3.531897	0	
904	N966A	-0.791868	0	-3.573295	0	
905	N967A	-1.08086	0	-3.70553	0	
906	N968A	-0.928527	0	-3.736578	0	
907	N969A	-0.776193	0	-3.767627	0	
908	N970A	-0.623859	0	-3.798676	0	
909	N971A	-1.060851	0	-3.920561	0	
910	N972A	-0.910684	0	-3.94126	0	
911	N973A	-0.760518	0	-3.961959	0	
912	N974	-0.610351	0	-3.982658	0	
913	N975	-1.040842	0	-4.135592	0	
914	N976A	-0.892842	0	-4.145941	0	
915	N977A	-0.744842	0	-4.156291	0	
916	N978	-0.596842	0	-4.16664	0	
917	N979A	-1.020833	0	-4.350623	0	
918	N980A	-0.875	0	-4.350623	0	
919	N981A	-0.729167	0	-4.350623	0	
920	N982A	-0.478026	0	-3.628634	0	
921	N983A	-0.318684	0	-3.642575	0	
922	N984A	-0.159342	0	-3.656515	0	
923	N985A	-0.467894	0	-3.809131	0	
924	N986A	-0.31193	0	-3.819587	0	
925	N987	-0.155965	0	-3.830042	0	
926	N989	-0.457763	0	-3.989628	0	
927	N990	-0.305175	0	-3.996599	0	
928	N991	-0.152588	0	-4.003569	0	
929	N993A	-0.447631	0	-4.170125	0	
930	N994	-0.298421	0	-4.173611	0	
931	N995A	-0.14921	0	-4.177096	0	
932	N997A	-0.4375	0	-4.350623	0	
933	N998A	-0.291667	0	-4.350623	0	
934	N999A	-0.145833	0	-4.350623	0	
935	N1000A	-2.857604	0	-2.293812	0	
936	N1001A	-2.903476	0	-2.2283	0	
937	N1002A	-2.949348	0	-2.162788	0	
938	N1003	-2.964025	0	-2.380472	0	
939	N1004	-3.014762	0	-2.314319	0	
940	N1005	-3.065499	0	-2.248165	0	
941	N1006	-3.116236	0	-2.182012	0	
942	N1007	-3.070445	0	-2.467132	0	
943	N1008	-3.126048	0	-2.400338	0	
944	N1009	-3.18165	0	-2.333543	0	
945	N1010	-3.237252	0	-2.266748	0	
946	N1011	-3.176866	0	-2.553793	0	
947	N1012	-3.237333	0	-2.486357	0	
948	N1013	-3.297801	0	-2.418921	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
949	N1014	-3.358268	0	-2.351485	0	
950	N1015	-3.283286	0	-2.640453	0	
951	N1016	-3.348619	0	-2.572376	0	
952	N1017	-3.413952	0	-2.504298	0	
953	N1018	-3.041092	0	-2.031764	0	
954	N1019	-3.086964	0	-1.966252	0	
955	N1020	-3.167138	0	-2.115687	0	
956	N1021	-3.21804	0	-2.049362	0	
957	N1022	-3.293184	0	-2.199611	0	
958	N1023	-3.349116	0	-2.132473	0	
959	N1024	-3.41923	0	-2.283534	0	
960	N1025	-3.480191	0	-2.215583	0	
961	N1026	-3.545276	0	-2.367457	0	
962	N1027	-3.611267	0	-2.298694	0	
963	N1028	-4.469933	0	0.959095	0	
964	N1029	-4.184853	0	0.851852	0	
965	N1030	-1.904714	0	-4.076941	0	
966	N1031	-1.881552	0	-3.77753	0	
967	N1032	-1.810099	0	-3.771098	0	
968	N1033	-1.791744	0	-3.99244	0	
969	N1034	-1.77339	0	-4.213782	0	
970	N1035	-1.893133	0	-3.927235	0	
971	N1036	-1.86418	0	-3.552972	0	
972	N1037	-1.941423	0	-3.634257	0	
973	N1038	-1.98873	0	-3.787178	0	
974	N1039	-2.036038	0	-3.9401	0	
975	N1040	-4.529358	0	0.856168	0	
976	N1041	-4.336327	0	0.814873	0	
977	N1042	-4.327393	0	0.905474	0	
978	N1043	-4.143296	0	0.773578	0	
979	N1044	-4.410508	0	1.062022	0	
980	N1045	-4.247189	0	0.969263	0	
981	N1046	-4.083871	0	0.876505	0	
982	N1047	-3.971043	0	0.771421	0	
983	N1048	-3.773632	0	-2.108543	0	
984	N1049	-3.20909	0	-1.782604	0	
985	N1050	-3.350226	0	-1.864089	0	
986	N1051	-3.491361	0	-1.945573	0	
987	N1052	-3.632497	0	-2.027058	0	
988	N1053	-3.712868	0.388888	-2.213789	0	
989	N1054	-3.289462	0.388888	-1.969335	0	
990	N1055	-3.430597	0.388888	-2.05082	0	
991	N1056	-3.571733	0.388888	-2.132304	0	
992	N1057	-3.773632	0.388888	-2.108543	0	
993	N1058	-3.350226	0.388888	-1.864089	0	
994	N1059	-3.491361	0.388888	-1.945573	0	
995	N1060	-3.632497	0.388888	-2.027058	0	
996	N1061	-3.712868	-0.388888	-2.213789	0	
997	N1062	-3.148326	-0.388888	-1.887851	0	
998	N1063	-3.289462	-0.388888	-1.969335	0	
999	N1064	-3.430597	-0.388888	-2.05082	0	
1000	N1065	-3.571733	-0.388888	-2.132304	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1001	N1066	-3.773632	-0.388888	-2.108543	0	
1002	N1067	-3.20909	-0.388888	-1.782604	0	
1003	N1068	-3.350226	-0.388888	-1.864089	0	
1004	N1069	-3.491361	-0.388888	-1.945573	0	
1005	N1070	-3.632497	-0.388888	-2.027058	0	
1006	N1071	-3.712868	-0.194444	-2.213789	0	
1007	N1072	-3.148326	-0.194444	-1.887851	0	
1008	N1073	-3.289462	-0.194444	-1.969335	0	
1009	N1074	-3.430597	-0.194444	-2.05082	0	
1010	N1075	-3.571733	-0.194444	-2.132304	0	
1011	N1076	-3.773632	-0.194444	-2.108543	0	
1012	N1077	-3.20909	-0.194444	-1.782604	0	
1013	N1078	-3.350226	-0.194444	-1.864089	0	
1014	N1079	-3.491361	-0.194444	-1.945573	0	
1015	N1080	-3.632497	-0.194444	-2.027058	0	
1016	N1081	-3.712868	0.194445	-2.213789	0	
1017	N1082	-3.148326	0.194445	-1.887851	0	
1018	N1083	-3.289462	0.194445	-1.969335	0	
1019	N1084	-3.430597	0.194445	-2.05082	0	
1020	N1085	-3.571733	0.194445	-2.132304	0	
1021	N1086	-3.773632	0.194445	-2.108543	0	
1022	N1087	-3.20909	0.194445	-1.782604	0	
1023	N1088	-3.350226	0.194445	-1.864089	0	
1024	N1089	-3.491361	0.194445	-1.945573	0	
1025	N1090	-3.632497	0.194445	-2.027058	0	
1026	N1066A	-2.946717	0.243055	3.597382	0	
1027	N1067A	2.946717	0.243055	3.597382	0	
1028	N1068A	-2.210038	0.243055	3.77862	0	
1029	N1069A	-1.473358	0.243055	3.959857	0	
1030	N1070A	-0.736679	0.243055	4.141095	0	
1031	N1071A	0.736679	0.243055	4.141095	0	
1032	N1072A	1.473358	0.243055	3.959857	0	
1033	N1073A	2.210038	0.243055	3.77862	0	
1034	N1074A	-0.370187	0.243055	4.231259	0	
1035	N1075A	2.762547	0.243055	3.642691	0	
1036	N1076A	2.578377	0.243055	3.688001	0	
1037	N1077A	2.394207	0.243055	3.73331	0	
1038	N1078A	2.025868	0.243055	3.823929	0	
1039	N1079A	1.841698	0.243055	3.869238	0	
1040	N1080A	1.657528	0.243055	3.914548	0	
1041	N1081A	1.289189	0.243055	4.005167	0	
1042	N1082A	1.105019	0.243055	4.050476	0	
1043	N1083A	0.920849	0.243055	4.095786	0	
1044	N1084A	0.552509	0.243055	4.186404	0	
1045	N1085A	0.36834	0.243055	4.231714	0	
1046	N1086A	0.18417	0.243055	4.277023	0	
1047	N1087A	-0.920849	0.243055	4.095786	0	
1048	N1088A	-1.105019	0.243055	4.050476	0	
1049	N1089A	-1.289189	0.243055	4.005167	0	
1050	N1090A	-2.025868	0.243055	3.823929	0	
1051	N1091	-1.841698	0.243055	3.869238	0	
1052	N1092	-1.657528	0.243055	3.914548	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1053	N1093	-0.645056	0.243055	4.163636	0	
1054	N1094	-0.553433	0.243055	4.186177	0	
1055	N1095	-0.46181	0.243055	4.208718	0	
1056	N1096	-0.27764	0.243055	4.254028	0	
1057	N1097	-0.185094	0.243055	4.276796	0	
1058	N1098	-2.578377	0.243055	3.688001	0	
1059	N1099	-2.762547	0.243055	3.642691	0	
1060	N1100	-2.394207	0.243055	3.73331	0	
1061	N1136	4.588783	0.243055	0.753241	0	
1062	N1137	1.642066	0.243055	-4.350623	0	
1063	N1138	4.377399	0.243055	0.024639	0	
1064	N1139	4.166016	0.243055	-0.703963	0	
1065	N1140	3.954633	0.243055	-1.432565	0	
1066	N1141	3.217954	0.243055	-2.70853	0	
1067	N1142	2.692658	0.243055	-3.255894	0	
1068	N1143	2.167362	0.243055	-3.803259	0	
1069	N1144	3.849472	0.243055	-1.795038	0	
1070	N1145	1.77339	0.243055	-4.213782	0	
1071	N1146	1.904714	0.243055	-4.076941	0	
1072	N1147	2.036038	0.243055	-3.9401	0	
1073	N1148	2.298686	0.243055	-3.666418	0	
1074	N1149	2.43001	0.243055	-3.529576	0	
1075	N1150	2.561334	0.243055	-3.392735	0	
1076	N1151	2.823982	0.243055	-3.119053	0	
1077	N1152	2.955306	0.243055	-2.982212	0	
1078	N1153	3.08663	0.243055	-2.845371	0	
1079	N1154	3.349278	0.243055	-2.571689	0	
1080	N1155	3.480602	0.243055	-2.434848	0	
1081	N1156	3.611926	0.243055	-2.298007	0	
1082	N1157	4.007479	0.243055	-1.250414	0	
1083	N1158	4.060325	0.243055	-1.068264	0	
1084	N1159	4.11317	0.243055	-0.886113	0	
1085	N1160	4.324554	0.243055	-0.157511	0	
1086	N1161	4.271708	0.243055	-0.339662	0	
1087	N1162	4.218862	0.243055	-0.521812	0	
1088	N1163	3.928343	0.243055	-1.523183	0	
1089	N1164	3.902052	0.243055	-1.613801	0	
1090	N1165	3.875762	0.243055	-1.70442	0	
1091	N1166	3.822916	0.243055	-1.88657	0	
1092	N1167	3.796361	0.243055	-1.978102	0	
1093	N1168	4.483091	0.243055	0.38894	0	
1094	N1169	4.535937	0.243055	0.57109	0	
1095	N1170	4.430245	0.243055	0.206789	0	
1096	N1206	-1.642066	0.243055	-4.350623	0	
1097	N1207	-4.588783	0.243055	0.753241	0	
1098	N1208	-2.167362	0.243055	-3.803259	0	
1099	N1209	-2.692658	0.243055	-3.255894	0	
1100	N1210	-3.217954	0.243055	-2.70853	0	
1101	N1211	-3.954633	0.243055	-1.432565	0	
1102	N1212	-4.166016	0.243055	-0.703963	0	
1103	N1213	-4.377399	0.243055	0.024639	0	
1104	N1214	-3.479284	0.243055	-2.436221	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1105	N1215	-4.535937	0.243055	0.57109	0	
1106	N1216	-4.483091	0.243055	0.38894	0	
1107	N1217	-4.430245	0.243055	0.206789	0	
1108	N1218	-4.324554	0.243055	-0.157511	0	
1109	N1219	-4.271708	0.243055	-0.339662	0	
1110	N1220	-4.218862	0.243055	-0.521812	0	
1111	N1221	-4.11317	0.243055	-0.886113	0	
1112	N1222	-4.060325	0.243055	-1.068264	0	
1113	N1223	-4.007479	0.243055	-1.250414	0	
1114	N1224	-3.901787	0.243055	-1.614715	0	
1115	N1225	-3.848941	0.243055	-1.796865	0	
1116	N1226	-3.796096	0.243055	-1.979016	0	
1117	N1227	-3.08663	0.243055	-2.845371	0	
1118	N1228	-2.955306	0.243055	-2.982212	0	
1119	N1229	-2.823982	0.243055	-3.119053	0	
1120	N1230	-2.298686	0.243055	-3.666418	0	
1121	N1231	-2.43001	0.243055	-3.529576	0	
1122	N1232	-2.561334	0.243055	-3.392735	0	
1123	N1233	-3.283286	0.243055	-2.640453	0	
1124	N1234	-3.348619	0.243055	-2.572376	0	
1125	N1235	-3.413952	0.243055	-2.504298	0	
1126	N1236	-3.545276	0.243055	-2.367457	0	
1127	N1237	-3.611267	0.243055	-2.298694	0	
1128	N1238	-1.904714	0.243055	-4.076941	0	
1129	N1239	-1.77339	0.243055	-4.213782	0	
1130	N1240	-2.036038	0.243055	-3.9401	0	
1131	N1171	-0.591716	0	-7.296841	0	
1132	N1172	0.591716	0	-7.296841	0	
1133	N1175	-6.023391	0	4.160861	0	
1134	N1176	-6.615107	0	3.135979	0	
1135	N1179	6.615107	0	3.135979	0	
1136	N1180	6.023391	0	4.160861	0	
1137	N1143B	-3.788861	-0.3885	2.1875	0	
1138	N1144B	3.788861	-0.3885	2.1875	0	
1139	N1145B	-5e-14	0	-7.296841	0	
1140	N1174	0	-0.388889	-4.525761	0	
1141	N1172A	-2e-14	-0.097222	-3.670456	0	
1142	N1173	-5e-14	-0.097222	-3.840498	0	
1143	N1174B	-5e-14	-0.097222	-4.010539	0	
1144	N1175B	-5e-14	-0.097222	-4.180581	0	
1145	N1176A	-6e-14	-0.097222	-4.350623	0	
1146	N1197	-3.178708	-0.097222	1.835228	0	
1147	N1198	-3.325969	-0.097222	1.920249	0	
1148	N1199	-3.473229	-0.097222	2.00527	0	
1149	N1200	-3.620489	-0.097222	2.09029	0	
1150	N1201	-3.76775	-0.097222	2.175311	0	
1151	N1222A	3.178708	-0.097222	1.835228	0	
1152	N1223A	3.325969	-0.097222	1.920249	0	
1153	N1224A	3.473229	-0.097222	2.00527	0	
1154	N1225A	3.620489	-0.097222	2.09029	0	
1155	N1226A	3.76775	-0.097222	2.175311	0	
1156	N1160A	6.416666	0	4.322333	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1157	N1163A	-6.999999	0	4.322333	0	
1158	N1164A	-6.999999	3.833	4.322333	0	
1159	N1166A	6.416666	3.833	4.322333	0	
1160	N1172C	7.243249	3.833	3.901011	0	
1161	N1177	0.534917	-4.1667	-7.718162	0	
1162	N1181	-0.24325	-4.1667	-8.223343	0	
1163	N1189	7.243249	0	3.901011	0	
1164	N1191	0.534917	0	-7.718162	0	
1165	N1193	-0.24325	0	-8.223343	0	
1166	N1195	-6.951583	0	3.395829	0	
1167	N1196	-0.206597	0	4.322333	0	
1168	N1200A	0.206597	0	4.322333	0	
1169	N1203	3.846548	0	-1.982248	0	
1170	N1204	3.639951	0	-2.340084	0	
1171	N1210A	-3.639951	0	-2.340084	0	
1172	N1211A	-3.846548	0	-1.982248	0	
1173	N1200B	-1.306504	-0.3885	0.75431	0	
1174	N1201A	-3.919424	-0.388889	2.26288	0	
1175	N1202	1.306504	-0.3885	0.75431	0	
1176	N1203A	3.919424	-0.388889	2.26288	0	
1177	N1184	0.230001	3.83	4.322333	0	
1178	N1189A	-3.85825	-4.1667	-1.96198	0	
1179	N1188	3.62825	-4.1667	-2.360353	0	
1180	N1191A	0.230001	0	4.322333	0	
1181	N1192	3.628249	0	-2.360353	0	
1182	N1193A	-3.85825	0	-1.96198	0	
1183	N1194	0.230001	3.83	4.572333	0	
1184	N1195A	0.230001	-4.1667	4.572333	0	
1185	N1196A	0.230001	0	4.572333	0	
1186	N1195B	6.416666	0	4.572333	0	
1187	N1196B	-6.999999	0	4.572333	0	
1188	N1197A	-6.999999	3.833	4.572333	0	
1189	N1198A	-6.999999	-4.1667	4.572333	0	
1190	N1199A	6.416666	3.833	4.572333	0	
1191	N1200C	6.416666	-4.1667	4.572333	0	
1192	N1195C	3.844756	3.83	-2.485353	0	
1193	N1196C	3.844756	-4.1667	-2.485353	0	
1194	N1197B	3.844756	0	-2.485353	0	
1195	N1198B	0.751423	0	-7.843162	0	
1196	N1199B	7.459756	0	3.776011	0	
1197	N1200D	7.459756	3.833	3.77601	0	
1198	N1201B	7.459756	-4.1667	3.77601	0	
1199	N1202A	0.751424	3.833	-7.843162	0	
1200	N1203B	0.751424	-4.1667	-7.843162	0	
1201	N1207A	-4.074757	3.83	-2.08698	0	
1202	N1208A	-4.074757	-4.1667	-2.08698	0	
1203	N1209A	-4.074757	0	-2.08698	0	
1204	N1210B	-7.168089	0	3.270829	0	
1205	N1211B	-0.459757	0	-8.348343	0	
1206	N1212A	-0.459757	3.833	-8.348343	0	
1207	N1213A	-0.459757	-4.1667	-8.348343	0	
1208	N1214A	-7.16809	3.833	3.270829	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1209	N1215A	-7.16809	-4.1667	3.270829	0	
1210	N1210C	-7.291666	2.5	4.322333	0	
1211	N1211C	7.291666	2.5	4.322333	0	
1212	N1212B	6.416666	2.5	4.322333	0	
1213	N1213B	-6.999999	2.5	4.322333	0	
1214	N1214B	0.230001	2.5	4.322333	0	
1215	N1215B	0.230001	2.5	4.572333	0	
1216	N1216A	6.416666	2.5	4.572333	0	
1217	N1217A	-6.999999	2.5	4.572333	0	
1218	N1218A	-5.749999	2.5	4.322333	0	
1219	N1219A	5.749999	2.5	4.322333	0	
1220	N1220A	7.389083	2.5	4.153601	0	
1221	N1221A	0.097417	2.5	-8.475934	0	
1222	N1222B	0.534917	2.5	-7.718162	0	
1223	N1223B	7.243249	2.5	3.901011	0	
1224	N1224B	3.628249	2.5	-2.360353	0	
1225	N1225B	3.844756	2.5	-2.485353	0	
1226	N1226B	0.751423	2.5	-7.843162	0	
1227	N1227A	7.459756	2.5	3.776011	0	
1228	N1228A	6.618249	2.5	2.818479	0	
1229	N1229A	0.86825	2.5	-7.140812	0	
1230	N1230A	-0.097417	2.5	-8.475934	0	
1231	N1231A	-7.389083	2.5	4.153601	0	
1232	N1232A	-6.951583	2.5	3.395829	0	
1233	N1233A	-0.24325	2.5	-8.223343	0	
1234	N1234A	-3.85825	2.5	-1.96198	0	
1235	N1235A	-4.074757	2.5	-2.08698	0	
1236	N1236A	-7.168089	2.5	3.270829	0	
1237	N1237A	-0.459757	2.5	-8.348343	0	
1238	N1238A	-0.86825	2.5	-7.140812	0	
1239	N1239A	-6.618249	2.5	2.818479	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipes 1	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	New Support Rail	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Footrails	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
4	Plan Bracing	PL3/8x4	Beam	RECT	A36 Gr.36	Typical	1.5	.018	2	.066
5	Handrails	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Grating Angle	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	.944	.346	.346	.021
7	New End Conn...	L3X3X6	Beam	Single Angle	A36 Gr.36	Typical	2.11	1.75	1.75	.101
8	Standoff Arm	HSS4X4X6	Beam	SquareTube	A500 Gr.B Rect	Typical	4.78	10.3	10.3	17.5
9	Plate Bracing2	PL3/8x4	Beam	RECT	A36 Gr.36	Typical	1.5	.018	2	.066
10	MP 2	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF1A	1.5CU1.25X035	Beam	CU	A570 Gr.33	Typical	.131	.022	.052	5.4e-5

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19

Hot Rolled Steel Properties

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

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A570 Gr.33	29500	11346	.3	.65	.49	33	52
2	A607 C1 Gr.55	29500	11346	.3	.65	.49	55	70

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B...	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B...	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B...	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B...	1	30	25	25	19	141
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B...	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B...	1	24	15	15	15	141

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N34			Footrails	Beam	Pipe	A53 Gr.B	Typical
2	M5	N20	N5			Plan Bracing	Beam	RECT	A36 Gr.36	Typical
3	M7	N6	N12			Plan Bracing	Beam	RECT	A36 Gr.36	Typical
4	M8	N1171	N30			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
5	M9	N13	N19			Plan Bracing	Beam	RECT	A36 Gr.36	Typical
6	M10	N22	N23		270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
7	M11	N24	N25			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
8	M12	N25A	N26		270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
9	M13	N27	N28			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
10	M14	N30	N31		270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
11	M15	N32	N33			Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
12	M16	N952A	N2			Footrails	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
13	M36	N86	N1174			HSS4X4X4	Beam	SquareTube	A500 Gr.B...	Typical
14	M44	N93A	N1172A			RIGID	None	None	RIGID	Typical
15	M45	N208	N1173			RIGID	None	None	RIGID	Typical
16	M46	N204	N1174B			RIGID	None	None	RIGID	Typical
17	M47	N200	N1175B			RIGID	None	None	RIGID	Typical
18	M48	N92A	N1176A			RIGID	None	None	RIGID	Typical
19	M46A	N996	N1001			RIGID	None	None	RIGID	Typical
20	M47A	N980	N985			RIGID	None	None	RIGID	Typical
21	M48A	N979	N984			RIGID	None	None	RIGID	Typical
22	M54B	N8	N426A			Footrails	Beam	Pipe	A53 Gr.B	Typical
23	M55B	N714	N9			Footrails	Beam	Pipe	A53 Gr.B	Typical
24	M56B	N750	N755			RIGID	None	None	RIGID	Typical
25	M57B	N740	N745			RIGID	None	None	RIGID	Typical
26	M58A	N739	N744			RIGID	None	None	RIGID	Typical
27	M68	N15	N760			Footrails	Beam	Pipe	A53 Gr.B	Typical
28	M69	N1048	N16			Footrails	Beam	Pipe	A53 Gr.B	Typical
29	M70	N1084	N1089			RIGID	None	None	RIGID	Typical
30	M71	N1074	N1079			RIGID	None	None	RIGID	Typical
31	M72	N1073	N1078			RIGID	None	None	RIGID	Typical
32	M55A	N18	N1171			RIGID	None	None	RIGID	Typical
33	M56A	N14	N1172			RIGID	None	None	RIGID	Typical
34	M55C	N1175	N22			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
35	M56C	N4	N1175			RIGID	None	None	RIGID	Typical
36	M57A	N21	N1176			RIGID	None	None	RIGID	Typical
37	M58B	N1179	N25A			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
38	M59	N11	N1179			RIGID	None	None	RIGID	Typical
39	M60	N7	N1180			RIGID	None	None	RIGID	Typical
40	M64	N32	N1176			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
41	M65	N30	N27			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
42	M66	N27	N1172			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
43	M67	N25A	N24			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
44	M68A	N24	N1180			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
45	M69A	N22	N32			Plate Bracing2	Beam	RECT	A36 Gr.36	Typical
46	M67A	N1172A	N903B			RIGID	None	None	RIGID	Typical
47	M68B	N1173	N906			RIGID	None	None	RIGID	Typical
48	M69B	N1174B	N905			RIGID	None	None	RIGID	Typical
49	M70A	N1175B	N904B			RIGID	None	None	RIGID	Typical
50	M71A	N1176A	N902A			RIGID	None	None	RIGID	Typical
51	M72A	N1172A	N984A			RIGID	None	None	RIGID	Typical
52	M73	N1172A	N459A			RIGID	None	None	RIGID	Typical
53	M74	N1173	N987			RIGID	None	None	RIGID	Typical
54	M75	N1173	N462A			RIGID	None	None	RIGID	Typical
55	M76	N1174B	N991			RIGID	None	None	RIGID	Typical
56	M77	N1174B	N466A			RIGID	None	None	RIGID	Typical
57	M78	N1175B	N995A			RIGID	None	None	RIGID	Typical
58	M79	N1175B	N470A			RIGID	None	None	RIGID	Typical
59	M80	N1176A	N999A			RIGID	None	None	RIGID	Typical
60	M81	N1176A	N474A			RIGID	None	None	RIGID	Typical
61	M72B	N117	N1197			RIGID	None	None	RIGID	Typical
62	M73A	N614	N1198			RIGID	None	None	RIGID	Typical
63	M74A	N618	N1199			RIGID	None	None	RIGID	Typical
64	M75A	N622	N1200			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
65	M76A	N134	N1201			RIGID	None	None	RIGID	Typical
66	M77A	N1197	N913			RIGID	None	None	RIGID	Typical
67	M78A	N1198	N916			RIGID	None	None	RIGID	Typical
68	M79A	N1199	N915			RIGID	None	None	RIGID	Typical
69	M80A	N1200	N914			RIGID	None	None	RIGID	Typical
70	M81A	N1201	N912			RIGID	None	None	RIGID	Typical
71	M82	N1197	N610			RIGID	None	None	RIGID	Typical
72	M83	N1197	N793			RIGID	None	None	RIGID	Typical
73	M84	N1198	N613			RIGID	None	None	RIGID	Typical
74	M85	N1198	N796A			RIGID	None	None	RIGID	Typical
75	M86	N1199	N617			RIGID	None	None	RIGID	Typical
76	M87	N1199	N800A			RIGID	None	None	RIGID	Typical
77	M88	N1200	N621			RIGID	None	None	RIGID	Typical
78	M89	N1200	N804A			RIGID	None	None	RIGID	Typical
79	M90	N1201	N625			RIGID	None	None	RIGID	Typical
80	M91	N1201	N808A			RIGID	None	None	RIGID	Typical
81	M92	N141	N1222A			RIGID	None	None	RIGID	Typical
82	M93	N407	N1223A			RIGID	None	None	RIGID	Typical
83	M94	N411	N1224A			RIGID	None	None	RIGID	Typical
84	M95	N415	N1225A			RIGID	None	None	RIGID	Typical
85	M96	N140	N1226A			RIGID	None	None	RIGID	Typical
86	M97	N1222A	N923			RIGID	None	None	RIGID	Typical
87	M98	N1223A	N926			RIGID	None	None	RIGID	Typical
88	M99	N1224A	N925			RIGID	None	None	RIGID	Typical
89	M100	N1225A	N924			RIGID	None	None	RIGID	Typical
90	M101	N1226A	N922			RIGID	None	None	RIGID	Typical
91	M102	N1222A	N650			RIGID	None	None	RIGID	Typical
92	M103	N1222A	N419			RIGID	None	None	RIGID	Typical
93	M104	N1223A	N653			RIGID	None	None	RIGID	Typical
94	M105	N1223A	N422			RIGID	None	None	RIGID	Typical
95	M106	N1224A	N657			RIGID	None	None	RIGID	Typical
96	M107	N1224A	N426			RIGID	None	None	RIGID	Typical
97	M108	N1225A	N661			RIGID	None	None	RIGID	Typical
98	M109	N1225A	N430			RIGID	None	None	RIGID	Typical
99	M110	N1226A	N665			RIGID	None	None	RIGID	Typical
100	M111	N1226A	N434			RIGID	None	None	RIGID	Typical
101	M115	N992	N1196			RIGID	None	None	RIGID	Typical
102	M116	N1196	N976			RIGID	None	None	RIGID	Typical
103	M117	N998	N1200A			RIGID	None	None	RIGID	Typical
104	M118	N1200A	N982			RIGID	None	None	RIGID	Typical
105	M119	N747	N1203			RIGID	None	None	RIGID	Typical
106	M120	N1203	N737			RIGID	None	None	RIGID	Typical
107	M121	N752	N1204			RIGID	None	None	RIGID	Typical
108	M122	N1204	N742			RIGID	None	None	RIGID	Typical
109	M123	N1081	N1210A			RIGID	None	None	RIGID	Typical
110	M124	N1210A	N1071			RIGID	None	None	RIGID	Typical
111	M125	N1086	N1211A			RIGID	None	None	RIGID	Typical
112	M126	N1211A	N1076			RIGID	None	None	RIGID	Typical
113	M125A	N1200B	N1201A			HSS4X4X4	Beam	SquareTube	A500 Gr.B...	Typical
114	M126A	N1202	N1203A			HSS4X4X4	Beam	SquareTube	A500 Gr.B...	Typical
115	MP2A	N1194	N1195A			MP 2	Beam	Pipe	A53 Gr.B	Typical
116	M125B	N1191A	N1196A			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
117	MP1A	N1199A	N1200C			Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
118	MP3A	N1197A	N1198A			MP 2	Beam	Pipe	A53 Gr.B	Typical
119	M127	N1163A	N1196B			RIGID	None	None	RIGID	Typical
120	M128	N1160A	N1195B			RIGID	None	None	RIGID	Typical
121	MP2C	N1195C	N1196C			MP 2	Beam	Pipe	A53 Gr.B	Typical
122	M122A	N1192	N1197B			RIGID	None	None	RIGID	Typical
123	MP1C	N1202A	N1203B			Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
124	MP3C	N1200D	N1201B			MP 2	Beam	Pipe	A53 Gr.B	Typical
125	M125C	N1189	N1199B			RIGID	None	None	RIGID	Typical
126	M126B	N1191	N1198B			RIGID	None	None	RIGID	Typical
127	MP2B	N1207A	N1208A			MP 2	Beam	Pipe	A53 Gr.B	Typical
128	M128A	N1193A	N1209A			RIGID	None	None	RIGID	Typical
129	MP1B	N1214A	N1215A			Mount Pipes 1	Beam	Pipe	A53 Gr.B	Typical
130	MP3B	N1212A	N1213A			MP 2	Beam	Pipe	A53 Gr.B	Typical
131	M131	N1193	N1211B			RIGID	None	None	RIGID	Typical
132	M132	N1195	N1210B			RIGID	None	None	RIGID	Typical
133	M133	N1214B	N1215B			RIGID	None	None	RIGID	Typical
134	M134	N1213B	N1217A			RIGID	None	None	RIGID	Typical
135	M135	N1212B	N1216A			RIGID	None	None	RIGID	Typical
136	M136	N1210C	N1211C			New Support ...	Beam	Pipe	A53 Gr.B	Typical
137	M137	N1224B	N1225B			RIGID	None	None	RIGID	Typical
138	M138	N1223B	N1227A			RIGID	None	None	RIGID	Typical
139	M139	N1222B	N1226B			RIGID	None	None	RIGID	Typical
140	M140	N1220A	N1221A			New Support ...	Beam	Pipe	A53 Gr.B	Typical
141	M141	N1234A	N1235A			RIGID	None	None	RIGID	Typical
142	M142	N1233A	N1237A			RIGID	None	None	RIGID	Typical
143	M143	N1232A	N1236A			RIGID	None	None	RIGID	Typical
144	M144	N1230A	N1231A			New Support ...	Beam	Pipe	A53 Gr.B	Typical
145	M145	N1218A	N1239A			New End Conn...	Beam	Single Angle	A36 Gr.36	Typical
146	M146	N1228A	N1219A			New End Conn...	Beam	Single Angle	A36 Gr.36	Typical
147	M147	N1238A	N1229A			New End Conn...	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes				None
2	M5						Yes				None
3	M7						Yes				None
4	M8						Yes				None
5	M9						Yes				None
6	M10						Yes				None
7	M11						Yes				None
8	M12						Yes				None
9	M13						Yes				None
10	M14						Yes				None
11	M15						Yes				None
12	M16						Yes				None
13	M36						Yes				None
14	M44						Yes	** NA **			None
15	M45						Yes	** NA **			None
16	M46						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
17	M47						Yes	** NA **			None
18	M48						Yes	** NA **			None
19	M46A						Yes	** NA **			None
20	M47A						Yes	** NA **			None
21	M48A						Yes	** NA **			None
22	M54B						Yes				None
23	M55B						Yes				None
24	M56B						Yes	** NA **			None
25	M57B						Yes	** NA **			None
26	M58A						Yes	** NA **			None
27	M68						Yes				None
28	M69						Yes				None
29	M70						Yes	** NA **			None
30	M71						Yes	** NA **			None
31	M72						Yes	** NA **			None
32	M55A						Yes	** NA **			None
33	M56A						Yes	** NA **			None
34	M55C						Yes				None
35	M56C						Yes	** NA **			None
36	M57A						Yes	** NA **			None
37	M58B						Yes				None
38	M59						Yes	** NA **			None
39	M60						Yes	** NA **			None
40	M64						Yes				None
41	M65						Yes				None
42	M66						Yes				None
43	M67						Yes				None
44	M68A						Yes				None
45	M69A						Yes				None
46	M67A						Yes	** NA **			None
47	M68B						Yes	** NA **			None
48	M69B						Yes	** NA **			None
49	M70A						Yes	** NA **			None
50	M71A						Yes	** NA **			None
51	M72A						Yes	** NA **			None
52	M73						Yes	** NA **			None
53	M74						Yes	** NA **			None
54	M75						Yes	** NA **			None
55	M76						Yes	** NA **			None
56	M77						Yes	** NA **			None
57	M78						Yes	** NA **			None
58	M79						Yes	** NA **			None
59	M80						Yes	** NA **			None
60	M81						Yes	** NA **			None
61	M72B						Yes	** NA **			None
62	M73A						Yes	** NA **			None
63	M74A						Yes	** NA **			None
64	M75A						Yes	** NA **			None
65	M76A						Yes	** NA **			None
66	M77A						Yes	** NA **			None
67	M78A						Yes	** NA **			None
68	M79A						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
69	M80A						Yes	** NA **			None
70	M81A						Yes	** NA **			None
71	M82						Yes	** NA **			None
72	M83						Yes	** NA **			None
73	M84						Yes	** NA **			None
74	M85						Yes	** NA **			None
75	M86						Yes	** NA **			None
76	M87						Yes	** NA **			None
77	M88						Yes	** NA **			None
78	M89						Yes	** NA **			None
79	M90						Yes	** NA **			None
80	M91						Yes	** NA **			None
81	M92						Yes	** NA **			None
82	M93						Yes	** NA **			None
83	M94						Yes	** NA **			None
84	M95						Yes	** NA **			None
85	M96						Yes	** NA **			None
86	M97						Yes	** NA **			None
87	M98						Yes	** NA **			None
88	M99						Yes	** NA **			None
89	M100						Yes	** NA **			None
90	M101						Yes	** NA **			None
91	M102						Yes	** NA **			None
92	M103						Yes	** NA **			None
93	M104						Yes	** NA **			None
94	M105						Yes	** NA **			None
95	M106						Yes	** NA **			None
96	M107						Yes	** NA **			None
97	M108						Yes	** NA **			None
98	M109						Yes	** NA **			None
99	M110						Yes	** NA **			None
100	M111						Yes	** NA **			None
101	M115						Yes	** NA **			None
102	M116						Yes	** NA **			None
103	M117						Yes	** NA **			None
104	M118						Yes	** NA **			None
105	M119						Yes	** NA **			None
106	M120						Yes	** NA **			None
107	M121						Yes	** NA **			None
108	M122						Yes	** NA **			None
109	M123						Yes	** NA **			None
110	M124						Yes	** NA **			None
111	M125						Yes	** NA **			None
112	M126						Yes	** NA **			None
113	M125A						Yes				None
114	M126A						Yes				None
115	MP2A						Yes				None
116	M125B						Yes	** NA **			None
117	MP1A						Yes				None
118	MP3A						Yes				None
119	M127						Yes	** NA **			None
120	M128						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
121	MP2C						Yes				None
122	M122A						Yes	** NA **			None
123	MP1C						Yes				None
124	MP3C						Yes				None
125	M125C						Yes	** NA **			None
126	M126B						Yes	** NA **			None
127	MP2B						Yes				None
128	M128A						Yes	** NA **			None
129	MP1B						Yes				None
130	MP3B						Yes				None
131	M131						Yes	** NA **			None
132	M132						Yes	** NA **			None
133	M133						Yes	** NA **			None
134	M134						Yes	** NA **			None
135	M135						Yes	** NA **			None
136	M136						Yes				None
137	M137						Yes	** NA **			None
138	M138						Yes	** NA **			None
139	M139						Yes	** NA **			None
140	M140						Yes				None
141	M141						Yes	** NA **			None
142	M142						Yes	** NA **			None
143	M143						Yes	** NA **			None
144	M144						Yes				None
145	M145						Yes				None
146	M146						Yes				None
147	M147						Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Footrails	7.231			Lbyy			1	1		Lateral
2	M5	Plan Bracing	4.958	Segment	Segment	Lbyy			.65	.65		Lateral
3	M7	Plan Bracing	4.958	Segment	Segment	Lbyy			.65	.65		Lateral
4	M8	Plate Bracin...	.262			Lbyy			.65	.65		Lateral
5	M9	Plan Bracing	4.958	Segment	Segment	Lbyy			.65	.65		Lateral
6	M10	Grating Angle	3.402			Lbyy			.65	.65		Lateral
7	M11	Grating Angle	3.402			Lbyy			.65	.65		Lateral
8	M12	Grating Angle	3.402			Lbyy			.65	.65		Lateral
9	M13	Grating Angle	3.402			Lbyy			.65	.65		Lateral
10	M14	Grating Angle	3.402			Lbyy			.65	.65		Lateral
11	M15	Grating Angle	3.402			Lbyy			.65	.65		Lateral
12	M16	Footrails	7.231			Lbyy			1	1		Lateral
13	M36	HSS4X4X4	3.017			Lbyy			2.1	2.1		Lateral
14	M54B	Footrails	7.231			Lbyy			1	1		Lateral
15	M55B	Footrails	7.231			Lbyy			1	1		Lateral
16	M68	Footrails	7.231			Lbyy			1	1		Lateral
17	M69	Footrails	7.231			Lbyy			1	1		Lateral
18	M55C	Plate Bracin...	.262			Lbyy			.65	.65		Lateral
19	M58B	Plate Bracin...	.262			Lbyy			.65	.65		Lateral
20	M64	Plate Bracin...	.262			Lbyy			.65	.65		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
21	M65	Plate Bracin...	.659			Lbyy			.65	.65		Lateral
22	M66	Plate Bracin...	.262			Lbyy			.65	.65		Lateral
23	M67	Plate Bracin...	.659			Lbyy			.65	.65		Lateral
24	M68A	Plate Bracin...	.262			Lbyy			.65	.65		Lateral
25	M69A	Plate Bracin...	.659			Lbyy			.65	.65		Lateral
26	M125A	HSS4X4X4	3.017			Lbyy			2.1	2.1		Lateral
27	M126A	HSS4X4X4	3.017			Lbyy			2.1	2.1		Lateral
28	MP2A	MP 2	7.997			Lbyy						Lateral
29	MP1A	Mount Pipe...	8			Lbyy						Lateral
30	MP3A	MP 2	8			Lbyy						Lateral
31	MP2C	MP 2	7.997			Lbyy						Lateral
32	MP1C	Mount Pipe...	8			Lbyy						Lateral
33	MP3C	MP 2	8			Lbyy						Lateral
34	MP2B	MP 2	7.997			Lbyy						Lateral
35	MP1B	Mount Pipe...	8			Lbyy						Lateral
36	MP3B	MP 2	8			Lbyy						Lateral
37	M136	New Suppor...	14.583			Lbyy						Lateral
38	M140	New Suppor...	14.583			Lbyy						Lateral
39	M144	New Suppor...	14.583			Lbyy						Lateral
40	M145	New End C...	1.737			Lbyy						Lateral
41	M146	New End C...	1.737			Lbyy						Lateral
42	M147	New End C...	1.737			Lbyy						Lateral

Cold Formed Steel Design Parameters

Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[ft]	y sw..	z sw...
No Data to Print ...																

Aluminum Design Parameters

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
No Data to Print ...											

Joint Loads and Enforced Displacements

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

Member Area Loads (BLC 9 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N32	N22	N23	N33	Y	Two Way	-.005
2	N30	N27	N28	N31	Y	Two Way	-.005
3	N26	N25A	N24	N25	Y	Two Way	-.005

Member Area Loads (BLC 10 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N32	N22	N23	N33	Y	Two Way	-.015
2	N30	N27	N28	N31	Y	Two Way	-.015

Member Area Loads (BLC 10 : Structure Di) (Continued)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
3	N26	N25A	N24	N25	Y	Two Way	-.015

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N86	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N1200B	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N1202	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N86	max	2170.398	4	2843.071	5	-158.22	1	6.027	5	2.702	3	.956	3
2		min	-2168.433	3	806.641	2	-6024.951	6	.5	2	-2.699	4	-.847	4
3	N1200B	max	-122.196	4	2823.03	8	3149.092	5	-.123	1	1.581	1	-.574	3
4		min	-5214.77	7	866.67	3	-516.323	2	-2.904	6	-1.577	2	-5.241	8
5	N1202	max	5181.331	8	2824.611	7	3217.289	5	-.136	1	2.006	2	5.103	7
6		min	261.162	3	864.504	4	-855.396	2	-3.15	6	-2.004	1	.559	4
7	Totals:	max	5733.186	4	8268.118	5	5771.395	1						
8		min	-5733.177	3	3464.043	2	-5771.383	2						

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 14th(360-10): LRFD
Cold Formed Steel Code	AISI S100-10: LRFD
Wood Code	AWC NDS-12: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	ACI 530-11: ASD
Aluminum Code	AA ADM1-10: ASD - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

(Global) Model Settings, Continued

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

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

	Member	Shape	Code Check	Loc...	LC	Shea...	Loc.....	L..	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....	Eqn
1	M7	PL3/8x4	.663	2.324	7	.204	4.545	y	6	48318...	48600	.38	4.05	2...	H1-1b
2	M5	PL3/8x4	.667	2.324	8	.203	4.545	y	8	48318...	48600	.38	4.05	2...	H1-1b
3	M9	PL3/8x4	.669	2.324	5	.202	4.545	y	5	48318...	48600	.38	4.05	2...	H1-1b
4	M68	PIPE_3.0	.238	4.745	5	.132	4.745		7	49286...	65205	5.749	5.749	1...	H1-1b
5	M54B	PIPE_3.0	.235	4.745	6	.132	4.745		6	49286...	65205	5.749	5.749	1...	H1-1b
6	M1	PIPE_3.0	.236	4.745	8	.132	4.745		8	49286...	65205	5.749	5.749	1...	H1-1b
7	M36	HSS4X4X4	.407	0	7	.127	0	z	3	11794...	139518	16.181	16.181	2...	H1-1b
8	M16	PIPE_3.0	.216	2.486	7	.115	5.875		10	49286...	65205	5.749	5.749	2...	H1-1b
9	M126A	HSS4X4X4	.408	0	6	.101	0	z	2	11794...	139518	16.181	16.181	2...	H1-1b
10	M136	PIPE_2.5	.117	7.595	4	.098	1.671		2	10696...	50715	3.596	3.596	2...	H1-1b
11	M55B	PIPE_3.0	.217	2.486	5	.096	2.486		8	49286...	65205	5.749	5.749	2...	H1-1b

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

	Member	Shape	Code Check	Loc...	LC	Shea...	Loc.....		L..	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....		Eqn
12	M69	PIPE_3.0	.215	2.486	6	.096	2.486		6	49286...	65205	5.749	5.749	2...	H1-1b
13	M125A	HSS4X4X4	.403	0	6	.092	0	y	5	11794...	139518	16.181	16.181	2...	H1-1b
14	MP1A	PIPE_2.0	.363	3.75	10	.085	1.333		2	14916...	32130	1.872	1.872	4...	H1-1b
15	MP1C	PIPE_2.0	.308	3.75	6	.085	3.75		3	14916...	32130	1.872	1.872	2...	H1-1b
16	M144	PIPE_2.5	.139	7.595	1	.082	7.444		4	10696...	50715	3.596	3.596	3...	H1-1b
17	M140	PIPE_2.5	.138	7.595	3	.080	7.595		3	10696...	50715	3.596	3.596	3...	H1-1b
18	MP1B	PIPE_2.0	.309	3.75	5	.071	3.75		1	14916...	32130	1.872	1.872	4...	H1-1b
19	M67	PL3/8x4	.201	0	2	.070	0	y	10	43158...	48600	.38	4.05	1...	H1-1b
20	M68A	PL3/8x4	.224	.262	1	.065	0	y	2	47695...	48600	.38	4.05	1...	H1-1b
21	MP3B	PIPE_2.5	.172	3.75	8	.061	3.75		4	30039...	50715	3.596	3.596	1...	H1-1b
22	M55C	PL3/8x4	.220	0	5	.057	0	y	1	47695...	48600	.38	4.05	1...	H1-1b
23	M8	PL3/8x4	.227	0	3	.056	0	y	3	47695...	48600	.38	4.05	1...	H1-1b
24	MP3C	PIPE_2.5	.177	3.75	10	.056	3.75		1	30039...	50715	3.596	3.596	4...	H1-1b
25	MP2A	PIPE_2.5	.483	3.832	2	.056	3.748		1	30051...	50715	3.596	3.596	2...	H1-1b
26	MP2C	PIPE_2.5	.434	3.748	4	.055	3.748		4	30051...	50715	3.596	3.596	1...	H1-1b
27	M66	PL3/8x4	.206	.262	4	.055	0	y	3	47695...	48600	.38	4.05	1...	H1-1b
28	M64	PL3/8x4	.167	.262	3	.054	0	y	4	47695...	48600	.38	4.05	1...	H1-1b
29	M58B	PL3/8x4	.216	0	6	.053	0	y	10	47695...	48600	.38	4.05	1...	H1-1b
30	MP2B	PIPE_2.5	.429	3.832	4	.053	3.748		3	30051...	50715	3.596	3.596	1...	H1-1b
31	MP3A	PIPE_2.5	.209	3.75	9	.050	3.75		1	30039...	50715	3.596	3.596	4...	H1-1b
32	M69A	PL3/8x4	.158	0	1	.037	.659	y	9	43158...	48600	.38	4.05	1...	H1-1b
33	M147	L3X3X6	.068	1.737	4	.034	1.737	y	3	63887...	68364	2.307	5.322	2...	H2-1
34	M65	PL3/8x4	.200	0	3	.031	0	y	8	43158...	48600	.38	4.05	1...	H1-1b
35	M146	L3X3X6	.103	0	2	.029	0	z	2	63887...	68364	2.307	5.322	2...	H2-1
36	M145	L3X3X6	.106	0	4	.028	1.737	y	1	63887...	68364	2.307	5.322	2...	H2-1
37	M12	L2x2x4	.121	3.402	7	.026	3.402	z	6	23879...	30585.6	.691	1.577	2...	H2-1
38	M10	L2x2x4	.121	3.402	6	.026	3.402	z	8	23879...	30585.6	.691	1.577	2...	H2-1
39	M14	L2x2x4	.119	0	3	.026	3.402	z	7	23879...	30585.6	.691	1.577	2...	H2-1
40	M15	L2x2x4	.108	3.402	8	.022	3.402	y	6	23879...	30585.6	.691	1.577	2...	H2-1
41	M11	L2x2x4	.121	0	1	.022	3.402	y	7	23879...	30585.6	.691	1.577	1...	H2-1
42	M13	L2x2x4	.112	0	4	.022	3.402	y	8	23879...	30585.6	.691	1.577	2...	H2-1

Envelope AISI S100-10: LRFD Cold Formed Steel Code Checks

Mem...	Shape	Code ...	Loc[ft]	LC	Sh...	Loc[ft]	.....phi*...	phi*...	phi*...	phi*...	Cb	C...	C...	Eqn
No Data to Print ...														

Envelope AA ADM1-10: ASD - Building Aluminum Code Checks

Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Pnc/O...	Pnt/Om...	Mny/O...	Mnz/O...	Vny/O...	Vnz/O...	Cb	Eqn
No Data to Print ...																

EXHIBIT 9

Mount Mod Drawings

MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS EXISTING MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT01915-S

CARRIER SITE #/NAME: CT11512C / SOUTH BROOKLYN

COORDINATES (LATITUDE: 41.767160°, LONGITUDE: -71.971949°)

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 119397, DATED 11/15/2021.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	0
A-2	ANTENNA MOUNT PHOTOS	0
D-1	STANDARD DETAILS	0
D-2	STANDARD DETAILS	0
SAF-1	SAFETY CABLE GUIDE DETAILS	0
SP219	SITE PRO PIPE MOUNT KIT	
VZWSMART-MSK1	SITE PRO CROSSOVER PLATE	
VZWSMART-PLK3	SITE PRO SUPPORT RAIL CORNER BRACKETS	

TES

Tower Engineering Solutions

1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA

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

TES JOB NO:
119776

CUSTOMER SITE NO:
CT01915-S-SBA

CUSTOMER SITE NAME:
SOUTH BROOKLYN

100 OLD TATNIC HILL ROAD
BROOKLYN, CT 06234

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34178
LICENSED
PROFESSIONAL ENGINEER

11/24/21

DRAWN BY: OH | CHECKED BY: BS/FL

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:

TITLE SHEET

SHEET NUMBER: T-1

REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	SHEET LIST	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE				
9	9	VZWSMART-MSK1	SITE PRO CROSSOVER PLATE	A-1, VZWSMART-MSK1	14.0	126.0	Galvanized
3	3	VZWSMART-PLK3	SITE PRO SUPPORT RAIL CORNER BRACKETS	A-1, VZWSMART-PLK3	30.0	90.0	Galvanized
			FOLLOWING ITEMS ARE "CUSTOM" PARTS				
6	6	P296	SITE PRO PIPE (2 3/8" O.D. X 8'-0") A53 GR-B SCH 40	A-1	30.14	189.9	GALVANIZED (LENGTH NOT TO EXCEED 10'-0")
6	6	SP219	SITE PRO PIPE MOUNT KIT	A-1, SP219	12.47	74.8	GALVANIZED
3	3	P30174	SITE PRO PIPE (2 7/8" O.D. X 14'-6") A53 GR-B SCH 40	A-1, MSK1	86.01	258.0	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
3	3	L3325-3	L 3" X 3" X 1/4" X 3'-0" A36	A-1	15.00	45.0	GALVANIZED (FINAL CUT LENGTH TO BE DETERMINED IN FIELD)
1	1	TMP-1	PL 1/4" X 2" X 9 1/2" A36	D-1	1.40	1.4	GALVANIZED
1	1	BMP-1	PL 1/4" X 2" X 6 1/2" A36	D-2, SAF-1	1.00	1.0	GALVANIZED
2	3	---	THREADED ROD 3/8" X 8" A36	D-2, SAF-1	3.09	9.3	(1) HHN & LKW-EA GALVANIZED
1	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)	SAF-1	0.00	0.0	GALVANIZED
2	3	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5	SAF-1	0.19	0.6	(1) HHN & LKW-EA GALVANIZED
1	1	115-345	TUF-TUG MONOPOLE HEAD EXTENSION ASSEMBLY	SAF-1	0.00	0.0	GALVANIZED
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.				
				TOTAL WEIGHT (LBS) =		**796.0**	

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA

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

TES JOB NO:
119776

CUSTOMER SITE NO:
CT01915-S-SBA
CUSTOMER SITE NAME:
SOUTH BROOKLYN
100 OLD TATNIC HILL ROAD
BROOKLYN, CT 06234

DRAWN BY: OH | CHECKED BY: BS/FL

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

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

FABRICATION

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

WELDING

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

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

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

VERIFICATION AND INSPECTION

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

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING [a,b]

BOLT LENGTH [c]	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 [d]	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS [d]
NOT MORE THAN $4d_b$	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN $4d_b$ BUT NOT MORE THAN $8d_b$	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN $8d_b$ BUT NOT MORE THAN $12d_b$	2/3 TURN	5/6 TURN	1 TURN

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

[b] APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

[c] WHEN THE BOLT LENGTH EXCEEDS $12d_b$, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

[d] BEVELED WASHER NOT USED.

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

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

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

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA

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

TES JOB NO:
119776

CUSTOMER SITE NO:
CT01915-S-SBA
CUSTOMER SITE NAME:
SOUTH BROOKLYN
100 OLD TATNIC HILL ROAD
BROOKLYN, CT 06234

DRAWN BY: OH | CHECKED BY: BS/FL

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: GN-1
REV #: 0

SCOPE OF WORK

1. REPLACE EXISTING ANTENNA MOUNT PIPE WITH NEW 2" PST ANTENNA MOUNT PIPE (8'-0 LONG), (2) PER SECTOR

   NOTE:
   CONTRACTOR TO COORDINATE WITH CARRIER PRIOR TO **REPLACING** OF EXISTING ANTENNA MOUNT PIPES TO DETERMINE IF EXISTING ANTENNAS NEEDS TO BE TURNED DOWN

2. INSTALL NEW SITE PRO PIPE MOUNT KIT, (2) PER SECTOR. SEE SHEET SP219 FOR DETAILS

3. INSTALL NEW VZWSMART CROSSOVER PLATE KIT, (3) PER SECTOR. SEE SHEET VZWSMART-MSK1 FOR DETAILS

4. A. INSTALL NEW SUPPORT RAIL PIPE (P30174), (1) PER SECTOR

   B. REMOVE EXISTING HORIZONTAL BRACING PIPE AFTER INSTALLATION OF NEW MODIFICATIONS IS COMPLETE

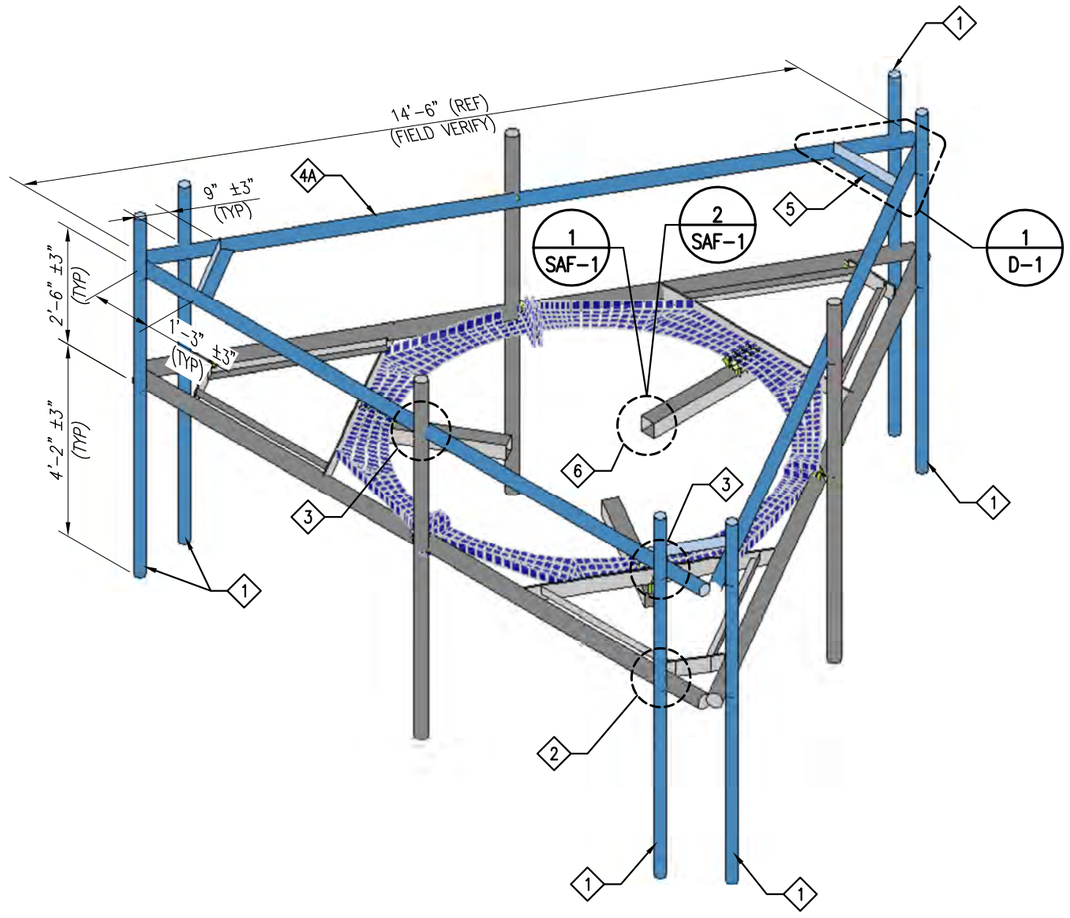
5. INSTALL NEW SITE PRO SUPPORT RAIL CORNER BRACKETS AND HORIZONTAL ANGLE. SEE SHEET D-1 & VZWSMART-PLK3 FOR DETAILS

6. REROUTE EXISTING SAFETY CABLE. INSTALL NEW TUF-TUG MONOPOLE HEAD EXTENSION ASSEMBLY. INSTALL NEW SAFETY CABLE GUIDE TO PREVENT SAFETY CLIMB FROM RUBBING AGAINST NEW COLLAR MOUNT. SEE SHEET SAF-1 FOR DETAILS

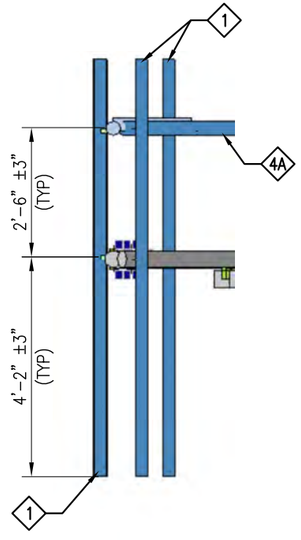
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.

PHOTO 1

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



ISOMETRIC VIEW
EXISTING ANTENNA MOUNT @ 140' ELEV.



SIDE VIEW

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

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	6	P296	SITE PRO PIPE (2 3/8" O.D. X 8'-0") A53 GR-B SCH 40
2	6	SP219	SITE PRO PIPE MOUNT KIT
3	9	VZWSMART-MSK1	SITE PRO CROSSOVER PLATE
4	3	P30174	SITE PRO PIPE (2 7/8" O.D. X 14'-6") A53 GR-B SCH 40
5	3	VZWSMART-PLK3	SITE PRO SUPPORT RAIL CORNER BRACKETS

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
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SBA
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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
119776

CUSTOMER SITE NO:
CT01915-S-SBA
CUSTOMER SITE NAME:
SOUTH BROOKLYN
100 OLD TATNIC HILL ROAD
BROOKLYN, CT 06234

DRAWN BY: OH | CHECKED BY: BS/FL

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:
ANTENNA MOUNT MODIFICATION DETAILS

SHEET NUMBER: A-1
REV #: 0

REPLACE EXISTING ANTENNA MOUNT PIPE WITH NEW 2" PST ANTENNA MOUNT PIPE (P296). SEE SHEET A-1 FOR DETAILS

PHOTO 1

PHOTO 2

REROUTE EXISTING SAFETY CABLE. INSTALL NEW TUF-TUG MONOPOLE HEAD EXTENSION ASSEMBLY. INSTALL NEW SAFETY CABLE GUIDE TO PREVENT SAFETY CLIMB FROM RUBBING AGAINST NEW COLLAR MOUNT. SEE SHEET SAF-1 FOR DETAILS

REMOVE EXISTING HORIZONTAL BRACING PIPE AFTER INSTALLATION OF NEW MODIFICATIONS IS COMPLETE

REPLACE EXISTING ANTENNA MOUNT PIPE WITH NEW 2" PST ANTENNA MOUNT PIPE (P296). SEE SHEET A-1 FOR DETAILS

PHOTO 3

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

TES
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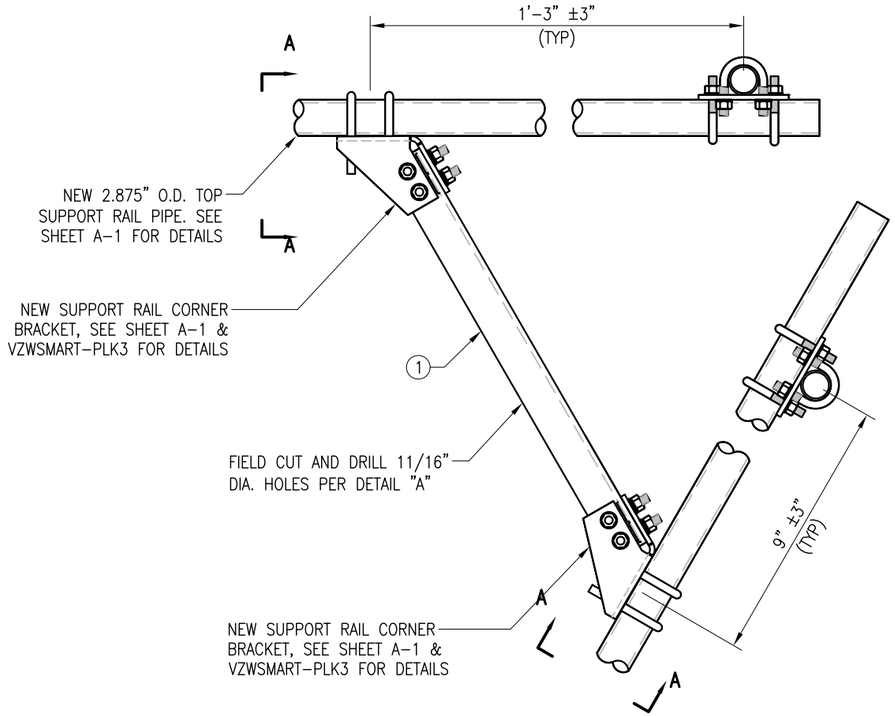
BROOKLYN, CT 06234

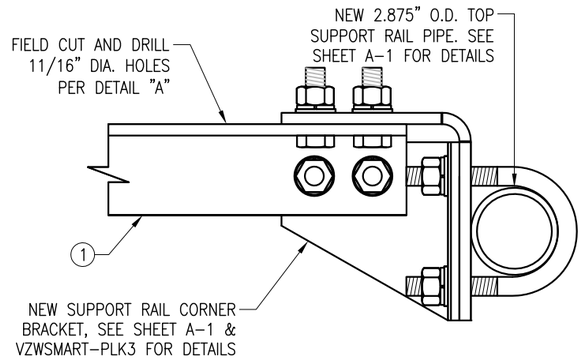
DRAWN BY: OH | CHECKED BY: BS/FL

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

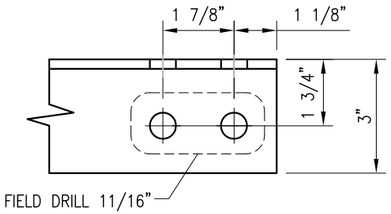
SHEET TITLE:
ANTENNA MOUNT PHOTOS

SHEET NUMBER: A-2
REV #: 0

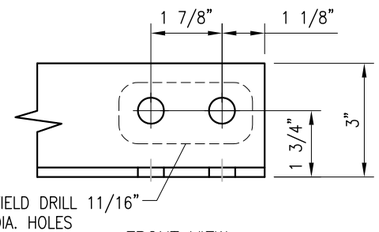




SECTION "A-A"



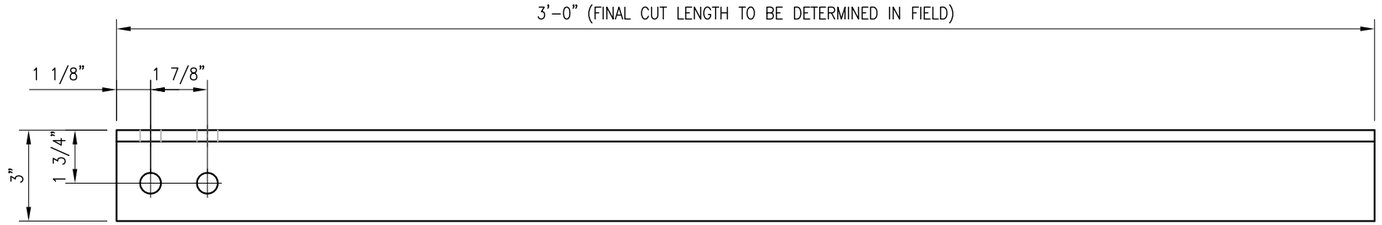
TOP VIEW



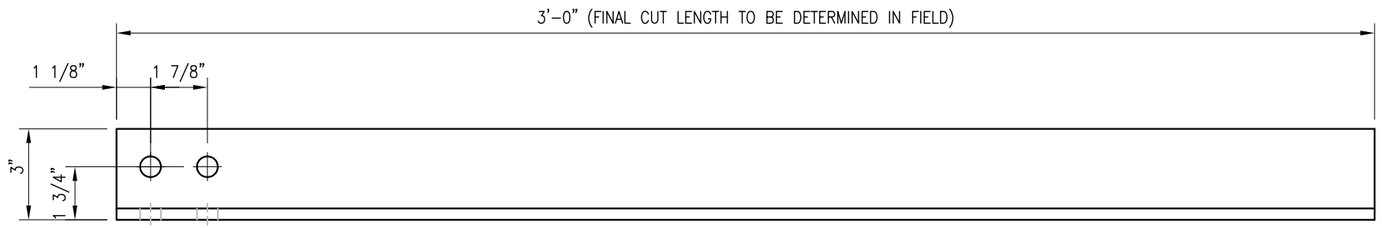
FRONT VIEW

DETAIL "A"

1 / D-1 DETAIL



TOP VIEW



FRONT VIEW

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

L3325-3
L 3" X 3" X 1/4" A36
(21.90 LBS)

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	3	L3325-3	L 3" X 3" X 1/4" X 3'-0" A36

TES
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1320 GREENWAY DRIVE, SUITE 600
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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
119776

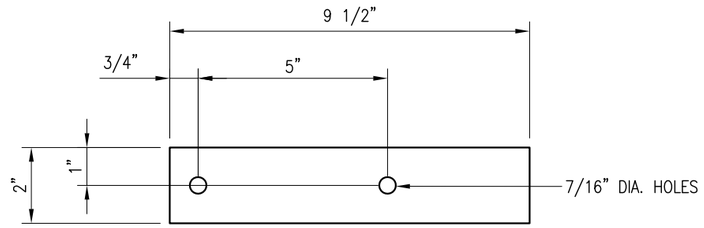
CUSTOMER SITE NO:
CT01915-S-SBA
CUSTOMER SITE NAME:
SOUTH BROOKLYN
100 OLD TATNIC HILL ROAD
BROOKLYN, CT 06234

DRAWN BY: OH | CHECKED BY: BS/FL

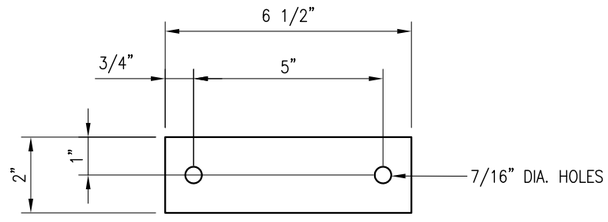
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:
STANDARD DETAILS

SHEET NUMBER: D-1
REV #: 0



TMP-1
PL 1/4" X 2" X 9 1/2" A36
(1.4 LBS)



BMP-1
PL 1/4" X 2" X 6 1/2" A36
(1.0 LBS)

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

TES JOB NO:
119776

CUSTOMER SITE NO:
CT01915-S-SBA
CUSTOMER SITE NAME:
SOUTH BROOKLYN
100 OLD TATNIC HILL ROAD
BROOKLYN, CT 06234

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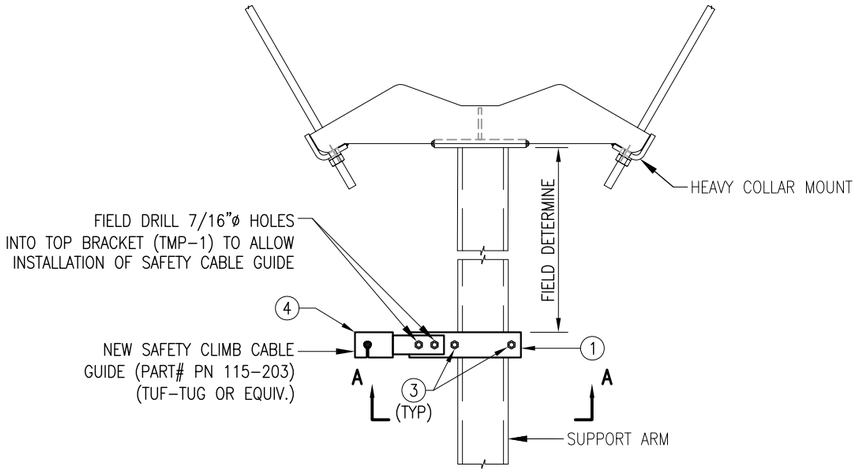
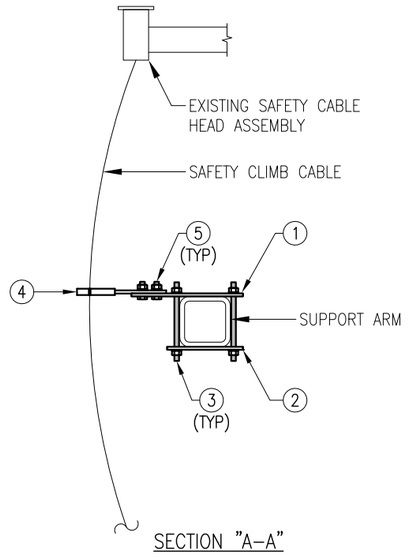
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:
STANDARD DETAILS

SHEET NUMBER: D-2
REV #: 0



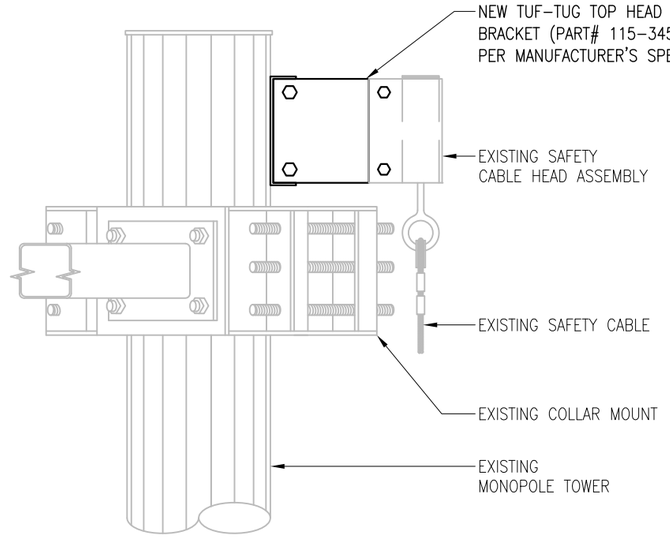
1 SAF-1 TYPE – 1



SECTION "A-A"

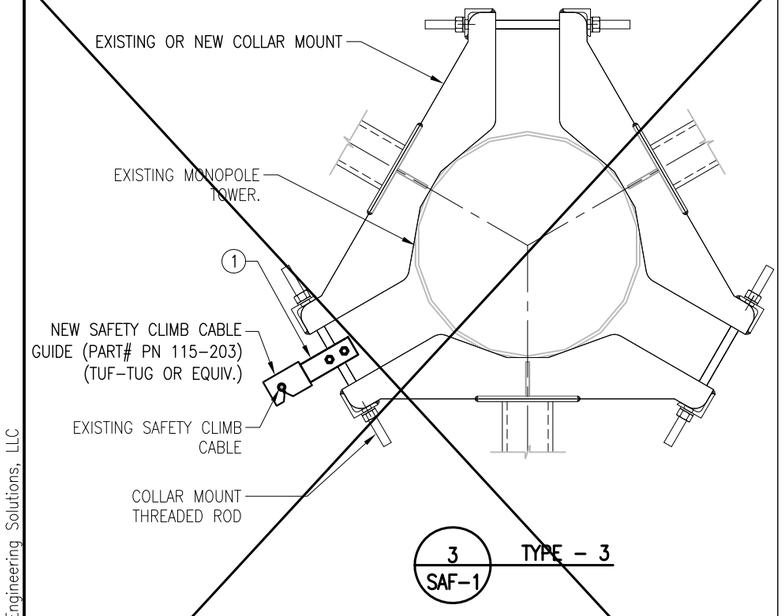
ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	TMP-1	PL 1/4" X 2" X 9 1/2" A36
2	1	BMP-1	PL 1/4" X 2" X 6 1/2" A36
3	2	---	THREADED ROD 3/8" X 8" A36
4	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)
5	2	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5

NOTE:
SAFETY CLIMB GUIDE MAY BE INSTALLED ON EITHER LEFT OR RIGHT SIDE OF THE SUPPORT ARM, DEPENDING ON WHERE THE EXISTING SAFETY CLIMB IS LOCATED.



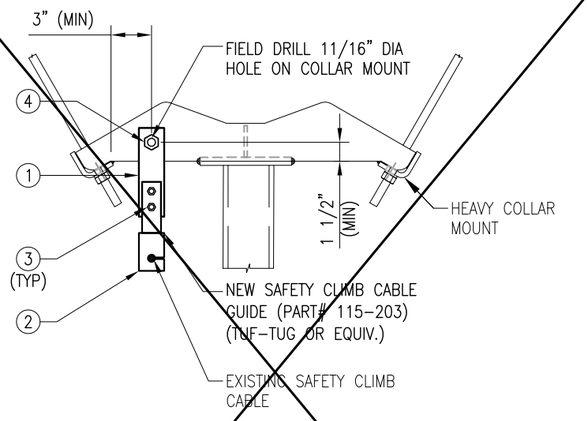
2 SAF-1 TYPE – 2

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	115-345	TUF-TUG MONOPOLE HEAD EXTENSION ASSEMBLY



3 SAF-1 TYPE – 3

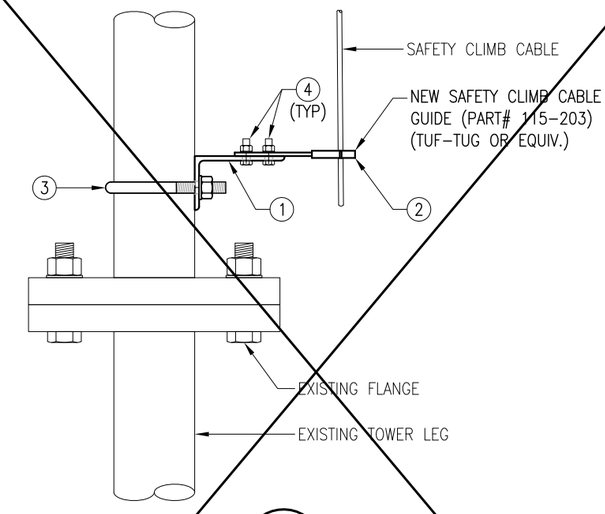
ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)



4 SAF-1 TYPE – 4

NOTE:
SAFETY CLIMB GUIDE MAY BE INSTALLED ON EITHER LEFT OR RIGHT SIDE OF THE COLLAR MOUNT, DEPENDING ON WHERE THE EXISTING SAFETY CLIMB IS LOCATED.

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	TMP-2	PL 1/4" X 2" X 7" A36
2	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)
3	2	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5
4	1	---	BOLT 5/8" X 2" A325



5 SAF-1 TYPE – 5

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	SCGB-4	L 5" X 3" X 1/4" X 7 1/2" A36
2	1	PN 115-203	SAFETY CABLE GUIDE (TUF-TUG OR EQUIV.)
3	1	MS02-625-4625-700	RU-BOLT 5/8" X 4 5/8" I.W. X 7" I.L. A36 (OR EQUIV.)
4	2	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5

Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
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TES JOB NO:
119776

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SOUTH BROOKLYN
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BROOKLYN, CT 06234

DRAWN BY: OH | CHECKED BY: BS/FL

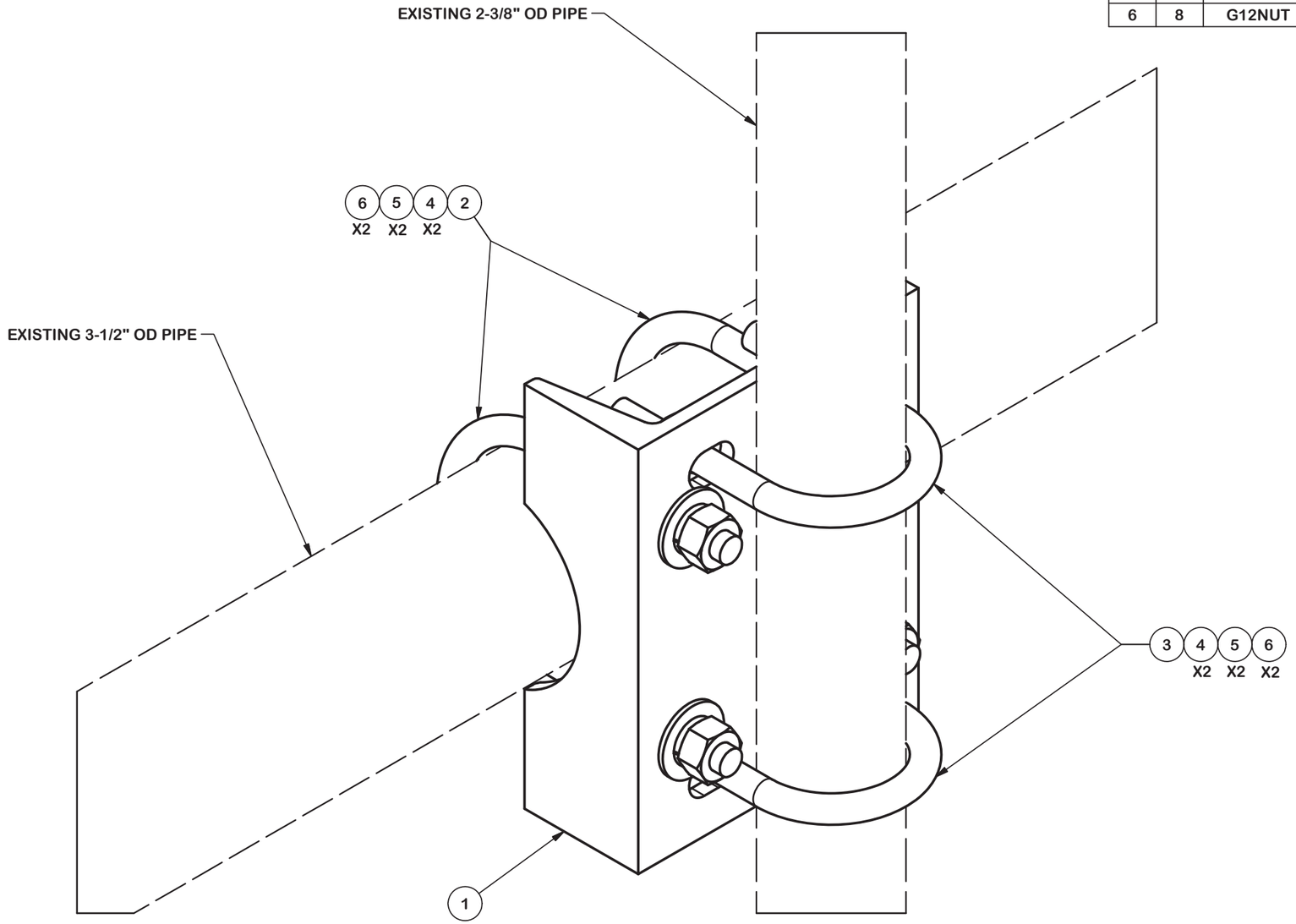
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	OH	11/24/21

SHEET TITLE:
SAFETY CABLE GUIDE DETAILS

SHEET NUMBER: SAF-1
REV #: 0

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

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	1.66
3	2	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	1.25
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.47



TOLERANCE NOTES

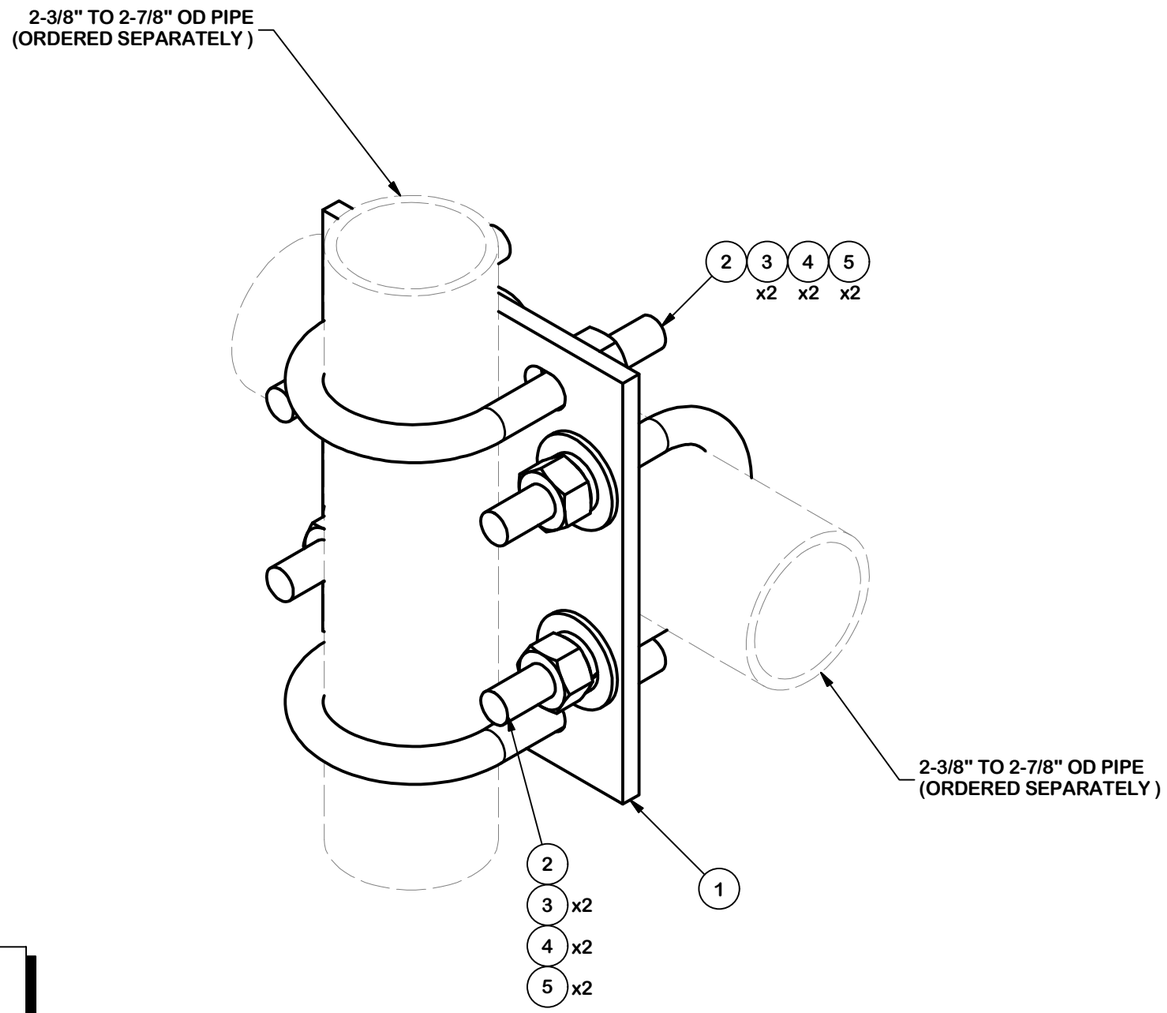
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: PIPE MOUNT KIT

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4518	KC8 6/26/2012		SP219
CLASS / SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81 / 01	CUSTOMER	CEK 1/23/2013	SP219

SITE PRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	PL375-857	CROSSOVER PLATE	8 1/2 in	6.23	6.23
2	4	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
2	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
3	8	G58FW	5/8" HDG USS FLATWASHER		0.07	0.56
4	8	G58LW	5/8" HDG LOCKWASHER		0.03	0.21
5	8	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	1.04
					TOTAL WT. #	12.64



Valmont Site Pro 1
Lori.Espinosa@valmont.com
(631) 715-3045
www.sitepro1.com

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION: CROSSOVER PLATE

SITE PRO 1 — A valmont COMPANY

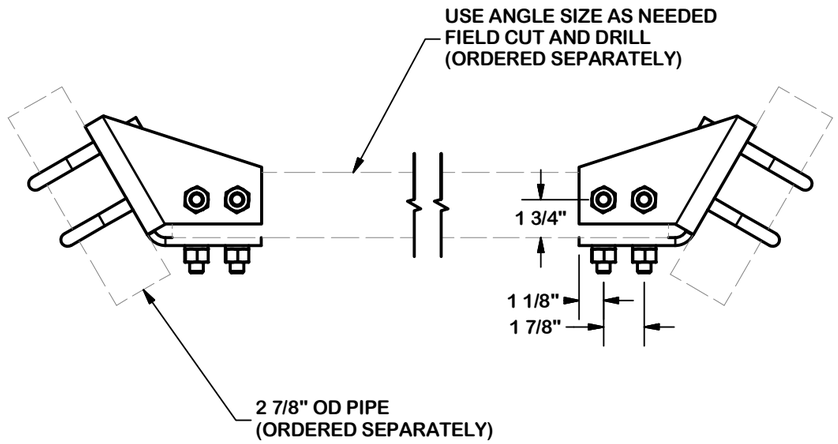
Engineering Support Team: 1-888-753-7446

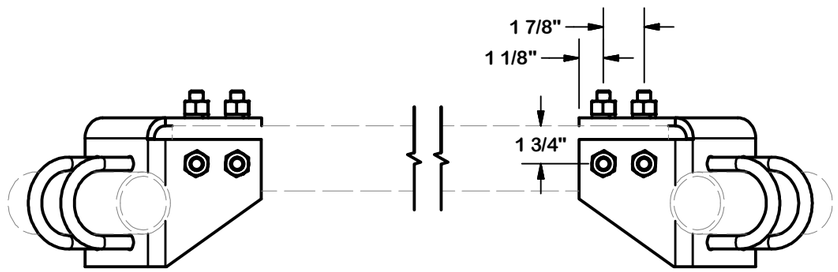
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

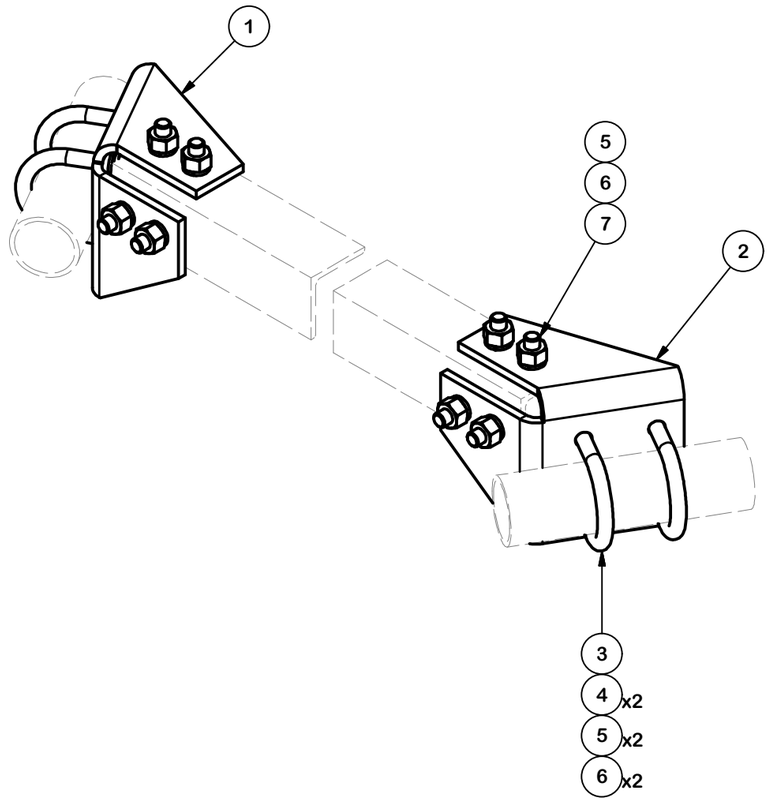
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	JFS 3/18/2020	5/10/2020	VZWSMART-MSK1	1 OF 1

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 5/10/2020	VZWSMART-MSK1

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	CBP-L	CORNER BENT PLATE - LEFT	12 3/8 in	9.37	9.37
2	1	CBP-R	CORNER BENT PLATE - RIGHT	12 3/8 in	9.37	9.37
3	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
4	8	G58FW	5/8" HDG USS FLATWASHER		0.07	0.56
5	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
6	16	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.08
7	8	A5802	5/8" x 2" HDG A325 HEX BOLT		0.27	2.17
					TOTAL WT. #	28.56







Valmont Site Pro 1
Lori.Espinosa@valmont.com
(631) 715-3045
www.sitepro1.com

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION
SUPPORT RAIL CORNER BRACKETS
(ANGLE & PIPE NOT INCLUDED)

SITE PRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	JFS 3/18/2020	5/10/2020	VZWSMART-PLK3	1 OF 1

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	SHOP	BMC 5/10/2020	VZWSMART-PLK3

EXHIBIT 10

EME Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11512C

CT512/SBA - S Brooklyn
100 Old Tatnic Hill Road
Brooklyn, Connecticut 06234

February 4, 2022

EBI Project Number: 6222000909

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**16.42%**

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

February 4, 2022

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

Emissions Analysis for Site: CT11512C - CT512/SBA - S Brooklyn

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **100 Old Tatnic Hill Road** in **Brooklyn, 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 100 Old Tatnic Hill Road in Brooklyn, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

1) 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) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

11) 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.

12) 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.

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

14) The antenna mounting height centerline of the proposed antennas is 140 feet above ground level (AGL).

15) 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.

16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A1 MPE %:	**7.28%**	Antenna B1 MPE %:	**7.28%**	Antenna C1 MPE %:	**7.28%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	18,052.03	ERP (W):	18,052.03	ERP (W):	18,052.03
Antenna A2 MPE %:	**4.74%**	Antenna B2 MPE %:	**4.74%**	Antenna C2 MPE %:	**4.74%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	12.02%
Sprint	2.42%
Nextel	0.26%
Verizon	1.72%
Site Total MPE % :	16.42%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	12.02%
T-Mobile Sector B Total:	12.02%
T-Mobile Sector C Total:	12.02%
Site Total MPE % :	16.42%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	11044.63	140.0	22.11	2500 MHz LTE 1C & 2C Traffic	1000	2.21%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	1074.06	140.0	2.15	2500 MHz LTE 1C & 2C Broadcast	1000	0.22%
T-Mobile 2500 MHz NR Traffic	1	22089.26	140.0	44.23	2500 MHz NR Traffic	1000	4.42%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	140.0	4.30	2500 MHz NR Broadcast	1000	0.43%
T-Mobile 600 MHz LTE	2	591.73	140.0	2.37	600 MHz LTE	400	0.59%
T-Mobile 600 MHz NR	1	1577.94	140.0	3.16	600 MHz NR	400	0.79%
T-Mobile 700 MHz LTE	2	648.82	140.0	2.60	700 MHz LTE	467	0.56%
T-Mobile 1900 MHz GSM	4	1101.85	140.0	8.82	1900 MHz GSM	1000	0.88%
T-Mobile 1900 MHz LTE	2	2203.69	140.0	8.82	1900 MHz LTE	1000	0.88%
T-Mobile 2100 MHz LTE	2	2589.11	140.0	10.37	2100 MHz LTE	1000	1.04%
						Total:	**12.02%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	12.02%
Sector B:	12.02%
Sector C:	12.02%
T-Mobile Maximum MPE % (Sector A):	12.02%
Site Total:	16.42%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **16.42%** 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.