



Filed by:

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

January 12, 2022

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

RE: Notice of Exempt Modification
11 Francis J. Clark Circle, Bethel, CT
Latitude: 41.360522
Longitude: -73.424474
Sprint, now a part of T-Mobile USA #: CTFF709A_Sprint Keep

Dear Ms. Bachman:

Sprint, now a part of T-Mobile USA, hereinafter referred to as "Sprint/T-Mobile" currently maintains six (6) antennas at the 157-foot level of the existing 155-foot Monopole Tower at **11 Francis J. Clark Circle, Bethel, CT**. The 155-foot tower is owned by SBA Towers, LLC. The property is owned by the Estate of Costa Stergue. Sprint/T-Mobile now intends to remove six (6) existing antennas and replace three (3) 600/700/1900MHz antennas and three (3) new 2500MHz antennas. "Sprint/T-Mobile" will be still be maintaining a total of six (6) antennas.

The new antennas support 5G services and would be installed at the 157-foot level of the tower.

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- (3) RFS APXVSPP18-C-A20 antennas (remove) – (3) Ericsson AIR6449 B41 2500MHz (replace)
- (3) RFS APXVTM14-C-I20 antennas (remove) – (3) RFS APXVAALL24_43-U-NA20 600/700/1900MHz antennas (replace)
- (3) ALU 800 MHz RRH (remove) – (3) Ericsson 4460 B25 + B66 RRUs (replace)
- (3) Alcatel 1900 MHz RRU (remove) – (3) Ericsson 4480 B71 + B85 RRUs (replace)

Install New:

- Collar Mount W/ (1) SitePro HRK14-HD (Top handrail kit), (1) HRK14-U (bottom handrail kit) & (1) PRK-SFS (handrail reinforcement kit)

Existing Equipment to Remain:

- (4) RFS ACU-A20-N RET
- (3) 800 MHz Filter
- (1) Low Profile Platform
- (3) 1.99" Hybrid (replace)

Entitlements:

- (3) ALU TD-RRH8x20-25 2500MHz RRU
- Sprint RRH2x50 (800) MHz RRH

GROUND

Install New:

- Purcell RAC24 cabinet (mounted to existing relocated H-Frame)
- (5) 2" RGS conduit
- GPS Antenna mounted to existing Ice Shield
- Ericsson B160 Battery cabinet
- Ericsson 6160 Equipment cabinet

Remain:

- Sprint PPC
- Sprint Ice Bridge (to be used by T-Mobile)
- Existing 8.5' x 20' concrete pad
- Sprint H-Frame (to be relocated)

Remove:

- Sprint Fiber Cabinet
- Sprint Booster Cabinet
- Sprint MM-BTS Cabinet
- Sprint BBY Cabinet

The telecommunications facility located at **11 Francis J. Clark Circle, Bethel** was approved by the Town of Bethel's Inlands and Wetlands Commission on October 30, 1998, Bethel's Planning & Zoning Commission on April 13, 1999. There were no other stipulations set forth by the Town of Bethel. 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 Bethel's First Selectman, Matt Knickerbocker, Building Official, Christopher Baldwin, as well as to the Property Owner, The Estate of Costa Stergue. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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



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

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

Sincerely,

G. Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
gshepherd@sbsite.com

Attachments

cc: Matt Knickerbocker, First Selectman / with attachments
Municipal Center, 1 School St., Bethel, CT 06801
Christopher Baldwin, Building Official / with attachments
Municipal Center, 1 School St., Bethel, CT 06801
The Estate of Costa Stergue w/Attachments
c/o Peter E. Fahan, P.O. Box 878, West Reading, CT 06896 (SBA address on file)



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 Bethel, Inlands/Wetlands Comm. (10/30/98), Bethel P & Z Comm. (4/13/99), Bethel P & Z (4/9/02)
Exhibit 6	Construction Drawings	Chappell Engineering 9/3/21
Exhibit 7	Structural Analysis	TES 12/17/21
Exhibit 8	Post-Mod Mount Analysis	TES 12/6/21
Exhibit 8	EME Report	Centerline 1/6/22

EXHIBIT 1

Copy of check

EXHIBIT 2

FedEx Labels

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

SHIP DATE: 11 JAN 22
ACTWGT: 2.00 LB
CAD: 105843304/NET4400

BILL SENDER

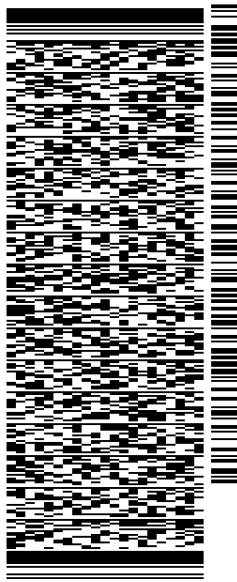
TO **MELANIE A. BACHMAN EXEC. DIR**
CONNECTICUT SITING COUNCIL
TEN FRANKLIN SQUARE

NEW BRITAIN CT 06051

REF: 105692009-6089

(508) 251-0720 X 3807
INV#
PO:

DEPT:



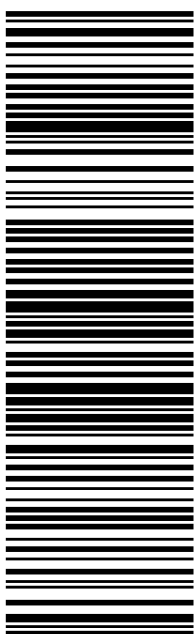
56D.J201EF/FE4A

TRK# 7757 2410 3006
0201

WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

EB BDLA

06051
BDL
CT-US



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TRACK ANOTHER SHIPMENT

775724103006



[ADD NICKNAME](#)

ON TIME

Scheduled delivery:
Thursday, 1/13/2022 before 10:30 am



PICKED UP
WESTBOROUGH, MA

[GET STATUS UPDATES](#)

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
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



Wednesday, January 12,
2022

2:22 PM

WESTBOROUGH, MA

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Tuesday, January 11,
2022

3:52 PM

Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

SERVICE

WEIGHT

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1	2 lbs / 0.91 kgs	Shipper
10-56-92009-6089	FedEx Pak	Deliver Weekday
1/12/22 ?	1/13/22 before 10:30 am ?	1/13/22 before 10:30 am

All (30)

Inbound (14)

Outbound (16)

Watch list (0)

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

SHIP DATE: 11 JAN 22
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO **MATT KNICKERBOCKER**
MUNICIPAL CENTER
FIRST SELECTMAN
1 SCHOOL ST
BETHEL CT 06801

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

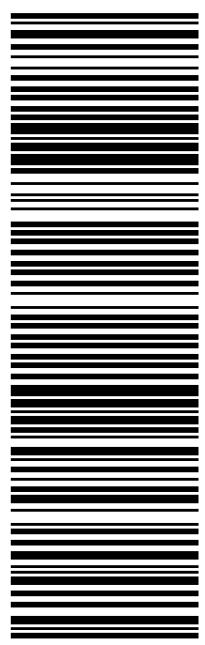
56D.J201EF/FE4A



J212321121601uv

TRK# 7757 2413 6718
0201
WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

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06801
CT-US SWF



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775724136718



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Thursday, 1/13/2022 before 10:30 am



PICKED UP
WESTBOROUGH, MA

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

TO
Matt Knickerbocker
Municipal Center
First Selectman
1 School St
BETHEL, CT US 06801
508-251-0720

[MANAGE DELIVERY](#)

Travel History

Shipment Facts

Travel History

TIME ZONE
Local Scan Time



Wednesday, January 12,
2022

2:22 PM

WESTBOROUGH, MA

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Tendered at FedEx Office

Tuesday, January 11,
2022

3:54 PM

Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

SERVICE

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1	0.5 lbs / 0.23 kgs	Shipper
10-56-92009-6089	FedEx Envelope	Deliver Weekday
1/12/22 ?	1/13/22 before 10:30 am ?	1/13/22 before 10:30 am

All (30)

Inbound (14)

Outbound (16)

Watch list (0)

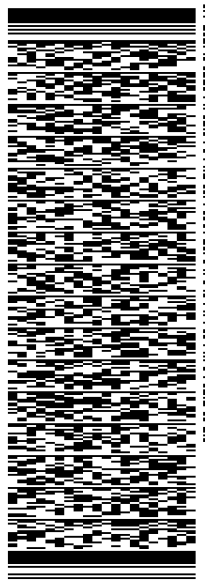
ORIGIN ID:BFBA (508) 614-0389
RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 11 JAN 22
ACTWGT: 1.00 LB
CAD: 105843304/NET4400
BILL SENDER

TO CHRISTOPHER BALDWIN
MUNICIPAL CENTER
BUILDING OFFICIAL
1 SCHOOL ST
BETHEL CT 06801

REF: 105692009-6089
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PO: DEPT:

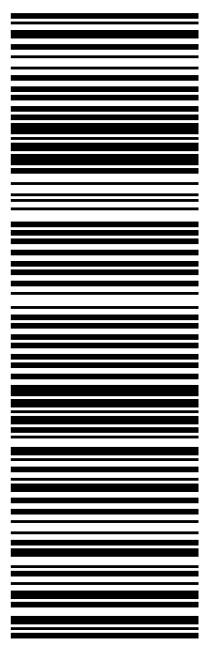
56D.J201EF/FE4A



J212321121601uv

TRK# 7757 2415 1052
WED - 12 JAN 10:30A
PRIORITY OVERNIGHT

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06801
CT-US SWF



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TRACK ANOTHER SHIPMENT

775724151052



[ADD NICKNAME](#)

ON TIME

Scheduled delivery:
Thursday, 1/13/2022 before 10:30 am



PICKED UP
WESTBOROUGH, MA

[GET STATUS UPDATES](#)

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

TO
Christopher Baldwin
Municipal Center
Building Official
1 School St
BETHEL, CT US 06801
508-251-0720

[MANAGE DELIVERY](#)

Travel History

Shipment Facts

Travel History

TIME ZONE
Local Scan Time



Wednesday, January 12,
2022

2:22 PM

WESTBOROUGH, MA

Picked up
Tendered at FedEx Office

Tuesday, January 11,
2022

3:55 PM

Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER

SERVICE

WEIGHT

775724151052	FedEx Priority Overnight	0.5 lbs / 0.23 kgs
1	0.5 lbs / 0.23 kgs	Shipper
10-56-92009-6089	FedEx Envelope	Deliver Weekday
1/12/22 ?	1/13/22 before 10:30 am ?	1/13/22 before 10:30 am

All (30)

Inbound (14)

Outbound (16)

Watch list (0)

SBA COMMUNICATIONS
134 FUNDERS RD.
SUITE 125
WESTBOROUGH, MA
01581



WESTBOROUGH
150 E MAIN ST
WESTBOROUGH, MA 01581-9998
(800)275-8777

01/12/2022 12:32 PM

Product Qty Unit Price

Priority Mail® 3-Day 1 \$8.70

Reading, CT 06896

Weight: 0 lb 15.60 oz

Expected Delivery Date

Tue 01/18/2022

Tracking #:

9505 5112 4893 2012 6517 22

Insurance Up to \$50.00 included \$0.00

Total \$8.70

THE ESTATE OF COSTA STERNA
c/o PETER E. FAHND
P.O. Box 878
WEST REMOND, CT
06896

EXHIBIT 3

Property Card

Bethel, CT : Assessor Database

Property Search:

Parcel ID:	Alternate ID:	Owner 1 Name:	Street Number:	Street Name:
<input type="text"/>	<input type="text"/>	<input type="text"/>	11	FRANCIS J CLARKE CIRCLE

Property Detail:

Parcel ID:	Alternate ID/Map Block Lot:	Card:	Card:	Street Name:	Street Number:	Zoning:	LUC:	Acres:
09 23 150-05	R05677	1	1	FRANCIS J CLARKE CIRCLE	11	IP	WAREHOUSES	5.80

Owner Information:

Owner 1 Name:	STERGUE COSTA ESTATE OF
Owner 2 Name:	% PADOVANO MARY S ADMINISTRATOR
Street 1:	28 PARK LANE ROAD
Street 2:	
City:	NEW MILFORD
State:	CT
Zip:	06776
Volume:	1105
Page:	225
Deed Date:	0000-00-00

Property Images:

Picture:



Sketch:

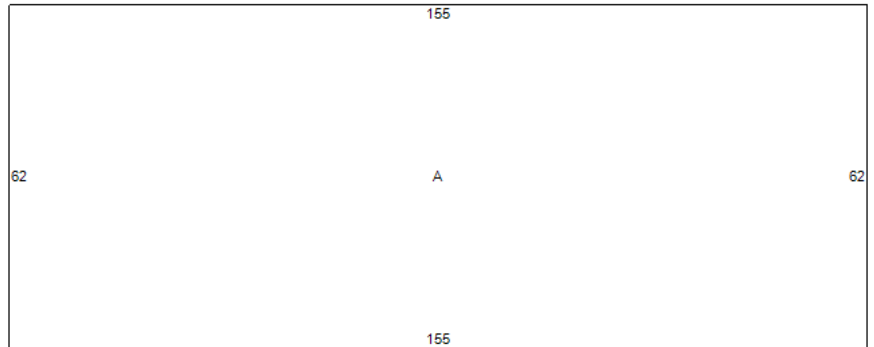
Building Information:

Building Number:	1
Units:	7
Structure Type:	MFG/PROCESSING
Grade:	C
Identical Units:	1
Year Built:	1992

Valuation:

Appraised Land:	\$392,800.00
Appraised Land PA490:	\$0.00
Appraised Bldg:	\$1,184,000.00
Appraised Total:	\$1,576,800.00
Total Assessment:	\$1,103,760.00

ID	Code	Description
A	VS2	2S
B	044	LIGHT M
C	044	LIGHT M
D	082	MULTI-L
E	OD1	OVERHI
F	OD1	OVERHI
G	SS1	SPRINK
H	OD1	OVERHI
I	PA1	PAVING



Out-Buildings:

Code:	Description:	Units:	Year Built:	Size1:	Size2:	Area:	Grade:	Condition:
PA1	PAVING ASPHALT PARKING	1	1992	0	0	20000	C	NORMAL (C

Building Interior/Exterior Information:

Floor From:	Floor To:	Area:	Use Type:	Exterior Walls:	Construction Type:	Heating:	A/C:	Plumbing:
01	01	9610	LIGHT MANUFACTURING	FRAME	WOOD FRAME/JOIST/BREAM	UNIT HEATERS	NONE	BELOW NORMAL
02	02	7378	LIGHT MANUFACTURING	FRAME	WOOD FRAME/JOIST/BREAM	UNIT HEATERS	NONE	BELOW NORMAL
02	02	2232	MULTI-USE OFFICE	FRAME	WOOD FRAME/JOIST/BREAM	HOT AIR	CENTRAL	NORMAL

The information delivered through this on-line database is provided in the spirit of open access to government information and is intended as an enhanced service and convenience for citizens of Bethel, CT. The providers of this database: Tyler CLT, Big Room Studios, and Bethel, CT assume no liability for any error or omission in the information provided here.

Comments regarding this service should be directed to: Assessor@betheltownhall.org

Wed. January 5, 2022 : 03:12 PM : 0.08s : 10mb

EXHIBIT 4

Property Map

11 Francis



Email Map Link

Copy and paste the following string into an email to link to the current map view:



Print Map

Tighe&Bond

lat:41.3596, long:-73.4226

Google Maps 11 Francis J Clarke Cir



Imagery ©2022 Maxar Technologies, USDA Farm Service Agency, Map data ©2022 100 ft

EXHIBIT 5

Zoning Docs

SITE ID # CT00248

SITE NAME No Bethel

JOB COST # _____

ZONING/PERMITTING COMPLETION FORM

Zoning Classification for Site: Industrial

Special Relief (setback, height variance, special use permit, wetlands permit etc.):

Special Permit Site Plan (a Reinstatement of Site Plan)

* Date of Zoning Decision: 4/15/02, 11/15/00 & 4/16/99

Summary of zoning conditions (Include details of any conditions relative to time restrictions, expiration dates, renewal obligations, monetary obligations, performance obligation, inspection fees).

Conformance with Plans

Submitted by: S Becken Title: _____
RCM-IC

Territory Manager Approval: _____

* Attach a copy of the Zoning decision and forward to the Regional Compliance Manager as soon as possible, after the decision.



PLANNING & ZONING COMMISSION

Bethel Municipal Center
1 School Street, Bethel, Connecticut 06801 *(203) 794-8519

April 15, 2002

RTP
FINAL

Attorney Susan A. Hays
One State St
P.O. Box 231277
Hartford Ct 06123-1277

RE: SBA Telecommunications Tower
11 Francis J. Clarke Circle

Dear Ms. Hays,

At the April 9, 2002 meeting of the Planning & Zoning Commission it was voted to **APPROVE** your request for reinstatement of the terms and conditions of the original the Site Plan for the proposed SBA, Inc. telecommunications facility and antennas for Sprint and Nextel at 11 Francis J. Clarke Circle with the following stipulations:

1. Except as modified by this approval, improvements shall be constructed as shown on drawings prepared by Gesick & Associates, P.C., Robert J. Grabarek, P.E. (CT Lic # 13441), as follows:
 - a) "SBA, Inc., #4276 Bethel (Costa Property II), 11 Francis J. Clarke Circle, Bethel, Connecticut," Sheet T-1, last revised 1/22/99;
 - b) "Comprehensive Site Plan," Sheet C-1, last revised 1/22/99 (Note: the northerly setback is shown correctly at 212.5 feet, but the arrow is shown only to the 25-foot rear setback line and should be extended to the property line.);
 - c) "Site Plan and Elevations," Sheet C-2, last revised 1/22/99 (added Sprint);
 - d) "Site Details," Sheet C-3, last revised 4/6/99;
 - e) "General Notes and Erosion Control Narrative," Sheet C-4, dated 6/20/98.
2. Applicant shall furnish the Economic Development Commission of the Town of Bethel with a copy of the plans, and shall furnish proof of transmittal to the Planning and Zoning Commission prior to the issuance of any zoning and building permits for the project.
3. Any changes in the approved plan shall require the approval of the Planning and Zoning Commission.
4. It is the applicant's responsibility to secure any and all permits and approvals required by the Connecticut Siting Council.

5. Pursuant to Sec. 118-22 of the Zoning Regulations, "The approval of any site plan shall be void and shall be of no effect unless construction of the proposed buildings or structures is commenced within one (1) year of the effective date of said approval and is substantially completed within (5) years of the effective date of said approval."

Reasons: The reinstated plan is in substantial compliance with Sec. 118-47.3, "Telecommunications towers and antennas," of the Zoning Regulations of the Town of Bethel and was previously approved by the Commission on 11/14/00, and further by Settlement Agreement dated 8/24/00-9/22/00. In granting the reinstatement of the Site Plan for this application, the Commission makes no decision regarding the property owner's right to apply for additional buildings or structures on the site, in accordance with Bethel zoning regulations in effect at the time of the application.

Sincerely,



Michael J. Mannion
Chairman

MJM: cpc



PLANNING & ZONING COMMISSION

Bethel Municipal Center
1 School Street, Bethel, Connecticut 06801 *(203) 794-8519

November 15, 2000

Esther McNany
SBA, Inc./ Nextel Communications/Sprint PCS
125 Shaw Street
New London, CT 06320

RE: SBA, Inc. - 11 Francis J. Clarke Circle

Dear Ms. McNany,

At the November 14, 2000 meeting of the Planning & Zoning Commission it was voted to approve your revised site plan application for 11 Francis Clarke Circle on maps dated 2/17/98 last revised 11/5/00 with the following stipulations:

- 1) The resolution granting the original approval, dated 4/16/99, including all stipulations must be adhered to.
- 2) Any further changes in the site plan must be submitted to this Commission.

I have attached a copy of the legal notice for your review. Please be advised that work is not to commence until bonds are submitted and maps are signed and filed

Sincerely,

Denis J. Riordan
Denis J. Riordan
Chairman

SITE # 4276
FILE TYPE Construction
SECTION Permits



PLANNING & ZONING COMMISSION

Bethel Municipal Center
1 School Street, Bethel, Connecticut 06801 *(203) 794-8519

April 16, 1999

Esther McNany
SBA, Inc./Nextel Communications/Sprint PCS
125 Shaw Street
New London, CT 06320

RE: SBA, Inc./Nextel Communications/Sprint PCS

Dear Ms. McNany:


At the April 13, 1999 meeting of the Planning & Zoning Commission it was voted to **APPROVE** your application for a special permit and site plan, 11 Francis J. Clarke Industrial Park, on maps dated C-1 dated 2/17/98 last revised 1/22/99, C-2 dated 2/17/98 last revised 1/22/99, C-3 dated 6/20/98 last revised 4/16/99, and C-4 dated 6/20/98 with the following stipulations:

1. Applicant will submit the approved site plan to the Economic Development Commission for their review prior to applying for a building permit.
2. Any changes to the plan or in the field will require a resubmission the Commission before making any changes.
3. Reason for approval is that it meets the Planning & Zoning regulations.

Work is to commence within (1) one year and completed in (5) five years.

If you have any questions please call. I have also attached a copy of the legal notice for your review.

Sincerely,


Denis J. Riordan
Chairman

DJR: cpc

SITE ID # CT00248

SITE NAME N Bethel

JOB COST # '

ZONING/PERMITTING COMPLETION FORM

Zoning Classification for Site: Industrial

Special Relief (setback, height variance, special use permit, wetlands permit etc.):

Inland Wetlands Permit

* Date of Zoning Decision: 10/98

Summary of zoning conditions (Include details of any conditions relative to time restrictions, expiration dates, renewal obligations, monetary obligations, performance obligation, inspection fees).

none

Submitted by: S Becker

Title: RCM-IC

Territory Manager Approval: _____

* Attach a copy of the Zoning decision and forward to the Regional Compliance Manager as soon as possible, after the decision.



INLAND WETLANDS COMMISSION

Bethel Municipal Center, 1 School Street
Bethel, Connecticut 06801 * (203) 794-8519

TO: DENIS RIORDAN, CHAIRMAN PLANNING & ZONING COMMISSION
FROM: E. JOYCE DIXON, CHAIRMAN INLAND WETLANDS COMMISSION
RE: SBA, INC., TELECOMMUNICATIONS FACILITY
DATE: OCTOBER 30, 1998

At the October 28, 1998 meeting of the Inland Wetlands Commission it was voted to approve and issue a permit to SBA, Inc. because the impervious area is less than two (2) acres.

EJD:cpc

12/12/02 12:21 FAX 203 878 9800

HURWITZ & SAGARIN

SEP-18-2002 10:45

CT SITING COUNCIL

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P.01/01

Post-Fax Note

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Phone # <i>803 877-8072</i>	Phone # <i>860 827 2935</i>
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PLANNING & ZONING DEPARTMENT

Bethel Municipal Center, 1 School Street
Bethel, Connecticut 06801 (203) 794-8519



RECEIVED

SEP - 5 2002

September 5, 2002

Mr. S. Derek Phelps **CONNECTICUT**
Connecticut Siting **COMMITTEE**
Ten Franklin Square
New Britain, CT 06051

Re: **EM-SBA-009-020809 - SBA, Inc.**
Co-location on tower to be constructed at 11 Francis J. Clarke Circle
Bethel, Connecticut

Dear Mr. Phelps:

The Planning and Zoning Commission, at its meeting held on August 27, 2002, reviewed the proposal of SBA, Inc. to "modify an existing telecommunications facility located at 11 Francis J. Clarke Circle" in the Town of Bethel, to allow co-location of additional carriers AT&T and Sprint.

Please be advised that the Planning and Zoning Commission has no objection to the proposal for co-location of additional antenna, provided that all equipment and facilities are constructed within the previously approved "lease area" as shown on drawings presented to the Planning and Zoning Commission, which approval was renewed on April 9, 2002.

Please also note that, to our knowledge, the tower is not an "existing facility" because it has not yet been constructed.

Thank you for this opportunity to comment on the proposal.

Very truly yours,

Betty Brosius
Planning & Zoning Official

cc: Michael J. Mawson, Chairman, Planning and Zoning Commission
Judith Novachek, First Selectwoman

TOTAL P.01

EXHIBIT 6

Construction Drawings

CTFF709A/CT33XC521

BETHEL MP SBA

11 FRANCIS J CLARKE CIRCLE
BETHEL, CT 06801
FAIRFIELD COUNTY

SITE NO.: CTFF709A

CARRIER SITE ID.: CT33XC521

RF DESIGN GUIDELINE: 67E5A998E 6160

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

GENERAL NOTES

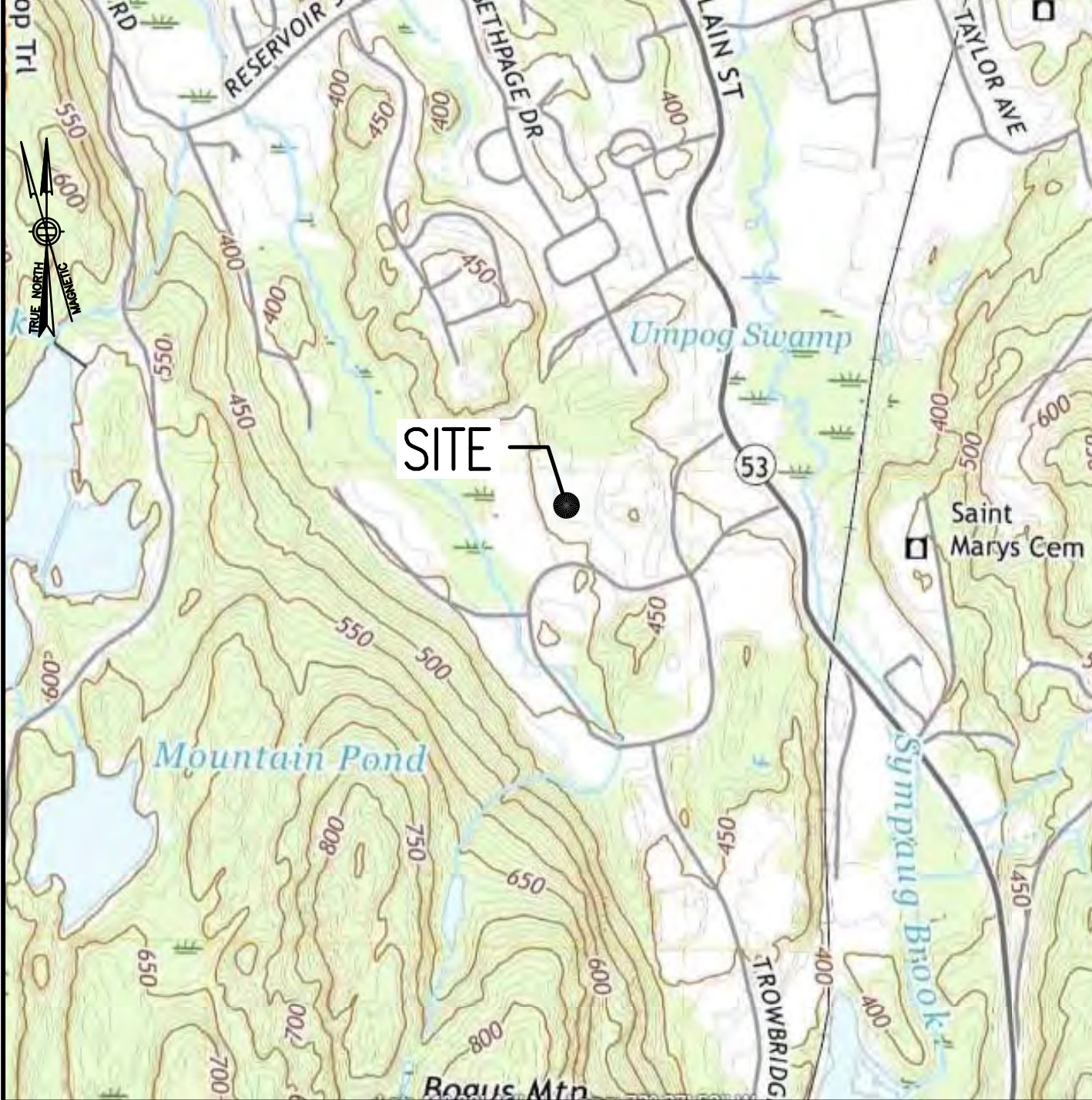
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT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

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



VICINITY MAP:

1"=1000'



DIRECTIONS

FROM COMMERCE WAY TRAVELING NE TOWARDS N BOUNDARY RD/S WASHINGTON ST, TURN LEFT ONTO S WASHINGTON ST, TURN RIGHT ONTO MA-123 E, TURN LEFT TO MERGE ONTO I-90 N RAMP TOWARDS MANSFIELD/MARLBORO, TAKE EXIT 22 TO MERGE ONTO I-90 W TOWARD ALBANY, TAKE EXIT 78 FOR I-84 TOWARD HARTFORD CT/NEW YORK CITY, CONTINUE ONTO I-84, KEEP LEFT TO STAY ON I-84, KEEP RIGHT TO STAY ON I-84 FOLLOW SIGNS FOR I-91 N/HARTFORD, KEEP RIGHT TO STAY ON I-84, TAKE EXIT 8 TO GO TOWARD NEWTON RD TOWARD BETHEL, MERGE ONTO NEWTON RD, TURN LEFT ONTO OLD SHELTER ROCK RD, OLD SHELTER ROCK RD TURNS SLIGHTLY LEFT BECOMES CROSS ST, TURN LEFT ONTO SHELTER ROCK RD, SLIGHT RIGHT ONTO SHELTER ROCK LN, TURN RIGHT ONTO GREAT PASTURE RD, TURN LEFT ONTO CT-53 S/SOUTH ST, TURN RIGHT ONTO FRANCIS J CLARKE CIR, TURN RIGHT, DESTINATION WILL BE ON THE LEFT

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.

SITE NOTES

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

PROJECT SCOPE OF WORK

REMOVE 6 ANTENNAS, 9 RRHS, 4 HYBRID CABLES, 2 CABINETS, 1 BOOSTER, AND 1 FIBER MANAGEMENT BOX. INSTALL B160, 6160, 6 ANTENNAS, 6 RRU's, 3 HYBRID CABLES, PURCELL CABINET AND HANDRAIL KIT.

PROJECT SUMMARY

SITE NUMBER:	CTFF709A
SITE NAME:	CTFF709A/CT33XC521 BETHEL MP SBA
SBA SITE NUMBER:	CT00248-S-02
SBA SITE NAME:	NORTH BETHEL
SITE ADDRESS:	11 FRANCIS J CLARKE CIRCLE BETHEL, CT 06801
ASSESSOR'S ACCOUNT NO.:	09 23 150-05-1
ZONING DISTRICT:	IP, INDUSTRIAL PARK
CONSTRUCTION TYPE:	SPRINT RETAIN
LAND OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SROth@sbase.com
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: 41.36007500° N41°21'36.27" LONGITUDE: -73.42501694° W73°25'30.06"

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).



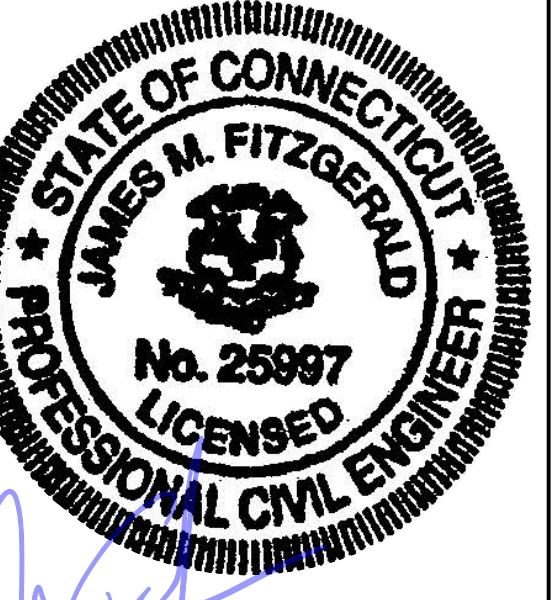
T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
OFFICE: (508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
2	09/09/21	CONSTRUCTION REVISED	BDJ
1	04/26/21	ISSUED FOR CONSTRUCTION	BDJ
0	04/12/21	ISSUED FOR REVIEW	BDJ

SITE NAME:
CTFF709A/CT33XC521
BETHEL
MP SBA
SITE ADDRESS:
11 FRANCIS J CLARKE CIRCLE
BETHEL, CT 06801

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

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

SITE WORK GENERAL NOTES:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
- A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED/EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIER'S PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T-MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ½" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

ELECTRICAL INSTALLATION NOTES:

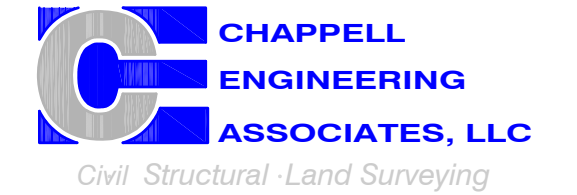
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOD PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOD PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#8 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.



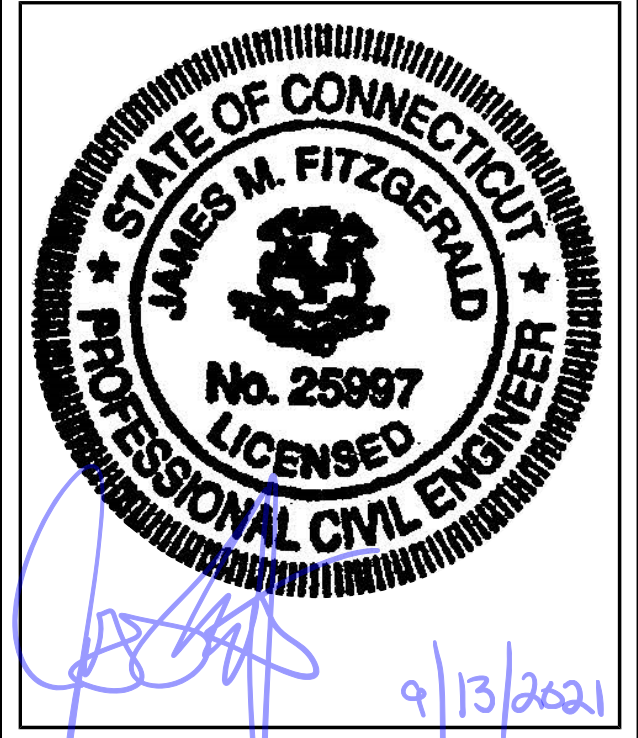
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BETHEL
MP SBA
SITE ADDRESS:
11 FRANCIS J CLARKE CIRCLE
BETHEL, CT 06801

SHEET TITLE

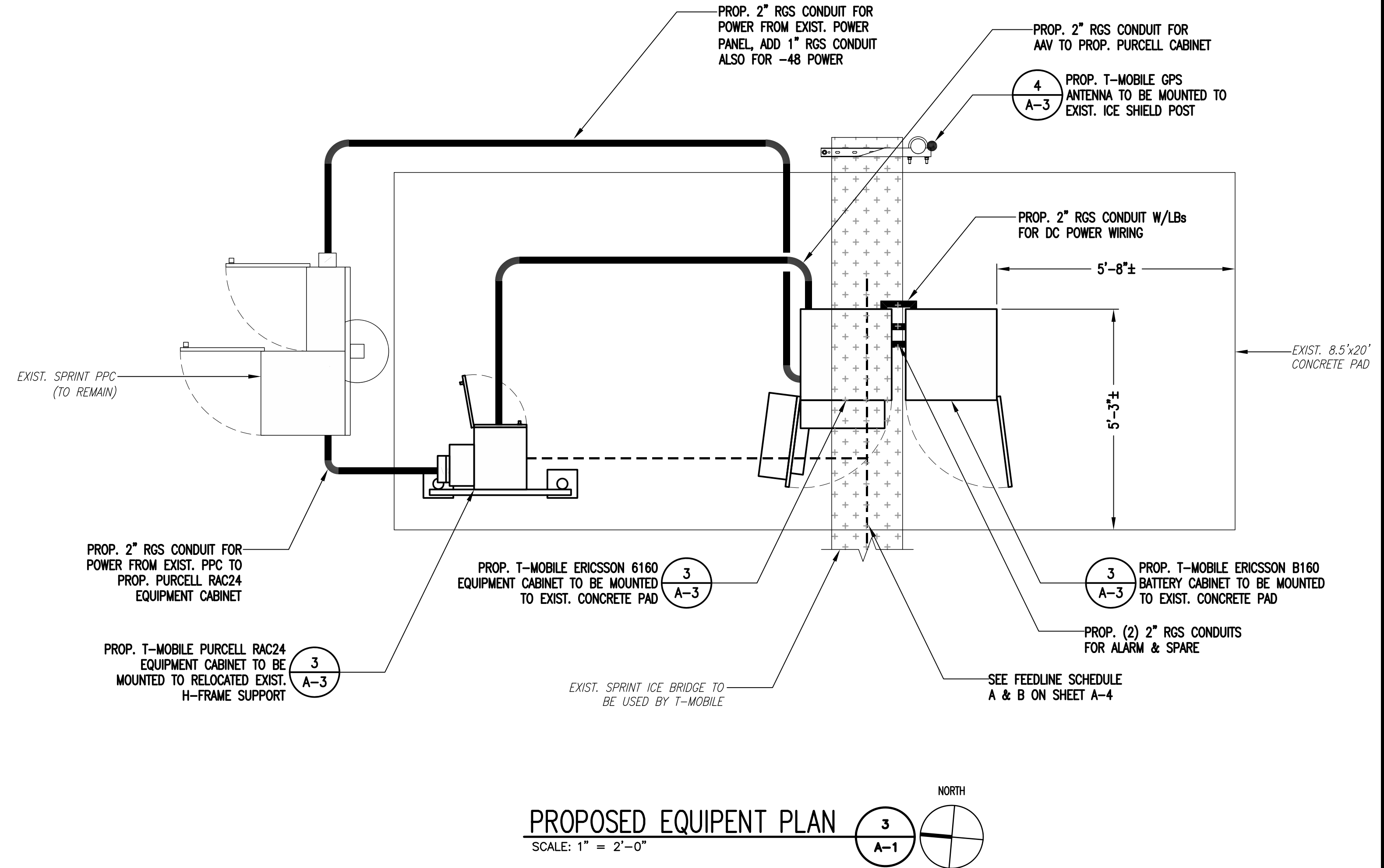
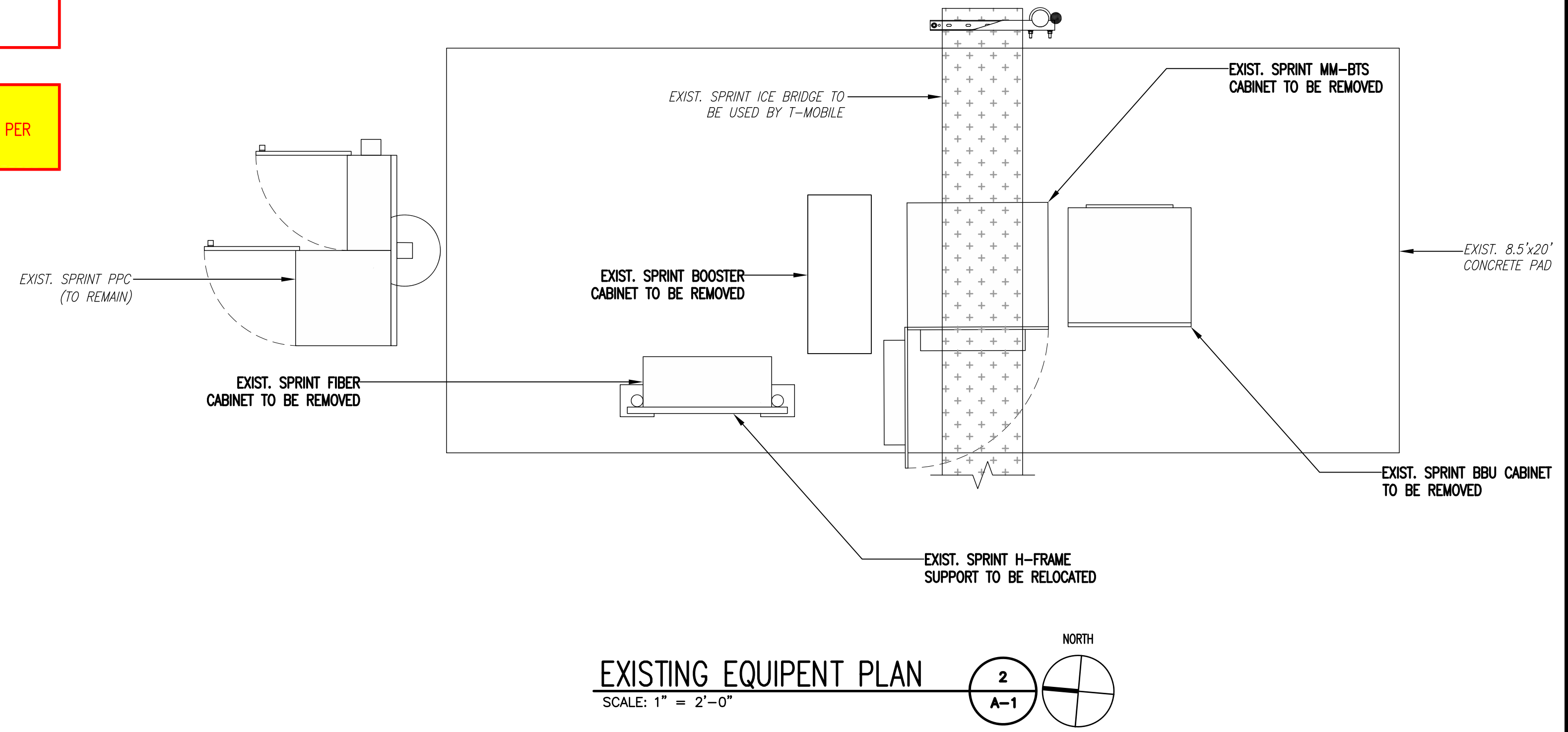
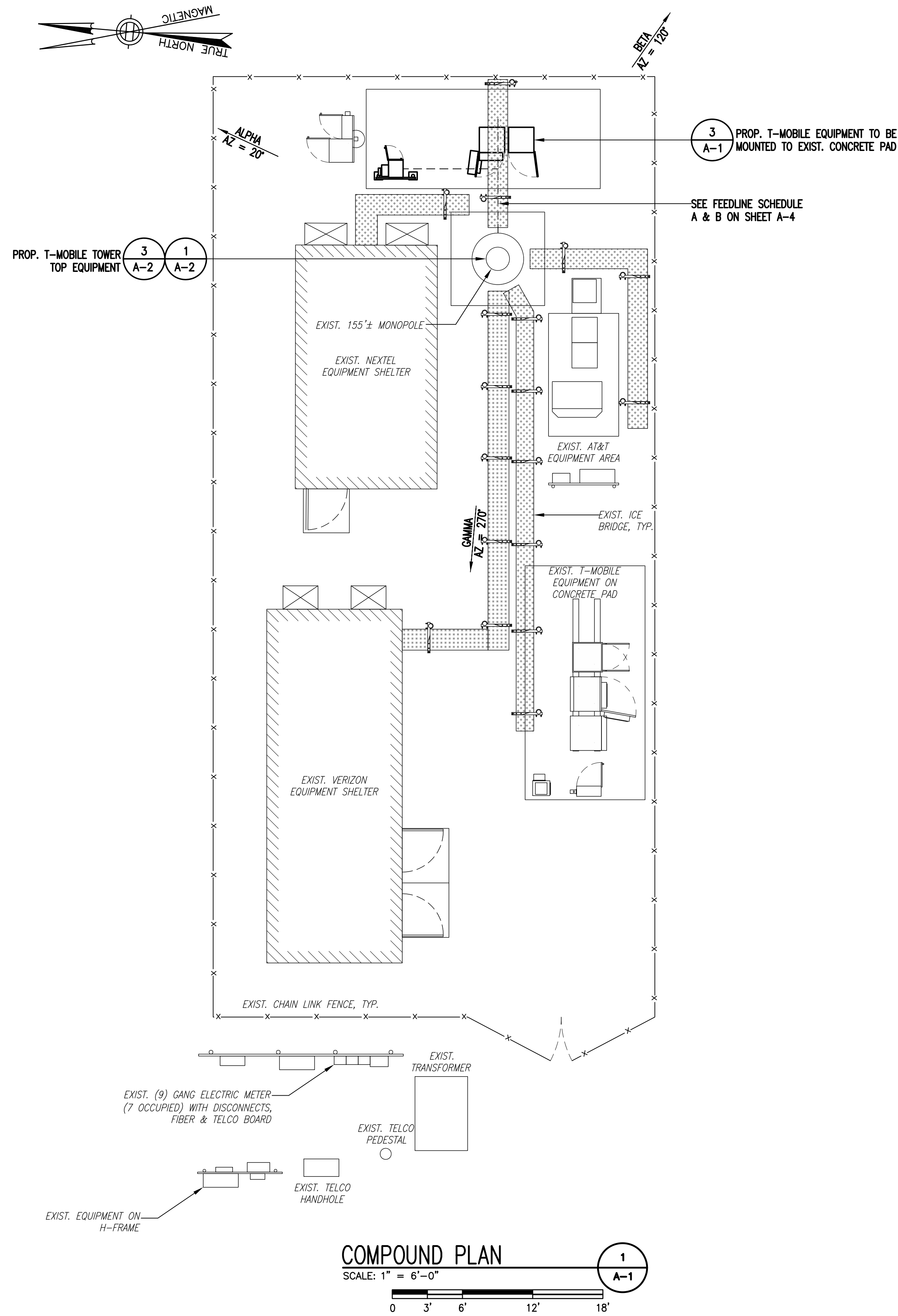
GENERAL NOTES

SHEET NUMBER

GN-1

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

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).



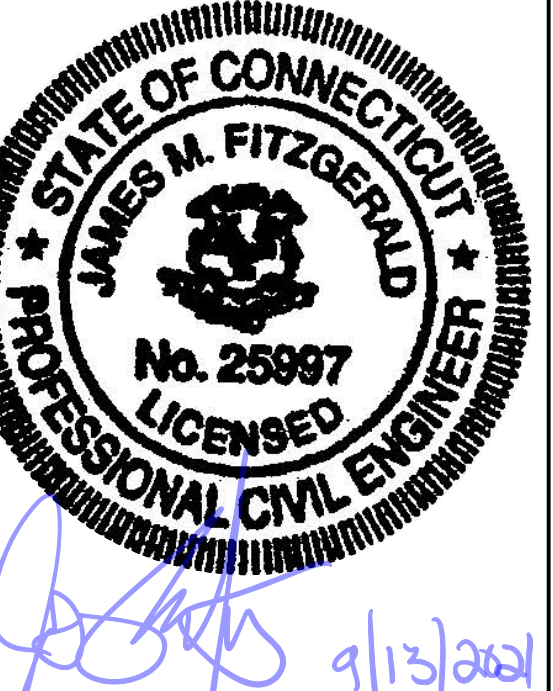
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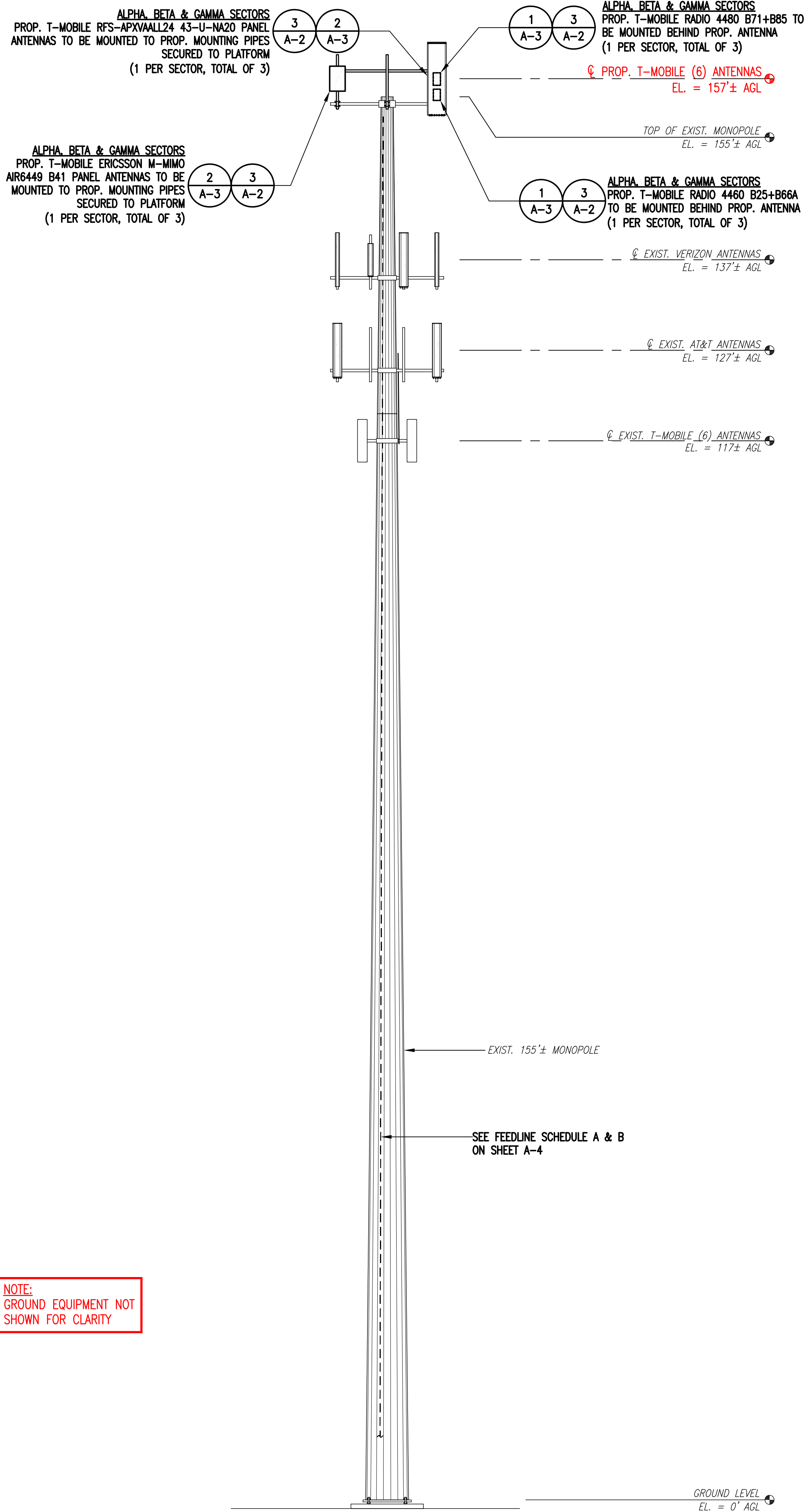
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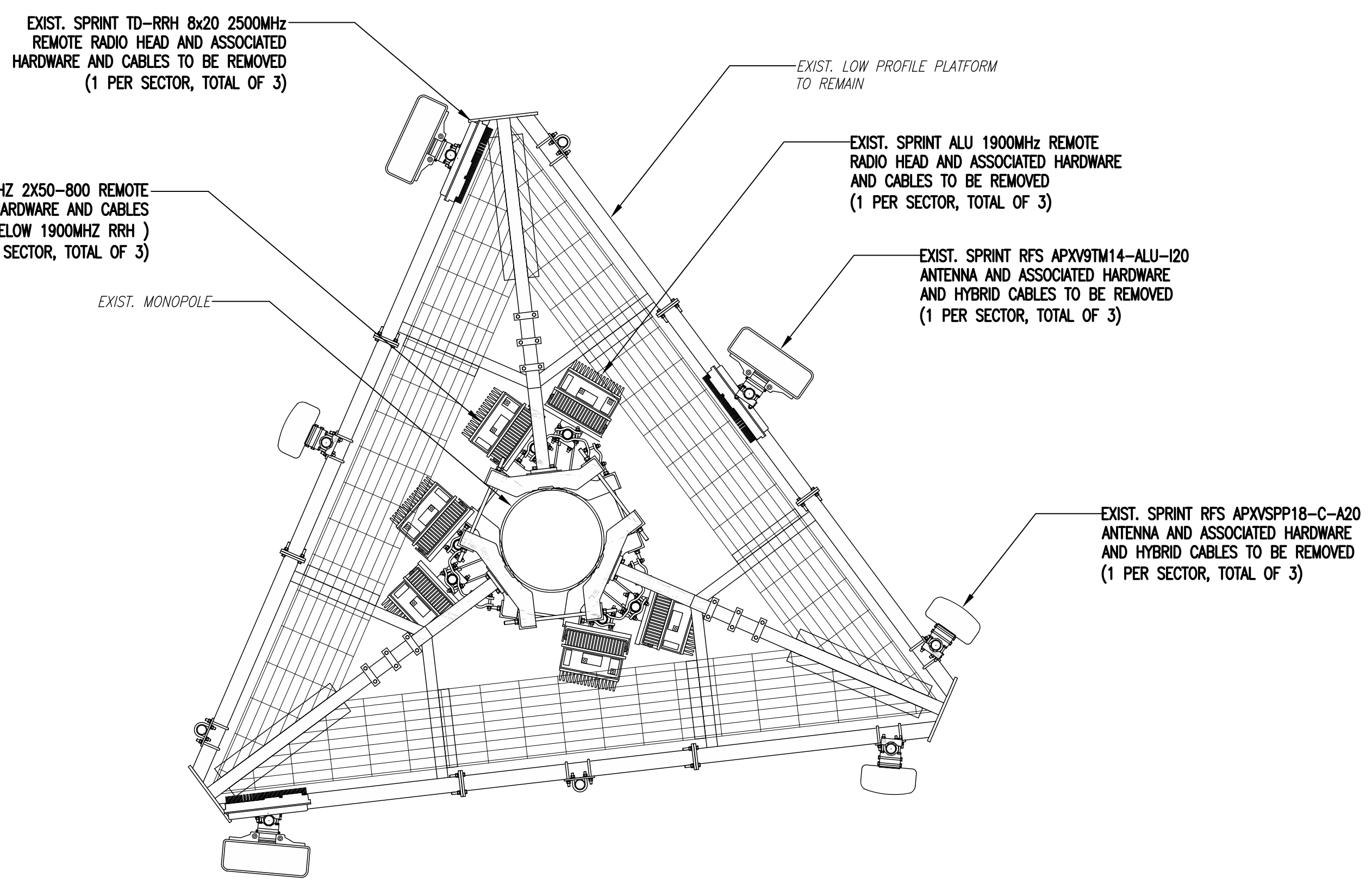
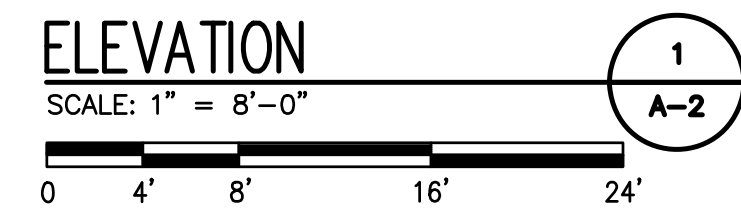
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SHEET TITLE
 COMPOUND & EQUIPMENT
 PLANS

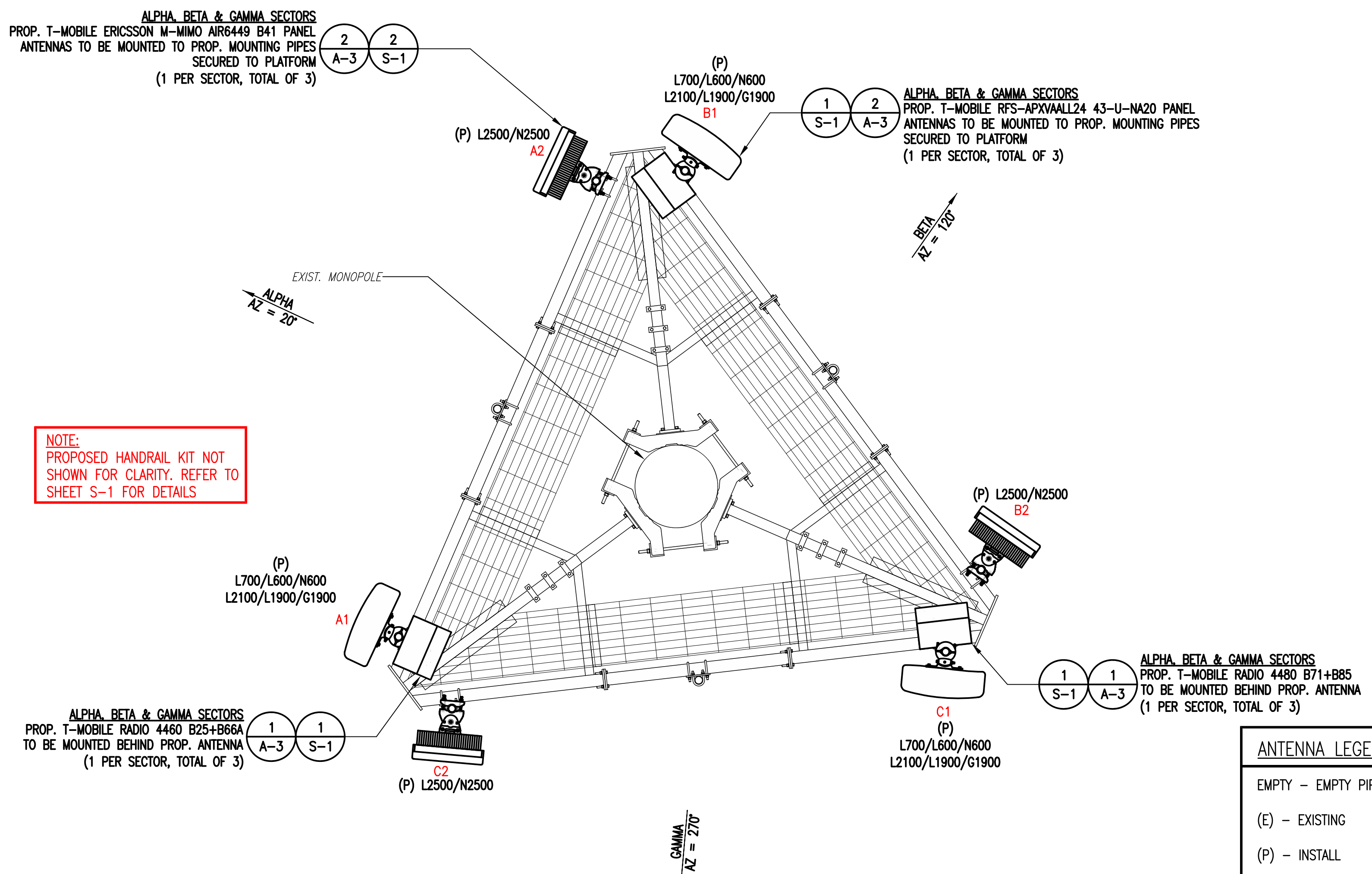
SHEET NUMBER
A-1



NOTE:
 GROUND EQUIPMENT NOT SHOWN FOR CLARITY



EXISTING ANTENNA PLAN
 SCALE: N.T.S.



NOTE:
 PROPOSED HANDRAIL KIT NOT SHOWN FOR CLARITY. REFER TO SHEET S-1 FOR DETAILS

PROPOSED ANTENNA PLAN
 SCALE: N.T.S.

ANTENNA LEGEND:

- EMPTY - EMPTY PIPE
- (E) - EXISTING
- (P) - INSTALL

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

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SBA

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CHAPPELL ENGINEERING ASSOCIATES, LLC
 Civil Structural Land Surveying

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

9/13/2021

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SHEET TITLE
ELEVATION & ANTENNA PLANS

SHEET NUMBER
A-2



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



ERICSSON RADIO 4480 B71+B85
 DIMENSIONS: 19.2"H x 15.1"W x 7.5"D
 WEIGHT: 92.6 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3

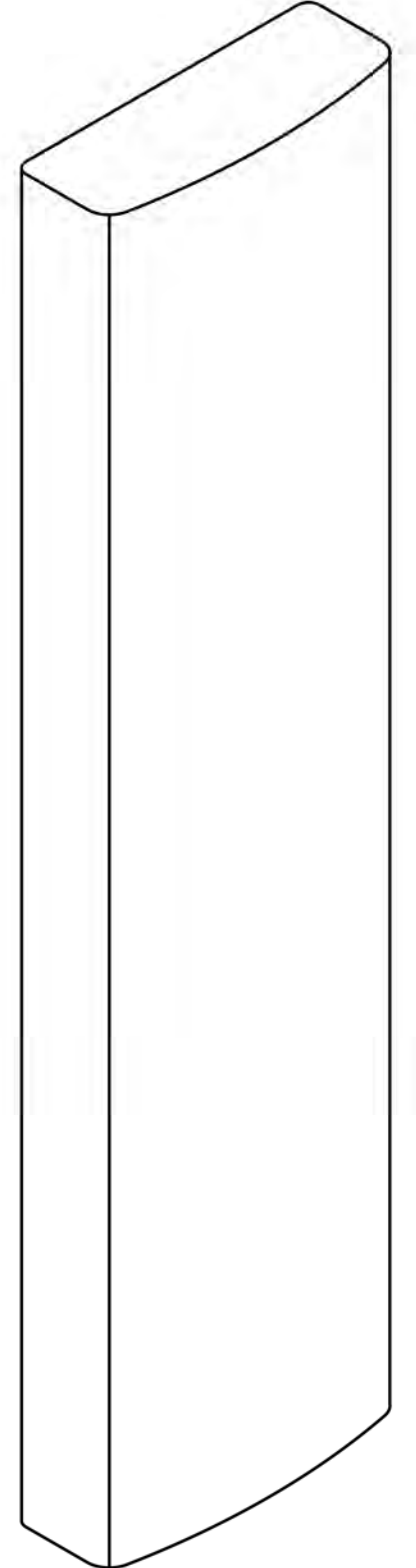
RADIO DETAILS

SCALE: N.T.S.

1
A-3



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

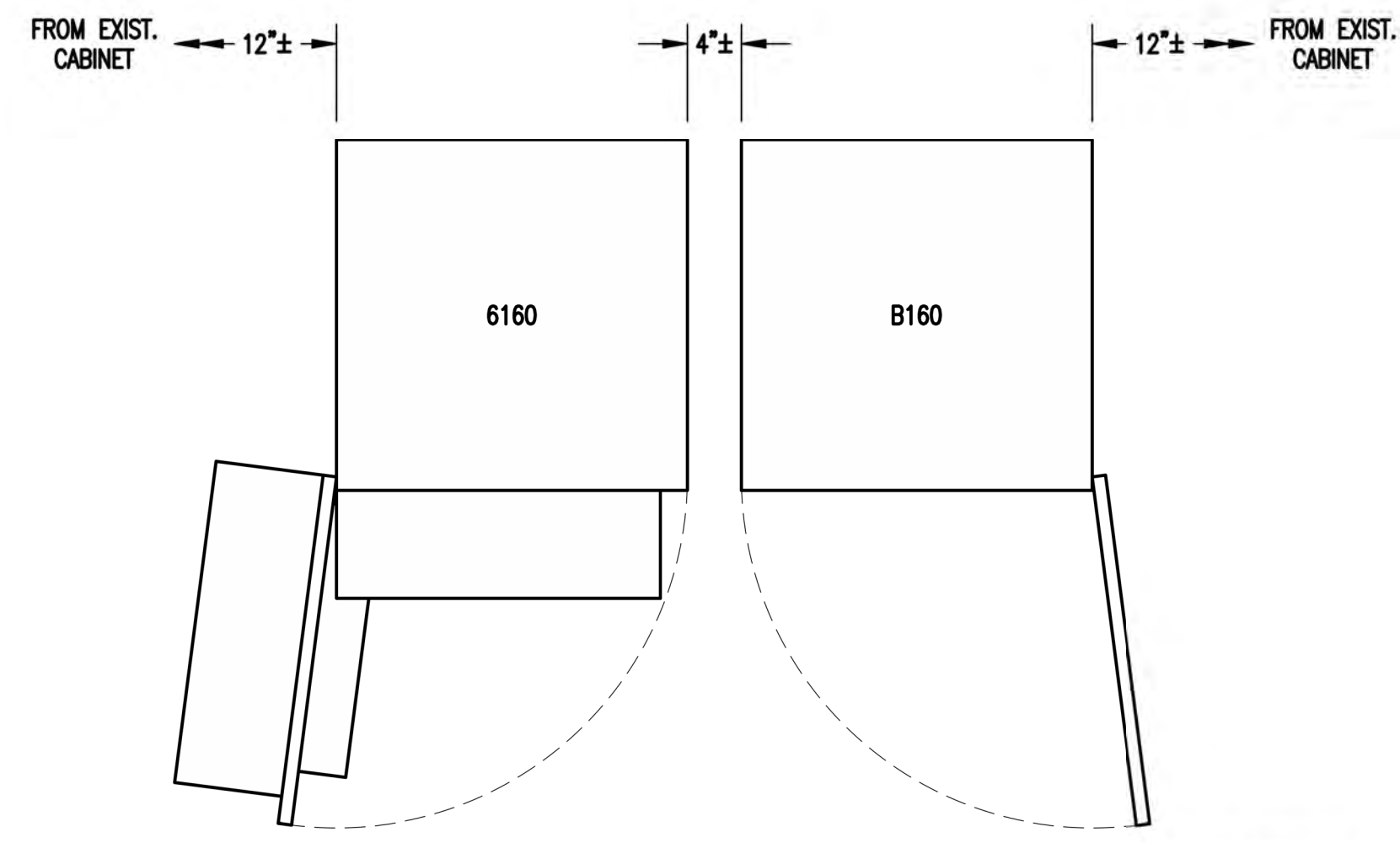


RFS APXVAALL24 43-U-NA20 ANTENNA
 DIMENSIONS: 95.9"H x 24.0"W x 8.5"D
 WEIGHT: 122.8 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS

SCALE: N.T.S.

2
A-3



CABINETS TO BE MOUNTED PER MANUFACTURER'S SPECIFICATIONS

ERICSSON 6161 SITE SUPPORT CABINET
 DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
 QUANTITY: TOTAL OF 1

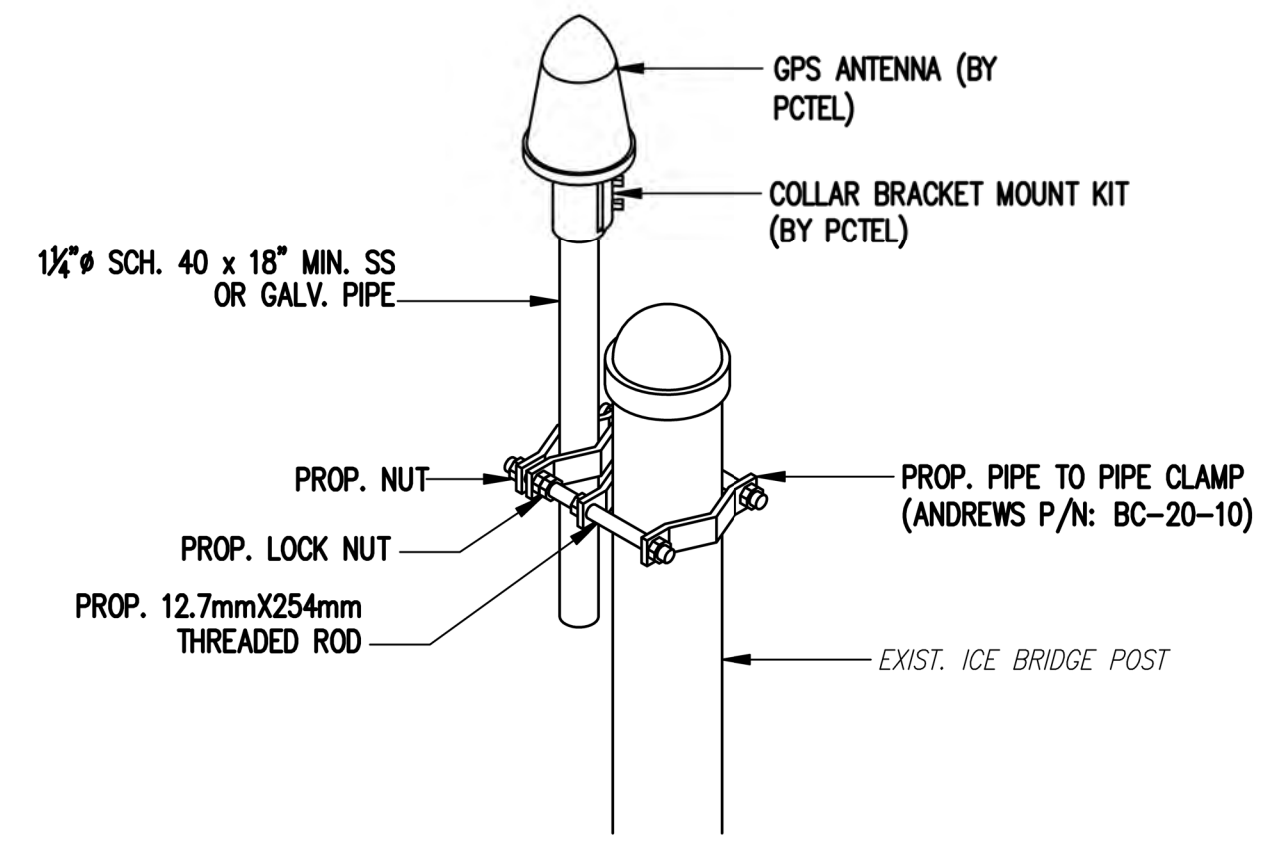
ERICSSON B160 BATTERY CABINET
 DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
 QUANTITY: TOTAL OF 1

PURCELL SITE SUPPORT CABINET RAC24
 DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
 QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL

SCALE: N.T.S.

3
A-3



1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1 1/2" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
2. THE MOUNTING PLATE SHALL BE FASTENED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE SHALL THEN BE ATTACHED TO THE MOUNTING PLATE USING THE OVERSIZE U-BOLTS PROVIDED TO ALLOW ADJUSTMENT. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2 DEGREES OF LEVEL.

GPS ANTENNA DETAILS

SCALE: N.T.S.

4
A-3



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 SITE ADDRESS:
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SHEET TITLE

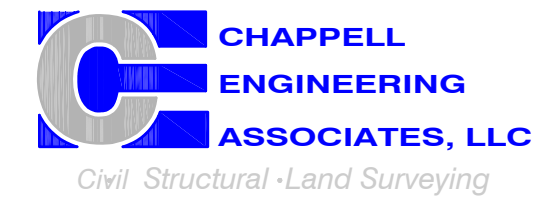
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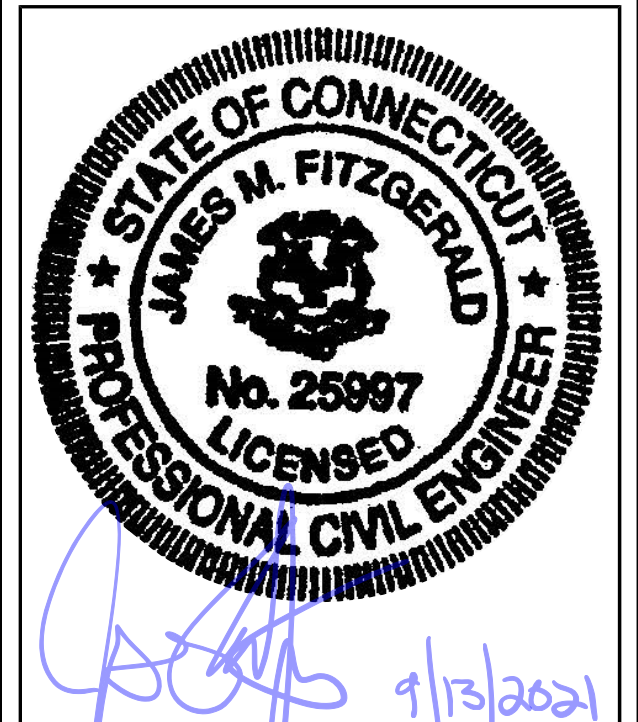
A-3



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SHEET TITLE

ANTENNA & FEEDLINE CHARTS

SHEET NUMBER

A-4

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	RFS APXVALL24_43-U-NA20	157'-0"± AGL	20°	0°	0°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	(P) (3) 1-3/4" (6x24) HCS FIBER CABLES
						L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
A2	ERICSSON M-MIMO AIR6449 B41	157'-0"± AGL	20°	0°	0°	L2500/N2500	-	
BETA	RFS APXVALL24_43-U-NA20	157'-0"± AGL	120°	0°	0°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
						L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
B2	ERICSSON M-MIMO AIR6449 B41	157'-0"± AGL	120°	0°	0°	L2500/N2500	-	
GAMMA	RFS APXVALL24_43-U-NA20	157'-0"± AGL	270°	0°	0°	L700/L600/N600	ERICSSON RADIO 4480 B71+B85	
						L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
C2	ERICSSON M-MIMO AIR6449 B41	157'-0"± AGL	270°	0°	0°	L2500/N2500	-	

CABLE NOTE: ALL EXISTING SPRINT CABLES TO BE REMOVED, EXCEPT 1/2" COAX CABLE USED FOR SPRINT GPS ANTENNA TO REMAIN. SEE FEEDLINE SCHEDULE A & B BELOW.

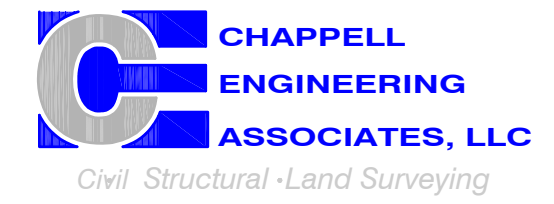
NOTE: RFDS REV1 - 07/20/21

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA EXISTING TO BE REMOVED: ALL SPRINT CABLES	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (3) 1-3/4" (6x24) HCS FIBER CABLES	

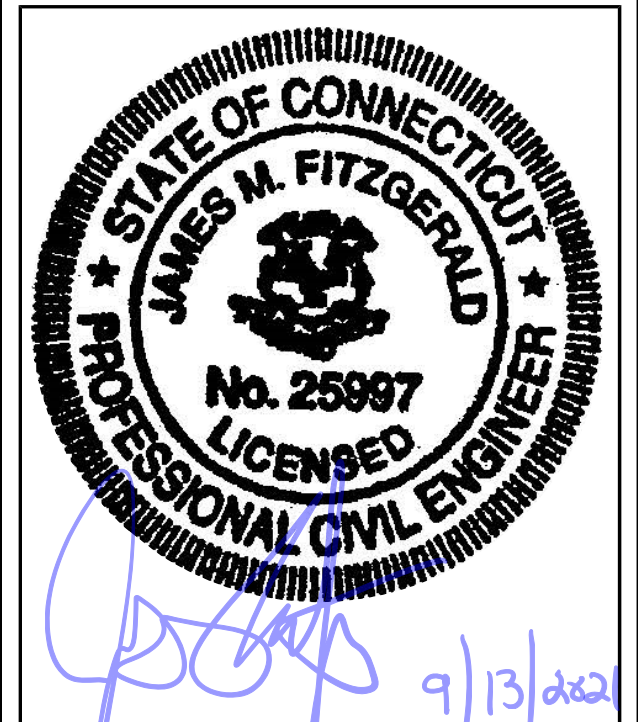
NOTE:
EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.



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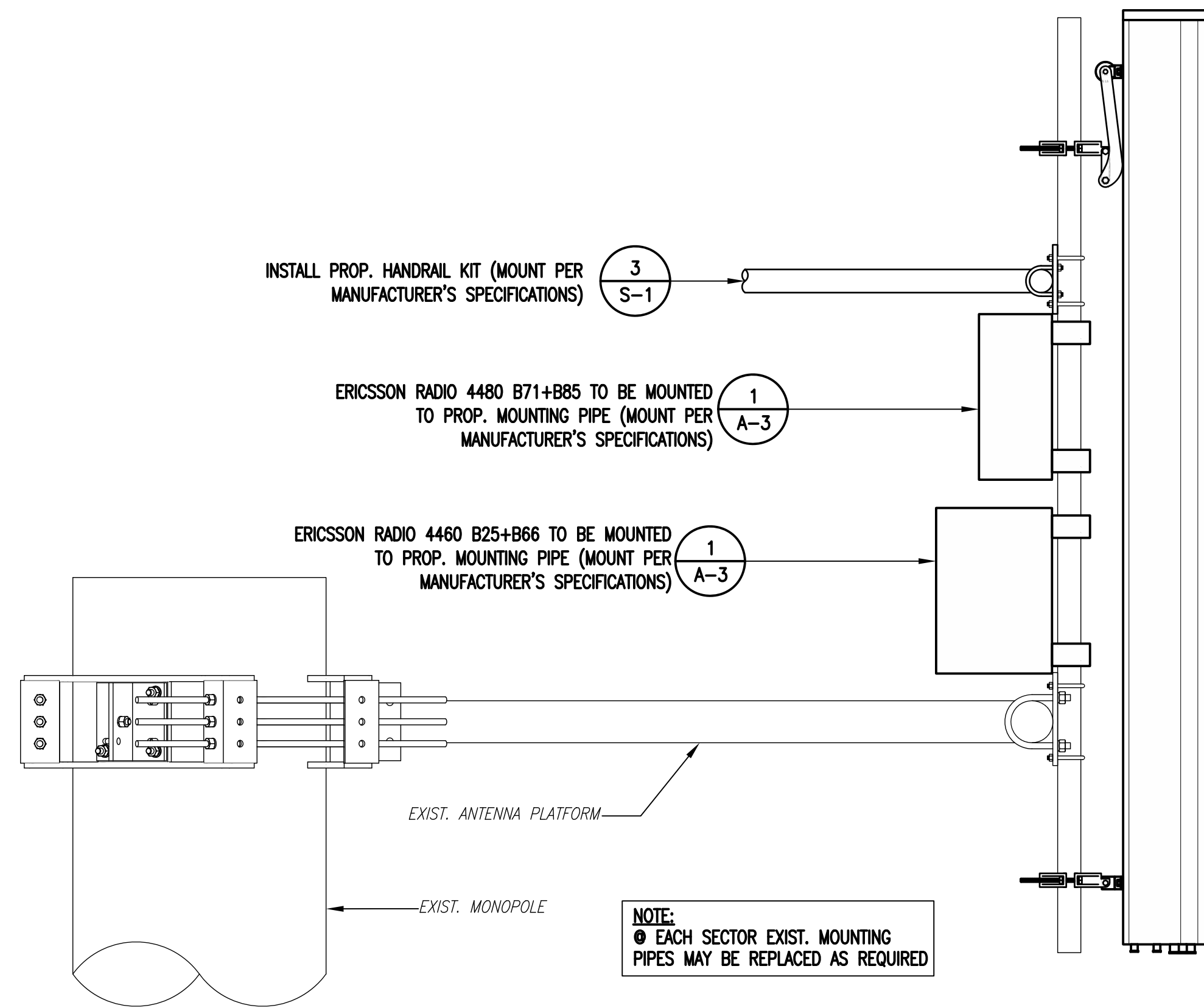
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SHEET TITLE

ANTENNA MOUNTING
DETAILS

SHEET NUMBER

S-1

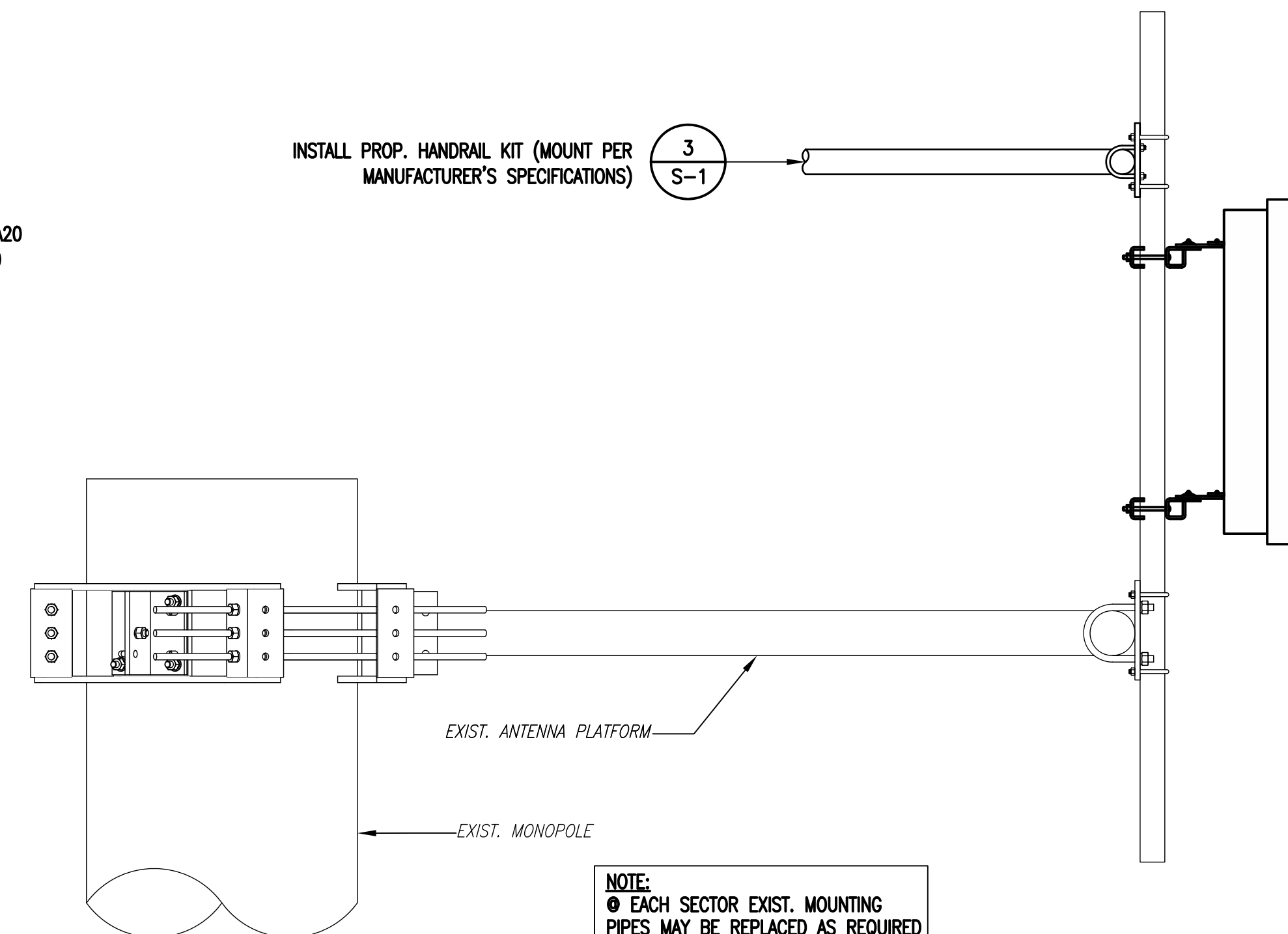


ANTENNA, TMA & RADIO MOUNT DETAIL

SCALE: N.T.S.

1
S-1

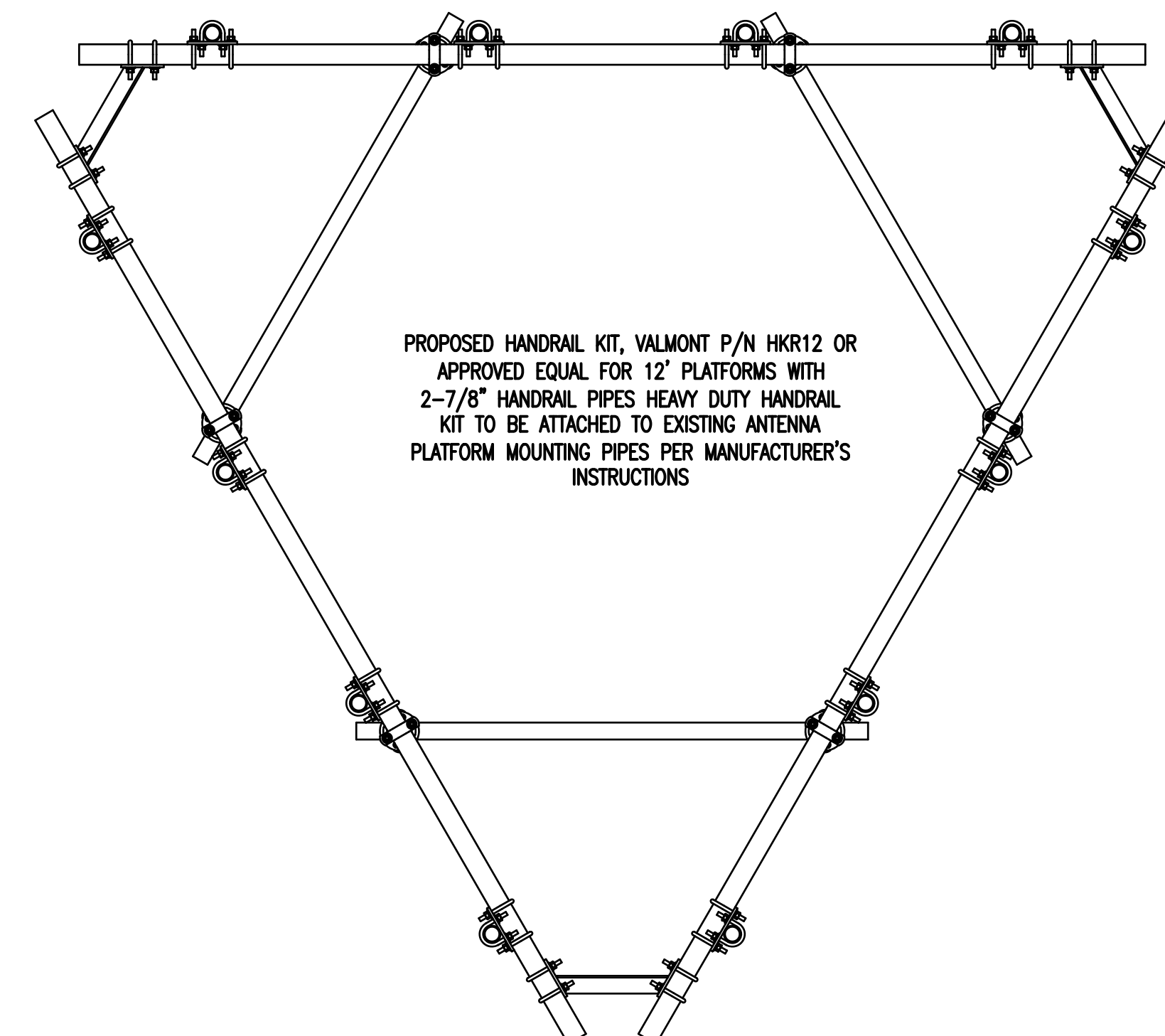
EACH SECTOR
INSTALL PROP. RFS-APXVALL24 43-U-NA20
PANEL ANTENNAS TO PROP. 2" SCHED. 40
MOUNTING PIPES, 8'± LONG (MOUNT PER
MANUFACTURER'S SPECIFICATIONS)



ANTENNA MOUNT DETAIL

SCALE: N.T.S.

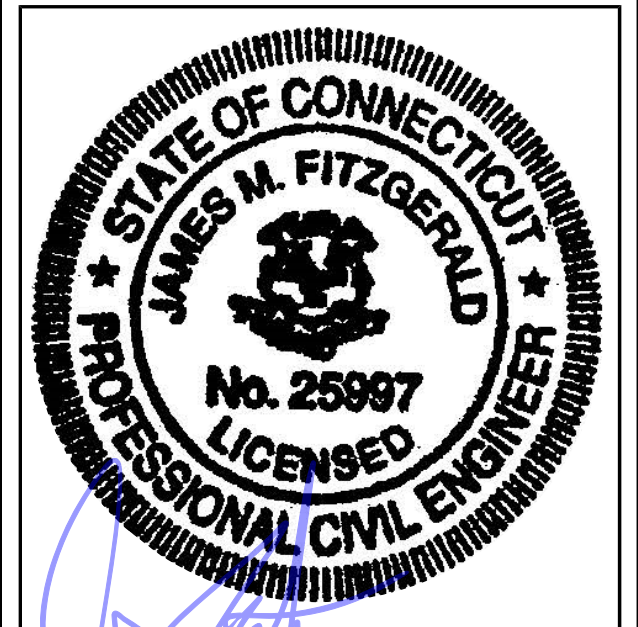
2
S-1



PROPOSED HANDRAIL KIT PLAN

SCALE: N.T.S.

3
S-1



9/13/2021

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	09/09/21	CONSTRUCTION REVISED	BDJ
1	04/26/21	ISSUED FOR CONSTRUCTION	BDJ
0	04/12/21	ISSUED FOR REVIEW	BDJ

SITE NAME:

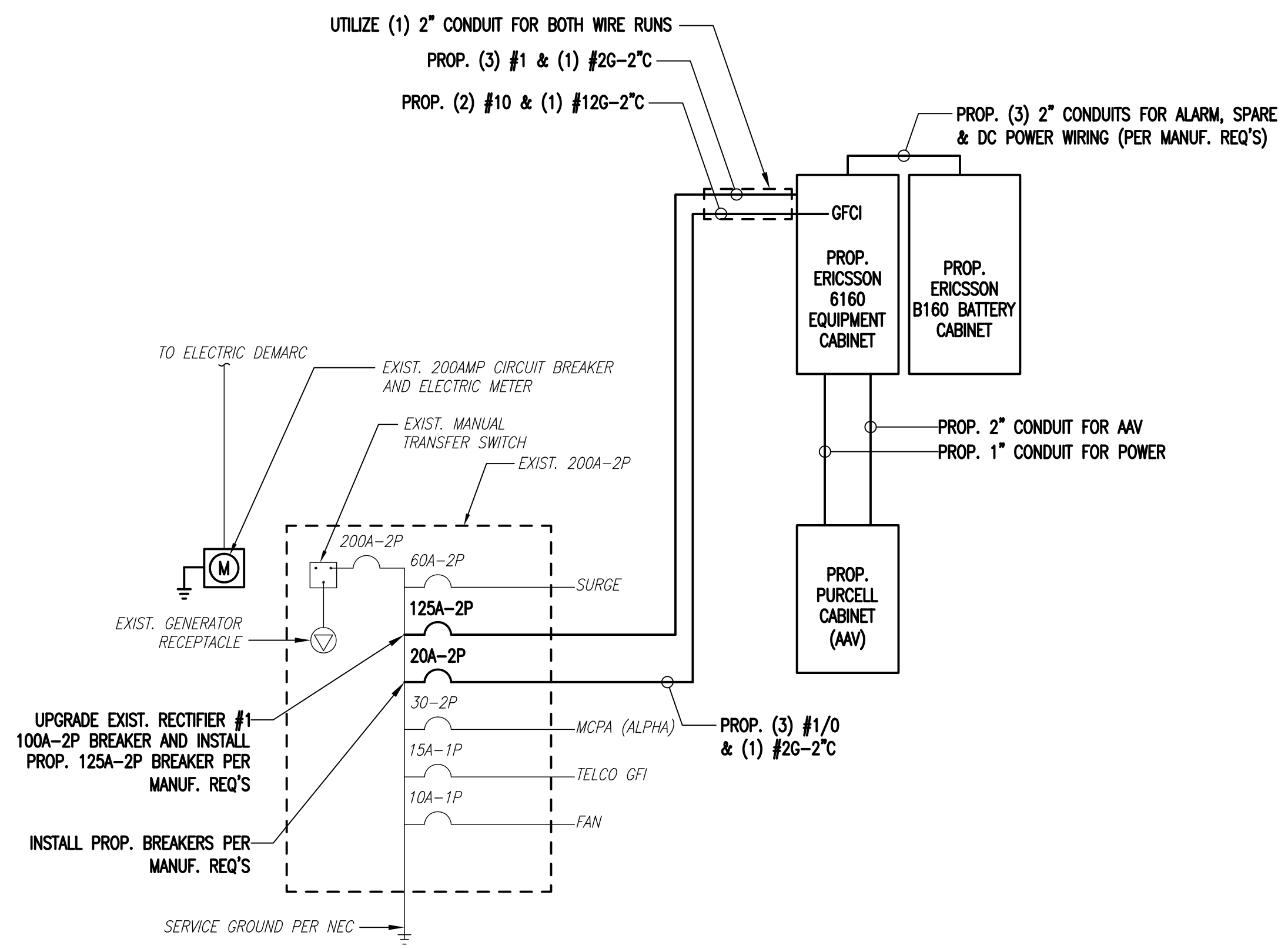
CTFF709A/CT33XC521
BETHEL
MP SBA
SITE ADDRESS:
11 FRANCIS J CLARKE CIRCLE
BETHEL, CT 06801

SHEET TITLE

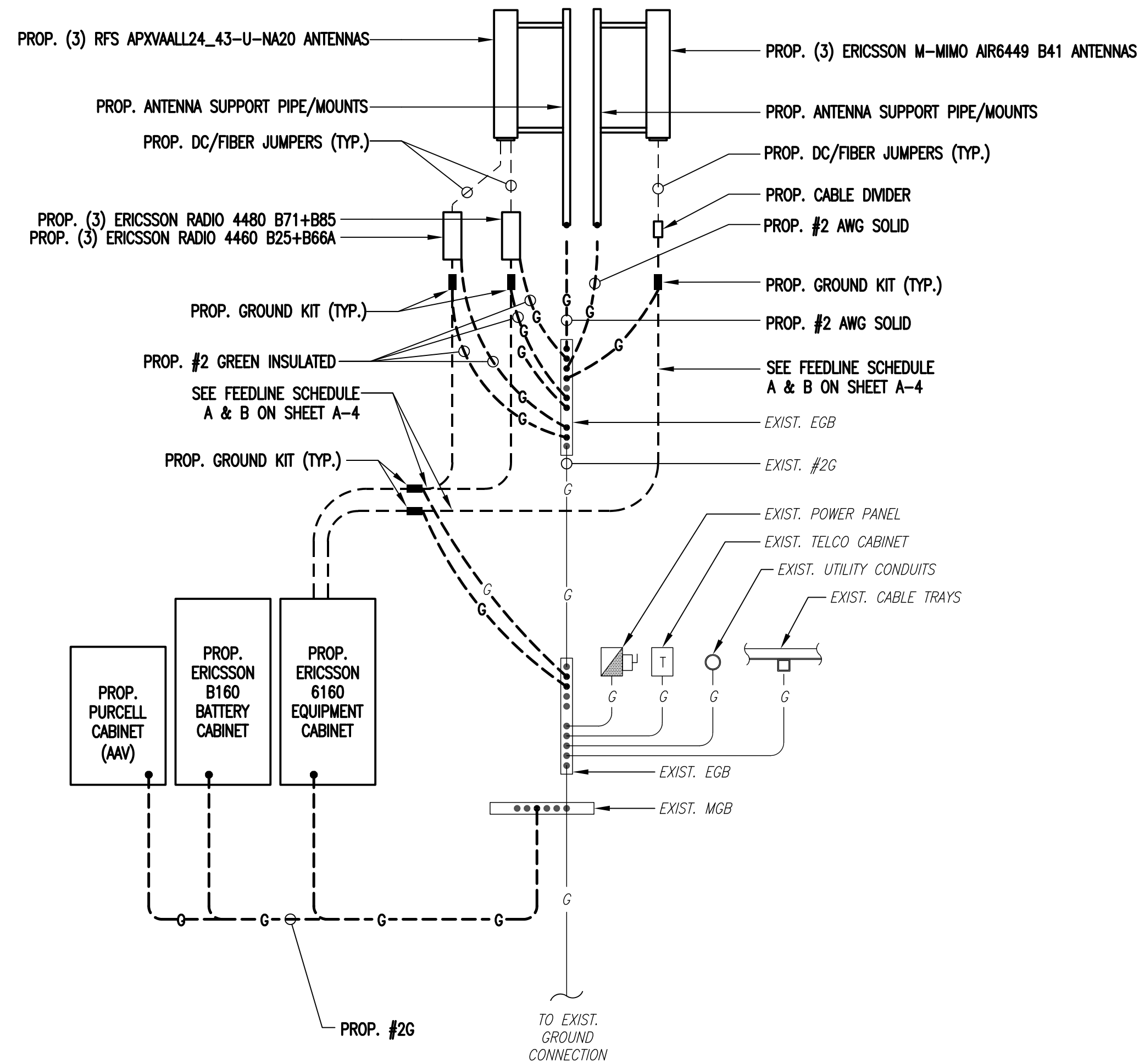
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER

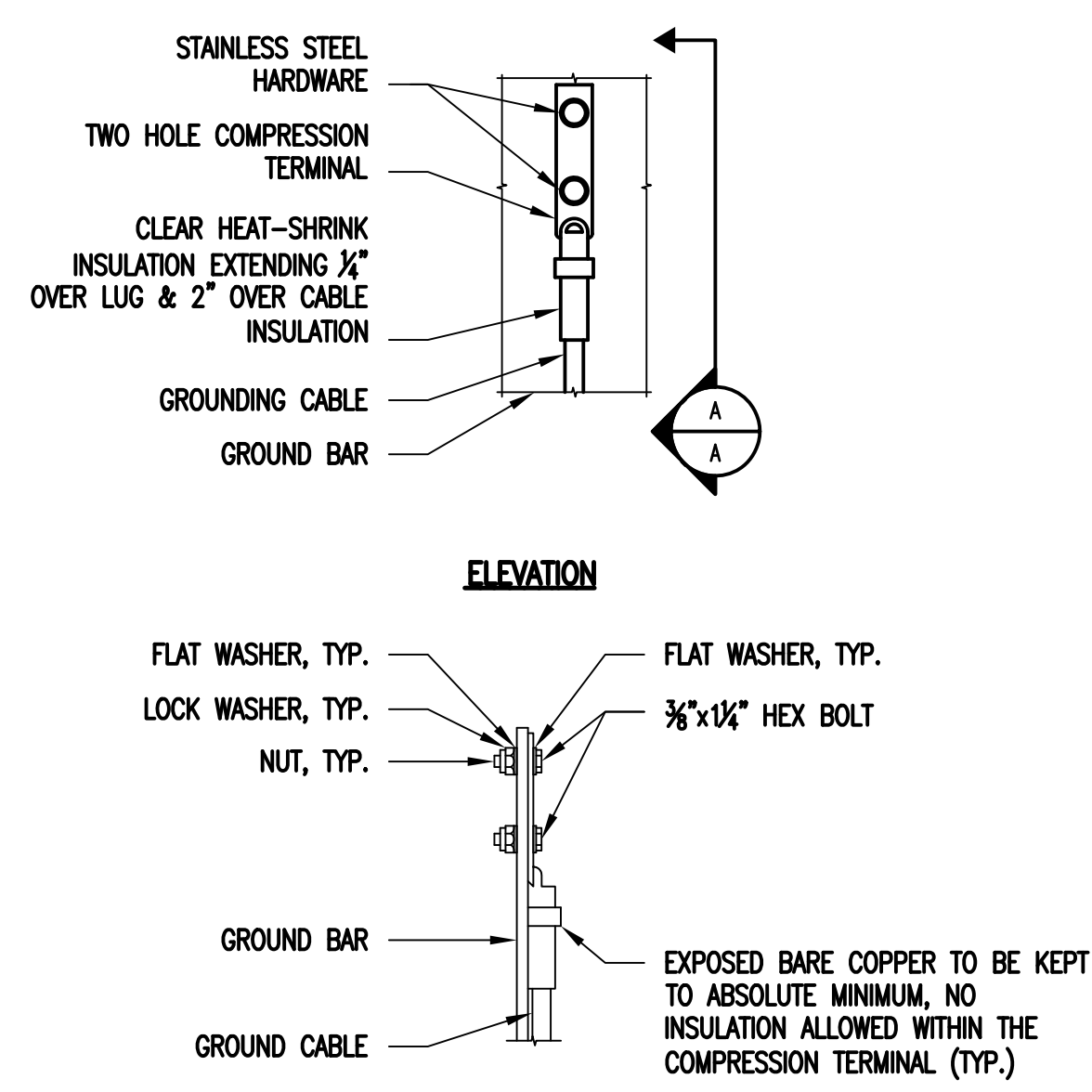
E-1



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

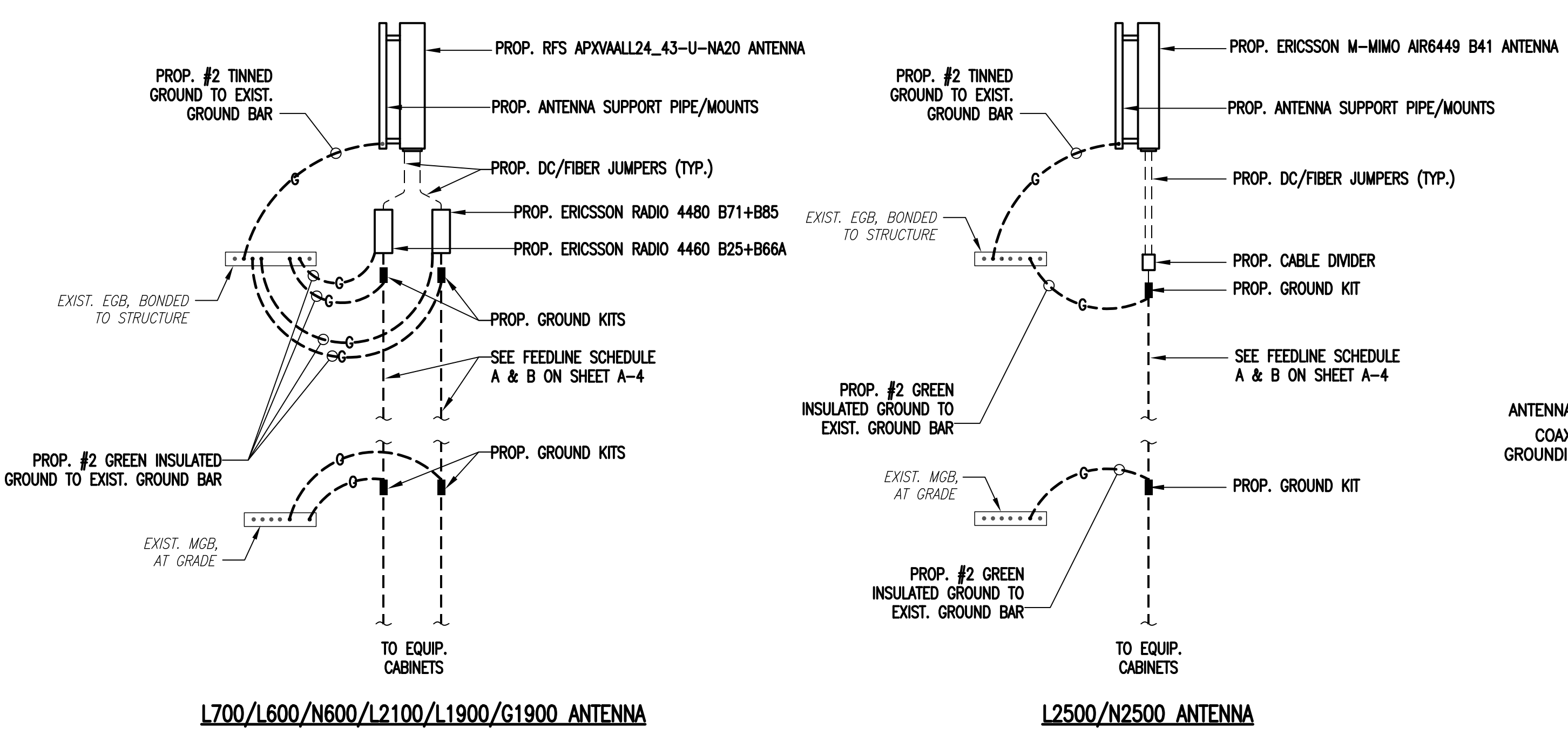


GROUNDING RISER DIAGRAM
SCALE: NOT TO SCALE
2
E-1

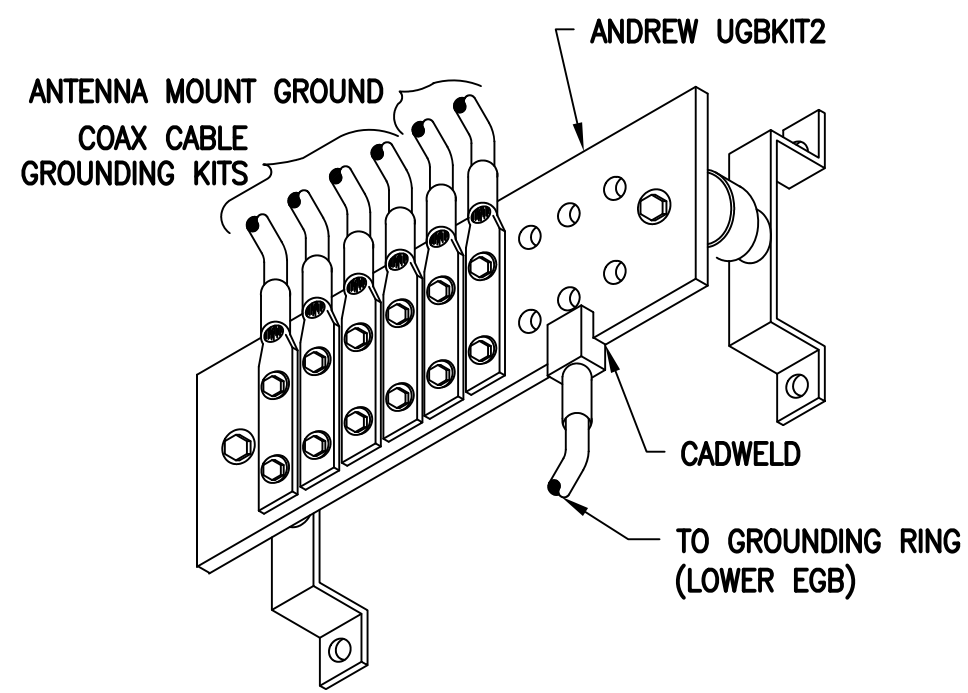


- NOTES:
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

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



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



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

ELECTRICAL AND GROUNDING NOTES

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

EXHIBIT 7

Structural Ananlysis



Tower Engineering Solutions

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

Structural Analysis Report

Existing 155 ft SUMMIT Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT00248-S
Customer Site Name: North Bethel
Carrier Name: T-Mobile Sprint (App#: 153138, V2)
Carrier Site ID / Name: CTF709A / CT33XC521 / Bethel
Site Location: 11 Francis J. Clarke Circle
Bethel, Connecticut
Fairfield County
Latitude: 41.360522
Longitude: -73.424474

Analysis Result:

Max Structural Usage: 68.8% [Pass]
Max Foundation Usage: 77.0% [Pass]
Additional Usage Caused by Mount Modification: +2.8%



Report Prepared By: Younus Alkarawi

Introduction

The purpose of this report is to summarize the analysis results on the 155 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Summit Manufacturing LLC., Job # 4071 Dated 10/22/1998
Foundation Drawing	Foundation Design prepared by Paul J. Ford and Company, Job # 29200-1210 Dated 08/17/2000
Geotechnical Report	Geotechnical Report prepared by Jaworski Geotech Inc., Project # C98342G Dated 08/06/1998
Mount Modification Drawings	TES # 111511; dated 09/01/2021
Mount Analysis	TES # 120128, Dated 12/06/2021

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **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 $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.215$, $S_1 = 0.066$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	157.0	4	RFS - ACU-A20-N - RET	Low Profile Platform & Collar Mount	(4) 1 1/4"	Sprint
-		3	RFS - APXVSP18-C-A20 - Panel			
-		3	RFS - APXVTM14-C-120 - Panel			
-		3	Alcatel - 800MHz External Notch Filter			
-		3	Alcatel - 1900MHz RRH - RRU			
-		3	Alcatel - TD-RRH8x20-25 - RRH			
-		3	Alcatel - 800 MHz RRH - RRU			
8	147.0	3	Commscope FFV-65B-R2 - Panel	Platform w/ HRK [Commscope MC-PK8-DSH]	(1) 1.75" Hybrid*	Dish Wireless
9		3	Fujitsu TA08025-B605 - RRU			
10		3	Fujitsu TA08025-B604 - RRU			
11	137.0	1	Raycap RDIDC-9181-PF-48 - OVP	Low Profile Platform	(6) 1 5/8" (1) 12x24 - 1 5/8" Hybrid	Verizon
12		6	JMA - MX06FIT665-02 - Panel			
13		3	Samsung - 64T64R - Panel			
14		3	Samsung - B5/B13 RRH-BR04C			
15		3	Samsung - B2/B66A RRH-BR049			
16		1	Commscope - RCMDC-6627-PF-48			
17		2	Antel - LPA-80080/4CF - Panel			
18		2	Antel - LPA-80080-6CF - Panel			
19	2	Antel - LPA-80063/6CF_5 - Panel				
1	127.0	3	Cci HPA65R-BU6A- Panel	(1) Low Profile Platform with modifications (1) Handrail Kit SitePro1 HRK14 (3) Platform Reinforcement SitePro1 PRK-1245L	(9) 1 1/4" (1) 1/2" Fiber (2) 3/4" DC	AT&T
2		3	Cci DMP65R-BU6DA- Panel			
3		3	Powerwave 7770-Panel			
4		6	Powerwave 21401 TMA			
5		6	Kathrein 860 10025 RET			
6		3	Ericsson RRUS 4449 B5/B12			
7		3	Ericsson RRUS 8843 B2 B66A			
8		1	Raycap DC6-48-60-18-8F			

Note: AT&T loading includes FirstNET equipment

1. The (12) 1 5/8" Coax and are considered double stacked running outside of the pole shaft
2. The (1) 1 5/8" Hybrid is considered running outside of the pole shaft

*Considered running outside of the pole shaft.

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	157.0	3	Ericsson AIR6449 B41 - Panel	Modified Low Profile Platform & Collar Mount W/ (1) SitePro HRK14-HD (Top handrail kit), (1) HRK14-U (Bottom handrail kit) & (1) PRK-SFS (Handrail reinforcement kit)	(3) 1.9" Hybrid	T-Mobile Sprint
2		3	RFS APXVAALL24_43-U-NA20 - Panel			
3		4	RFS ACU-A20-N RET			
4		3	Ericsson 4480 B71 + B85 RRU			
5		3	Ericsson 4460 B25 + B66 RRU			
6		3	ALU TD-RRH8x20-25			
7		3	ALU 800 MHz Filter			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	68.8%	51.8%	63.0%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	3850.0	32.4
Analysis Reactions	3407.8	28.4
Factored Reactions*	5197.5	43.7
% of Design Reactions	65.6%	65.0%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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 1.8840 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

Usage Diagram - Max Ratio 68.78% at 0.0ft

Structure: CT00248-S-SBA
Site Name: North Bethel
Height: 155.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: B
Gh: 1.1

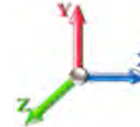
12/17/2021



Page: 1

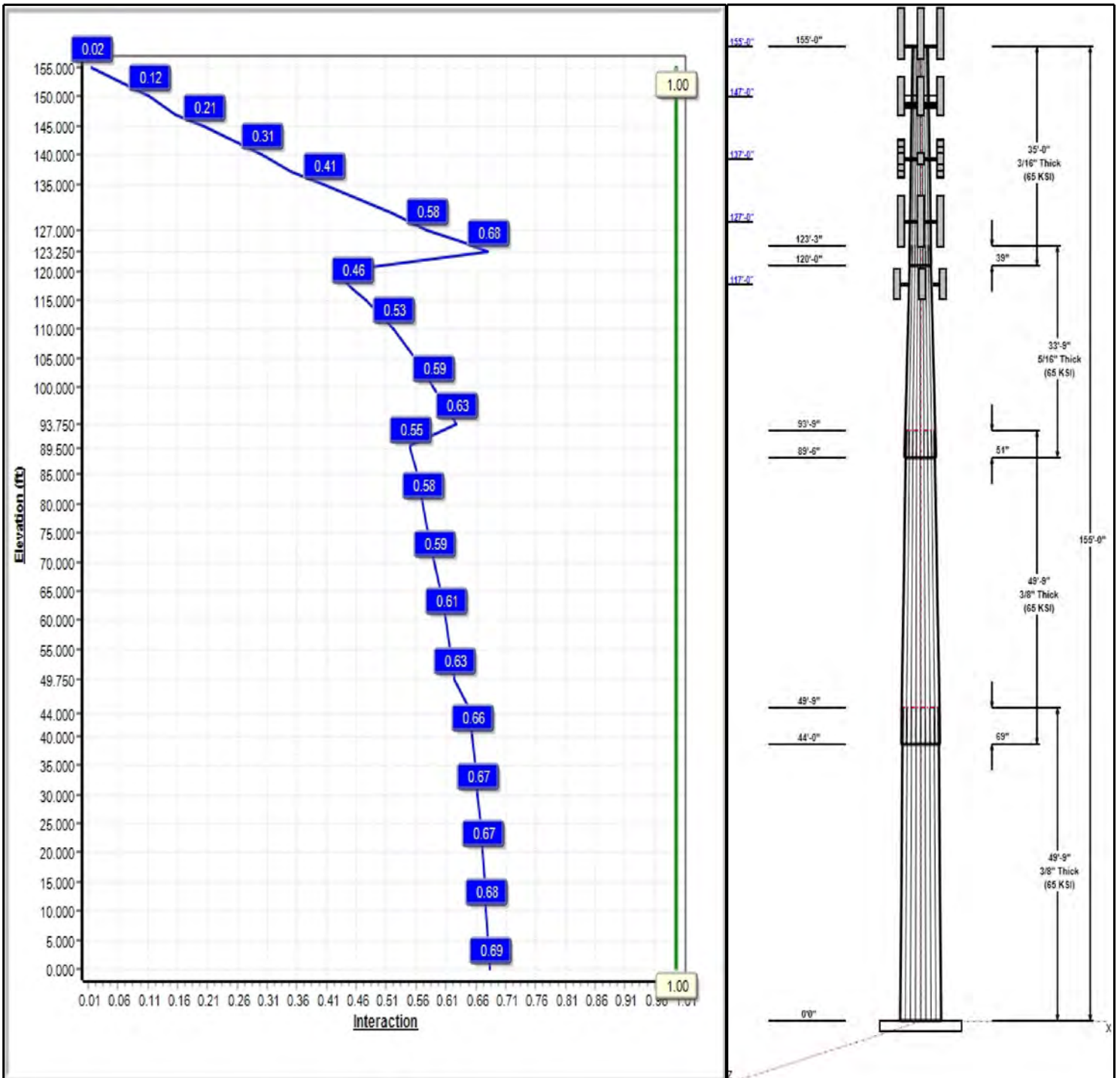
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 25

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Structure: CT00248-S-SBA

Type: Tapered
Site Name: North Bethel
Height: 155.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.27148

12/17/2021

Page: 2



Shaft Properties

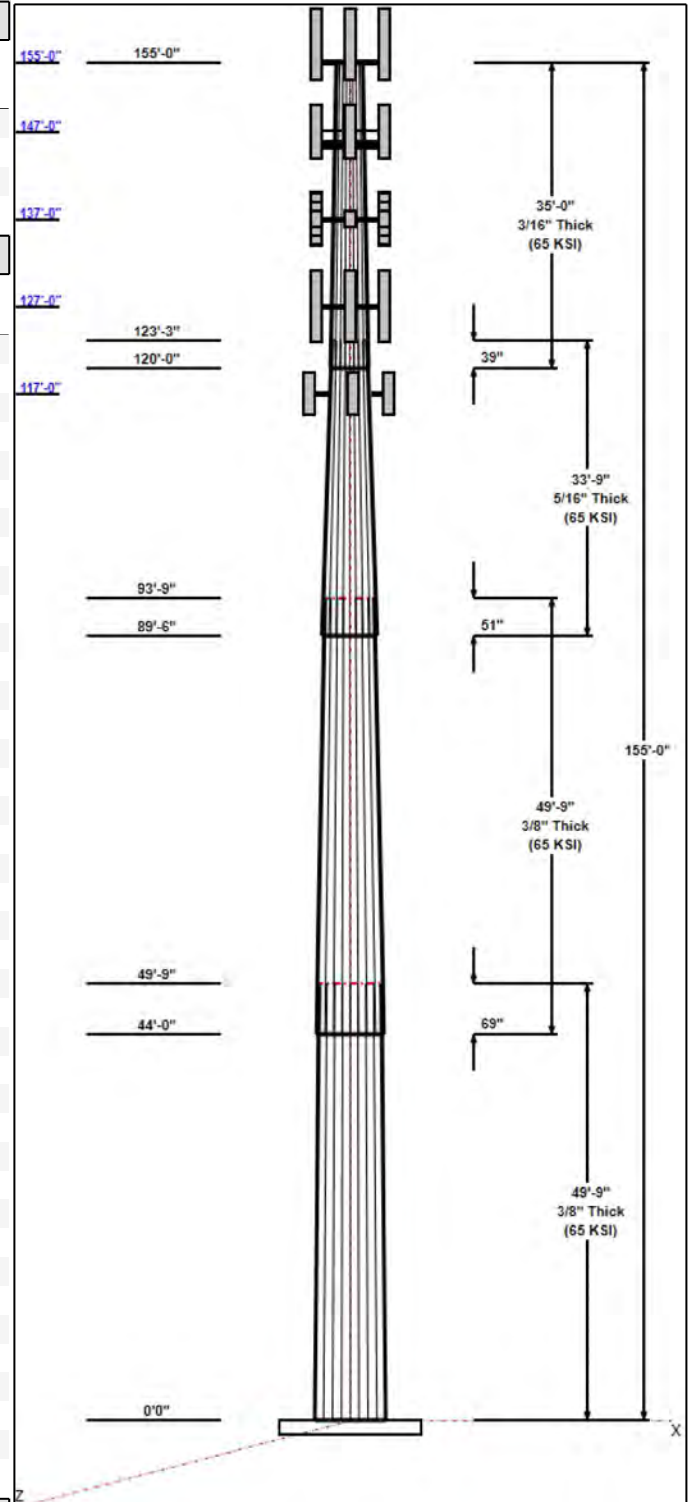
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	49.75	43.32	56.83	0.375		0.27148	65
2	49.75	32.13	45.63	0.375	Slip	0.27148	65
3	33.75	24.74	33.91	0.313	Slip	0.27148	65
4	35.00	16.50	26.00	0.188	Slip	0.27148	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
155.00	157.00	4	ACU-A20-N	T-Mobile Sprint
155.00	155.00	1	Low Profile Platform	T-Mobile Sprint
155.00	155.00	1	6' Lightning rod	-
155.00	157.00	3	RFS	T-Mobile Sprint
155.00	157.00	3	Ericsson AIR6449 B41	T-Mobile Sprint
155.00	157.00	3	Ericsson 4480 B71 + B85	T-Mobile Sprint
155.00	157.00	3	Ericsson 4460 B25 + B66	T-Mobile Sprint
155.00	157.00	3	ALU TD-RRH8x20-25	T-Mobile Sprint
155.00	155.00	3	ALU 800 MHz Filter	T-Mobile Sprint
155.00	155.00	1	PRK-SFS	T-Mobile Sprint
155.00	155.00	1	HRK14-HD	T-Mobile Sprint
155.00	155.00	1	HRK14-U	T-Mobile Sprint
147.00	147.00	3	FFV-65C-R3-V1	Dish Wireless
147.00	147.00	1	MC-PK8-DSH	Dish Wireless
147.00	147.00	3	TA08025-B604	Dish Wireless
147.00	147.00	3	TA08025-B605	Dish Wireless
147.00	147.00	1	RDIDC-9181-PF-48	Dish Wireless
137.00	137.00	6	JMA - MX06FIT665-02	Verizon
137.00	137.00	3	Samsung - 64T64R	Verizon
137.00	137.00	3	Samsung - B5/B13	Verizon
137.00	137.00	3	Samsung - B2/B66A	Verizon
137.00	137.00	1	Commscope -	Verizon
137.00	137.00	2	LPA-80080/4CF ____	Verizon
137.00	137.00	2	LPA-80080-6CF-EDIN	Verizon
137.00	137.00	2	LPA-80063/6CF	Verizon
137.00	137.00	1	Low Profile Platform	Verizon
127.00	127.00	1	DC6-48-60-18-8F	AT&T
127.00	127.00	3	7770	AT&T
127.00	127.00	6	860 10025	AT&T
127.00	127.00	1	Low Profile Platform	AT&T
127.00	127.00	1	HRK14	AT&T
127.00	127.00	1	(3) PRK-1245	AT&T
127.00	127.00	3	HPA65R-BU6A	AT&T
127.00	127.00	3	DMP65R-BU6DA	AT&T
127.00	127.00	3	4449	AT&T
127.00	127.00	3	8843	AT&T
127.00	127.00	6	21401 TMA	AT&T
117.00	117.00	3	Air 21 B4A/B2P	T-Mobile
117.00	117.00	3	T-Arms	T-Mobile
117.00	117.00	3	Ericsson - Air 21 B2A/B4P	T-Mobile

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	155.00	Inside	1.9" Hybrid	T-Mobile Sprint
0.00	147.00	Outside	1.75" Hybrid	Dish Wireless



Structure: CT00248-S-SBA

Type: Tapered	Base Shape: 18 Sided	12/17/2021
Site Name: North Bethel	Taper: 0.27148	
Height: 155.00 (ft)		
Base Elev: 0.00 (ft)		Page: 3



0.00	137.00	Inside	1 5/8" Coax	Verizon
0.00	137.00	Inside	12x24 - 1 5/8" Hybrid	Verizon
0.00	127.00	Inside	1 1/4" Coax	AT&T
0.00	127.00	Inside	1/2" Fiber	AT&T
0.00	127.00	Inside	3/4" DC	AT&T
0.00	117.00	Outside	1 5/8" Coax	T-Mobile
0.00	117.00	Outside	1 5/8" Hybrid	T-Mobile

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	64.0	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	3407.8	28.4	48.6
0.9D + 1.6W 93 mph Wind	3358.3	28.4	36.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1065.2	8.7	82.8
1.2D + 1.0E	363.6	2.8	48.6
0.9D + 1.0E	357.7	2.8	36.5
1.0D + 1.0W 60 mph Wind	879.4	7.4	40.5

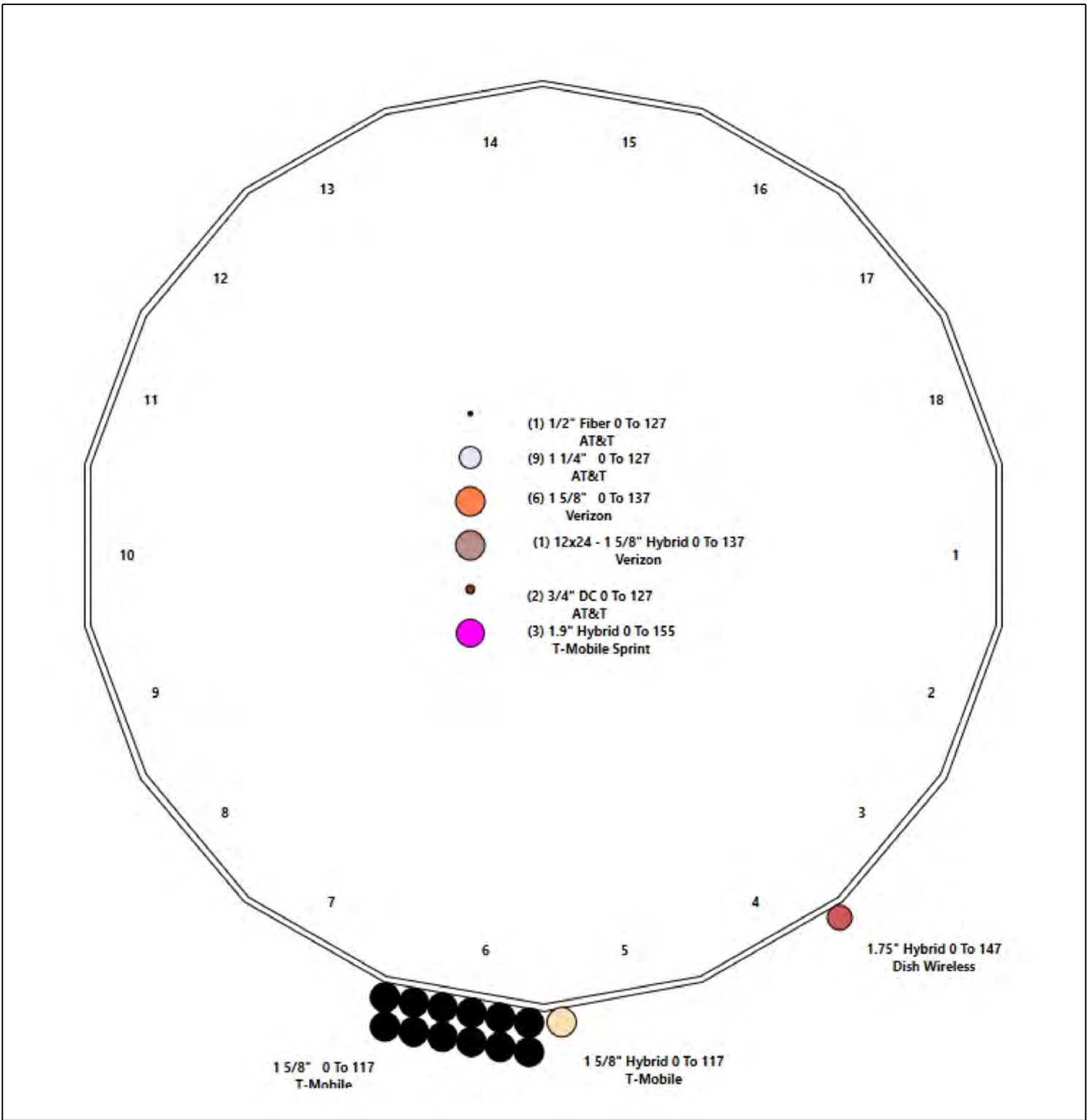
Structure: CT00248-S-SBA - Coax Line Placement

Type: Monopole
Site Name: North Bethel
Height: 155.00 (ft)

12/17/2021



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Shaft Properties

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	49.750	0.3750	65		0.00	10,014
2	18	49.750	0.3750	65	Slip	69.00	7,759
3	18	33.750	0.3125	65	Slip	51.00	3,305
4	18	35.000	0.1875	65	Slip	39.00	1,493
Total Shaft Weight:							22,571

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	56.83	0.00	67.19	27057.20	25.31	151.55	43.32	49.75	51.12	11913.1	18.96	115.5	0.271484
2	45.63	44.00	53.87	13941.55	20.05	121.69	32.13	93.75	37.79	4814.44	13.70	85.68	0.271484
3	33.91	89.50	33.32	4751.23	17.72	108.50	24.74	123.25	24.23	1827.58	12.55	79.18	0.271484
4	26.00	120.0	15.36	1293.40	23.04	138.68	16.50	155.00	9.71	326.37	14.11	88.00	0.271484

Load Summary

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	155.00	ACU-A20-N	4	1.00	0.14	0.50	5.31	0.438	0.50	0.00	2.00
2	155.00	Low Profile Platform	1	1500.00	28.00	1.00	2813.21	50.552	1.00	0.00	0.00
3	155.00	6' Lightning rod	1	6.50	0.38	1.00	42.92	1.471	1.00	0.00	0.00
4	155.00	RFS APXVAALL24_43-U-NA20	3	122.80	20.24	0.70	542.28	22.147	0.70	0.00	2.00
5	155.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	240.57	6.604	0.71	0.00	2.00
6	155.00	Ericsson 4480 B71 + B85 RRU	3	93.00	2.85	0.67	165.17	3.527	0.67	0.00	2.00
7	155.00	Ericsson 4460 B25 + B66 RRU	3	109.00	2.85	0.67	181.14	3.527	0.67	0.00	2.00
8	155.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	180.90	4.866	0.67	0.00	2.00
9	155.00	ALU 800 MHz Filter	3	8.80	0.78	0.50	26.50	1.429	0.50	0.00	0.00
10	155.00	PRK-SFS	1	464.91	9.50	1.00	790.52	19.480	1.00	0.00	0.00
11	155.00	HRK14-HD	1	302.36	8.13	1.00	662.36	16.102	1.00	0.00	0.00
12	155.00	HRK14-U	1	261.72	6.75	1.00	573.34	13.369	1.00	0.00	0.00
13	147.00	FFVV-65C-R3-V1	3	71.00	12.27	0.73	351.42	13.745	0.73	0.00	0.00
14	147.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3411.43	84.729	1.00	0.00	0.00
15	147.00	TA08025-B604	3	63.90	1.96	0.67	114.43	2.520	0.67	0.00	0.00
16	147.00	TA08025-B605	3	75.00	1.96	0.67	127.20	2.520	0.67	0.00	0.00
17	147.00	RDIDC-9181-PF-48	1	21.90	2.01	1.00	75.04	2.577	1.00	0.00	0.00
18	137.00	JMA - MX06FIT665-02	6	45.00	9.55	0.80	269.43	10.900	0.80	0.00	0.00
19	137.00	Samsung - 64T64R	3	95.60	4.79	0.66	199.39	4.726	0.66	0.00	0.00
20	137.00	Samsung - B5/B13 RRH-BR04C	3	70.30	1.87	0.67	138.87	2.438	0.67	0.00	0.00
21	137.00	Samsung - B2/B66A RRH-BR049	3	84.40	1.87	0.67	160.10	2.438	0.67	0.00	0.00
22	137.00	Commscope - RCMDC-6627-PF-48	1	32.00	4.06	1.00	144.90	4.875	1.00	0.00	0.00
23	137.00	LPA-80080/4CF	2	12.00	2.61	0.93	217.55	7.254	0.93	0.00	0.00
24	137.00	LPA-80080-6CF-EDIN	2	21.00	4.33	0.93	187.91	5.693	0.93	0.00	0.00
25	137.00	LPA-80063/6CF	2	27.00	9.60	0.94	312.08	10.940	0.94	0.00	0.00
26	137.00	Low Profile Platform	1	1200.00	28.00	1.00	2237.68	51.244	1.00	0.00	0.00
27	127.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	92.60	2.158	1.00	0.00	0.00
28	127.00	7770	3	35.00	5.50	0.75	167.44	6.546	0.75	0.00	0.00
29	127.00	860 10025	6	1.20	0.18	0.67	7.10	0.553	0.67	0.00	0.00
30	127.00	Low Profile Platform	1	1500.00	25.00	1.00	2787.31	44.739	1.00	0.00	0.00
31	127.00	HRK14	1	261.72	6.75	1.00	567.19	13.238	1.00	0.00	0.00
32	127.00	(3) PRK-1245	1	464.91	9.50	1.00	784.10	19.284	1.00	0.00	0.00
33	127.00	HPA65R-BU6A	3	54.00	11.23	0.86	315.36	12.865	0.86	0.00	0.00
34	127.00	DMP65R-BU6DA	3	79.40	12.71	0.72	369.08	14.150	0.74	0.00	0.00
35	127.00	4449	3	70.00	1.65	0.67	136.84	2.178	0.67	0.00	0.00
36	127.00	8843	3	75.00	1.65	0.67	148.17	2.178	0.67	0.00	0.00
37	127.00	21401 TMA	6	14.10	1.29	0.67	38.69	2.112	0.67	0.00	0.00
38	117.00	Air 21 B4A/B2P	3	90.40	6.09	0.86	254.36	7.159	0.86	0.00	0.00
39	117.00	T-Arms	3	350.00	8.00	0.75	588.33	14.810	0.75	0.00	0.00
40	117.00	Ericsson - Air 21 B2A/B4P	3	91.50	6.09	0.86	255.46	7.159	0.86	0.00	0.00
Totals:			101	13,696.92			32,319.24				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	155.00	(3) 1.9" Hybrid	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	147.00	(1) 1.75" Hybrid		1.75		Outside					
0.00	137.00	(6) 1 5/8" Coax		0.00		Inside					
0.00	137.00	(1) 12x24 - 1 5/8" Hybrid		0.00		Inside					
0.00	127.00	(9) 1 1/4" Coax		0.00		Inside					
0.00	127.00	(1) 1/2" Fiber		0.00		Inside					
0.00	127.00	(2) 3/4" DC		0.00		Inside					
0.00	117.00	(12) 1 5/8" Coax		3.96		Outside					
0.00	117.00	(1) 1 5/8" Hybrid		0.00		Outside					

Shaft Section Properties

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3750	56.830	67.193	27057.2	25.31	151.55	71.6	937.7	0.0
5.00		0.3750	55.473	65.578	25152.0	24.67	147.93	72.4	893.1	1129.5
10.00		0.3750	54.115	63.962	23338.5	24.03	144.31	73.1	849.4	1102.0
15.00		0.3750	52.758	62.346	21614.3	23.40	140.69	73.9	806.9	1074.5
20.00		0.3750	51.400	60.731	19977.1	22.76	137.07	74.6	765.5	1047.0
25.00		0.3750	50.043	59.115	18424.8	22.12	133.45	75.4	725.2	1019.5
30.00		0.3750	48.685	57.499	16955.1	21.48	129.83	76.1	685.9	992.0
35.00		0.3750	47.328	55.884	15565.7	20.84	126.21	76.9	647.8	964.5
40.00		0.3750	45.971	54.268	14254.3	20.21	122.59	77.6	610.7	937.1
44.00	Bot - Section 2	0.3750	44.885	52.976	13259.9	19.69	119.69	78.2	581.9	729.9
45.00		0.3750	44.613	52.653	13018.7	19.57	118.97	78.4	574.8	362.5
49.75	Top - Section 1	0.3750	44.074	52.010	12548.2	19.31	117.53	0.0	0.0	1691.7
50.00		0.3750	44.006	51.930	12489.8	19.28	117.35	78.7	559.0	44.2
55.00		0.3750	42.648	50.314	11360.0	18.64	113.73	79.5	524.6	869.8
60.00		0.3750	41.291	48.698	10300.4	18.00	110.11	80.2	491.3	842.3
65.00		0.3750	39.934	47.083	9308.9	17.37	106.49	81.0	459.1	814.8
70.00		0.3750	38.576	45.467	8383.1	16.73	102.87	81.7	428.0	787.3
75.00		0.3750	37.219	43.852	7520.8	16.09	99.25	82.5	398.0	759.8
80.00		0.3750	35.861	42.236	6719.8	15.45	95.63	82.6	369.1	732.3
85.00		0.3750	34.504	40.620	5977.8	14.81	92.01	82.6	341.2	704.9
89.50	Bot - Section 3	0.3750	33.282	39.166	5358.6	14.24	88.75	82.6	317.1	610.9
90.00		0.3750	33.146	39.005	5292.5	14.18	88.39	82.6	314.5	123.1
93.75	Top - Section 2	0.3125	32.753	32.176	4278.3	17.07	104.81	0.0	0.0	907.0
95.00		0.3125	32.414	31.840	4145.5	16.88	103.72	81.5	251.9	136.1
100.00		0.3125	31.057	30.493	3641.5	16.11	99.38	82.4	230.9	530.3
105.00		0.3125	29.699	29.147	3180.1	15.35	95.04	82.6	210.9	507.4
110.00		0.3125	28.342	27.801	2759.5	14.58	90.69	82.6	191.8	484.4
115.00		0.3125	26.984	26.454	2377.7	13.82	86.35	82.6	173.5	461.5
117.00		0.3125	26.441	25.916	2235.4	13.51	84.61	82.6	166.5	178.2
120.00	Bot - Section 4	0.3125	25.627	25.108	2032.8	13.05	82.01	82.6	156.2	260.4
123.25	Top - Section 3	0.1875	25.120	14.837	1165.3	22.21	133.97	0.0	0.0	439.8
125.00		0.1875	24.645	14.554	1099.9	21.77	131.44	75.8	87.9	87.5
127.00		0.1875	24.102	14.231	1028.3	21.25	128.54	76.4	84.0	98.0
130.00		0.1875	23.287	13.747	926.7	20.49	124.20	77.3	78.4	142.8
135.00		0.1875	21.930	12.939	772.8	19.21	116.96	78.8	69.4	227.0
137.00		0.1875	21.387	12.616	716.3	18.70	114.06	79.4	66.0	87.0
140.00		0.1875	20.572	12.131	636.9	17.94	109.72	80.3	61.0	126.3
145.00		0.1875	19.215	11.323	517.9	16.66	102.48	81.8	53.1	199.5
147.00		0.1875	18.672	11.000	474.9	16.15	99.58	82.4	50.1	76.0
150.00		0.1875	17.857	10.515	414.8	15.38	95.24	82.6	45.8	109.8
155.00		0.1875	16.500	9.708	326.4	14.11	88.00	82.6	39.0	172.0

22570.6

Wind Loading - Shaft

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



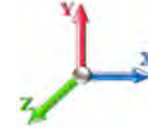
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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



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	14.724	16.20	374.18	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	365.24	0.650	0.000	5.00	23.757	15.44	400.2	0.0	1355.4
10.00		1.00	0.70	14.724	16.20	356.30	0.655 *	0.000	5.00	23.183	15.19	393.6	0.0	1322.4
15.00		1.00	0.70	14.724	16.20	347.36	0.660 *	0.000	5.00	22.609	14.93	386.8	0.0	1289.4
20.00		1.00	0.70	14.724	16.20	338.43	0.666 *	0.000	5.00	22.034	14.67	380.0	0.0	1256.4
25.00		1.00	0.70	14.724	16.20	329.49	0.671 *	0.000	5.00	21.460	14.40	373.3	0.0	1223.4
30.00		1.00	0.70	14.736	16.21	320.69	0.677 *	0.000	5.00	20.886	14.14	366.8	0.0	1190.4
35.00		1.00	0.73	15.400	16.94	318.69	0.683 *	0.000	5.00	20.311	13.88	376.2	0.0	1157.5
40.00		1.00	0.76	15.999	17.60	315.51	0.690 *	0.000	5.00	19.737	13.62	383.5	0.0	1124.5
44.00	Bot - Section 2	1.00	0.78	16.441	18.08	312.28	0.696 *	0.000	4.00	15.376	10.71	309.8	0.0	875.8
45.00		1.00	0.79	16.546	18.20	311.39	0.700 *	0.000	1.00	3.850	2.70	78.5	0.0	435.0
49.75	Top - Section 1	1.00	0.81	17.028	18.73	306.75	0.704 *	0.000	4.75	17.974	12.66	379.4	0.0	2030.0
50.00		1.00	0.81	17.052	18.76	311.81	0.704 *	0.000	0.25	0.932	0.66	19.7	0.0	53.1
55.00		1.00	0.83	17.523	19.28	306.33	0.708 *	0.000	5.00	18.331	12.98	400.3	0.0	1043.7
60.00		1.00	0.85	17.964	19.76	300.29	0.716 *	0.000	5.00	17.757	12.72	402.1	0.0	1010.8
65.00		1.00	0.87	18.380	20.22	293.76	0.725 *	0.000	5.00	17.183	12.46	403.0	0.0	977.8
70.00		1.00	0.89	18.773	20.65	286.79	0.734 *	0.000	5.00	16.609	12.20	403.0	0.0	944.8
75.00		1.00	0.91	19.147	21.06	279.44	0.744 *	0.000	5.00	16.034	11.93	402.2	0.0	911.8
80.00		1.00	0.93	19.503	21.45	271.74	0.755 *	0.000	5.00	15.460	11.67	400.7	0.0	878.8
85.00		1.00	0.94	19.844	21.83	263.73	0.767 *	0.000	5.00	14.886	11.41	398.6	0.0	845.8
89.50	Bot - Section 3	1.00	0.96	20.138	22.15	256.28	0.779 *	0.000	4.50	12.906	10.05	356.1	0.0	733.0
90.00		1.00	0.96	20.170	22.19	255.43	0.785 *	0.000	0.50	1.432	1.12	39.9	0.0	147.7
93.75	Top - Section 2	1.00	0.97	20.407	22.45	249.04	0.791 *	0.000	3.75	10.555	8.35	299.9	0.0	1088.4
95.00		1.00	0.97	20.484	22.53	251.73	0.792 *	0.000	1.25	3.446	2.73	98.4	0.0	163.4
100.00		1.00	0.99	20.787	22.87	242.96	0.801 *	0.000	5.00	13.427	10.75	393.2	0.0	636.3
105.00		1.00	1.00	21.079	23.19	233.97	0.816 *	0.000	5.00	12.853	10.49	389.1	0.0	608.8
110.00		1.00	1.02	21.361	23.50	224.76	0.833 *	0.000	5.00	12.278	10.23	384.4	0.0	581.3
115.00		1.00	1.03	21.634	23.80	215.36	1.200 *	0.000	5.00	11.704	14.04	534.8	0.0	553.9
117.00	Appurtenance(s)	1.00	1.03	21.741	23.91	211.55	1.200 *	0.000	2.00	4.521	5.42	207.6	0.0	213.8
120.00	Bot - Section 4	1.00	1.04	21.898	24.09	205.77	0.650	0.000	3.00	6.609	4.30	165.6	0.0	312.5
123.25	Top - Section 3	1.00	1.05	22.066	24.27	199.45	0.650	0.000	3.25	7.030	4.57	177.5	0.0	527.8
125.00		1.00	1.05	22.155	24.37	199.04	0.650	0.000	1.75	3.685	2.39	93.4	0.0	105.0
127.00	Appurtenance(s)	1.00	1.06	22.256	24.48	195.10	0.650	0.000	2.00	4.125	2.68	105.0	0.0	117.5
130.00		1.00	1.07	22.405	24.65	189.14	0.650	0.000	3.00	6.015	3.91	154.2	0.0	171.4
135.00		1.00	1.08	22.648	24.91	179.07	0.650	0.000	5.00	9.565	6.22	247.8	0.0	272.4
137.00	Appurtenance(s)	1.00	1.08	22.743	25.02	175.01	0.650	0.000	2.00	3.665	2.38	95.4	0.0	104.3
140.00		1.00	1.09	22.884	25.17	168.86	0.650	0.000	3.00	5.326	3.46	139.4	0.0	151.6
145.00		1.00	1.10	23.115	25.43	158.51	0.650	0.000	5.00	8.417	5.47	222.6	0.0	239.4
147.00	Appurtenance(s)	1.00	1.10	23.206	25.53	154.34	0.650	0.000	2.00	3.206	2.08	85.1	0.0	91.2
150.00		1.00	1.11	23.340	25.67	148.03	0.650	0.000	3.00	4.637	3.01	123.8	0.0	131.8
155.00	Appurtenance(s)	1.00	1.12	23.560	25.92	137.42	0.650	0.000	5.00	7.268	4.72	195.9	0.0	206.4
Totals:								155.00			11,166.6	27,084.8		

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

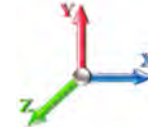
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	155.00	Ericsson 4460 B25 + B66	3	23.646	26.011	0.50	0.75	4.30	392.40	0.000	2.000	178.80	0.00	357.61
2	155.00	RFS	3	23.646	26.011	0.52	0.75	31.88	442.08	0.000	2.000	1326.67	0.00	2653.34
3	155.00	Ericsson AIR6449 B41	3	23.646	26.011	0.53	0.75	9.03	370.80	0.000	2.000	375.63	0.00	751.26
4	155.00	ACU-A20-N	4	23.646	26.011	0.38	0.75	0.21	4.80	0.000	2.000	8.74	0.00	17.48
5	155.00	Low Profile Platform	1	23.560	25.916	1.00	1.00	28.00	1800.00	0.000	0.000	1161.02	0.00	0.00
6	155.00	Ericsson 4480 B71 + B85	3	23.646	26.011	0.50	0.75	4.30	334.80	0.000	2.000	178.80	0.00	357.61
7	155.00	HRK14-U	1	23.560	25.916	1.00	1.00	6.75	314.06	0.000	0.000	279.89	0.00	0.00
8	155.00	ALU 800 MHz Filter	3	23.560	25.916	0.38	0.75	0.88	31.68	0.000	0.000	36.39	0.00	0.00
9	155.00	6' Lightning rod	1	23.560	25.916	1.00	1.00	0.38	7.80	0.000	0.000	15.76	0.00	0.00
10	155.00	PRK-SFS	1	23.560	25.916	1.00	1.00	9.50	557.89	0.000	0.000	393.92	0.00	0.00
11	155.00	HRK14-HD	1	23.560	25.916	1.00	1.00	8.13	362.83	0.000	0.000	337.11	0.00	0.00
12	155.00	ALU TD-RRH8x20-25	3	23.646	26.011	0.50	0.75	6.11	252.00	0.000	2.000	254.09	0.00	508.18
13	147.00	MC-PK8-DSH	1	23.206	25.526	1.00	1.00	37.59	2072.40	0.000	0.000	1535.25	0.00	0.00
14	147.00	FFVV-65C-R3-V1	3	23.206	25.526	0.55	0.75	20.15	255.60	0.000	0.000	823.11	0.00	0.00
15	147.00	TA08025-B605	3	23.206	25.526	0.50	0.75	2.95	270.00	0.000	0.000	120.68	0.00	0.00
16	147.00	TA08025-B604	3	23.206	25.526	0.50	0.75	2.95	230.04	0.000	0.000	120.68	0.00	0.00
17	147.00	RDIDC-9181-PF-48	1	23.206	25.526	0.75	0.75	1.51	26.28	0.000	0.000	61.57	0.00	0.00
18	137.00	Low Profile Platform	1	22.743	25.017	1.00	1.00	28.00	1440.00	0.000	0.000	1120.78	0.00	0.00
19	137.00	LPA-80063/6CF	2	22.743	25.017	0.75	0.80	14.44	64.80	0.000	0.000	577.94	0.00	0.00
20	137.00	LPA-80080-6CF-EDIN	2	22.743	25.017	0.74	0.80	6.44	50.40	0.000	0.000	257.90	0.00	0.00
21	137.00	LPA-80080/4CF	2	22.743	25.017	0.74	0.80	3.88	28.80	0.000	0.000	155.46	0.00	0.00
22	137.00	Samsung - B2/B66A	3	22.743	25.017	0.54	0.80	3.01	303.84	0.000	0.000	120.36	0.00	0.00
23	137.00	Samsung - B5/B13	3	22.743	25.017	0.54	0.80	3.01	253.08	0.000	0.000	120.36	0.00	0.00
24	137.00	Samsung - 64T64R	3	22.743	25.017	0.53	0.80	7.59	344.16	0.000	0.000	303.71	0.00	0.00
25	137.00	JMA - MX06FIT665-02	6	22.743	25.017	0.64	0.80	36.67	324.00	0.000	0.000	1467.91	0.00	0.00
26	137.00	Commscope -	1	22.743	25.017	1.00	1.00	4.06	38.40	0.000	0.000	162.51	0.00	0.00
27	127.00	HRK14	1	22.256	24.482	1.00	1.00	6.75	314.06	0.000	0.000	264.40	0.00	0.00
28	127.00	860 10025	6	22.256	24.482	0.50	0.75	0.54	8.64	0.000	0.000	21.26	0.00	0.00
29	127.00	Low Profile Platform	1	22.256	24.482	1.00	1.00	25.00	1800.00	0.000	0.000	979.26	0.00	0.00
30	127.00	DC6-48-60-18-8F	1	22.256	24.482	0.80	0.80	1.18	38.16	0.000	0.000	46.06	0.00	0.00
31	127.00	7770	3	22.256	24.482	0.60	0.80	9.90	126.00	0.000	0.000	387.79	0.00	0.00
32	127.00	HPA65R-BU6A	3	22.256	24.482	0.65	0.75	21.73	194.40	0.000	0.000	851.18	0.00	0.00
33	127.00	(3) PRK-1245	1	22.256	24.482	1.00	1.00	9.50	557.89	0.000	0.000	372.12	0.00	0.00
34	127.00	DMP65R-BU6DA	3	22.256	24.482	0.54	0.75	20.59	285.84	0.000	0.000	806.53	0.00	0.00
35	127.00	4449	3	22.256	24.482	0.50	0.75	2.49	252.00	0.000	0.000	97.43	0.00	0.00
36	127.00	8843	3	22.256	24.482	0.50	0.75	2.49	270.00	0.000	0.000	97.43	0.00	0.00
37	127.00	21401 TMA	6	22.256	24.482	0.50	0.75	3.89	101.52	0.000	0.000	152.35	0.00	0.00
38	117.00	Air 21 B4A/B2P	3	21.741	23.915	0.69	0.80	12.57	325.44	0.000	0.000	480.96	0.00	0.00
39	117.00	T-Arms	3	21.741	23.915	0.56	0.75	13.50	1260.00	0.000	0.000	516.55	0.00	0.00
40	117.00	Ericsson - Air 21 B2A/B4P	3	21.741	23.915	0.69	0.80	12.57	329.40	0.000	0.000	480.96	0.00	0.00

Totals: 16,436.30

17,049.30

Total Applied Force Summary

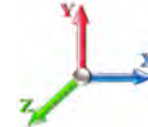
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		400.18	1553.43	0.00	0.00
10.00		393.58	1520.45	0.00	0.00
15.00		386.81	1487.46	0.00	0.00
20.00		380.03	1454.48	0.00	0.00
25.00		373.26	1421.49	0.00	0.00
30.00		366.80	1388.51	0.00	0.00
35.00		376.23	1355.52	0.00	0.00
40.00		383.51	1322.54	0.00	0.00
44.00		309.83	1034.28	0.00	0.00
45.00		78.49	474.57	0.00	0.00
49.75		379.43	2218.19	0.00	0.00
50.00		19.68	62.96	0.00	0.00
55.00		400.31	1241.80	0.00	0.00
60.00		402.13	1208.82	0.00	0.00
65.00		402.98	1175.83	0.00	0.00
70.00		402.97	1142.85	0.00	0.00
75.00		402.18	1109.86	0.00	0.00
80.00		400.70	1076.88	0.00	0.00
85.00		398.57	1043.89	0.00	0.00
89.50		356.12	911.30	0.00	0.00
90.00		39.91	167.50	0.00	0.00
93.75		299.85	1236.96	0.00	0.00
95.00		98.35	212.89	0.00	0.00
100.00		393.24	834.38	0.00	0.00
105.00		389.06	806.89	0.00	0.00
110.00		384.45	779.40	0.00	0.00
115.00		643.47	751.92	0.00	0.00
117.00	(9) attachments	1729.75	2207.91	0.00	0.00
120.00		165.57	382.47	0.00	0.00
123.25		177.45	603.56	0.00	0.00
125.00		93.39	145.82	0.00	0.00
127.00	(31) attachments	4180.83	4112.69	0.00	0.00
130.00		154.17	216.84	0.00	0.00
135.00		247.83	348.20	0.00	0.00
137.00	(23) attachments	4382.30	2982.14	0.00	0.00
140.00		139.43	170.62	0.00	0.00
145.00		222.57	271.18	0.00	0.00
147.00	(11) attachments	2746.38	2958.17	0.00	0.00
150.00		123.80	143.66	0.00	0.00
155.00	(27) attachments	4742.71	5097.39	0.00	4645.47
	Totals:	28,368.29	48,635.72	0.00	4,645.47

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



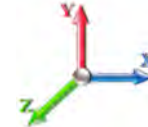
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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.100	0.000	14.724	0.00	11.95
5.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.100	0.000	14.724	0.00	74.88
5.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	14.724	0.00	6.60
10.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.103	1.008	14.724	0.00	11.95
10.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.103	1.008	14.724	0.00	74.88
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.103	1.008	14.724	0.00	6.60
15.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.105	1.016	14.724	0.00	11.95
15.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.105	1.016	14.724	0.00	74.88
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.105	1.016	14.724	0.00	6.60
20.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.108	1.024	14.724	0.00	11.95
20.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.108	1.024	14.724	0.00	74.88
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.108	1.024	14.724	0.00	6.60
25.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.111	1.033	14.724	0.00	11.95
25.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.111	1.033	14.724	0.00	74.88
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.033	14.724	0.00	6.60
30.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.114	1.042	14.736	0.00	11.95
30.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.114	1.042	14.736	0.00	74.88
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.114	1.042	14.736	0.00	6.60
35.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.117	1.051	15.400	0.00	11.95
35.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.117	1.051	15.400	0.00	74.88
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.117	1.051	15.400	0.00	6.60
40.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.121	1.062	15.999	0.00	11.95
40.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.121	1.062	15.999	0.00	74.88
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.121	1.062	15.999	0.00	6.60
44.00	1.75" Hybrid	Yes	4.00	0.000	1.75	0.58	0.00	0.124	1.071	16.441	0.00	9.56
44.00	1 5/8" Coax	Yes	4.00	0.000	3.96	1.32	0.00	0.124	1.071	16.441	0.00	59.90
44.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.124	1.071	16.441	0.00	5.28
45.00	1.75" Hybrid	Yes	1.00	0.000	1.75	0.15	0.00	0.126	1.077	16.546	0.00	2.39
45.00	1 5/8" Coax	Yes	1.00	0.000	3.96	0.33	0.00	0.126	1.077	16.546	0.00	14.98
45.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.126	1.077	16.546	0.00	1.32
49.75	1.75" Hybrid	Yes	4.75	0.000	1.75	0.69	0.00	0.128	1.084	17.028	0.00	11.35
49.75	1 5/8" Coax	Yes	4.75	0.000	3.96	1.57	0.00	0.128	1.084	17.028	0.00	71.14
49.75	1 5/8" Hybrid	Yes	4.75	0.000	0.00	0.00	0.00	0.128	1.084	17.028	0.00	6.27
50.00	1.75" Hybrid	Yes	0.25	0.000	1.75	0.04	0.00	0.128	1.083	17.052	0.00	0.60
50.00	1 5/8" Coax	Yes	0.25	0.000	3.96	0.08	0.00	0.128	1.083	17.052	0.00	3.74
50.00	1 5/8" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.128	1.083	17.052	0.00	0.33
55.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.130	1.089	17.523	0.00	11.95
55.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.130	1.089	17.523	0.00	74.88
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.089	17.523	0.00	6.60
60.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.134	1.102	17.964	0.00	11.95
60.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.134	1.102	17.964	0.00	74.88
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	17.964	0.00	6.60
65.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.138	1.115	18.380	0.00	11.95
65.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.138	1.115	18.380	0.00	74.88
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	18.380	0.00	6.60
70.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.143	1.130	18.773	0.00	11.95
70.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.143	1.130	18.773	0.00	74.88

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



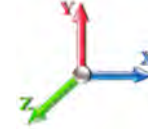
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Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.130	18.773	0.00	6.60
75.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.148	1.145	19.147	0.00	11.95
75.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.148	1.145	19.147	0.00	74.88
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.148	1.145	19.147	0.00	6.60
80.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.154	1.162	19.503	0.00	11.95
80.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.154	1.162	19.503	0.00	74.88
80.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.154	1.162	19.503	0.00	6.60
85.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.160	1.179	19.844	0.00	11.95
85.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.160	1.179	19.844	0.00	74.88
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.179	19.844	0.00	6.60
89.50	1.75" Hybrid	Yes	4.50	0.000	1.75	0.66	0.00	0.166	1.198	20.138	0.00	10.75
89.50	1 5/8" Coax	Yes	4.50	0.000	3.96	1.49	0.00	0.166	1.198	20.138	0.00	67.39
89.50	1 5/8" Hybrid	Yes	4.50	0.000	0.00	0.00	0.00	0.166	1.198	20.138	0.00	5.94
90.00	1.75" Hybrid	Yes	0.50	0.000	1.75	0.07	0.00	0.169	1.208	20.170	0.00	1.19
90.00	1 5/8" Coax	Yes	0.50	0.000	3.96	0.17	0.00	0.169	1.208	20.170	0.00	7.49
90.00	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.169	1.208	20.170	0.00	0.66
93.75	1.75" Hybrid	Yes	3.75	0.000	1.75	0.55	0.00	0.172	1.217	20.407	0.00	8.96
93.75	1 5/8" Coax	Yes	3.75	0.000	3.96	1.24	0.00	0.172	1.217	20.407	0.00	56.16
93.75	1 5/8" Hybrid	Yes	3.75	0.000	0.00	0.00	0.00	0.172	1.217	20.407	0.00	4.95
95.00	1.75" Hybrid	Yes	1.25	0.000	1.75	0.18	0.00	0.173	1.218	20.484	0.00	2.99
95.00	1 5/8" Coax	Yes	1.25	0.000	3.96	0.41	0.00	0.173	1.218	20.484	0.00	18.72
95.00	1 5/8" Hybrid	Yes	1.25	0.000	0.00	0.00	0.00	0.173	1.218	20.484	0.00	1.65
100.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.177	1.232	20.787	0.00	11.95
100.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.177	1.232	20.787	0.00	74.88
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.177	1.232	20.787	0.00	6.60
105.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.185	1.255	21.079	0.00	11.95
105.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.185	1.255	21.079	0.00	74.88
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	21.079	0.00	6.60
110.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.194	1.281	21.361	0.00	11.95
110.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.194	1.281	21.361	0.00	74.88
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.194	1.281	21.361	0.00	6.60
115.00	1.75" Hybrid	Yes	5.00	1.200	1.75	0.73	0.88	0.203	0.000	21.634	33.32	11.95
115.00	1 5/8" Coax	Yes	5.00	1.200	3.96	1.65	1.98	0.203	0.000	21.634	75.39	74.88
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.203	0.000	21.634	0.00	6.60
117.00	1.75" Hybrid	Yes	2.00	1.200	1.75	0.29	0.35	0.211	0.000	21.741	13.39	4.78
117.00	1 5/8" Coax	Yes	2.00	1.200	3.96	0.66	0.79	0.211	0.000	21.741	30.30	29.95
117.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.211	0.000	21.741	0.00	2.64
120.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.066	0.000	21.898	0.00	7.17
123.25	1.75" Hybrid	Yes	3.25	0.000	1.75	0.47	0.00	0.068	0.000	22.066	0.00	7.76
125.00	1.75" Hybrid	Yes	1.75	0.000	1.75	0.26	0.00	0.069	0.000	22.155	0.00	4.18
127.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.071	0.000	22.256	0.00	4.78
130.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.073	0.000	22.405	0.00	7.17
135.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.076	0.000	22.648	0.00	11.95
137.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.080	0.000	22.743	0.00	4.78
140.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.082	0.000	22.884	0.00	7.17
145.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.087	0.000	23.115	0.00	11.95
147.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.091	0.000	23.206	0.00	4.78

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

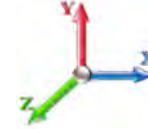


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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
Totals:											152.4	2,257.8

Calculated Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (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: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.60



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	-48.59	-28.44	0.00	-3407.8	0.00	3407.84	4331.76	2165.88	10060.7	5037.85	0.00	0.000	0.000	0.688
5.00	-46.95	-28.19	0.00	-3265.6	0.00	3265.63	4271.91	2135.96	9681.61	4848.00	0.09	-0.175	0.000	0.685
10.00	-45.34	-27.93	0.00	-3124.6	0.00	3124.69	4209.88	2104.94	9304.37	4659.10	0.38	-0.356	0.000	0.682
15.00	-43.77	-27.68	0.00	-2985.0	0.00	2985.04	4145.67	2072.83	8929.41	4471.34	0.85	-0.542	0.000	0.678
20.00	-42.22	-27.43	0.00	-2846.6	0.00	2846.65	4079.27	2039.64	8557.10	4284.91	1.52	-0.734	0.000	0.675
25.00	-40.71	-27.17	0.00	-2709.5	0.00	2709.52	4010.69	2005.34	8187.79	4099.98	2.39	-0.932	0.000	0.671
30.00	-39.23	-26.93	0.00	-2573.6	0.00	2573.65	3939.93	1969.96	7821.85	3916.74	3.48	-1.136	0.000	0.667
35.00	-37.79	-26.66	0.00	-2439.0	0.00	2439.03	3866.98	1933.49	7459.66	3735.38	4.78	-1.346	0.000	0.663
40.00	-36.39	-26.37	0.00	-2305.7	0.00	2305.73	3791.85	1895.92	7101.59	3556.07	6.31	-1.563	0.000	0.658
44.00	-35.31	-26.10	0.00	-2200.2	0.00	2200.25	3730.17	1865.09	6818.34	3414.24	7.70	-1.743	0.000	0.654
45.00	-34.78	-26.09	0.00	-2174.1	0.00	2174.15	3714.54	1857.27	6747.99	3379.01	8.07	-1.790	0.000	0.653
49.75	-32.52	-25.70	0.00	-2050.2	0.00	2050.24	3683.20	1841.60	6608.77	3309.30	9.96	-2.009	0.000	0.629
50.00	-32.40	-25.75	0.00	-2043.8	0.00	2043.81	3679.23	1839.62	6591.31	3300.56	10.06	-2.021	0.000	0.628
55.00	-31.08	-25.42	0.00	-1915.0	0.00	1915.08	3598.76	1799.38	6244.86	3127.07	12.30	-2.247	0.000	0.621
60.00	-29.78	-25.10	0.00	-1787.9	0.00	1787.97	3516.10	1758.05	5903.79	2956.28	14.78	-2.479	0.000	0.613
65.00	-28.52	-24.76	0.00	-1662.4	0.00	1662.49	3431.27	1715.63	5568.46	2788.37	17.50	-2.717	0.000	0.605
70.00	-27.30	-24.42	0.00	-1538.7	0.00	1538.70	3344.24	1672.12	5239.26	2623.52	20.48	-2.962	0.000	0.595
75.00	-26.10	-24.07	0.00	-1416.6	0.00	1416.61	3255.04	1627.52	4916.54	2461.92	23.71	-3.212	0.000	0.584
80.00	-24.94	-23.72	0.00	-1296.2	0.00	1296.24	3137.93	1568.96	4563.27	2285.03	27.21	-3.469	0.000	0.575
85.00	-23.82	-23.36	0.00	-1177.6	0.00	1177.63	3017.89	1508.95	4219.09	2112.68	30.98	-3.731	0.000	0.566
89.50	-22.89	-23.00	0.00	-1072.4	0.00	1072.49	2909.87	1454.93	3920.86	1963.34	34.61	-3.972	0.000	0.554
90.00	-22.67	-23.00	0.00	-1060.9	0.00	1060.99	2897.86	1448.93	3888.39	1947.09	35.03	-4.000	0.000	0.553
93.75	-21.41	-22.66	0.00	-974.75	0.00	974.75	2354.99	1177.49	3133.69	1569.17	38.25	-4.205	0.000	0.631
95.00	-21.13	-22.62	0.00	-946.43	0.00	946.43	2336.81	1168.40	3076.66	1540.62	39.36	-4.276	0.000	0.624
100.00	-20.21	-22.27	0.00	-833.34	0.00	833.34	2262.72	1131.36	2851.92	1428.08	44.00	-4.581	0.000	0.593
105.00	-19.32	-21.92	0.00	-722.00	0.00	722.00	2165.47	1082.73	2607.63	1305.76	48.96	-4.885	0.000	0.562
110.00	-18.47	-21.56	0.00	-612.42	0.00	612.42	2065.44	1032.72	2371.09	1187.31	54.23	-5.184	0.000	0.525
115.00	-17.71	-20.91	0.00	-504.63	0.00	504.63	1965.41	982.71	2145.79	1074.49	59.81	-5.472	0.000	0.479
117.00	-15.63	-19.01	0.00	-462.81	0.00	462.81	1925.40	962.70	2058.82	1030.94	62.13	-5.587	0.000	0.457
120.00	-15.21	-18.86	0.00	-405.76	0.00	405.76	1865.39	932.69	1931.73	967.30	65.69	-5.753	0.000	0.428
123.25	-14.59	-18.65	0.00	-344.48	0.00	344.48	1005.19	502.59	1030.12	515.83	69.66	-5.924	0.000	0.684
125.00	-14.41	-18.57	0.00	-311.84	0.00	311.84	992.91	496.46	998.01	499.75	71.84	-6.013	0.000	0.640
127.00	-10.72	-14.02	0.00	-274.69	0.00	274.69	978.56	489.28	961.59	481.51	74.39	-6.165	0.000	0.582
130.00	-10.46	-13.89	0.00	-232.65	0.00	232.65	956.38	478.19	907.53	454.44	78.33	-6.375	0.000	0.524
135.00	-10.09	-13.64	0.00	-163.22	0.00	163.22	917.66	458.83	819.21	410.21	85.16	-6.679	0.000	0.410
137.00	-7.63	-8.95	0.00	-135.95	0.00	135.95	901.57	450.78	784.57	392.87	87.98	-6.789	0.000	0.355
140.00	-7.45	-8.81	0.00	-109.09	0.00	109.09	876.76	438.38	733.42	367.25	92.28	-6.935	0.000	0.306
145.00	-7.19	-8.58	0.00	-65.02	0.00	65.02	833.68	416.84	650.52	325.74	99.64	-7.130	0.000	0.209
147.00	-4.59	-5.49	0.00	-47.87	0.00	47.87	815.84	407.92	618.25	309.58	102.63	-7.192	0.000	0.160
150.00	-4.45	-5.35	0.00	-31.41	0.00	31.41	781.24	390.62	565.69	283.26	107.16	-7.263	0.000	0.117
155.00	0.00	-4.74	0.00	-4.65	0.00	4.65	721.23	360.61	481.69	241.20	114.79	-7.325	0.000	0.019

Wind Loading - Shaft

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



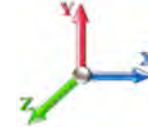
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



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	14.724	16.20	374.18	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	14.724	16.20	365.24	0.650	0.000	5.00	23.757	15.44	400.2	0.0	1016.5
10.00		1.00	0.70	14.724	16.20	356.30	0.655 *	0.000	5.00	23.183	15.19	393.6	0.0	991.8
15.00		1.00	0.70	14.724	16.20	347.36	0.660 *	0.000	5.00	22.609	14.93	386.8	0.0	967.0
20.00		1.00	0.70	14.724	16.20	338.43	0.666 *	0.000	5.00	22.034	14.67	380.0	0.0	942.3
25.00		1.00	0.70	14.724	16.20	329.49	0.671 *	0.000	5.00	21.460	14.40	373.3	0.0	917.6
30.00		1.00	0.70	14.736	16.21	320.69	0.677 *	0.000	5.00	20.886	14.14	366.8	0.0	892.8
35.00		1.00	0.73	15.400	16.94	318.69	0.683 *	0.000	5.00	20.311	13.88	376.2	0.0	868.1
40.00		1.00	0.76	15.999	17.60	315.51	0.690 *	0.000	5.00	19.737	13.62	383.5	0.0	843.4
44.00	Bot - Section 2	1.00	0.78	16.441	18.08	312.28	0.696 *	0.000	4.00	15.376	10.71	309.8	0.0	656.9
45.00		1.00	0.79	16.546	18.20	311.39	0.700 *	0.000	1.00	3.850	2.70	78.5	0.0	326.2
49.75	Top - Section 1	1.00	0.81	17.028	18.73	306.75	0.704 *	0.000	4.75	17.974	12.66	379.4	0.0	1522.5
50.00		1.00	0.81	17.052	18.76	311.81	0.704 *	0.000	0.25	0.932	0.66	19.7	0.0	39.8
55.00		1.00	0.83	17.523	19.28	306.33	0.708 *	0.000	5.00	18.331	12.98	400.3	0.0	782.8
60.00		1.00	0.85	17.964	19.76	300.29	0.716 *	0.000	5.00	17.757	12.72	402.1	0.0	758.1
65.00		1.00	0.87	18.380	20.22	293.76	0.725 *	0.000	5.00	17.183	12.46	403.0	0.0	733.3
70.00		1.00	0.89	18.773	20.65	286.79	0.734 *	0.000	5.00	16.609	12.20	403.0	0.0	708.6
75.00		1.00	0.91	19.147	21.06	279.44	0.744 *	0.000	5.00	16.034	11.93	402.2	0.0	683.8
80.00		1.00	0.93	19.503	21.45	271.74	0.755 *	0.000	5.00	15.460	11.67	400.7	0.0	659.1
85.00		1.00	0.94	19.844	21.83	263.73	0.767 *	0.000	5.00	14.886	11.41	398.6	0.0	634.4
89.50	Bot - Section 3	1.00	0.96	20.138	22.15	256.28	0.779 *	0.000	4.50	12.906	10.05	356.1	0.0	549.8
90.00		1.00	0.96	20.170	22.19	255.43	0.785 *	0.000	0.50	1.432	1.12	39.9	0.0	110.8
93.75	Top - Section 2	1.00	0.97	20.407	22.45	249.04	0.791 *	0.000	3.75	10.555	8.35	299.9	0.0	816.3
95.00		1.00	0.97	20.484	22.53	251.73	0.792 *	0.000	1.25	3.446	2.73	98.4	0.0	122.5
100.00		1.00	0.99	20.787	22.87	242.96	0.801 *	0.000	5.00	13.427	10.75	393.2	0.0	477.2
105.00		1.00	1.00	21.079	23.19	233.97	0.816 *	0.000	5.00	12.853	10.49	389.1	0.0	456.6
110.00		1.00	1.02	21.361	23.50	224.76	0.833 *	0.000	5.00	12.278	10.23	384.4	0.0	436.0
115.00		1.00	1.03	21.634	23.80	215.36	1.200 *	0.000	5.00	11.704	14.04	534.8	0.0	415.4
117.00	Appurtenance(s)	1.00	1.03	21.741	23.91	211.55	1.200 *	0.000	2.00	4.521	5.42	207.6	0.0	160.4
120.00	Bot - Section 4	1.00	1.04	21.898	24.09	205.77	0.650	0.000	3.00	6.609	4.30	165.6	0.0	234.4
123.25	Top - Section 3	1.00	1.05	22.066	24.27	199.45	0.650	0.000	3.25	7.030	4.57	177.5	0.0	395.8
125.00		1.00	1.05	22.155	24.37	199.04	0.650	0.000	1.75	3.685	2.39	93.4	0.0	78.8
127.00	Appurtenance(s)	1.00	1.06	22.256	24.48	195.10	0.650	0.000	2.00	4.125	2.68	105.0	0.0	88.2
130.00		1.00	1.07	22.405	24.65	189.14	0.650	0.000	3.00	6.015	3.91	154.2	0.0	128.5
135.00		1.00	1.08	22.648	24.91	179.07	0.650	0.000	5.00	9.565	6.22	247.8	0.0	204.3
137.00	Appurtenance(s)	1.00	1.08	22.743	25.02	175.01	0.650	0.000	2.00	3.665	2.38	95.4	0.0	78.3
140.00		1.00	1.09	22.884	25.17	168.86	0.650	0.000	3.00	5.326	3.46	139.4	0.0	113.7
145.00		1.00	1.10	23.115	25.43	158.51	0.650	0.000	5.00	8.417	5.47	222.6	0.0	179.6
147.00	Appurtenance(s)	1.00	1.10	23.206	25.53	154.34	0.650	0.000	2.00	3.206	2.08	85.1	0.0	68.4
150.00		1.00	1.11	23.340	25.67	148.03	0.650	0.000	3.00	4.637	3.01	123.8	0.0	98.8
155.00	Appurtenance(s)	1.00	1.12	23.560	25.92	137.42	0.650	0.000	5.00	7.268	4.72	195.9	0.0	154.8
Totals:								155.00			11,166.6	20,313.6		

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

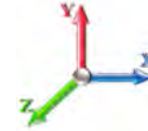
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	155.00	Ericsson 4460 B25 + B66	3	23.646	26.011	0.50	0.75	4.30	294.30	0.000	2.000	178.80	0.00	357.61
2	155.00	RFS	3	23.646	26.011	0.52	0.75	31.88	331.56	0.000	2.000	1326.67	0.00	2653.34
3	155.00	Ericsson AIR6449 B41	3	23.646	26.011	0.53	0.75	9.03	278.10	0.000	2.000	375.63	0.00	751.26
4	155.00	ACU-A20-N	4	23.646	26.011	0.38	0.75	0.21	3.60	0.000	2.000	8.74	0.00	17.48
5	155.00	Low Profile Platform	1	23.560	25.916	1.00	1.00	28.00	1350.00	0.000	0.000	1161.02	0.00	0.00
6	155.00	Ericsson 4480 B71 + B85	3	23.646	26.011	0.50	0.75	4.30	251.10	0.000	2.000	178.80	0.00	357.61
7	155.00	HRK14-U	1	23.560	25.916	1.00	1.00	6.75	235.55	0.000	0.000	279.89	0.00	0.00
8	155.00	ALU 800 MHz Filter	3	23.560	25.916	0.38	0.75	0.88	23.76	0.000	0.000	36.39	0.00	0.00
9	155.00	6' Lightning rod	1	23.560	25.916	1.00	1.00	0.38	5.85	0.000	0.000	15.76	0.00	0.00
10	155.00	PRK-SFS	1	23.560	25.916	1.00	1.00	9.50	418.42	0.000	0.000	393.92	0.00	0.00
11	155.00	HRK14-HD	1	23.560	25.916	1.00	1.00	8.13	272.12	0.000	0.000	337.11	0.00	0.00
12	155.00	ALU TD-RRH8x20-25	3	23.646	26.011	0.50	0.75	6.11	189.00	0.000	2.000	254.09	0.00	508.18
13	147.00	MC-PK8-DSH	1	23.206	25.526	1.00	1.00	37.59	1554.30	0.000	0.000	1535.25	0.00	0.00
14	147.00	FFVV-65C-R3-V1	3	23.206	25.526	0.55	0.75	20.15	191.70	0.000	0.000	823.11	0.00	0.00
15	147.00	TA08025-B605	3	23.206	25.526	0.50	0.75	2.95	202.50	0.000	0.000	120.68	0.00	0.00
16	147.00	TA08025-B604	3	23.206	25.526	0.50	0.75	2.95	172.53	0.000	0.000	120.68	0.00	0.00
17	147.00	RDIDC-9181-PF-48	1	23.206	25.526	0.75	0.75	1.51	19.71	0.000	0.000	61.57	0.00	0.00
18	137.00	Low Profile Platform	1	22.743	25.017	1.00	1.00	28.00	1080.00	0.000	0.000	1120.78	0.00	0.00
19	137.00	LPA-80063/6CF	2	22.743	25.017	0.75	0.80	14.44	48.60	0.000	0.000	577.94	0.00	0.00
20	137.00	LPA-80080-6CF-EDIN	2	22.743	25.017	0.74	0.80	6.44	37.80	0.000	0.000	257.90	0.00	0.00
21	137.00	LPA-80080/4CF	2	22.743	25.017	0.74	0.80	3.88	21.60	0.000	0.000	155.46	0.00	0.00
22	137.00	Samsung - B2/B66A	3	22.743	25.017	0.54	0.80	3.01	227.88	0.000	0.000	120.36	0.00	0.00
23	137.00	Samsung - B5/B13	3	22.743	25.017	0.54	0.80	3.01	189.81	0.000	0.000	120.36	0.00	0.00
24	137.00	Samsung - 64T64R	3	22.743	25.017	0.53	0.80	7.59	258.12	0.000	0.000	303.71	0.00	0.00
25	137.00	JMA - MX06FIT665-02	6	22.743	25.017	0.64	0.80	36.67	243.00	0.000	0.000	1467.91	0.00	0.00
26	137.00	Commscope -	1	22.743	25.017	1.00	1.00	4.06	28.80	0.000	0.000	162.51	0.00	0.00
27	127.00	HRK14	1	22.256	24.482	1.00	1.00	6.75	235.55	0.000	0.000	264.40	0.00	0.00
28	127.00	860 10025	6	22.256	24.482	0.50	0.75	0.54	6.48	0.000	0.000	21.26	0.00	0.00
29	127.00	Low Profile Platform	1	22.256	24.482	1.00	1.00	25.00	1350.00	0.000	0.000	979.26	0.00	0.00
30	127.00	DC6-48-60-18-8F	1	22.256	24.482	0.80	0.80	1.18	28.62	0.000	0.000	46.06	0.00	0.00
31	127.00	7770	3	22.256	24.482	0.60	0.80	9.90	94.50	0.000	0.000	387.79	0.00	0.00
32	127.00	HPA65R-BU6A	3	22.256	24.482	0.65	0.75	21.73	145.80	0.000	0.000	851.18	0.00	0.00
33	127.00	(3) PRK-1245	1	22.256	24.482	1.00	1.00	9.50	418.42	0.000	0.000	372.12	0.00	0.00
34	127.00	DMP65R-BU6DA	3	22.256	24.482	0.54	0.75	20.59	214.38	0.000	0.000	806.53	0.00	0.00
35	127.00	4449	3	22.256	24.482	0.50	0.75	2.49	189.00	0.000	0.000	97.43	0.00	0.00
36	127.00	8843	3	22.256	24.482	0.50	0.75	2.49	202.50	0.000	0.000	97.43	0.00	0.00
37	127.00	21401 TMA	6	22.256	24.482	0.50	0.75	3.89	76.14	0.000	0.000	152.35	0.00	0.00
38	117.00	Air 21 B4A/B2P	3	21.741	23.915	0.69	0.80	12.57	244.08	0.000	0.000	480.96	0.00	0.00
39	117.00	T-Arms	3	21.741	23.915	0.56	0.75	13.50	945.00	0.000	0.000	516.55	0.00	0.00
40	117.00	Ericsson - Air 21 B2A/B4P	3	21.741	23.915	0.69	0.80	12.57	247.05	0.000	0.000	480.96	0.00	0.00

Totals: 12,327.23

17,049.30

Total Applied Force Summary

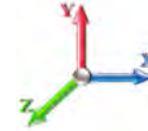
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		400.18	1165.07	0.00	0.00
10.00		393.58	1140.34	0.00	0.00
15.00		386.81	1115.60	0.00	0.00
20.00		380.03	1090.86	0.00	0.00
25.00		373.26	1066.12	0.00	0.00
30.00		366.80	1041.38	0.00	0.00
35.00		376.23	1016.64	0.00	0.00
40.00		383.51	991.90	0.00	0.00
44.00		309.83	775.71	0.00	0.00
45.00		78.49	355.93	0.00	0.00
49.75		379.43	1663.64	0.00	0.00
50.00		19.68	47.22	0.00	0.00
55.00		400.31	931.35	0.00	0.00
60.00		402.13	906.61	0.00	0.00
65.00		402.98	881.88	0.00	0.00
70.00		402.97	857.14	0.00	0.00
75.00		402.18	832.40	0.00	0.00
80.00		400.70	807.66	0.00	0.00
85.00		398.57	782.92	0.00	0.00
89.50		356.12	683.48	0.00	0.00
90.00		39.91	125.62	0.00	0.00
93.75		299.85	927.72	0.00	0.00
95.00		98.35	159.67	0.00	0.00
100.00		393.24	625.78	0.00	0.00
105.00		389.06	605.17	0.00	0.00
110.00		384.45	584.55	0.00	0.00
115.00		643.47	563.94	0.00	0.00
117.00	(9) attachments	1729.75	1655.93	0.00	0.00
120.00		165.57	286.85	0.00	0.00
123.25		177.45	452.67	0.00	0.00
125.00		93.39	109.36	0.00	0.00
127.00	(31) attachments	4180.83	3084.52	0.00	0.00
130.00		154.17	162.63	0.00	0.00
135.00		247.83	261.15	0.00	0.00
137.00	(23) attachments	4382.30	2236.61	0.00	0.00
140.00		139.43	127.97	0.00	0.00
145.00		222.57	203.38	0.00	0.00
147.00	(11) attachments	2746.38	2218.63	0.00	0.00
150.00		123.80	107.75	0.00	0.00
155.00	(27) attachments	4742.71	3823.04	0.00	4645.47
	Totals:	28,368.29	36,476.79	0.00	4,645.47

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

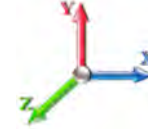


Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.100	0.000	14.724	0.00	8.96
5.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.100	0.000	14.724	0.00	56.16
5.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	14.724	0.00	4.95
10.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.103	1.008	14.724	0.00	8.96
10.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.103	1.008	14.724	0.00	56.16
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.103	1.008	14.724	0.00	4.95
15.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.105	1.016	14.724	0.00	8.96
15.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.105	1.016	14.724	0.00	56.16
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.105	1.016	14.724	0.00	4.95
20.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.108	1.024	14.724	0.00	8.96
20.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.108	1.024	14.724	0.00	56.16
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.108	1.024	14.724	0.00	4.95
25.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.111	1.033	14.724	0.00	8.96
25.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.111	1.033	14.724	0.00	56.16
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.033	14.724	0.00	4.95
30.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.114	1.042	14.736	0.00	8.96
30.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.114	1.042	14.736	0.00	56.16
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.114	1.042	14.736	0.00	4.95
35.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.117	1.051	15.400	0.00	8.96
35.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.117	1.051	15.400	0.00	56.16
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.117	1.051	15.400	0.00	4.95
40.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.121	1.062	15.999	0.00	8.96
40.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.121	1.062	15.999	0.00	56.16
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.121	1.062	15.999	0.00	4.95
44.00	1.75" Hybrid	Yes	4.00	0.000	1.75	0.58	0.00	0.124	1.071	16.441	0.00	7.17
44.00	1 5/8" Coax	Yes	4.00	0.000	3.96	1.32	0.00	0.124	1.071	16.441	0.00	44.93
44.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.124	1.071	16.441	0.00	3.96
45.00	1.75" Hybrid	Yes	1.00	0.000	1.75	0.15	0.00	0.126	1.077	16.546	0.00	1.79
45.00	1 5/8" Coax	Yes	1.00	0.000	3.96	0.33	0.00	0.126	1.077	16.546	0.00	11.23
45.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.126	1.077	16.546	0.00	0.99
49.75	1.75" Hybrid	Yes	4.75	0.000	1.75	0.69	0.00	0.128	1.084	17.028	0.00	8.51
49.75	1 5/8" Coax	Yes	4.75	0.000	3.96	1.57	0.00	0.128	1.084	17.028	0.00	53.35
49.75	1 5/8" Hybrid	Yes	4.75	0.000	0.00	0.00	0.00	0.128	1.084	17.028	0.00	4.70
50.00	1.75" Hybrid	Yes	0.25	0.000	1.75	0.04	0.00	0.128	1.083	17.052	0.00	0.45
50.00	1 5/8" Coax	Yes	0.25	0.000	3.96	0.08	0.00	0.128	1.083	17.052	0.00	2.81
50.00	1 5/8" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.128	1.083	17.052	0.00	0.25
55.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.130	1.089	17.523	0.00	8.96
55.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.130	1.089	17.523	0.00	56.16
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.089	17.523	0.00	4.95
60.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.134	1.102	17.964	0.00	8.96
60.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.134	1.102	17.964	0.00	56.16
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	17.964	0.00	4.95
65.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.138	1.115	18.380	0.00	8.96
65.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.138	1.115	18.380	0.00	56.16
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	18.380	0.00	4.95
70.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.143	1.130	18.773	0.00	8.96
70.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.143	1.130	18.773	0.00	56.16

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



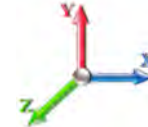
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.130	18.773	0.00	4.95
75.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.148	1.145	19.147	0.00	8.96
75.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.148	1.145	19.147	0.00	56.16
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.148	1.145	19.147	0.00	4.95
80.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.154	1.162	19.503	0.00	8.96
80.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.154	1.162	19.503	0.00	56.16
80.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.154	1.162	19.503	0.00	4.95
85.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.160	1.179	19.844	0.00	8.96
85.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.160	1.179	19.844	0.00	56.16
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.179	19.844	0.00	4.95
89.50	1.75" Hybrid	Yes	4.50	0.000	1.75	0.66	0.00	0.166	1.198	20.138	0.00	8.06
89.50	1 5/8" Coax	Yes	4.50	0.000	3.96	1.49	0.00	0.166	1.198	20.138	0.00	50.54
89.50	1 5/8" Hybrid	Yes	4.50	0.000	0.00	0.00	0.00	0.166	1.198	20.138	0.00	4.46
90.00	1.75" Hybrid	Yes	0.50	0.000	1.75	0.07	0.00	0.169	1.208	20.170	0.00	0.90
90.00	1 5/8" Coax	Yes	0.50	0.000	3.96	0.17	0.00	0.169	1.208	20.170	0.00	5.62
90.00	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.169	1.208	20.170	0.00	0.50
93.75	1.75" Hybrid	Yes	3.75	0.000	1.75	0.55	0.00	0.172	1.217	20.407	0.00	6.72
93.75	1 5/8" Coax	Yes	3.75	0.000	3.96	1.24	0.00	0.172	1.217	20.407	0.00	42.12
93.75	1 5/8" Hybrid	Yes	3.75	0.000	0.00	0.00	0.00	0.172	1.217	20.407	0.00	3.71
95.00	1.75" Hybrid	Yes	1.25	0.000	1.75	0.18	0.00	0.173	1.218	20.484	0.00	2.24
95.00	1 5/8" Coax	Yes	1.25	0.000	3.96	0.41	0.00	0.173	1.218	20.484	0.00	14.04
95.00	1 5/8" Hybrid	Yes	1.25	0.000	0.00	0.00	0.00	0.173	1.218	20.484	0.00	1.24
100.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.177	1.232	20.787	0.00	8.96
100.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.177	1.232	20.787	0.00	56.16
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.177	1.232	20.787	0.00	4.95
105.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.185	1.255	21.079	0.00	8.96
105.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.185	1.255	21.079	0.00	56.16
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	21.079	0.00	4.95
110.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.194	1.281	21.361	0.00	8.96
110.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.194	1.281	21.361	0.00	56.16
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.194	1.281	21.361	0.00	4.95
115.00	1.75" Hybrid	Yes	5.00	1.200	1.75	0.73	0.88	0.203	0.000	21.634	33.32	8.96
115.00	1 5/8" Coax	Yes	5.00	1.200	3.96	1.65	1.98	0.203	0.000	21.634	75.39	56.16
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.203	0.000	21.634	0.00	4.95
117.00	1.75" Hybrid	Yes	2.00	1.200	1.75	0.29	0.35	0.211	0.000	21.741	13.39	3.58
117.00	1 5/8" Coax	Yes	2.00	1.200	3.96	0.66	0.79	0.211	0.000	21.741	30.30	22.46
117.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.211	0.000	21.741	0.00	1.98
120.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.066	0.000	21.898	0.00	5.38
123.25	1.75" Hybrid	Yes	3.25	0.000	1.75	0.47	0.00	0.068	0.000	22.066	0.00	5.82
125.00	1.75" Hybrid	Yes	1.75	0.000	1.75	0.26	0.00	0.069	0.000	22.155	0.00	3.14
127.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.071	0.000	22.256	0.00	3.58
130.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.073	0.000	22.405	0.00	5.38
135.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.076	0.000	22.648	0.00	8.96
137.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.080	0.000	22.743	0.00	3.58
140.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.082	0.000	22.884	0.00	5.38
145.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.087	0.000	23.115	0.00	8.96
147.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.091	0.000	23.206	0.00	3.58

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

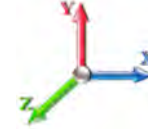


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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
Totals:											152.4	1,693.4

Calculated Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



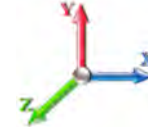
Page: 22

Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-36.43	-28.42	0.00	-3358.2	0.00	3358.27	4331.76	2165.88	10060.7	5037.85	0.00	0.000	0.000	0.675
5.00	-35.18	-28.13	0.00	-3216.1	0.00	3216.15	4271.91	2135.96	9681.61	4848.00	0.09	-0.173	0.000	0.672
10.00	-33.96	-27.84	0.00	-3075.5	0.00	3075.51	4209.88	2104.94	9304.37	4659.10	0.37	-0.351	0.000	0.668
15.00	-32.75	-27.55	0.00	-2936.3	0.00	2936.32	4145.67	2072.83	8929.41	4471.34	0.84	-0.534	0.000	0.665
20.00	-31.58	-27.26	0.00	-2798.5	0.00	2798.57	4079.27	2039.64	8557.10	4284.91	1.50	-0.723	0.000	0.661
25.00	-30.42	-26.98	0.00	-2662.2	0.00	2662.26	4010.69	2005.34	8187.79	4099.98	2.36	-0.917	0.000	0.657
30.00	-29.29	-26.70	0.00	-2527.3	0.00	2527.36	3939.93	1969.96	7821.85	3916.74	3.43	-1.117	0.000	0.653
35.00	-28.19	-26.40	0.00	-2393.8	0.00	2393.87	3866.98	1933.49	7459.66	3735.38	4.71	-1.324	0.000	0.648
40.00	-27.12	-26.09	0.00	-2261.8	0.00	2261.85	3791.85	1895.92	7101.59	3556.07	6.21	-1.537	0.000	0.643
44.00	-26.30	-25.81	0.00	-2157.5	0.00	2157.50	3730.17	1865.09	6818.34	3414.24	7.57	-1.713	0.000	0.639
45.00	-25.89	-25.78	0.00	-2131.6	0.00	2131.69	3714.54	1857.27	6747.99	3379.01	7.93	-1.759	0.000	0.638
49.75	-24.19	-25.39	0.00	-2009.2	0.00	2009.25	3683.20	1841.60	6608.77	3309.30	9.79	-1.974	0.000	0.614
50.00	-24.09	-25.42	0.00	-2002.9	0.00	2002.91	3679.23	1839.62	6591.31	3300.56	9.90	-1.986	0.000	0.614
55.00	-23.08	-25.08	0.00	-1875.8	0.00	1875.81	3598.76	1799.38	6244.86	3127.07	12.10	-2.207	0.000	0.606
60.00	-22.09	-24.73	0.00	-1750.4	0.00	1750.43	3516.10	1758.05	5903.79	2956.28	14.53	-2.434	0.000	0.599
65.00	-21.13	-24.37	0.00	-1626.8	0.00	1626.80	3431.27	1715.63	5568.46	2788.37	17.20	-2.667	0.000	0.590
70.00	-20.19	-24.01	0.00	-1504.9	0.00	1504.95	3344.24	1672.12	5239.26	2623.52	20.12	-2.906	0.000	0.580
75.00	-19.28	-23.65	0.00	-1384.8	0.00	1384.88	3255.04	1627.52	4916.54	2461.92	23.30	-3.152	0.000	0.569
80.00	-18.39	-23.29	0.00	-1266.6	0.00	1266.63	3173.93	1568.96	4563.27	2285.03	26.73	-3.402	0.000	0.560
85.00	-17.53	-22.92	0.00	-1150.1	0.00	1150.19	3017.89	1508.95	4219.09	2112.68	30.43	-3.658	0.000	0.550
89.50	-16.82	-22.55	0.00	-1047.0	0.00	1047.07	2909.87	1454.93	3920.86	1963.34	33.99	-3.893	0.000	0.539
90.00	-16.66	-22.54	0.00	-1035.8	0.00	1035.80	2897.86	1448.93	3888.39	1947.09	34.40	-3.921	0.000	0.538
93.75	-15.70	-22.21	0.00	-951.28	0.00	951.28	2354.99	1177.49	3133.69	1569.17	37.56	-4.121	0.000	0.613
95.00	-15.48	-22.15	0.00	-923.51	0.00	923.51	2336.81	1168.40	3076.66	1540.62	38.64	-4.191	0.000	0.606
100.00	-14.77	-21.79	0.00	-812.76	0.00	812.76	2262.72	1131.36	2851.92	1428.08	43.19	-4.488	0.000	0.576
105.00	-14.09	-21.43	0.00	-703.81	0.00	703.81	2165.47	1082.73	2607.63	1305.76	48.05	-4.785	0.000	0.546
110.00	-13.43	-21.06	0.00	-596.68	0.00	596.68	2065.44	1032.72	2371.09	1187.31	53.21	-5.076	0.000	0.509
115.00	-12.86	-20.41	0.00	-491.39	0.00	491.39	1965.41	982.71	2145.79	1074.49	58.67	-5.356	0.000	0.464
117.00	-11.33	-18.56	0.00	-450.56	0.00	450.56	1925.40	962.70	2058.82	1030.94	60.94	-5.469	0.000	0.443
120.00	-11.01	-18.40	0.00	-394.89	0.00	394.89	1865.39	932.69	1931.73	967.30	64.42	-5.630	0.000	0.415
123.25	-10.54	-18.20	0.00	-335.09	0.00	335.09	1005.19	502.59	1030.12	515.83	68.31	-5.796	0.000	0.661
125.00	-10.40	-18.12	0.00	-303.24	0.00	303.24	992.91	496.46	998.01	499.75	70.45	-5.883	0.000	0.619
127.00	-7.72	-13.66	0.00	-267.00	0.00	267.00	978.56	489.28	961.59	481.51	72.94	-6.031	0.000	0.563
130.00	-7.52	-13.53	0.00	-226.01	0.00	226.01	956.38	478.19	907.53	454.44	76.79	-6.235	0.000	0.506
135.00	-7.24	-13.28	0.00	-158.38	0.00	158.38	917.66	458.83	819.21	410.21	83.47	-6.530	0.000	0.395
137.00	-5.50	-8.68	0.00	-131.83	0.00	131.83	901.57	450.78	784.57	392.87	86.23	-6.637	0.000	0.342
140.00	-5.37	-8.54	0.00	-105.80	0.00	105.80	876.76	438.38	733.42	367.25	90.43	-6.779	0.000	0.295
145.00	-5.18	-8.31	0.00	-63.10	0.00	63.10	833.68	416.84	650.52	325.74	97.63	-6.967	0.000	0.200
147.00	-3.30	-5.31	0.00	-46.49	0.00	46.49	815.84	407.92	618.25	309.58	100.55	-7.027	0.000	0.154
150.00	-3.20	-5.18	0.00	-30.55	0.00	30.55	781.24	390.62	565.69	283.26	104.98	-7.097	0.000	0.112
155.00	0.00	-4.74	0.00	-4.65	0.00	4.65	721.23	360.61	481.69	241.20	112.43	-7.157	0.000	0.019

Wind Loading - Shaft

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



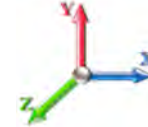
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.00



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	1.242	5.00	24.792	29.75	139.3	441.3	1796.7
10.00		1.00	0.70	4.256	4.68	0.00	1.209 *	1.331	5.00	24.292	29.38	137.5	462.4	1784.8
15.00		1.00	0.70	4.256	4.68	0.00	1.219 *	1.386	5.00	23.764	28.96	135.6	470.2	1759.6
20.00		1.00	0.70	4.256	4.68	0.00	1.229 *	1.427	5.00	23.223	28.53	133.6	472.1	1728.5
25.00		1.00	0.70	4.256	4.68	0.00	1.239 *	1.459	5.00	22.676	28.10	131.5	470.7	1694.1
30.00		1.00	0.70	4.260	4.69	0.00	1.250 *	1.486	5.00	22.124	27.66	129.6	466.9	1657.4
35.00		1.00	0.73	4.451	4.90	0.00	1.262 *	1.509	5.00	21.569	27.21	133.2	461.6	1619.0
40.00		1.00	0.76	4.625	5.09	0.00	1.274 *	1.529	5.00	21.011	26.77	136.2	454.9	1579.4
44.00	Bot - Section 2	1.00	0.78	4.752	5.23	0.00	1.286 *	1.544	4.00	16.405	21.09	110.3	359.1	1235.0
45.00		1.00	0.79	4.783	5.26	0.00	1.292 *	1.547	1.00	4.108	5.31	27.9	90.9	525.9
49.75	Top - Section 1	1.00	0.81	4.922	5.41	0.00	1.300 *	1.563	4.75	19.211	24.98	135.3	424.4	2454.4
50.00		1.00	0.81	4.929	5.42	0.00	1.300 *	1.564	0.25	0.997	1.30	7.0	22.3	75.4
55.00		1.00	0.83	5.065	5.57	0.00	1.307 *	1.579	5.00	19.647	25.68	143.1	437.3	1481.0
60.00		1.00	0.85	5.193	5.71	0.00	1.322 *	1.592	5.00	19.084	25.24	144.1	427.7	1438.4
65.00		1.00	0.87	5.313	5.84	0.00	1.338 *	1.605	5.00	18.520	24.79	144.9	417.6	1395.4
70.00		1.00	0.89	5.426	5.97	0.00	1.356 *	1.617	5.00	17.956	24.34	145.3	407.1	1351.9
75.00		1.00	0.91	5.534	6.09	0.00	1.374 *	1.628	5.00	17.391	23.90	145.5	396.2	1307.9
80.00		1.00	0.93	5.637	6.20	0.00	1.394 *	1.639	5.00	16.826	23.46	145.4	384.9	1263.7
85.00		1.00	0.94	5.736	6.31	0.00	1.415 *	1.649	5.00	16.260	23.01	145.2	373.3	1219.1
89.50	Bot - Section 3	1.00	0.96	5.821	6.40	0.00	1.437 *	1.657	4.50	14.149	20.34	130.2	326.4	1059.4
90.00		1.00	0.96	5.830	6.41	0.00	1.449 *	1.658	0.50	1.570	2.28	14.6	36.8	184.5
93.75	Top - Section 2	1.00	0.97	5.899	6.49	0.00	1.460 *	1.665	3.75	11.596	16.93	109.9	269.2	1357.6
95.00		1.00	0.97	5.921	6.51	0.00	1.461 *	1.667	1.25	3.794	5.54	36.1	89.0	252.3
100.00		1.00	0.99	6.008	6.61	0.00	1.478 *	1.676	5.00	14.824	21.91	144.8	343.5	979.8
105.00		1.00	1.00	6.093	6.70	0.00	1.506 *	1.684	5.00	14.256	21.48	143.9	330.9	939.8
110.00		1.00	1.02	6.174	6.79	0.00	1.538 *	1.692	5.00	13.688	21.05	142.9	318.2	899.5
115.00		1.00	1.03	6.253	6.88	0.00	1.200 *	1.699	5.00	13.120	15.74	108.3	305.2	859.1
117.00	Appurtenance(s)	1.00	1.03	6.284	6.91	0.00	1.200 *	1.702	2.00	5.088	6.11	42.2	120.0	333.8
120.00	Bot - Section 4	1.00	1.04	6.330	6.96	0.00	1.200	1.707	3.00	7.462	8.95	62.3	175.2	487.8
123.25	Top - Section 3	1.00	1.05	6.378	7.02	0.00	1.200	1.711	3.25	7.956	9.55	67.0	186.8	714.6
125.00		1.00	1.05	6.404	7.04	0.00	1.200	1.714	1.75	4.184	5.02	35.4	99.0	204.0
127.00	Appurtenance(s)	1.00	1.06	6.433	7.08	0.00	1.200	1.716	2.00	4.697	5.64	39.9	111.0	228.5
130.00		1.00	1.07	6.476	7.12	0.00	1.200	1.720	3.00	6.875	8.25	58.8	161.6	333.0
135.00		1.00	1.08	6.546	7.20	0.00	1.200	1.727	5.00	11.005	13.21	95.1	255.7	528.1
137.00	Appurtenance(s)	1.00	1.08	6.574	7.23	0.00	1.200	1.729	2.00	4.242	5.09	36.8	100.1	204.4
140.00		1.00	1.09	6.615	7.28	0.00	1.200	1.733	3.00	6.192	7.43	54.1	145.2	296.8
145.00		1.00	1.10	6.681	7.35	0.00	1.200	1.739	5.00	9.866	11.84	87.0	228.1	467.5
147.00	Appurtenance(s)	1.00	1.10	6.708	7.38	0.00	1.200	1.742	2.00	3.786	4.54	33.5	89.0	180.2
150.00		1.00	1.11	6.746	7.42	0.00	1.200	1.745	3.00	5.509	6.61	49.1	128.5	260.2
155.00	Appurtenance(s)	1.00	1.12	6.810	7.49	0.00	1.200	1.751	5.00	8.727	10.47	78.5	200.0	406.4
Totals:								155.00			3,940.9	38,544.8		

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	155.00	Ericsson 4460 B25 + B66	3	6.835	7.518	0.50	0.75	5.32	557.83	0.000	2.000	39.97	0.00	79.94
2	155.00	RFS	3	6.835	7.518	0.52	0.75	34.88	1700.52	0.000	2.000	262.25	0.00	524.50
3	155.00	Ericsson AIR6449 B41	3	6.835	7.518	0.53	0.75	10.55	688.41	0.000	2.000	79.31	0.00	158.63
4	155.00	ACU-A20-N	4	6.835	7.518	0.38	0.75	0.66	16.84	0.000	2.000	4.94	0.00	9.87
5	155.00	Low Profile Platform	1	6.810	7.491	1.00	1.00	50.55	2813.21	0.000	0.000	378.68	0.00	0.00
6	155.00	Ericsson 4480 B71 + B85	3	6.835	7.518	0.50	0.75	5.32	500.31	0.000	2.000	39.97	0.00	79.94
7	155.00	HRK14-U	1	6.810	7.491	1.00	1.00	13.37	887.40	0.000	0.000	100.14	0.00	0.00
8	155.00	ALU 800 MHz Filter	3	6.810	7.491	0.38	0.75	1.61	69.78	0.000	0.000	12.04	0.00	0.00
9	155.00	6' Lightning rod	1	6.810	7.491	1.00	1.00	1.47	38.92	0.000	0.000	11.02	0.00	0.00
10	155.00	PRK-SFS	1	6.810	7.491	1.00	1.00	19.48	788.42	0.000	0.000	145.93	0.00	0.00
11	155.00	HRK14-HD	1	6.810	7.491	1.00	1.00	16.10	1025.20	0.000	0.000	120.62	0.00	0.00
12	155.00	ALU TD-RRH8x20-25	3	6.835	7.518	0.50	0.75	7.34	584.70	0.000	2.000	55.15	0.00	110.30
13	147.00	MC-PK8-DSH	1	6.708	7.378	1.00	1.00	84.73	3383.83	0.000	0.000	625.16	0.00	0.00
14	147.00	FFVV-65C-R3-V1	3	6.708	7.378	0.55	0.75	22.58	1096.86	0.000	0.000	166.57	0.00	0.00
15	147.00	TA08025-B605	3	6.708	7.378	0.50	0.75	3.80	388.80	0.000	0.000	28.03	0.00	0.00
16	147.00	TA08025-B604	3	6.708	7.378	0.50	0.75	3.80	345.32	0.000	0.000	28.03	0.00	0.00
17	147.00	RDIDC-9181-PF-48	1	6.708	7.378	0.75	0.75	1.93	66.72	0.000	0.000	14.26	0.00	0.00
18	137.00	Low Profile Platform	1	6.574	7.231	1.00	1.00	51.24	2177.68	0.000	0.000	370.56	0.00	0.00
19	137.00	LPA-80063/6CF	2	6.574	7.231	0.75	0.80	16.45	634.96	0.000	0.000	118.98	0.00	0.00
20	137.00	LPA-80080-6CF-EDIN	2	6.574	7.231	0.74	0.80	8.47	287.61	0.000	0.000	61.26	0.00	0.00
21	137.00	LPA-80080/4CF	2	6.574	7.231	0.74	0.80	10.79	439.91	0.000	0.000	78.05	0.00	0.00
22	137.00	Samsung - B2/B66A	3	6.574	7.231	0.54	0.80	3.92	530.94	0.000	0.000	28.34	0.00	0.00
23	137.00	Samsung - B5/B13	3	6.574	7.231	0.54	0.80	3.92	458.80	0.000	0.000	28.34	0.00	0.00
24	137.00	Samsung - 64T64R	3	6.574	7.231	0.53	0.80	7.49	655.53	0.000	0.000	54.13	0.00	0.00
25	137.00	JMA - MX06FIT665-02	6	6.574	7.231	0.64	0.80	41.85	1670.57	0.000	0.000	302.66	0.00	0.00
26	137.00	Commscope -	1	6.574	7.231	1.00	1.00	4.87	126.10	0.000	0.000	35.25	0.00	0.00
27	127.00	HRK14	1	6.433	7.076	1.00	1.00	13.24	881.25	0.000	0.000	93.68	0.00	0.00
28	127.00	860 10025	6	6.433	7.076	0.50	0.75	1.67	34.42	0.000	0.000	11.79	0.00	0.00
29	127.00	Low Profile Platform	1	6.433	7.076	1.00	1.00	44.74	2787.31	0.000	0.000	316.59	0.00	0.00
30	127.00	DC6-48-60-18-8F	1	6.433	7.076	0.80	0.80	1.73	81.26	0.000	0.000	12.22	0.00	0.00
31	127.00	7770	3	6.433	7.076	0.60	0.80	11.78	523.33	0.000	0.000	83.39	0.00	0.00
32	127.00	HPA65R-BU6A	3	6.433	7.076	0.66	0.75	25.47	978.47	0.000	0.000	180.26	0.00	0.00
33	127.00	(3) PRK-1245	1	6.433	7.076	1.00	1.00	19.28	781.99	0.000	0.000	136.46	0.00	0.00
34	127.00	DMP65R-BU6DA	3	6.433	7.076	0.55	0.75	23.56	952.99	0.000	0.000	166.72	0.00	0.00
35	127.00	4449	3	6.433	7.076	0.50	0.75	3.28	452.51	0.000	0.000	23.23	0.00	0.00
36	127.00	8843	3	6.433	7.076	0.50	0.75	3.28	489.51	0.000	0.000	23.23	0.00	0.00
37	127.00	21401 TMA	6	6.433	7.076	0.50	0.75	6.37	206.45	0.000	0.000	45.06	0.00	0.00
38	117.00	Air 21 B4A/B2P	3	6.284	6.913	0.69	0.80	14.78	817.32	0.000	0.000	102.13	0.00	0.00
39	117.00	T-Arms	3	6.284	6.913	0.56	0.75	24.99	1765.00	0.000	0.000	172.75	0.00	0.00
40	117.00	Ericsson - Air 21 B2A/B4P	3	6.284	6.913	0.69	0.80	14.78	821.28	0.000	0.000	102.13	0.00	0.00

Totals: 33,508.24

4,659.30

Total Applied Force Summary

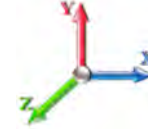
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		139.28	2178.45	0.00	0.00
10.00		137.55	2180.29	0.00	0.00
15.00		135.60	2163.75	0.00	0.00
20.00		133.59	2139.12	0.00	0.00
25.00		131.54	2109.81	0.00	0.00
30.00		129.59	2077.42	0.00	0.00
35.00		133.25	2042.80	0.00	0.00
40.00		136.17	2006.50	0.00	0.00
44.00		110.25	1578.56	0.00	0.00
45.00		27.93	611.89	0.00	0.00
49.75		135.26	2865.39	0.00	0.00
50.00		7.02	97.00	0.00	0.00
55.00		143.09	1916.22	0.00	0.00
60.00		144.14	1875.92	0.00	0.00
65.00		144.86	1834.97	0.00	0.00
70.00		145.30	1793.43	0.00	0.00
75.00		145.49	1751.39	0.00	0.00
80.00		145.45	1708.90	0.00	0.00
85.00		145.20	1665.99	0.00	0.00
89.50		130.21	1462.87	0.00	0.00
90.00		14.59	229.33	0.00	0.00
93.75		109.87	1694.76	0.00	0.00
95.00		36.11	364.82	0.00	0.00
100.00		144.79	1431.21	0.00	0.00
105.00		143.93	1392.54	0.00	0.00
110.00		142.94	1353.61	0.00	0.00
115.00		151.32	1314.44	0.00	0.00
117.00	(9) attachments	436.54	3919.78	0.00	0.00
120.00		62.35	576.12	0.00	0.00
123.25		66.99	810.44	0.00	0.00
125.00		35.37	255.60	0.00	0.00
127.00	(31) attachments	1132.50	8457.02	0.00	0.00
130.00		58.77	397.08	0.00	0.00
135.00		95.09	635.18	0.00	0.00
137.00	(23) attachments	1114.39	7229.39	0.00	0.00
140.00		54.07	334.67	0.00	0.00
145.00		87.02	530.87	0.00	0.00
147.00	(11) attachments	895.57	5487.05	0.00	0.00
150.00		49.06	272.12	0.00	0.00
155.00	(27) attachments	1328.48	10097.74	0.00	963.19
	Totals:	8,660.53	82,844.45	0.00	963.19

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



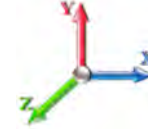
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.76	0.00	0.100	0.000	4.256	0.00	31.10
5.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.69	0.00	0.100	0.000	4.256	0.00	218.70
5.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	4.256	0.00	27.35
10.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.84	0.00	0.103	1.008	4.256	0.00	33.11
10.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.76	0.00	0.103	1.008	4.256	0.00	228.34
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.103	1.008	4.256	0.00	29.45
15.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.88	0.00	0.105	1.016	4.256	0.00	34.40
15.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.81	0.00	0.105	1.016	4.256	0.00	234.34
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.105	1.016	4.256	0.00	30.79
20.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.92	0.00	0.108	1.024	4.256	0.00	35.37
20.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.84	0.00	0.108	1.024	4.256	0.00	238.78
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.108	1.024	4.256	0.00	31.80
25.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.94	0.00	0.111	1.033	4.256	0.00	36.15
25.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.87	0.00	0.111	1.033	4.256	0.00	242.32
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.033	4.256	0.00	32.62
30.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.97	0.00	0.114	1.042	4.260	0.00	36.82
30.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.89	0.00	0.114	1.042	4.260	0.00	245.28
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.114	1.042	4.260	0.00	33.31
35.00	1.75" Hybrid	Yes	5.00	0.000	1.75	1.99	0.00	0.117	1.051	4.451	0.00	37.40
35.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.91	0.00	0.117	1.051	4.451	0.00	247.84
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.117	1.051	4.451	0.00	33.91
40.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.00	0.00	0.121	1.062	4.625	0.00	37.91
40.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.92	0.00	0.121	1.062	4.625	0.00	250.09
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.121	1.062	4.625	0.00	34.45
44.00	1.75" Hybrid	Yes	4.00	0.000	1.75	1.61	0.00	0.124	1.071	4.752	0.00	30.63
44.00	1 5/8" Coax	Yes	4.00	0.000	3.96	2.35	0.00	0.124	1.071	4.752	0.00	201.37
44.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.124	1.071	4.752	0.00	27.87
45.00	1.75" Hybrid	Yes	1.00	0.000	1.75	0.40	0.00	0.126	1.077	4.783	0.00	7.68
45.00	1 5/8" Coax	Yes	1.00	0.000	3.96	0.59	0.00	0.126	1.077	4.783	0.00	50.42
45.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.126	1.077	4.783	0.00	6.99
49.75	1.75" Hybrid	Yes	4.75	0.000	1.75	1.93	0.00	0.128	1.084	4.922	0.00	36.84
49.75	1 5/8" Coax	Yes	4.75	0.000	3.96	2.80	0.00	0.128	1.084	4.922	0.00	241.15
49.75	1 5/8" Hybrid	Yes	4.75	0.000	0.00	0.00	0.00	0.128	1.084	4.922	0.00	33.58
50.00	1.75" Hybrid	Yes	0.25	0.000	1.75	0.10	0.00	0.128	1.083	4.929	0.00	1.94
50.00	1 5/8" Coax	Yes	0.25	0.000	3.96	0.15	0.00	0.128	1.083	4.929	0.00	12.70
50.00	1 5/8" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.128	1.083	4.929	0.00	1.77
55.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.04	0.00	0.130	1.089	5.065	0.00	39.19
55.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.97	0.00	0.130	1.089	5.065	0.00	255.60
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.089	5.065	0.00	35.77
60.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.06	0.00	0.134	1.102	5.193	0.00	39.55
60.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.98	0.00	0.134	1.102	5.193	0.00	257.14
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	5.193	0.00	36.14
65.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.07	0.00	0.138	1.115	5.313	0.00	39.89
65.00	1 5/8" Coax	Yes	5.00	0.000	3.96	2.99	0.00	0.138	1.115	5.313	0.00	258.57
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	5.313	0.00	36.49
70.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.08	0.00	0.143	1.130	5.426	0.00	40.20
70.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.00	0.00	0.143	1.130	5.426	0.00	259.91

Linear Appurtenance Segment Forces (Factored)

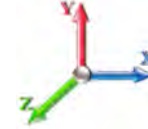
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.130	5.426	0.00	36.82
75.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.09	0.00	0.148	1.145	5.534	0.00	40.50
75.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.01	0.00	0.148	1.145	5.534	0.00	261.17
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.148	1.145	5.534	0.00	37.13
80.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.09	0.00	0.154	1.162	5.637	0.00	40.78
80.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.02	0.00	0.154	1.162	5.637	0.00	262.35
80.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.154	1.162	5.637	0.00	37.42
85.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.10	0.00	0.160	1.179	5.736	0.00	41.05
85.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.02	0.00	0.160	1.179	5.736	0.00	263.47
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.179	5.736	0.00	37.70
89.50	1.75" Hybrid	Yes	4.50	0.000	1.75	1.90	0.00	0.166	1.198	5.821	0.00	37.15
89.50	1 5/8" Coax	Yes	4.50	0.000	3.96	2.73	0.00	0.166	1.198	5.821	0.00	237.99
89.50	1 5/8" Hybrid	Yes	4.50	0.000	0.00	0.00	0.00	0.166	1.198	5.821	0.00	34.15
90.00	1.75" Hybrid	Yes	0.50	0.000	1.75	0.21	0.00	0.169	1.208	5.830	0.00	4.13
90.00	1 5/8" Coax	Yes	0.50	0.000	3.96	0.30	0.00	0.169	1.208	5.830	0.00	26.45
90.00	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.169	1.208	5.830	0.00	3.80
93.75	1.75" Hybrid	Yes	3.75	0.000	1.75	1.59	0.00	0.172	1.217	5.899	0.00	31.12
93.75	1 5/8" Coax	Yes	3.75	0.000	3.96	2.28	0.00	0.172	1.217	5.899	0.00	198.98
93.75	1 5/8" Hybrid	Yes	3.75	0.000	0.00	0.00	0.00	0.172	1.217	5.899	0.00	28.62
95.00	1.75" Hybrid	Yes	1.25	0.000	1.75	0.53	0.00	0.173	1.218	5.921	0.00	10.39
95.00	1 5/8" Coax	Yes	1.25	0.000	3.96	0.76	0.00	0.173	1.218	5.921	0.00	66.39
95.00	1 5/8" Hybrid	Yes	1.25	0.000	0.00	0.00	0.00	0.173	1.218	5.921	0.00	9.55
100.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.13	0.00	0.177	1.232	6.008	0.00	41.79
100.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.05	0.00	0.177	1.232	6.008	0.00	266.52
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.177	1.232	6.008	0.00	38.46
105.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.13	0.00	0.185	1.255	6.093	0.00	42.01
105.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.05	0.00	0.185	1.255	6.093	0.00	267.44
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	6.093	0.00	38.69
110.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.14	0.00	0.194	1.281	6.174	0.00	42.22
110.00	1 5/8" Coax	Yes	5.00	0.000	3.96	3.06	0.00	0.194	1.281	6.174	0.00	268.33
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.194	1.281	6.174	0.00	38.92
115.00	1.75" Hybrid	Yes	5.00	1.200	1.75	2.15	2.57	0.203	0.000	6.253	17.71	42.43
115.00	1 5/8" Coax	Yes	5.00	1.200	3.96	3.07	3.68	0.203	0.000	6.253	25.31	269.18
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.203	0.000	6.253	0.00	39.13
117.00	1.75" Hybrid	Yes	2.00	1.200	1.75	0.86	1.03	0.211	0.000	6.284	7.13	17.01
117.00	1 5/8" Coax	Yes	2.00	1.200	3.96	1.23	1.47	0.211	0.000	6.284	10.18	107.81
117.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.211	0.000	6.284	0.00	15.69
120.00	1.75" Hybrid	Yes	3.00	0.000	1.75	1.29	0.00	0.066	0.000	6.330	0.00	25.58
123.25	1.75" Hybrid	Yes	3.25	0.000	1.75	1.40	0.00	0.068	0.000	6.378	0.00	27.79
125.00	1.75" Hybrid	Yes	1.75	0.000	1.75	0.76	0.00	0.069	0.000	6.404	0.00	14.99
127.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.86	0.00	0.071	0.000	6.433	0.00	17.16
130.00	1.75" Hybrid	Yes	3.00	0.000	1.75	1.30	0.00	0.073	0.000	6.476	0.00	25.81
135.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.17	0.00	0.076	0.000	6.546	0.00	43.19
137.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.87	0.00	0.080	0.000	6.574	0.00	17.31
140.00	1.75" Hybrid	Yes	3.00	0.000	1.75	1.30	0.00	0.082	0.000	6.615	0.00	26.02
145.00	1.75" Hybrid	Yes	5.00	0.000	1.75	2.18	0.00	0.087	0.000	6.681	0.00	43.54
147.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.87	0.00	0.091	0.000	6.708	0.00	17.44

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

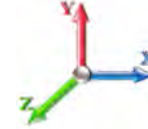


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
Totals:											60.3	7,934.6

Calculated Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Iterations 25

Dead Load Factor 1.20
Wind Load 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	-82.84	-8.70	0.00	-1065.2	0.00	1065.21	4331.76	2165.88	10060.7	5037.85	0.00	0.000	0.000	0.231
5.00	-80.65	-8.64	0.00	-1021.7	0.00	1021.71	4271.91	2135.96	9681.61	4848.00	0.03	-0.055	0.000	0.230
10.00	-78.46	-8.58	0.00	-978.52	0.00	978.52	4209.88	2104.94	9304.37	4659.10	0.12	-0.111	0.000	0.229
15.00	-76.29	-8.51	0.00	-935.63	0.00	935.63	4145.67	2072.83	8929.41	4471.34	0.27	-0.170	0.000	0.228
20.00	-74.14	-8.45	0.00	-893.06	0.00	893.06	4079.27	2039.64	8557.10	4284.91	0.48	-0.230	0.000	0.227
25.00	-72.03	-8.39	0.00	-850.80	0.00	850.80	4010.69	2005.34	8187.79	4099.98	0.75	-0.292	0.000	0.225
30.00	-69.94	-8.33	0.00	-808.84	0.00	808.84	3939.93	1969.96	7821.85	3916.74	1.09	-0.356	0.000	0.224
35.00	-67.89	-8.26	0.00	-767.20	0.00	767.20	3866.98	1933.49	7459.66	3735.38	1.50	-0.422	0.000	0.223
40.00	-65.87	-8.18	0.00	-725.89	0.00	725.89	3791.85	1895.92	7101.59	3556.07	1.98	-0.490	0.000	0.222
44.00	-64.29	-8.10	0.00	-693.17	0.00	693.17	3730.17	1865.09	6818.34	3414.24	2.41	-0.547	0.000	0.220
45.00	-63.67	-8.11	0.00	-685.07	0.00	685.07	3714.54	1857.27	6747.99	3379.01	2.53	-0.562	0.000	0.220
49.75	-60.81	-7.98	0.00	-646.55	0.00	646.55	3683.20	1841.60	6608.77	3309.30	3.12	-0.631	0.000	0.212
50.00	-60.70	-8.02	0.00	-644.55	0.00	644.55	3679.23	1839.62	6591.31	3300.56	3.16	-0.635	0.000	0.212
55.00	-58.78	-7.92	0.00	-604.48	0.00	604.48	3598.76	1799.38	6244.86	3127.07	3.86	-0.706	0.000	0.210
60.00	-56.90	-7.83	0.00	-564.86	0.00	564.86	3516.10	1758.05	5903.79	2956.28	4.64	-0.779	0.000	0.207
65.00	-55.05	-7.73	0.00	-525.72	0.00	525.72	3431.27	1715.63	5568.46	2788.37	5.49	-0.854	0.000	0.205
70.00	-53.25	-7.63	0.00	-487.07	0.00	487.07	3344.24	1672.12	5239.26	2623.52	6.43	-0.932	0.000	0.202
75.00	-51.49	-7.53	0.00	-448.91	0.00	448.91	3255.04	1627.52	4916.54	2461.92	7.45	-1.011	0.000	0.198
80.00	-49.78	-7.42	0.00	-411.27	0.00	411.27	3137.93	1568.96	4563.27	2285.03	8.55	-1.093	0.000	0.196
85.00	-48.10	-7.31	0.00	-374.16	0.00	374.16	3017.89	1508.95	4219.09	2112.68	9.74	-1.176	0.000	0.193
89.50	-46.64	-7.18	0.00	-341.26	0.00	341.26	2909.87	1454.93	3920.86	1963.34	10.89	-1.252	0.000	0.190
90.00	-46.40	-7.20	0.00	-337.67	0.00	337.67	2897.86	1448.93	3888.39	1947.09	11.02	-1.261	0.000	0.189
93.75	-44.71	-7.08	0.00	-310.69	0.00	310.69	2354.99	1177.49	3133.69	1569.17	12.03	-1.327	0.000	0.217
95.00	-44.34	-7.08	0.00	-301.83	0.00	301.83	2336.81	1168.40	3076.66	1540.62	12.39	-1.349	0.000	0.215
100.00	-42.90	-6.98	0.00	-266.41	0.00	266.41	2262.72	1131.36	2851.92	1428.08	13.85	-1.447	0.000	0.206
105.00	-41.50	-6.87	0.00	-231.53	0.00	231.53	2165.47	1082.73	2607.63	1305.76	15.42	-1.544	0.000	0.197
110.00	-40.14	-6.75	0.00	-197.19	0.00	197.19	2065.44	1032.72	2371.09	1187.31	17.09	-1.640	0.000	0.186
115.00	-38.82	-6.61	0.00	-163.43	0.00	163.43	1965.41	982.71	2145.79	1074.49	18.86	-1.733	0.000	0.172
117.00	-34.91	-6.08	0.00	-150.22	0.00	150.22	1925.40	962.70	2058.82	1030.94	19.59	-1.770	0.000	0.164
120.00	-34.33	-6.03	0.00	-131.98	0.00	131.98	1865.39	932.69	1931.73	967.30	20.72	-1.824	0.000	0.155
123.25	-33.52	-5.96	0.00	-112.38	0.00	112.38	1005.19	502.59	1030.12	515.83	21.98	-1.880	0.000	0.251
125.00	-33.26	-5.94	0.00	-101.95	0.00	101.95	992.91	496.46	998.01	499.75	22.68	-1.909	0.000	0.238
127.00	-24.84	-4.55	0.00	-90.07	0.00	90.07	978.56	489.28	961.59	481.51	23.49	-1.959	0.000	0.213
130.00	-24.44	-4.51	0.00	-76.42	0.00	76.42	956.38	478.19	907.53	454.44	24.74	-2.028	0.000	0.194
135.00	-23.80	-4.42	0.00	-53.85	0.00	53.85	917.66	458.83	819.21	410.21	26.92	-2.128	0.000	0.157
137.00	-16.62	-3.05	0.00	-45.00	0.00	45.00	901.57	450.78	784.57	392.87	27.82	-2.164	0.000	0.133
140.00	-16.28	-3.00	0.00	-35.85	0.00	35.85	876.76	438.38	733.42	367.25	29.20	-2.212	0.000	0.116
145.00	-15.75	-2.90	0.00	-20.84	0.00	20.84	833.68	416.84	650.52	325.74	31.55	-2.276	0.000	0.083
147.00	-10.31	-1.79	0.00	-15.03	0.00	15.03	815.84	407.92	618.25	309.58	32.51	-2.295	0.000	0.061
150.00	-10.04	-1.74	0.00	-9.65	0.00	9.65	781.24	390.62	565.69	283.26	33.96	-2.318	0.000	0.047
155.00	0.00	-1.33	0.00	-0.96	0.00	0.96	721.23	360.61	481.69	241.20	36.40	-2.336	0.000	0.004

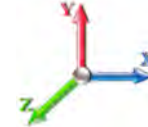
Seismic Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 23
Gust Response Factor	1.10	Sds	0.23			Ss 0.22
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.11	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	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		1129.4	0.00	0.03	0.02	28.32		
10.00		1101.9	0.01	0.05	0.03	38.99		
15.00		1074.5	0.02	0.06	0.04	43.34		
20.00		1047.0	0.03	0.07	0.04	44.88		
25.00		1019.5	0.05	0.07	0.04	45.18		
30.00		992.03	0.07	0.07	0.04	45.05		
35.00		964.55	0.10	0.07	0.04	44.84		
40.00		937.06	0.13	0.07	0.03	44.62		
44.00	Bot - Section 2	729.86	0.15	0.07	0.03	35.36		
45.00		362.47	0.16	0.07	0.03	17.63		
49.75	Top - Section 1	1691.6	0.19	0.06	0.02	83.07		
50.00		44.21	0.20	0.06	0.02	2.17		
55.00		869.78	0.24	0.06	0.02	42.06		
60.00		842.29	0.28	0.05	0.01	38.26		
65.00		814.81	0.33	0.04	0.01	31.84		
70.00		787.32	0.39	0.02	0.01	22.18		
75.00		759.83	0.44	0.00	0.01	9.40		
80.00		732.34	0.50	-0.02	0.01	-4.95		
85.00		704.86	0.57	-0.04	0.01	-18.19		
89.50	Bot - Section 3	610.87	0.63	-0.06	0.02	-24.37		
90.00		123.08	0.64	-0.07	0.02	-5.07		
93.75	Top - Section 2	907.01	0.69	-0.08	0.03	-44.41		
95.00		136.14	0.71	-0.09	0.03	-6.91		
100.00		530.26	0.79	-0.11	0.05	-28.63		
105.00		507.35	0.87	-0.12	0.08	-25.92		
110.00		484.45	0.95	-0.12	0.11	-20.55		
115.00		461.54	1.04	-0.10	0.15	-13.02		
117.00	Appurtenance(s)	1773.9	1.08	-0.08	0.17	-37.28		
120.00	Bot - Section 4	260.43	1.13	-0.05	0.21	-2.24		
123.25	Top - Section 3	439.82	1.20	0.00	0.25	3.11		
125.00		87.51	1.23	0.03	0.28	1.44		
127.00	Appurtenance(s)	3388.3	1.27	0.08	0.31	94.87		
130.00		142.80	1.33	0.16	0.36	6.71		
135.00		227.01	1.43	0.35	0.47	18.87		
137.00	Appurtenance(s)	2459.8	1.48	0.44	0.52	243.91		
140.00		126.31	1.54	0.61	0.59	15.79		
145.00		199.52	1.65	0.96	0.75	34.46		
147.00	Appurtenance(s)	2454.5	1.70	1.12	0.81	474.94		
150.00		109.82	1.77	1.41	0.93	24.87		
155.00	Appurtenance(s)	4231.3	1.89	1.98	1.14	1212.04		
Totals:		36,267.5				2,516.6	Total Wind:	28,368.3

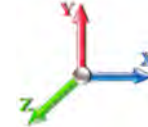
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E						Iterations 23
Gust Response Factor	1.10		Sds	0.23		Ss 0.22
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.11	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	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	-48.64	-2.76	0.00	-363.61	0.00	363.61	4331.76	2165.88	10060.7	5037.85	0.00	0.00	0.00	0.083
5.00	-47.08	-2.74	0.00	-349.83	0.00	349.83	4271.91	2135.96	9681.61	4848.00	0.01	-0.02	0.083	
10.00	-45.56	-2.72	0.00	-336.12	0.00	336.12	4209.88	2104.94	9304.37	4659.10	0.04	-0.04	0.083	
15.00	-44.07	-2.69	0.00	-322.53	0.00	322.53	4145.67	2072.83	8929.41	4471.34	0.09	-0.06	0.083	
20.00	-42.62	-2.66	0.00	-309.08	0.00	309.08	4079.27	2039.64	8557.10	4284.91	0.16	-0.08	0.083	
25.00	-41.19	-2.63	0.00	-295.79	0.00	295.79	4010.69	2005.34	8187.79	4099.98	0.26	-0.10	0.082	
30.00	-39.80	-2.60	0.00	-282.65	0.00	282.65	3939.93	1969.96	7821.85	3916.74	0.37	-0.12	0.082	
35.00	-38.45	-2.56	0.00	-269.67	0.00	269.67	3866.98	1933.49	7459.66	3735.38	0.52	-0.15	0.082	
40.00	-37.12	-2.53	0.00	-256.86	0.00	256.86	3791.85	1895.92	7101.59	3556.07	0.68	-0.17	0.082	
44.00	-36.09	-2.50	0.00	-246.74	0.00	246.74	3730.17	1865.09	6818.34	3414.24	0.83	-0.19	0.082	
45.00	-35.61	-2.49	0.00	-244.24	0.00	244.24	3714.54	1857.27	6747.99	3379.01	0.87	-0.20	0.082	
49.75	-33.40	-2.41	0.00	-232.42	0.00	232.42	3683.20	1841.60	6608.77	3309.30	1.08	-0.22	0.079	
50.00	-33.33	-2.41	0.00	-231.82	0.00	231.82	3679.23	1839.62	6591.31	3300.56	1.09	-0.22	0.079	
55.00	-32.09	-2.38	0.00	-219.77	0.00	219.77	3598.76	1799.38	6244.86	3127.07	1.34	-0.25	0.079	
60.00	-30.88	-2.35	0.00	-207.88	0.00	207.88	3516.10	1758.05	5903.79	2956.28	1.61	-0.27	0.079	
65.00	-29.70	-2.33	0.00	-196.13	0.00	196.13	3431.27	1715.63	5568.46	2788.37	1.91	-0.30	0.079	
70.00	-28.56	-2.31	0.00	-184.50	0.00	184.50	3344.24	1672.12	5239.26	2623.52	2.24	-0.33	0.079	
75.00	-27.45	-2.31	0.00	-172.94	0.00	172.94	3255.04	1627.52	4916.54	2461.92	2.61	-0.36	0.079	
80.00	-26.37	-2.32	0.00	-161.39	0.00	161.39	3137.93	1568.96	4563.27	2285.03	3.00	-0.39	0.079	
85.00	-25.32	-2.33	0.00	-149.79	0.00	149.79	3017.89	1508.95	4219.09	2112.68	3.43	-0.43	0.079	
89.50	-24.41	-2.33	0.00	-139.33	0.00	139.33	2909.87	1454.93	3920.86	1963.34	3.85	-0.46	0.079	
90.00	-24.24	-2.33	0.00	-138.16	0.00	138.16	2897.86	1448.93	3888.39	1947.09	3.90	-0.46	0.079	
93.75	-23.01	-2.33	0.00	-129.42	0.00	129.42	2354.99	1177.49	3133.69	1569.17	4.27	-0.49	0.092	
95.00	-22.79	-2.34	0.00	-126.51	0.00	126.51	2336.81	1168.40	3076.66	1540.62	4.40	-0.50	0.092	
100.00	-21.96	-2.35	0.00	-114.83	0.00	114.83	2262.72	1131.36	2851.92	1428.08	4.94	-0.54	0.090	
105.00	-21.15	-2.35	0.00	-103.10	0.00	103.10	2165.47	1082.73	2607.63	1305.76	5.53	-0.58	0.089	
110.00	-20.37	-2.36	0.00	-91.34	0.00	91.34	2065.44	1032.72	2371.09	1187.31	6.16	-0.62	0.087	
115.00	-19.61	-2.36	0.00	-79.53	0.00	79.53	1965.41	982.71	2145.79	1074.49	6.84	-0.67	0.084	
117.00	-17.41	-2.34	0.00	-74.81	0.00	74.81	1925.40	962.70	2058.82	1030.94	7.12	-0.69	0.082	
120.00	-17.02	-2.35	0.00	-67.78	0.00	67.78	1865.39	932.69	1931.73	967.30	7.56	-0.71	0.079	
123.25	-16.42	-2.34	0.00	-60.15	0.00	60.15	1005.19	502.59	1030.12	515.83	8.06	-0.74	0.133	
125.00	-16.27	-2.35	0.00	-56.05	0.00	56.05	992.91	496.46	998.01	499.75	8.33	-0.76	0.129	
127.00	-12.16	-2.20	0.00	-51.36	0.00	51.36	978.56	489.28	961.59	481.51	8.66	-0.79	0.119	
130.00	-11.94	-2.20	0.00	-44.75	0.00	44.75	956.38	478.19	907.53	454.44	9.17	-0.83	0.111	
135.00	-11.59	-2.19	0.00	-33.73	0.00	33.73	917.66	458.83	819.21	410.21	10.07	-0.89	0.095	
137.00	-8.61	-1.90	0.00	-29.35	0.00	29.35	901.57	450.78	784.57	392.87	10.44	-0.91	0.084	
140.00	-8.44	-1.89	0.00	-23.65	0.00	23.65	876.76	438.38	733.42	367.25	11.02	-0.94	0.074	
145.00	-8.17	-1.85	0.00	-14.21	0.00	14.21	833.68	416.84	650.52	325.74	12.04	-0.98	0.053	
147.00	-5.22	-1.33	0.00	-10.50	0.00	10.50	815.84	407.92	618.25	309.58	12.45	-1.00	0.040	
150.00	-5.07	-1.30	0.00	-6.51	0.00	6.51	781.24	390.62	565.69	283.26	13.08	-1.01	0.029	
155.00	0.00	-1.21	0.00	0.00	0.00	0.00	721.23	360.61	481.69	241.20	14.15	-1.02	0.000	

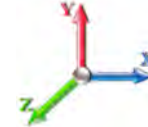
Seismic Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 23
Gust Response Factor	1.10	Sds	0.23	Ss 0.22
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	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		1129.4	0.00	0.03	0.02	28.32	
10.00		1101.9	0.01	0.05	0.03	38.99	
15.00		1074.5	0.02	0.06	0.04	43.34	
20.00		1047.0	0.03	0.07	0.04	44.88	
25.00		1019.5	0.05	0.07	0.04	45.18	
30.00		992.03	0.07	0.07	0.04	45.05	
35.00		964.55	0.10	0.07	0.04	44.84	
40.00		937.06	0.13	0.07	0.03	44.62	
44.00	Bot - Section 2	729.86	0.15	0.07	0.03	35.36	
45.00		362.47	0.16	0.07	0.03	17.63	
49.75	Top - Section 1	1691.6	0.19	0.06	0.02	83.07	
50.00		44.21	0.20	0.06	0.02	2.17	
55.00		869.78	0.24	0.06	0.02	42.06	
60.00		842.29	0.28	0.05	0.01	38.26	
65.00		814.81	0.33	0.04	0.01	31.84	
70.00		787.32	0.39	0.02	0.01	22.18	
75.00		759.83	0.44	0.00	0.01	9.40	
80.00		732.34	0.50	-0.02	0.01	-4.95	
85.00		704.86	0.57	-0.04	0.01	-18.19	
89.50	Bot - Section 3	610.87	0.63	-0.06	0.02	-24.37	
90.00		123.08	0.64	-0.07	0.02	-5.07	
93.75	Top - Section 2	907.01	0.69	-0.08	0.03	-44.41	
95.00		136.14	0.71	-0.09	0.03	-6.91	
100.00		530.26	0.79	-0.11	0.05	-28.63	
105.00		507.35	0.87	-0.12	0.08	-25.92	
110.00		484.45	0.95	-0.12	0.11	-20.55	
115.00		461.54	1.04	-0.10	0.15	-13.02	
117.00	Appurtenance(s)	1773.9	1.08	-0.08	0.17	-37.28	
120.00	Bot - Section 4	260.43	1.13	-0.05	0.21	-2.24	
123.25	Top - Section 3	439.82	1.20	0.00	0.25	3.11	
125.00		87.51	1.23	0.03	0.28	1.44	
127.00	Appurtenance(s)	3388.3	1.27	0.08	0.31	94.87	
130.00		142.80	1.33	0.16	0.36	6.71	
135.00		227.01	1.43	0.35	0.47	18.87	
137.00	Appurtenance(s)	2459.8	1.48	0.44	0.52	243.91	
140.00		126.31	1.54	0.61	0.59	15.79	
145.00		199.52	1.65	0.96	0.75	34.46	
147.00	Appurtenance(s)	2454.5	1.70	1.12	0.81	474.94	
150.00		109.82	1.77	1.41	0.93	24.87	
155.00	Appurtenance(s)	4231.3	1.89	1.98	1.14	1212.04	
Totals:		36,267.5				2,516.6	Total Wind: 28,368.3

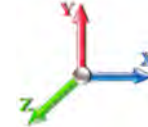
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E		Iterations 23
Gust Response Factor 1.10	Sds 0.23	Ss 0.22
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.07
Wind Load Factor 0.00	Structure Frequency (f1) 0.31	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	-36.48	-2.75	0.00	-357.73	0.00	357.73	4331.76	2165.88	10060.7	5037.85	0.00	0.00	0.00	0.079
5.00	-35.31	-2.74	0.00	-343.96	0.00	343.96	4271.91	2135.96	9681.61	4848.00	0.01	-0.02	0.079	
10.00	-34.17	-2.71	0.00	-330.28	0.00	330.28	4209.88	2104.94	9304.37	4659.10	0.04	-0.04	0.079	
15.00	-33.05	-2.68	0.00	-316.74	0.00	316.74	4145.67	2072.83	8929.41	4471.34	0.09	-0.06	0.079	
20.00	-31.96	-2.64	0.00	-303.36	0.00	303.36	4079.27	2039.64	8557.10	4284.91	0.16	-0.08	0.079	
25.00	-30.89	-2.61	0.00	-290.15	0.00	290.15	4010.69	2005.34	8187.79	4099.98	0.25	-0.10	0.078	
30.00	-29.85	-2.57	0.00	-277.12	0.00	277.12	3939.93	1969.96	7821.85	3916.74	0.37	-0.12	0.078	
35.00	-28.83	-2.54	0.00	-264.27	0.00	264.27	3866.98	1933.49	7459.66	3735.38	0.51	-0.14	0.078	
40.00	-27.84	-2.50	0.00	-251.59	0.00	251.59	3791.85	1895.92	7101.59	3556.07	0.67	-0.17	0.078	
44.00	-27.07	-2.47	0.00	-241.60	0.00	241.60	3730.17	1865.09	6818.34	3414.24	0.82	-0.19	0.078	
45.00	-26.71	-2.45	0.00	-239.13	0.00	239.13	3714.54	1857.27	6747.99	3379.01	0.86	-0.19	0.078	
49.75	-25.04	-2.37	0.00	-227.48	0.00	227.48	3683.20	1841.60	6608.77	3309.30	1.06	-0.22	0.076	
50.00	-25.00	-2.37	0.00	-226.88	0.00	226.88	3679.23	1839.62	6591.31	3300.56	1.07	-0.22	0.076	
55.00	-24.06	-2.34	0.00	-215.01	0.00	215.01	3598.76	1799.38	6244.86	3127.07	1.31	-0.24	0.075	
60.00	-23.16	-2.31	0.00	-203.31	0.00	203.31	3516.10	1758.05	5903.79	2956.28	1.58	-0.27	0.075	
65.00	-22.27	-2.28	0.00	-191.77	0.00	191.77	3431.27	1715.63	5568.46	2788.37	1.88	-0.30	0.075	
70.00	-21.42	-2.27	0.00	-180.36	0.00	180.36	3344.24	1672.12	5239.26	2623.52	2.20	-0.32	0.075	
75.00	-20.58	-2.26	0.00	-169.03	0.00	169.03	3255.04	1627.52	4916.54	2461.92	2.56	-0.35	0.075	
80.00	-19.77	-2.27	0.00	-157.71	0.00	157.71	3137.93	1568.96	4563.27	2285.03	2.95	-0.38	0.075	
85.00	-18.99	-2.27	0.00	-146.37	0.00	146.37	3017.89	1508.95	4219.09	2112.68	3.37	-0.42	0.076	
89.50	-18.31	-2.27	0.00	-136.13	0.00	136.13	2909.87	1454.93	3920.86	1963.34	3.77	-0.45	0.076	
90.00	-18.18	-2.28	0.00	-135.00	0.00	135.00	2897.86	1448.93	3888.39	1947.09	3.82	-0.45	0.076	
93.75	-17.25	-2.28	0.00	-126.45	0.00	126.45	2354.99	1177.49	3133.69	1569.17	4.19	-0.48	0.088	
95.00	-17.09	-2.28	0.00	-123.61	0.00	123.61	2336.81	1168.40	3076.66	1540.62	4.31	-0.49	0.088	
100.00	-16.46	-2.29	0.00	-112.20	0.00	112.20	2262.72	1131.36	2851.92	1428.08	4.84	-0.53	0.086	
105.00	-15.86	-2.29	0.00	-100.76	0.00	100.76	2165.47	1082.73	2607.63	1305.76	5.42	-0.57	0.084	
110.00	-15.27	-2.30	0.00	-89.29	0.00	89.29	2065.44	1032.72	2371.09	1187.31	6.04	-0.61	0.083	
115.00	-14.70	-2.30	0.00	-77.79	0.00	77.79	1965.41	982.71	2145.79	1074.49	6.70	-0.65	0.080	
117.00	-13.05	-2.29	0.00	-73.19	0.00	73.19	1925.40	962.70	2058.82	1030.94	6.98	-0.67	0.078	
120.00	-12.76	-2.29	0.00	-66.33	0.00	66.33	1865.39	932.69	1931.73	967.30	7.41	-0.70	0.075	
123.25	-12.31	-2.29	0.00	-58.89	0.00	58.89	1005.19	502.59	1030.12	515.83	7.89	-0.73	0.126	
125.00	-12.20	-2.29	0.00	-54.89	0.00	54.89	992.91	496.46	998.01	499.75	8.16	-0.74	0.122	
127.00	-9.11	-2.16	0.00	-50.31	0.00	50.31	978.56	489.28	961.59	481.51	8.48	-0.77	0.114	
130.00	-8.95	-2.16	0.00	-43.84	0.00	43.84	956.38	478.19	907.53	454.44	8.98	-0.81	0.106	
135.00	-8.69	-2.14	0.00	-33.06	0.00	33.06	917.66	458.83	819.21	410.21	9.86	-0.87	0.090	
137.00	-6.45	-1.86	0.00	-28.78	0.00	28.78	901.57	450.78	784.57	392.87	10.23	-0.89	0.080	
140.00	-6.32	-1.85	0.00	-23.19	0.00	23.19	876.76	438.38	733.42	367.25	10.80	-0.92	0.070	
145.00	-6.12	-1.82	0.00	-13.94	0.00	13.94	833.68	416.84	650.52	325.74	11.79	-0.96	0.050	
147.00	-3.91	-1.30	0.00	-10.31	0.00	10.31	815.84	407.92	618.25	309.58	12.19	-0.98	0.038	
150.00	-3.80	-1.28	0.00	-6.39	0.00	6.39	781.24	390.62	565.69	283.26	12.81	-0.99	0.027	
155.00	0.00	-1.21	0.00	0.00	0.00	0.00	721.23	360.61	481.69	241.20	13.86	-1.00	0.000	

Wind Loading - Shaft

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

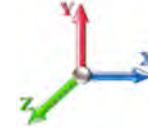


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00
Wind Load Factor 1.00



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	241.40	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	235.64	0.650	0.000	5.00	23.757	15.44	104.1	0.0	1129.5
10.00		1.00	0.70	6.129	6.74	229.87	0.655 *	0.000	5.00	23.183	15.19	102.4	0.0	1102.0
15.00		1.00	0.70	6.129	6.74	224.11	0.660 *	0.000	5.00	22.609	14.93	100.6	0.0	1074.5
20.00		1.00	0.70	6.129	6.74	218.34	0.666 *	0.000	5.00	22.034	14.67	98.9	0.0	1047.0
25.00		1.00	0.70	6.129	6.74	212.57	0.671 *	0.000	5.00	21.460	14.40	97.1	0.0	1019.5
30.00		1.00	0.70	6.134	6.75	206.90	0.677 *	0.000	5.00	20.886	14.14	95.4	0.0	992.0
35.00		1.00	0.73	6.410	7.05	205.60	0.683 *	0.000	5.00	20.311	13.88	97.9	0.0	964.5
40.00		1.00	0.76	6.659	7.33	203.55	0.690 *	0.000	5.00	19.737	13.62	99.8	0.0	937.1
44.00	Bot - Section 2	1.00	0.78	6.843	7.53	201.47	0.696 *	0.000	4.00	15.376	10.71	80.6	0.0	729.9
45.00		1.00	0.79	6.887	7.58	200.90	0.700 *	0.000	1.00	3.850	2.70	20.4	0.0	362.5
49.75	Top - Section 1	1.00	0.81	7.088	7.80	197.91	0.704 *	0.000	4.75	17.974	12.66	98.7	0.0	1691.7
50.00		1.00	0.81	7.098	7.81	201.17	0.704 *	0.000	0.25	0.932	0.66	5.1	0.0	44.2
55.00		1.00	0.83	7.294	8.02	197.63	0.708 *	0.000	5.00	18.331	12.98	104.1	0.0	869.8
60.00		1.00	0.85	7.477	8.22	193.74	0.716 *	0.000	5.00	17.757	12.72	104.6	0.0	842.3
65.00		1.00	0.87	7.650	8.42	189.52	0.725 *	0.000	5.00	17.183	12.46	104.8	0.0	814.8
70.00		1.00	0.89	7.814	8.60	185.03	0.734 *	0.000	5.00	16.609	12.20	104.8	0.0	787.3
75.00		1.00	0.91	7.969	8.77	180.29	0.744 *	0.000	5.00	16.034	11.93	104.6	0.0	759.8
80.00		1.00	0.93	8.118	8.93	175.32	0.755 *	0.000	5.00	15.460	11.67	104.2	0.0	732.3
85.00		1.00	0.94	8.260	9.09	170.15	0.767 *	0.000	5.00	14.886	11.41	103.7	0.0	704.9
89.50	Bot - Section 3	1.00	0.96	8.382	9.22	165.34	0.779 *	0.000	4.50	12.906	10.05	92.6	0.0	610.9
90.00		1.00	0.96	8.396	9.24	164.80	0.785 *	0.000	0.50	1.432	1.12	10.4	0.0	123.1
93.75	Top - Section 2	1.00	0.97	8.494	9.34	160.67	0.791 *	0.000	3.75	10.555	8.35	78.0	0.0	907.0
95.00		1.00	0.97	8.526	9.38	162.40	0.792 *	0.000	1.25	3.446	2.73	25.6	0.0	136.1
100.00		1.00	0.99	8.652	9.52	156.75	0.801 *	0.000	5.00	13.427	10.75	102.3	0.0	530.3
105.00		1.00	1.00	8.774	9.65	150.95	0.816 *	0.000	5.00	12.853	10.49	101.2	0.0	507.4
110.00		1.00	1.02	8.891	9.78	145.01	0.833 *	0.000	5.00	12.278	10.23	100.0	0.0	484.4
115.00		1.00	1.03	9.005	9.91	138.94	1.200 *	0.000	5.00	11.704	14.04	139.1	0.0	461.5
117.00	Appurtenance(s)	1.00	1.03	9.049	9.95	136.48	1.200 *	0.000	2.00	4.521	5.42	54.0	0.0	178.2
120.00	Bot - Section 4	1.00	1.04	9.115	10.03	132.76	0.650	0.000	3.00	6.609	4.30	43.1	0.0	260.4
123.25	Top - Section 3	1.00	1.05	9.185	10.10	128.68	0.650	0.000	3.25	7.030	4.57	46.2	0.0	439.8
125.00		1.00	1.05	9.222	10.14	128.41	0.650	0.000	1.75	3.685	2.39	24.3	0.0	87.5
127.00	Appurtenance(s)	1.00	1.06	9.264	10.19	125.87	0.650	0.000	2.00	4.125	2.68	27.3	0.0	98.0
130.00		1.00	1.07	9.326	10.26	122.02	0.650	0.000	3.00	6.015	3.91	40.1	0.0	142.8
135.00		1.00	1.08	9.427	10.37	115.53	0.650	0.000	5.00	9.565	6.22	64.5	0.0	227.0
137.00	Appurtenance(s)	1.00	1.08	9.466	10.41	112.91	0.650	0.000	2.00	3.665	2.38	24.8	0.0	87.0
140.00		1.00	1.09	9.525	10.48	108.94	0.650	0.000	3.00	5.326	3.46	36.3	0.0	126.3
145.00		1.00	1.10	9.621	10.58	102.27	0.650	0.000	5.00	8.417	5.47	57.9	0.0	199.5
147.00	Appurtenance(s)	1.00	1.10	9.659	10.62	99.57	0.650	0.000	2.00	3.206	2.08	22.1	0.0	76.0
150.00		1.00	1.11	9.715	10.69	95.50	0.650	0.000	3.00	4.637	3.01	32.2	0.0	109.8
155.00	Appurtenance(s)	1.00	1.12	9.806	10.79	88.66	0.650	0.000	5.00	7.268	4.72	51.0	0.0	172.0
Totals:								155.00			2,904.9	22,570.6		

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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	155.00	Ericsson 4460 B25 + B66	3	9.842	10.827	0.50	0.75	4.30	327.00	0.000	2.000	46.51	0.00	93.03
2	155.00	RFS	3	9.842	10.827	0.52	0.75	31.88	368.40	0.000	2.000	345.13	0.00	690.26
3	155.00	Ericsson AIR6449 B41	3	9.842	10.827	0.53	0.75	9.03	309.00	0.000	2.000	97.72	0.00	195.44
4	155.00	ACU-A20-N	4	9.842	10.827	0.38	0.75	0.21	4.00	0.000	2.000	2.27	0.00	4.55
5	155.00	Low Profile Platform	1	9.806	10.787	1.00	1.00	28.00	1500.00	0.000	0.000	302.03	0.00	0.00
6	155.00	Ericsson 4480 B71 + B85	3	9.842	10.827	0.50	0.75	4.30	279.00	0.000	2.000	46.51	0.00	93.03
7	155.00	HRK14-U	1	9.806	10.787	1.00	1.00	6.75	261.72	0.000	0.000	72.81	0.00	0.00
8	155.00	ALU 800 MHz Filter	3	9.806	10.787	0.38	0.75	0.88	26.40	0.000	0.000	9.47	0.00	0.00
9	155.00	6' Lightning rod	1	9.806	10.787	1.00	1.00	0.38	6.50	0.000	0.000	4.10	0.00	0.00
10	155.00	PRK-SFS	1	9.806	10.787	1.00	1.00	9.50	464.91	0.000	0.000	102.48	0.00	0.00
11	155.00	HRK14-HD	1	9.806	10.787	1.00	1.00	8.13	302.36	0.000	0.000	87.70	0.00	0.00
12	155.00	ALU TD-RRH8x20-25	3	9.842	10.827	0.50	0.75	6.11	210.00	0.000	2.000	66.10	0.00	132.20
13	147.00	MC-PK8-DSH	1	9.659	10.625	1.00	1.00	37.59	1727.00	0.000	0.000	399.39	0.00	0.00
14	147.00	FFVV-65C-R3-V1	3	9.659	10.625	0.55	0.75	20.15	213.00	0.000	0.000	214.13	0.00	0.00
15	147.00	TA08025-B605	3	9.659	10.625	0.50	0.75	2.95	225.00	0.000	0.000	31.39	0.00	0.00
16	147.00	TA08025-B604	3	9.659	10.625	0.50	0.75	2.95	191.70	0.000	0.000	31.39	0.00	0.00
17	147.00	RDIDC-9181-PF-48	1	9.659	10.625	0.75	0.75	1.51	21.90	0.000	0.000	16.02	0.00	0.00
18	137.00	Low Profile Platform	1	9.466	10.413	1.00	1.00	28.00	1200.00	0.000	0.000	291.57	0.00	0.00
19	137.00	LPA-80063/6CF	2	9.466	10.413	0.75	0.80	14.44	54.00	0.000	0.000	150.35	0.00	0.00
20	137.00	LPA-80080-6CF-EDIN	2	9.466	10.413	0.74	0.80	6.44	42.00	0.000	0.000	67.09	0.00	0.00
21	137.00	LPA-80080/4CF	2	9.466	10.413	0.74	0.80	3.88	24.00	0.000	0.000	40.44	0.00	0.00
22	137.00	Samsung - B2/B66A	3	9.466	10.413	0.54	0.80	3.01	253.20	0.000	0.000	31.31	0.00	0.00
23	137.00	Samsung - B5/B13	3	9.466	10.413	0.54	0.80	3.01	210.90	0.000	0.000	31.31	0.00	0.00
24	137.00	Samsung - 64T64R	3	9.466	10.413	0.53	0.80	7.59	286.80	0.000	0.000	79.01	0.00	0.00
25	137.00	JMA - MX06FIT665-02	6	9.466	10.413	0.64	0.80	36.67	270.00	0.000	0.000	381.87	0.00	0.00
26	137.00	Commscope -	1	9.466	10.413	1.00	1.00	4.06	32.00	0.000	0.000	42.28	0.00	0.00
27	127.00	HRK14	1	9.264	10.190	1.00	1.00	6.75	261.72	0.000	0.000	68.78	0.00	0.00
28	127.00	860 10025	6	9.264	10.190	0.50	0.75	0.54	7.20	0.000	0.000	5.53	0.00	0.00
29	127.00	Low Profile Platform	1	9.264	10.190	1.00	1.00	25.00	1500.00	0.000	0.000	254.75	0.00	0.00
30	127.00	DC6-48-60-18-8F	1	9.264	10.190	0.80	0.80	1.18	31.80	0.000	0.000	11.98	0.00	0.00
31	127.00	7770	3	9.264	10.190	0.60	0.80	9.90	105.00	0.000	0.000	100.88	0.00	0.00
32	127.00	HPA65R-BU6A	3	9.264	10.190	0.65	0.75	21.73	162.00	0.000	0.000	221.43	0.00	0.00
33	127.00	(3) PRK-1245	1	9.264	10.190	1.00	1.00	9.50	464.91	0.000	0.000	96.81	0.00	0.00
34	127.00	DMP65R-BU6DA	3	9.264	10.190	0.54	0.75	20.59	238.20	0.000	0.000	209.81	0.00	0.00
35	127.00	4449	3	9.264	10.190	0.50	0.75	2.49	210.00	0.000	0.000	25.35	0.00	0.00
36	127.00	8843	3	9.264	10.190	0.50	0.75	2.49	225.00	0.000	0.000	25.35	0.00	0.00
37	127.00	21401 TMA	6	9.264	10.190	0.50	0.75	3.89	84.60	0.000	0.000	39.63	0.00	0.00
38	117.00	Air 21 B4A/B2P	3	9.049	9.954	0.69	0.80	12.57	271.20	0.000	0.000	125.12	0.00	0.00
39	117.00	T-Arms	3	9.049	9.954	0.56	0.75	13.50	1050.00	0.000	0.000	134.38	0.00	0.00
40	117.00	Ericsson - Air 21 B2A/B4P	3	9.049	9.954	0.69	0.80	12.57	274.50	0.000	0.000	125.12	0.00	0.00

Totals: 13,696.92

4,435.30

Total Applied Force Summary

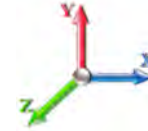
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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		104.10	1294.53	0.00	0.00
10.00		102.39	1267.04	0.00	0.00
15.00		100.63	1239.55	0.00	0.00
20.00		98.86	1212.06	0.00	0.00
25.00		97.10	1184.58	0.00	0.00
30.00		95.42	1157.09	0.00	0.00
35.00		97.88	1129.60	0.00	0.00
40.00		99.77	1102.11	0.00	0.00
44.00		80.60	861.90	0.00	0.00
45.00		20.42	395.48	0.00	0.00
49.75		98.71	1848.49	0.00	0.00
50.00		5.12	52.46	0.00	0.00
55.00		104.14	1034.84	0.00	0.00
60.00		104.61	1007.35	0.00	0.00
65.00		104.83	979.86	0.00	0.00
70.00		104.83	952.37	0.00	0.00
75.00		104.63	924.89	0.00	0.00
80.00		104.24	897.40	0.00	0.00
85.00		103.69	869.91	0.00	0.00
89.50		92.64	759.42	0.00	0.00
90.00		10.38	139.58	0.00	0.00
93.75		78.01	1030.80	0.00	0.00
95.00		25.59	177.41	0.00	0.00
100.00		102.30	695.32	0.00	0.00
105.00		101.21	672.41	0.00	0.00
110.00		100.01	649.50	0.00	0.00
115.00		167.40	626.60	0.00	0.00
117.00	(9) attachments	449.99	1839.92	0.00	0.00
120.00		43.07	318.73	0.00	0.00
123.25		46.16	502.97	0.00	0.00
125.00		24.29	121.52	0.00	0.00
127.00	(31) attachments	1087.62	3427.24	0.00	0.00
130.00		40.11	180.70	0.00	0.00
135.00		64.47	290.17	0.00	0.00
137.00	(23) attachments	1140.04	2485.12	0.00	0.00
140.00		36.27	142.18	0.00	0.00
145.00		57.90	225.98	0.00	0.00
147.00	(11) attachments	714.46	2465.14	0.00	0.00
150.00		32.21	119.72	0.00	0.00
155.00	(27) attachments	1233.79	4247.83	0.00	1208.50
	Totals:	7,379.89	40,529.76	0.00	1,208.50

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

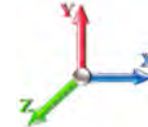


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.100	0.000	6.129	0.00	9.96
5.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.100	0.000	6.129	0.00	62.40
5.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	6.129	0.00	5.50
10.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.103	1.008	6.129	0.00	9.96
10.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.103	1.008	6.129	0.00	62.40
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.103	1.008	6.129	0.00	5.50
15.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.105	1.016	6.129	0.00	9.96
15.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.105	1.016	6.129	0.00	62.40
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.105	1.016	6.129	0.00	5.50
20.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.108	1.024	6.129	0.00	9.96
20.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.108	1.024	6.129	0.00	62.40
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.108	1.024	6.129	0.00	5.50
25.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.111	1.033	6.129	0.00	9.96
25.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.111	1.033	6.129	0.00	62.40
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.111	1.033	6.129	0.00	5.50
30.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.114	1.042	6.134	0.00	9.96
30.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.114	1.042	6.134	0.00	62.40
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.114	1.042	6.134	0.00	5.50
35.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.117	1.051	6.410	0.00	9.96
35.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.117	1.051	6.410	0.00	62.40
35.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.117	1.051	6.410	0.00	5.50
40.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.121	1.062	6.659	0.00	9.96
40.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.121	1.062	6.659	0.00	62.40
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.121	1.062	6.659	0.00	5.50
44.00	1.75" Hybrid	Yes	4.00	0.000	1.75	0.58	0.00	0.124	1.071	6.843	0.00	7.96
44.00	1 5/8" Coax	Yes	4.00	0.000	3.96	1.32	0.00	0.124	1.071	6.843	0.00	49.92
44.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.124	1.071	6.843	0.00	4.40
45.00	1.75" Hybrid	Yes	1.00	0.000	1.75	0.15	0.00	0.126	1.077	6.887	0.00	1.99
45.00	1 5/8" Coax	Yes	1.00	0.000	3.96	0.33	0.00	0.126	1.077	6.887	0.00	12.48
45.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.126	1.077	6.887	0.00	1.10
49.75	1.75" Hybrid	Yes	4.75	0.000	1.75	0.69	0.00	0.128	1.084	7.088	0.00	9.46
49.75	1 5/8" Coax	Yes	4.75	0.000	3.96	1.57	0.00	0.128	1.084	7.088	0.00	59.28
49.75	1 5/8" Hybrid	Yes	4.75	0.000	0.00	0.00	0.00	0.128	1.084	7.088	0.00	5.23
50.00	1.75" Hybrid	Yes	0.25	0.000	1.75	0.04	0.00	0.128	1.083	7.098	0.00	0.50
50.00	1 5/8" Coax	Yes	0.25	0.000	3.96	0.08	0.00	0.128	1.083	7.098	0.00	3.12
50.00	1 5/8" Hybrid	Yes	0.25	0.000	0.00	0.00	0.00	0.128	1.083	7.098	0.00	0.28
55.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.130	1.089	7.294	0.00	9.96
55.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.130	1.089	7.294	0.00	62.40
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.130	1.089	7.294	0.00	5.50
60.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.134	1.102	7.477	0.00	9.96
60.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.134	1.102	7.477	0.00	62.40
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.134	1.102	7.477	0.00	5.50
65.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.138	1.115	7.650	0.00	9.96
65.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.138	1.115	7.650	0.00	62.40
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.138	1.115	7.650	0.00	5.50
70.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.143	1.130	7.814	0.00	9.96
70.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.143	1.130	7.814	0.00	62.40

Linear Appurtenance Segment Forces (Factored)

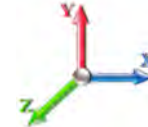
Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.143	1.130	7.814	0.00	5.50
75.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.148	1.145	7.969	0.00	9.96
75.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.148	1.145	7.969	0.00	62.40
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.148	1.145	7.969	0.00	5.50
80.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.154	1.162	8.118	0.00	9.96
80.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.154	1.162	8.118	0.00	62.40
80.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.154	1.162	8.118	0.00	5.50
85.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.160	1.179	8.260	0.00	9.96
85.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.160	1.179	8.260	0.00	62.40
85.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.160	1.179	8.260	0.00	5.50
89.50	1.75" Hybrid	Yes	4.50	0.000	1.75	0.66	0.00	0.166	1.198	8.382	0.00	8.96
89.50	1 5/8" Coax	Yes	4.50	0.000	3.96	1.49	0.00	0.166	1.198	8.382	0.00	56.16
89.50	1 5/8" Hybrid	Yes	4.50	0.000	0.00	0.00	0.00	0.166	1.198	8.382	0.00	4.95
90.00	1.75" Hybrid	Yes	0.50	0.000	1.75	0.07	0.00	0.169	1.208	8.396	0.00	1.00
90.00	1 5/8" Coax	Yes	0.50	0.000	3.96	0.17	0.00	0.169	1.208	8.396	0.00	6.24
90.00	1 5/8" Hybrid	Yes	0.50	0.000	0.00	0.00	0.00	0.169	1.208	8.396	0.00	0.55
93.75	1.75" Hybrid	Yes	3.75	0.000	1.75	0.55	0.00	0.172	1.217	8.494	0.00	7.47
93.75	1 5/8" Coax	Yes	3.75	0.000	3.96	1.24	0.00	0.172	1.217	8.494	0.00	46.80
93.75	1 5/8" Hybrid	Yes	3.75	0.000	0.00	0.00	0.00	0.172	1.217	8.494	0.00	4.13
95.00	1.75" Hybrid	Yes	1.25	0.000	1.75	0.18	0.00	0.173	1.218	8.526	0.00	2.49
95.00	1 5/8" Coax	Yes	1.25	0.000	3.96	0.41	0.00	0.173	1.218	8.526	0.00	15.60
95.00	1 5/8" Hybrid	Yes	1.25	0.000	0.00	0.00	0.00	0.173	1.218	8.526	0.00	1.38
100.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.177	1.232	8.652	0.00	9.96
100.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.177	1.232	8.652	0.00	62.40
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.177	1.232	8.652	0.00	5.50
105.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.185	1.255	8.774	0.00	9.96
105.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.185	1.255	8.774	0.00	62.40
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.185	1.255	8.774	0.00	5.50
110.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.194	1.281	8.891	0.00	9.96
110.00	1 5/8" Coax	Yes	5.00	0.000	3.96	1.65	0.00	0.194	1.281	8.891	0.00	62.40
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.194	1.281	8.891	0.00	5.50
115.00	1.75" Hybrid	Yes	5.00	1.200	1.75	0.73	0.88	0.203	0.000	9.005	8.67	9.96
115.00	1 5/8" Coax	Yes	5.00	1.200	3.96	1.65	1.98	0.203	0.000	9.005	19.61	62.40
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.203	0.000	9.005	0.00	5.50
117.00	1.75" Hybrid	Yes	2.00	1.200	1.75	0.29	0.35	0.211	0.000	9.049	3.48	3.98
117.00	1 5/8" Coax	Yes	2.00	1.200	3.96	0.66	0.79	0.211	0.000	9.049	7.88	24.96
117.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.211	0.000	9.049	0.00	2.20
120.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.066	0.000	9.115	0.00	5.97
123.25	1.75" Hybrid	Yes	3.25	0.000	1.75	0.47	0.00	0.068	0.000	9.185	0.00	6.47
125.00	1.75" Hybrid	Yes	1.75	0.000	1.75	0.26	0.00	0.069	0.000	9.222	0.00	3.48
127.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.071	0.000	9.264	0.00	3.98
130.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.073	0.000	9.326	0.00	5.97
135.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.076	0.000	9.427	0.00	9.96
137.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.080	0.000	9.466	0.00	3.98
140.00	1.75" Hybrid	Yes	3.00	0.000	1.75	0.44	0.00	0.082	0.000	9.525	0.00	5.97
145.00	1.75" Hybrid	Yes	5.00	0.000	1.75	0.73	0.00	0.087	0.000	9.621	0.00	9.96
147.00	1.75" Hybrid	Yes	2.00	0.000	1.75	0.29	0.00	0.091	0.000	9.659	0.00	3.98

Linear Appurtenance Segment Forces (Factored)

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

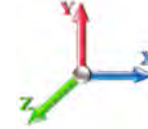


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
Totals:											39.6	1,881.5

Calculated Forces

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



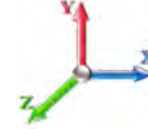
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-40.53	-7.40	0.00	-879.42	0.00	879.42	4331.76	2165.88	10060.7	5037.85	0.00	0.000	0.000	0.184
5.00	-39.23	-7.32	0.00	-842.45	0.00	842.45	4271.91	2135.96	9681.61	4848.00	0.02	-0.045	0.000	0.183
10.00	-37.95	-7.25	0.00	-805.83	0.00	805.83	4209.88	2104.94	9304.37	4659.10	0.10	-0.092	0.000	0.182
15.00	-36.71	-7.18	0.00	-769.58	0.00	769.58	4145.67	2072.83	8929.41	4471.34	0.22	-0.140	0.000	0.181
20.00	-35.49	-7.11	0.00	-733.69	0.00	733.69	4079.27	2039.64	8557.10	4284.91	0.39	-0.189	0.000	0.180
25.00	-34.30	-7.04	0.00	-698.16	0.00	698.16	4010.69	2005.34	8187.79	4099.98	0.62	-0.240	0.000	0.179
30.00	-33.14	-6.97	0.00	-662.98	0.00	662.98	3939.93	1969.96	7821.85	3916.74	0.90	-0.293	0.000	0.178
35.00	-32.00	-6.89	0.00	-628.15	0.00	628.15	3866.98	1933.49	7459.66	3735.38	1.23	-0.347	0.000	0.176
40.00	-30.89	-6.81	0.00	-593.68	0.00	593.68	3791.85	1895.92	7101.59	3556.07	1.63	-0.403	0.000	0.175
44.00	-30.03	-6.74	0.00	-566.43	0.00	566.43	3730.17	1865.09	6818.34	3414.24	1.98	-0.449	0.000	0.174
45.00	-29.63	-6.74	0.00	-559.69	0.00	559.69	3714.54	1857.27	6747.99	3379.01	2.08	-0.461	0.000	0.174
49.75	-27.78	-6.64	0.00	-527.69	0.00	527.69	3683.20	1841.60	6608.77	3309.30	2.57	-0.518	0.000	0.167
50.00	-27.72	-6.65	0.00	-526.03	0.00	526.03	3679.23	1839.62	6591.31	3300.56	2.59	-0.521	0.000	0.167
55.00	-26.68	-6.56	0.00	-492.81	0.00	492.81	3598.76	1799.38	6244.86	3127.07	3.17	-0.579	0.000	0.165
60.00	-25.67	-6.47	0.00	-460.02	0.00	460.02	3516.10	1758.05	5903.79	2956.28	3.81	-0.639	0.000	0.163
65.00	-24.68	-6.38	0.00	-427.66	0.00	427.66	3431.27	1715.63	5568.46	2788.37	4.51	-0.700	0.000	0.161
70.00	-23.73	-6.29	0.00	-395.76	0.00	395.76	3344.24	1672.12	5239.26	2623.52	5.28	-0.763	0.000	0.158
75.00	-22.79	-6.20	0.00	-364.31	0.00	364.31	3255.04	1627.52	4916.54	2461.92	6.11	-0.827	0.000	0.155
80.00	-21.89	-6.11	0.00	-333.32	0.00	333.32	3137.93	1568.96	4563.27	2285.03	7.01	-0.893	0.000	0.153
85.00	-21.02	-6.01	0.00	-302.79	0.00	302.79	3017.89	1508.95	4219.09	2112.68	7.98	-0.961	0.000	0.150
89.50	-20.26	-5.92	0.00	-275.73	0.00	275.73	2909.87	1454.93	3920.86	1963.34	8.92	-1.022	0.000	0.147
90.00	-20.11	-5.92	0.00	-272.77	0.00	272.77	2897.86	1448.93	3888.39	1947.09	9.03	-1.030	0.000	0.147
93.75	-19.08	-5.83	0.00	-250.58	0.00	250.58	2354.99	1177.49	3133.69	1569.17	9.86	-1.083	0.000	0.168
95.00	-18.90	-5.82	0.00	-243.29	0.00	243.29	2336.81	1168.40	3076.66	1540.62	10.14	-1.101	0.000	0.166
100.00	-18.20	-5.73	0.00	-214.20	0.00	214.20	2262.72	1131.36	2851.92	1428.08	11.34	-1.179	0.000	0.158
105.00	-17.52	-5.64	0.00	-185.57	0.00	185.57	2165.47	1082.73	2607.63	1305.76	12.62	-1.257	0.000	0.150
110.00	-16.87	-5.54	0.00	-157.39	0.00	157.39	2065.44	1032.72	2371.09	1187.31	13.98	-1.334	0.000	0.141
115.00	-16.24	-5.38	0.00	-129.67	0.00	129.67	1965.41	982.71	2145.79	1074.49	15.41	-1.408	0.000	0.129
117.00	-14.41	-4.89	0.00	-118.92	0.00	118.92	1925.40	962.70	2058.82	1030.94	16.01	-1.438	0.000	0.123
120.00	-14.09	-4.85	0.00	-104.26	0.00	104.26	1865.39	932.69	1931.73	967.30	16.93	-1.480	0.000	0.115
123.25	-13.58	-4.80	0.00	-88.50	0.00	88.50	1005.19	502.59	1030.12	515.83	17.95	-1.524	0.000	0.185
125.00	-13.46	-4.78	0.00	-80.11	0.00	80.11	992.91	496.46	998.01	499.75	18.51	-1.547	0.000	0.174
127.00	-10.06	-3.60	0.00	-70.55	0.00	70.55	978.56	489.28	961.59	481.51	19.17	-1.586	0.000	0.157
130.00	-9.88	-3.57	0.00	-59.74	0.00	59.74	956.38	478.19	907.53	454.44	20.18	-1.640	0.000	0.142
135.00	-9.58	-3.51	0.00	-41.89	0.00	41.89	917.66	458.83	819.21	410.21	21.95	-1.718	0.000	0.113
137.00	-7.13	-2.30	0.00	-34.88	0.00	34.88	901.57	450.78	784.57	392.87	22.67	-1.746	0.000	0.097
140.00	-6.99	-2.26	0.00	-27.99	0.00	27.99	876.76	438.38	733.42	367.25	23.78	-1.784	0.000	0.084
145.00	-6.77	-2.20	0.00	-16.69	0.00	16.69	833.68	416.84	650.52	325.74	25.68	-1.834	0.000	0.059
147.00	-4.32	-1.41	0.00	-12.29	0.00	12.29	815.84	407.92	618.25	309.58	26.45	-1.850	0.000	0.045
150.00	-4.21	-1.37	0.00	-8.07	0.00	8.07	781.24	390.62	565.69	283.26	27.62	-1.868	0.000	0.034
155.00	0.00	-1.23	0.00	-1.21	0.00	1.21	721.23	360.61	481.69	241.20	29.59	-1.884	0.000	0.005

Final Analysis Summary

Structure: CT00248-S-SBA	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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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 93 mph Wind	28.4	0.00	48.59	0.00	0.00	3407.84
0.9D + 1.6W 93 mph Wind	28.4	0.00	36.43	0.00	0.00	3358.27
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.7	0.00	82.84	0.00	0.00	1065.21
1.2D + 1.0E	2.8	0.00	48.64	0.00	0.00	363.61
0.9D + 1.0E	2.8	0.00	36.48	0.00	0.00	357.73
1.0D + 1.0W 60 mph Wind	7.4	0.00	40.53	0.00	0.00	879.42

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 93 mph Wind	-48.59	-28.44	0.00	-3407.8	0.00	-3407.8	4331.76	2165.8	10060.7	5037.85	0.00	0.688
0.9D + 1.6W 93 mph Wind	-36.43	-28.42	0.00	-3358.2	0.00	-3358.2	4331.76	2165.8	10060.7	5037.85	0.00	0.675
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-33.52	-5.96	0.00	-112.38	0.00	-112.38	1005.19	502.59	1030.12	515.83	123.25	0.251
1.2D + 1.0E	-16.42	-2.34	0.00	-60.15	0.00	-60.15	1005.19	502.59	1030.12	515.83	123.25	0.133
0.9D + 1.0E	-12.31	-2.29	0.00	-58.89	0.00	-58.89	1005.19	502.59	1030.12	515.83	123.25	0.126
1.0D + 1.0W 60 mph Wind	-13.58	-4.80	0.00	-88.50	0.00	-88.50	1005.19	502.59	1030.12	515.83	123.25	0.185

Base Plate Summary

Structure: CT00248-S-SB	Code: EIA/TIA-222-G	12/17/2021
Site Name: North Bethel	Exposure: B	
Height: 155.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 64.00
Moment (kip-ft): 3850.00	Width (in): 64.00	Number Bolts: 20.00
Axial (kip): 38.70	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 32.40	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 15.00	Yield (ksi): 75.00
Moment (kip-ft): 3407.84	Effective Len (in): 8.82	Ultimate (ksi): 100.00
Axial (kip): 48.59	Moment (kip-in): 472.99	Arrangement: Clustered
Shear (kip): 28.44	Allow Stress (ksi): 67.50	Cluster Dist (in): 6.00
	Applied Stress (ksi): 42.53	Start Angle (deg): 45.00
	Stress Ratio: 0.63	Compression
		Force (kip): 131.94
		Allowable (kip): 260.00
		Ratio: 0.52
		Tension
		Force (kip): 123.65
		Allowable (kip): 260.00
		Ratio: 0.49



Monopole Mat Foundation Design

Date
12/17/2021

Customer Name:	T-Mobile Sprint	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	155
Site Number:	CT00248-S-SBA	Engineer Name:	T. Alajaj
Engr. Number:	120514	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	48.6	Shear Force (Kips):	28.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3407.8

Allowable overstress %: 5.0%

Foundation Geometries:

Diameter of Pier (ft.):	7.0	Mods required -Yes/No ?:	No
Pier Height A. G. (ft.):	0.50	Depth of Base BG (ft.):	8.5
Length of Pad (ft.):	23.5	Thickness of Pad (ft.):	3.00
		Width of Pad (ft.):	23.5
Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	11	
Concrete Cover (in.):	4	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

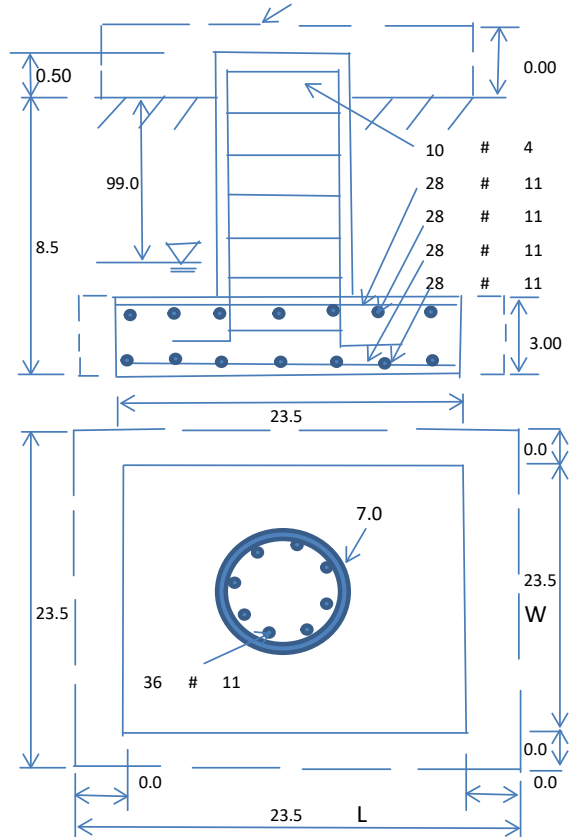
Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf	
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad: 30
Ultimate Bearing Pressure (psf):	5000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad: 25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad: 25
Consider soil hor. resist. for OTM.:	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.):	2825.71	Total Dry Soil Weight (Kips):	282.57
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	282.57	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1887.66	Total Dry Concrete Weight (Kips):	283.15
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	283.15	Total Vertical Load on Base (Kips):	614.32

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2874	<	Allowable Factored Soil Bearing (psf):	3750	0.77	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6553.5	>	Design Factored Momont (kips-ft):	3398	0.52	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.93					OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	8832.5	> Design Factored Moment (Mu, Kips-F	3578.2	0.41	OK!
Calculated Shear Capacity (Kips):	589.7	> Design Factored Shear (Kips):	28.4	0.05	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):	48.6	0.01	OK!
Moment & Axial Strength Combination:	0.41	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.010	Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Direction, Kips):	725.5	> One-Way Factored Shear (L-D. Kips):	223.5	0.31	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	725.5	> One-Way Factored Shear (W-D., Kips)	223.5	0.31	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	648.8	> One-Way Factored Shear (C-C, Kips):	213.2	0.33	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0049	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0049		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	5796.6	> Moment at Bottom (L-Dir. K-Ft):	1165.0	0.20	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	5796.6	> Moment at Bottom (W-Dir. K-Ft):	1165.0	0.20	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	8062.5	> Moment at Bottom (C-C Dir. K-Ft):	1647.6	0.20	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0049	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0049		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	5796.6	> Moment at the top (L-Dir K-Ft):	497.6	0.09	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	5796.6	> Moment at the top (W-Dir K-Ft):	497.6	0.09	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	8062.5	> Moment at the top (C-C Dir. K-Ft):	468.1	0.06	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:					
Moment transferred by punching shear:	1363.1	k-ft. Max. factored shear stress $v_{u,CD}$:		3.4	Psi
Max. factored shear stress $v_{u,AB}$:	10.1	Psi Factored shear Strength ϕv_n :		164.3	Psi
Max. factored shear stress v_u :	10.1	Psi Check Usage of Punching Shear Capacity:		0.06	OK!



Structure: CT00248-S-SBA - North Bethel

Sector: A

12/6/2021

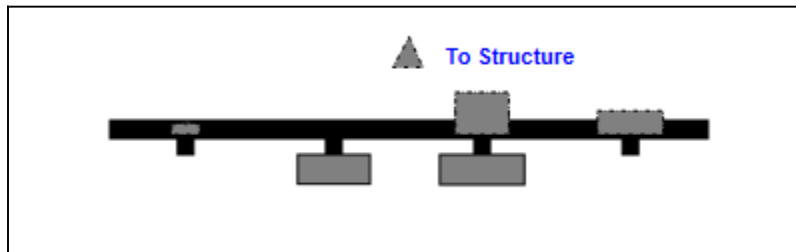
Structure Type: Monopole

Mount Elev: 157.00

Page: 1

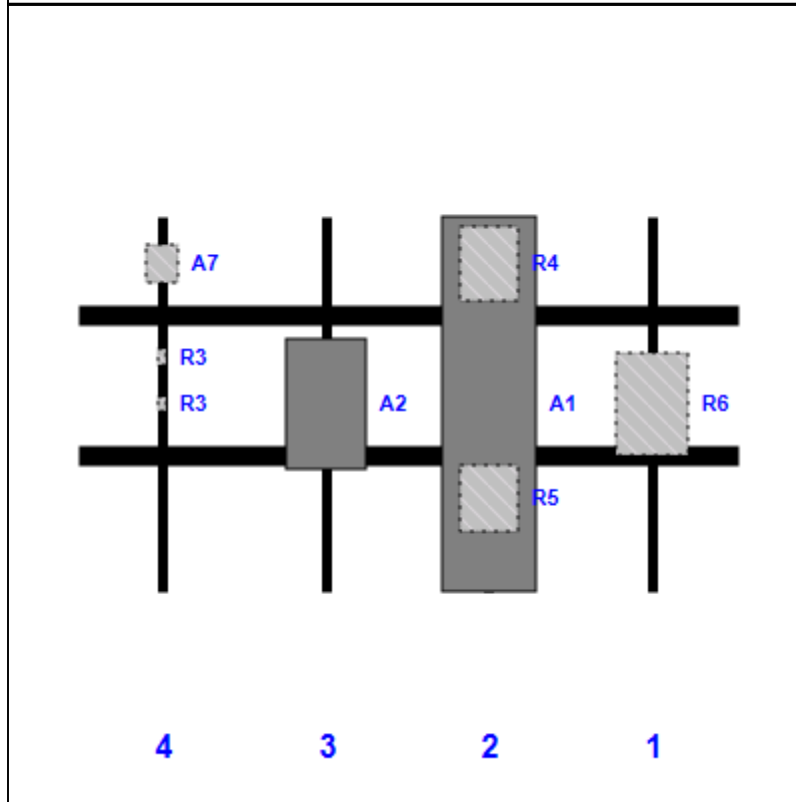


Plan View



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
R6	TD-RRH8x20-25	26.10	18.60	148.00	1	a	Behind	48.00			
A1	APXVAALL24_43-U-NA20	95.90	24.00	106.00	2	a	Front	48.00		Added	
R4	4480 B71 + B85	19.20	15.10	106.00	2	a	Behind	12.00			
R5	4460 B25 + B66	17.00	15.10	106.00	2	a	Behind	72.00			
A2	AIR6449 B41	33.10	20.50	64.00	3	a	Front	48.00		Added	
R3	ACU-A20-N RET	4.00	2.00	22.00	4	a	Behind	36.00		Retained	
A7	800 MHz Filter	10.00	8.00	22.00	4	a	Behind	12.00			
R3	ACU-A20-N RET	4.00	2.00	22.00	4	b	Behind	48.00		Retained	

Sector: **B**

12/6/2021

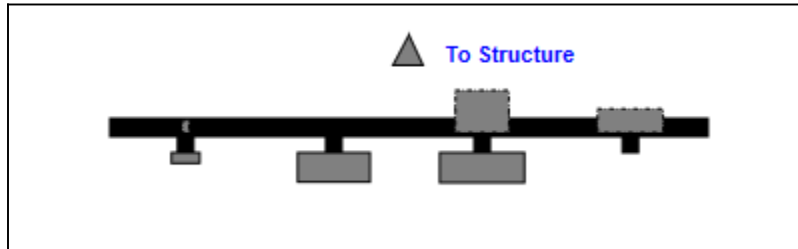
Structure Type: Monopole

Mount Elev: 157.00

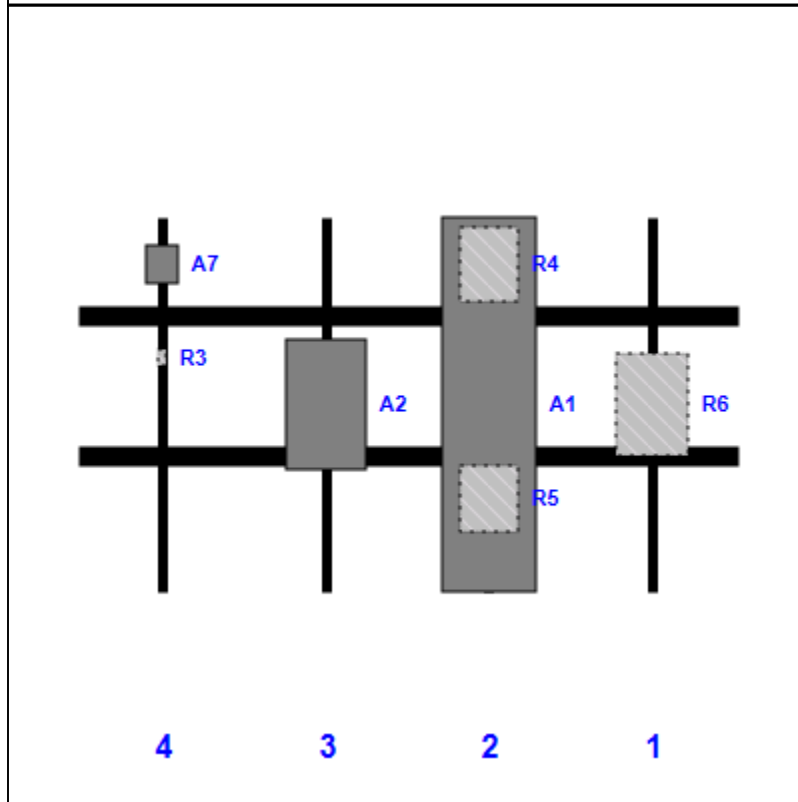
Page: 2



Plan View



Front View
Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
R6	TD-RRH8x20-25	26.10	18.60	148.00	1	a	Behind	48.00			
A1	APXVAALL24_43-U-NA20	95.90	24.00	106.00	2	a	Front	48.00		Added	
R4	4480 B71 + B85	19.20	15.10	106.00	2	a	Behind	12.00			
R5	4460 B25 + B66	17.00	15.10	106.00	2	a	Behind	72.00			
A2	AIR6449 B41	33.10	20.50	64.00	3	a	Front	48.00		Added	
R3	ACU-A20-N RET	4.00	2.00	22.00	4	a	Behind	36.00		Retained	
A7	800 MHz Filter	10.00	8.00	22.00	4	a	Front	12.00			

Structure: CT00248-S-SBA - North Bethel

Sector: C

12/6/2021

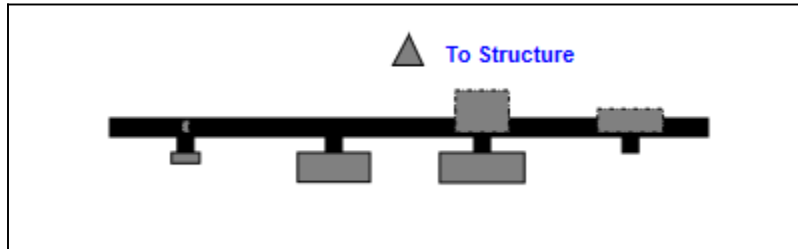
Structure Type: Monopole

Mount Elev: 157.00

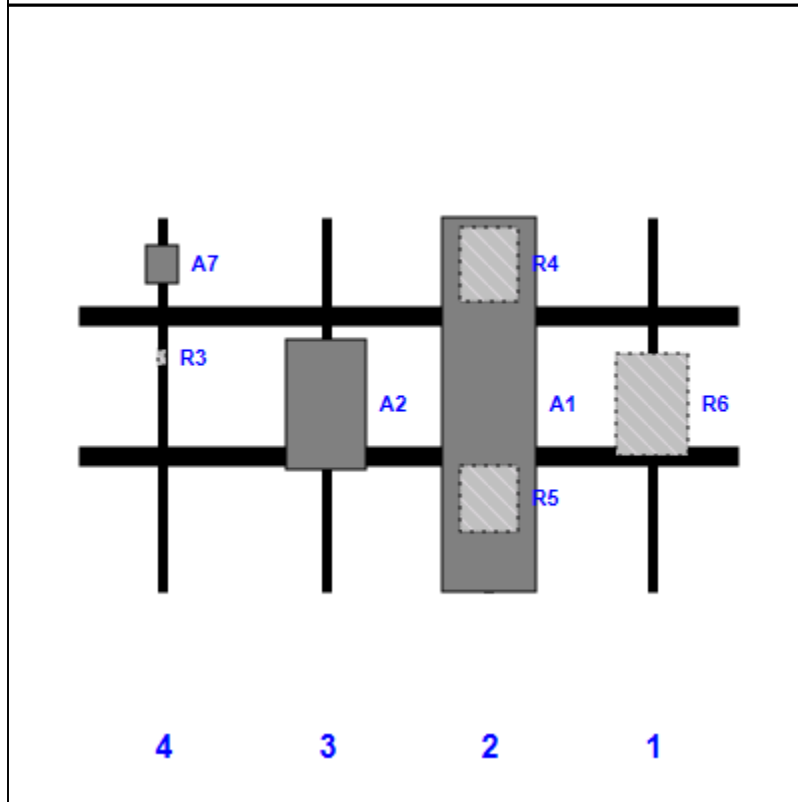
Page: 3



Plan View



Front View
Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
R6	TD-RRH8x20-25	26.10	18.60	148.00	1	a	Behind	48.00			
A1	APXVAALL24_43-U-NA20	95.90	24.00	106.00	2	a	Front	48.00		Added	
R4	4480 B71 + B85	19.20	15.10	106.00	2	a	Behind	12.00			
R5	4460 B25 + B66	17.00	15.10	106.00	2	a	Behind	72.00			
A2	AIR6449 B41	33.10	20.50	64.00	3	a	Front	48.00		Added	
R3	ACU-A20-N RET	4.00	2.00	22.00	4	a	Behind	36.00		Retained	
A7	800 MHz Filter	10.00	8.00	22.00	4	a	Front	12.00			

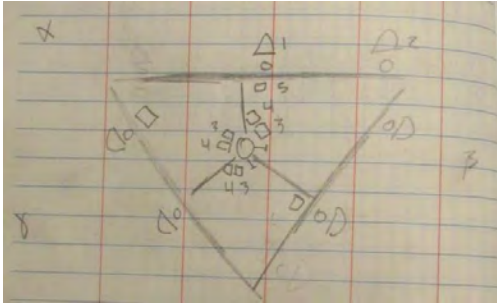


Antenna Mount Mapping Form (PATENT PENDING)

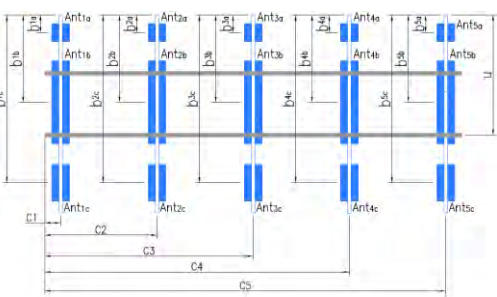
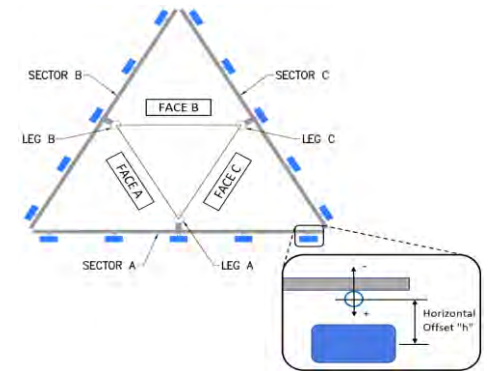
FCC #
1051825

Tower Owner:	SBA	Mapping Date:	5/25/2021
Site Name:	North Bethel	Tower Type:	Monopole
Site Number or ID:	CT00248-S	Tower Height (Ft.):	158
Mapping Contractor:	Engineered Tower Solutions, PLLC	Mount Elevation (Ft.):	156

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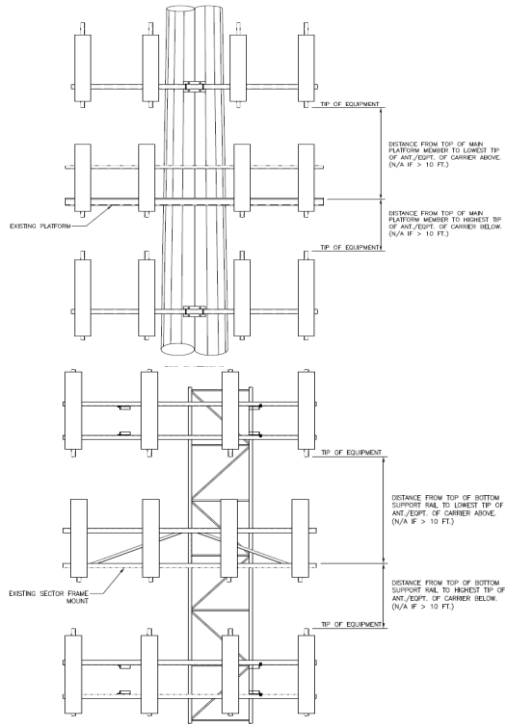
Mount Pipe Configuration and Geometries [Unit = Inches]								
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "V"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "V"	Horizontal Offset "C1, C2, C3, etc."	
A1	2.4"Øx0.153"x72"	30.00	89.00	C1	2.4"Øx0.153"x78"	48.00	89.00	
A2	2.4"Øx0.153"x78"	48.00	149.00	C2	2.4"Øx0.153"x72"	30.00	149.00	
A3				C3				
A4				C4				
A5				C5				
A6				C6				
B1	2.4"Øx0.153"x78"	48.00	89.00	D1				
B2	2.4"Øx0.153"x72"	30.00	149.00	D2				
B3				D3				
B4				D4				
B5				D5				
B6				D6				
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :							0.00	
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :								
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :								
Please enter additional information or comments below.								
Tower Face Width at Mount Elev. (ft.):				Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):				18



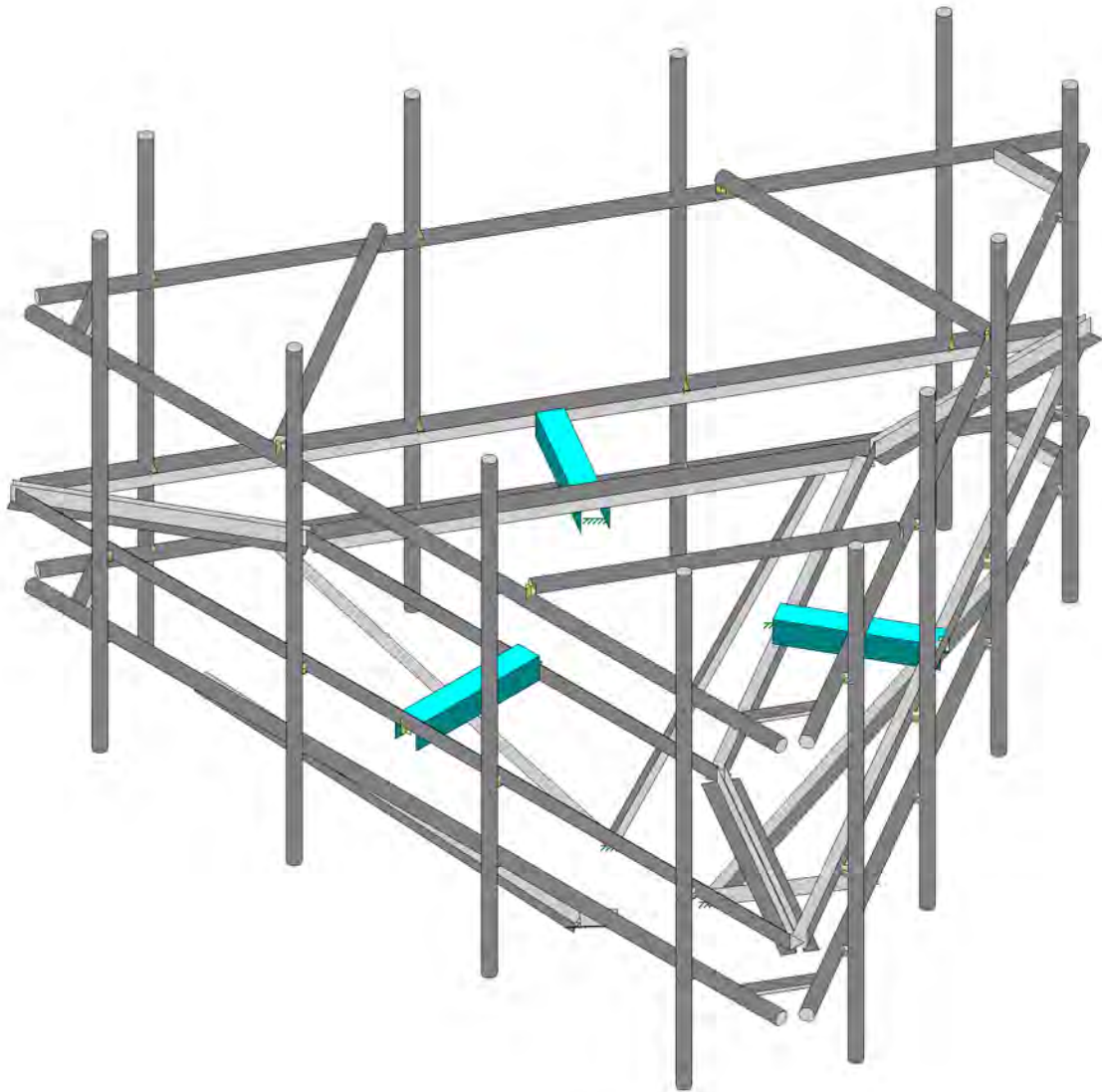
Antenna Layout (Looking Out From Tower)

Ants. Items	Enter antenna model. If not labeled, enter "Unknown".					Mounting Locations [Units are inches and degrees]				Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b _{1a} , b _{2a} , b _{3a} , b _{1b} ,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant _{1a}	Alcatel-Lucent RRH8X	17.50	5.70	25.40	158	6.00	-6.00			97
Ant _{1b}	RFS APXVTM14-ALU-I	12.60	6.30	56.30	156.167	28.00	8.00	0.00		98
Ant _{1c}										
Ant _{2a}										
Ant _{2b}	Unknown	12.00	8.00	70.50	157.25	33.00	8.00	0.00		101
Ant _{2c}										
Ant _{3a}										
Ant _{3b}										
Ant _{3c}										
Ant _{4a}										
Ant _{4b}										
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	(1) Alcatel-Lucent RRH	13.00	9.80	15.70		151				12
Ant on Tower	(1) Alcatel-Lucent RRH	11.10	11.40	25.00		153				12

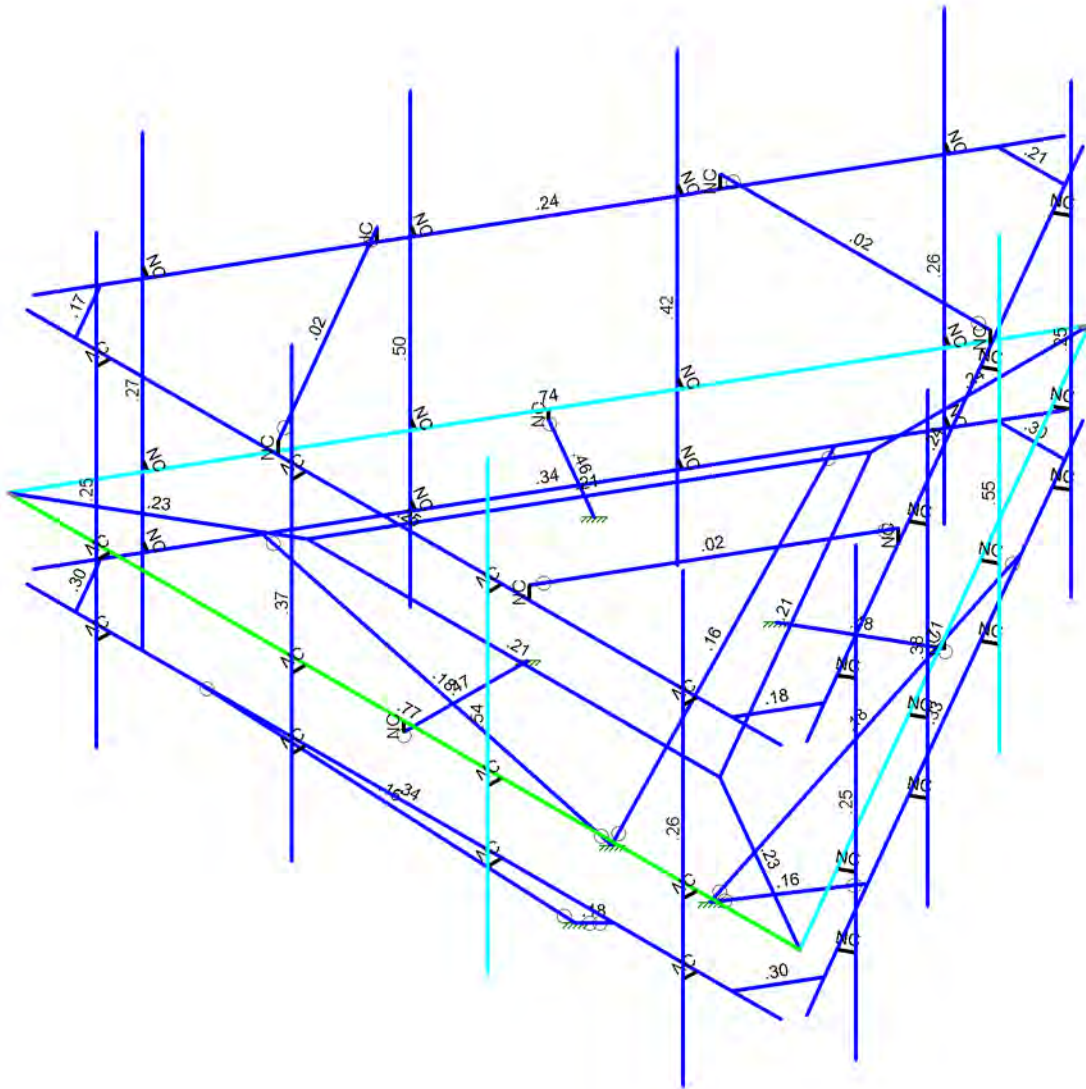
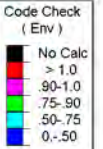
Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B																			
Sector A:	0.00	Deg	Leg A:		Deg			Ant _{1a}																			
Sector B:	120.00	Deg	Leg B:		Deg			Ant _{1b}	Unknown	12.00	8.00	70.50		157.25	33.00	8.00	100.00	90									
Sector C:	240.00	Deg	Leg C:		Deg			Ant _{1c}																			
Sector D:		Deg	Leg D:		Deg			Ant _{2a}	Alcatel-Lucent RRH8X	17.50	5.70	25.40		158	6.00	-6.00		176									
Climbing Facility Information								Ant _{2b}	RFS APXVTM14-ALU-I	12.60	6.30	56.30		156.167	28.00	8.00	100.00	91									
Location:	140.00	Deg	Sector B				Ant _{2c}																				
Climbing Facility	Corrosion Type:		Good condition.				Ant _{3a}																				
	Access:		Climbing path was unobstructed.				Ant _{3b}																				
	Condition:		Good condition.				Ant _{3c}																				
Ant _{4a}								Ant _{4b}																			
Ant _{4b}								Ant _{4c}																			
Ant _{5a}								Ant _{5b}																			
Ant _{5b}								Ant _{5c}																			
Ant _{5c}								Ant on Standoff																			
Ant on Standoff								Ant on Standoff																			
Ant on Tower								Ant on Tower	(1) Alcatel-Lucent RRH	13.00	9.80	15.70		151					82								
Ant on Tower								Ant on Tower	(1) Alcatel-Lucent RRH	11.10	11.40	25.00		153					83								
Sector C								Ant _{1a}																			
Ant _{1b}								Ant _{1c}	Unknown	12.00	8.00	70.50		157.25	33.00	8.00	270.00	94									
Ant _{2a}								Ant _{2b}	RFS APXVTM14-ALU-I	12.60	6.30	56.30		156.167	28.00	8.00	270.00	95									
Ant _{2c}								Ant _{3a}																			
Ant _{3a}								Ant _{3b}																			
Ant _{3b}								Ant _{3c}																			
Ant _{3c}								Ant _{4a}																			
Ant _{4a}								Ant _{4b}																			
Ant _{4b}								Ant _{4c}																			
Ant _{4c}								Ant _{5a}																			
Ant _{5a}								Ant _{5b}																			
Ant _{5b}								Ant _{5c}																			
Ant _{5c}								Ant on Standoff																			
Ant on Standoff								Ant on Standoff																			
Ant on Tower								Ant on Tower	(1) Alcatel-Lucent RRH	13.00	9.80	15.70		151					22								
Ant on Tower								Ant on Tower	(1) Alcatel-Lucent RRH	11.10	11.40	25.00		153					22								
Sector D								Ant _{1a}																			
Ant _{1b}								Ant _{1c}																			
Ant _{2a}								Ant _{2b}																			
Ant _{2c}								Ant _{3a}																			
Ant _{3a}								Ant _{3b}																			
Ant _{3b}								Ant _{3c}																			
Ant _{3c}								Ant _{4a}																			
Ant _{4a}								Ant _{4b}																			
Ant _{4b}								Ant _{4c}																			
Ant _{4c}								Ant _{5a}																			
Ant _{5a}								Ant _{5b}																			
Ant _{5b}								Ant _{5c}																			
Ant _{5c}								Ant on Standoff																			
Ant on Standoff								Ant on Standoff																			
Ant on Tower								Ant on Tower																			
Ant on Tower								Ant on Tower																			



Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #



Tower Engineering Solutio...	CT00248-S-SBA_MT_LO_Loads Only_G	SK - 1
TES Project No. 120128	RENDER	Dec 6, 2021 at 4:49 PM
		CT00248-S-SBA_120128_G_RISA_...



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

Tower Engineering Solutio...

CT00248-S-SBA_MT_LO_Loads Only_G

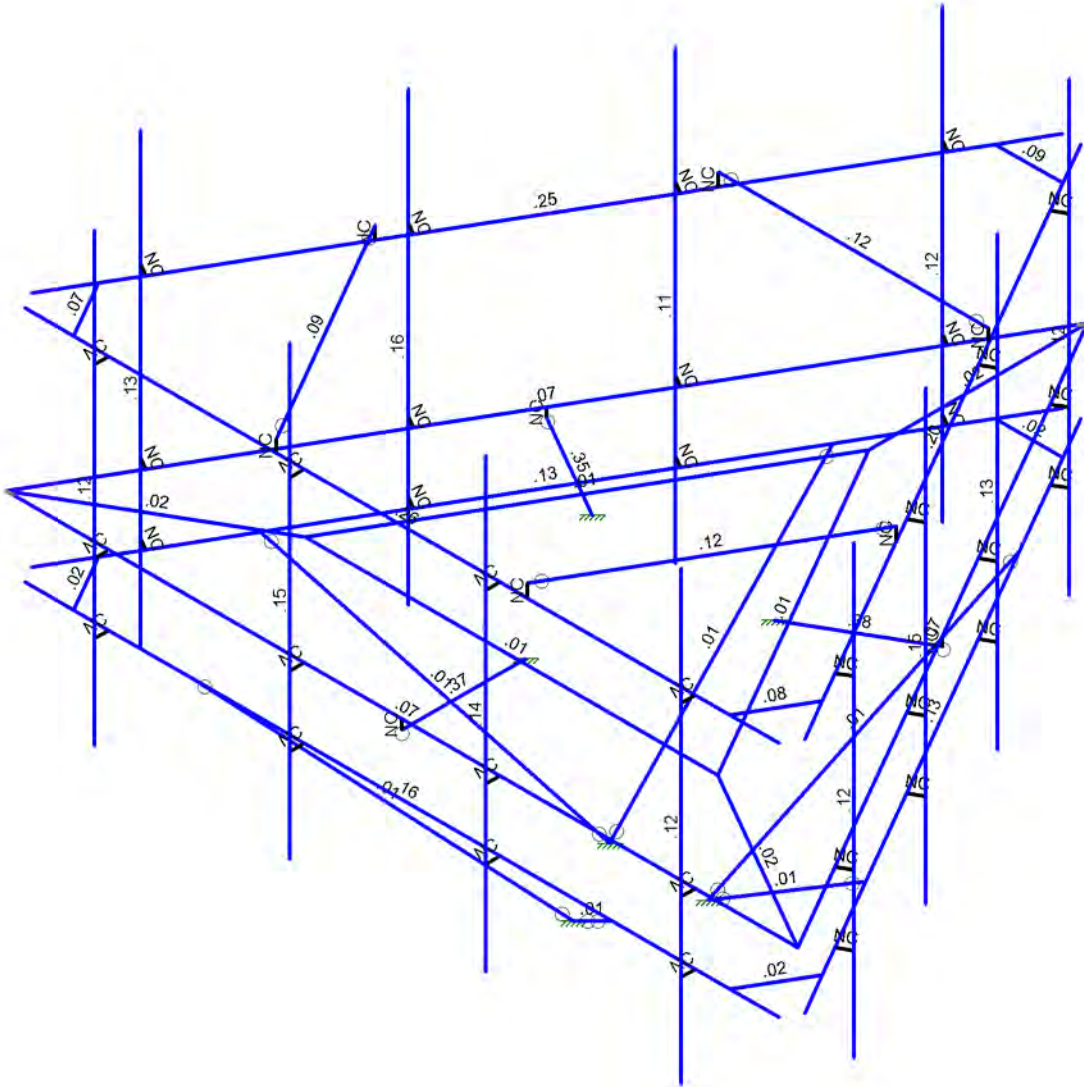
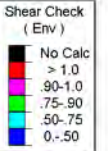
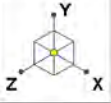
SK - 2

Dec 6, 2021 at 4:49 PM

TES Project No. 120128

UNITY

CT00248-S-SBA_120128_G_RISA_...



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

Tower Engineering Solutio...

CT00248-S-SBA_MT_LO_Loads Only_G

SK - 3

Dec 6, 2021 at 4:49 PM

TES Project No. 120128

SHEAR

CT00248-S-SBA_120128_G_RISA_...



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

6 UqjW@ UX'7 UqYg

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Antenna D	None					28			
2	Antenna Di	None					28			
3	Antenna W Front	None					28			
4	Antenna Wi Front	None					28			
5	Antenna W Side	None					28			
6	Antenna Wi Side	None					28			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						45	3	
11	Structure W Front	None						45		
12	Structure Wi Front	None						45		
13	Structure W Side	None						45		
14	Structure Wi Side	None						45		
15	BLC 9 Transient Area Loads	None							27	
16	BLC 10 Transient Area Loads	None							27	

@ UX'7 ca VjbUhc bg

	Description	So..P...	S...	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	
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 (Mai...	Yes	Y	1	1.2	9	1.2	7	1.5	3	.16	11	.16								
10	1.2D+1.5L2+.16W (Mai...	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														

>cjbh7 ccfXjbUhg'UbX'HYa dYfUi fYg

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N1	-85.	2.	49.074773	0	
2	N2	85.	2.	49.074773	0	
3	N3	-2.4e-13	2.	-98.149546	0	
4	N4	0	0.00004	49.074773	0	
5	N5	42.5	0.004	-24.537386	0	
6	N6	-42.5	0.004	-24.537386	0	
7	N7	-44.296784	2.	25.57476	0	
8	N8	44.296784	2.	25.57476	0	
9	N9	-1.2e-13	2.	-51.14952	0	
10	N10	-81	37.999996	49.074768	0	
11	N11	81	37.999996	49.074768	0	
12	N12	82.999996	37.999996	45.610674	0	



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

>c]bh7ccfX]bUhg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
13	N13	1.999996	37.999996	-94.685442	0	
14	N14	-1.999996	37.999996	-94.685442	0	
15	N15	-82.999996	37.999996	45.610674	0	
16	N16	-70.5	37.999996	49.074768	0	
17	N17	70.5	37.999996	49.074768	0	
18	N18	77.749996	37.999996	36.517407	0	
19	N19	7.249996	37.999996	-85.592175	0	
20	N20	-7.249996	37.999996	-85.592175	0	
21	N21	-77.749996	37.999996	36.517407	0	
22	N22	-63	37.999996	49.074768	0	
23	N23	63	37.999996	49.074768	0	
24	N24	-21	37.999996	49.074768	0	
25	N25	21.	37.999996	49.074768	0	
26	N26	-63	2.	49.074773	0	
27	N27	63	2.	49.074773	0	
28	N28	-21	2.	49.074773	0	
29	N29	21.	2.	49.074773	0	
30	N30	-27	40.774996	49.074768	0	
31	N31	27	40.774996	49.074768	0	
32	N32	-63	37.999996	52.074768	0	
33	N33	63	37.999996	52.074768	0	
34	N34	-21	37.999996	52.074768	0	
35	N35	21.	37.999996	52.074768	0	
36	N36	-63	2.	52.074768	0	
37	N37	63	2.	52.074768	0	
38	N38	-21	2.	52.074768	0	
39	N39	21.	2.	52.074768	0	
40	N40	-63	62.999996	52.074768	0	
41	N41	63	62.999996	52.074768	0	
42	N42	-21	62.999996	52.074768	0	
43	N43	21.	62.999996	52.074768	0	
44	N44	-63	-33.000004	52.074768	0	
45	N45	63	-33.000004	52.074768	0	
46	N46	-21	-33.000004	52.074768	0	
47	N47	21.	-33.000004	52.074768	0	
48	N48	0	2.	49.074773	0	
49	N49	42.5	2.	-24.537386	0	
50	N50	-42.5	2.	-24.537386	0	
51	N51	0.	0.00004	22.57476	0	
52	N52	19.550316	0.00004	-11.28738	0	
53	N53	-19.550316	0.00004	-11.28738	0	
54	N54	73.999996	37.999996	30.022216	0	
55	N55	10.999996	37.999996	-79.096984	0	
56	N56	52.999996	37.999996	-6.350851	0	
57	N57	31.999996	37.999996	-42.723917	0	
58	N58	74.	2.	30.022214	0	
59	N59	11.	2.	-79.096987	0	
60	N60	53.	2.	-6.350853	0	
61	N61	32.	2.	-42.72392	0	
62	N62	76.598072	37.999996	28.522216	0	
63	N63	13.598072	37.999996	-80.596984	0	
64	N64	55.598072	37.999996	-7.850851	0	



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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>c]bh7ccfX]bUhg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
65	N65	34.598072	37.999996	-44.223917	0	
66	N66	76.598072	2.	28.522216	0	
67	N67	13.598072	2.	-80.596984	0	
68	N68	55.598072	2.	-7.850851	0	
69	N69	34.598072	2.	-44.223917	0	
70	N70	76.598072	62.999996	28.522216	0	
71	N71	13.598072	62.999996	-80.596984	0	
72	N72	55.598072	62.999996	-7.850851	0	
73	N73	34.598072	62.999996	-44.223917	0	
74	N74	76.598072	-33.000004	28.522216	0	
75	N75	13.598072	-33.000004	-80.596984	0	
76	N76	55.598072	-33.000004	-7.850851	0	
77	N77	34.598072	-33.000004	-44.223917	0	
78	N78	-10.999996	37.999996	-79.096984	0	
79	N79	-73.999996	37.999996	30.022216	0	
80	N80	-31.999996	37.999996	-42.723917	0	
81	N81	-52.999996	37.999996	-6.350851	0	
82	N82	-11.	2.	-79.096987	0	
83	N83	-74.	2.	30.022214	0	
84	N84	-32.	2.	-42.72392	0	
85	N85	-53.	2.	-6.350853	0	
86	N86	-13.598072	37.999996	-80.596984	0	
87	N87	-76.598072	37.999996	28.522216	0	
88	N88	-34.598072	37.999996	-44.223917	0	
89	N89	-55.598072	37.999996	-7.850851	0	
90	N90	-13.598072	2.	-80.596984	0	
91	N91	-76.598072	2.	28.522216	0	
92	N92	-34.598072	2.	-44.223917	0	
93	N93	-55.598072	2.	-7.850851	0	
94	N94	-13.598072	62.999996	-80.596984	0	
95	N95	-76.598072	62.999996	28.522216	0	
96	N96	-34.598072	62.999996	-44.223917	0	
97	N97	-55.598072	62.999996	-7.850851	0	
98	N98	-13.598072	-33.000004	-80.596984	0	
99	N99	-76.598072	-33.000004	28.522216	0	
100	N100	-34.598072	-33.000004	-44.223917	0	
101	N101	-55.598072	-33.000004	-7.850851	0	
102	N102	-63	-13.	49.074768	0	
103	N103	63	-13.	49.074768	0	
104	N104	-21	-13.	49.074768	0	
105	N105	21.	-13.	49.074768	0	
106	N106	-63	-13.	52.074768	0	
107	N107	63	-13.	52.074768	0	
108	N108	-21	-13.	52.074768	0	
109	N109	21.	-13.	52.074768	0	
110	N110	-81	-13.000004	49.074768	0	
111	N111	81	-13.000004	49.074768	0	
112	N112	55.999996	40.774996	-1.154698	0	
113	N113	28.999996	40.774996	-47.92007	0	
114	N114	-28.999996	40.774996	-47.92007	0	
115	N115	-55.999996	40.774996	-1.154698	0	
116	N116	-27	37.999996	49.074768	0	



>c]bh7ccfX]bUHyg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
117	N117	27	37.999996	49.074768	0	
118	N118	55.999996	37.999996	-1.154698	0	
119	N119	28.999996	37.999996	-47.92007	0	
120	N120	-28.999996	37.999996	-47.92007	0	
121	N121	-55.999996	37.999996	-1.154698	0	
122	N128	0	0	0	0	
123	N129	0	-54	12.25	0	
124	N130	10.608811	-54	-6.125	0	
125	N131	-10.608811	-54	-6.125	0	
126	N132	44.999994	-13.000004	49.074768	0	
127	N133	-44.999994	-13.000004	49.074768	0	
128	N134	-70.5	-13.000004	49.074768	0	
129	N135	70.5	-13.000004	49.074768	0	
130	N136	77.749996	-13.000004	36.517407	0	
131	N137	7.249996	-13.000004	-85.592175	0	
132	N138	-7.249996	-13.000004	-85.592175	0	
133	N139	-77.749996	-13.000004	36.517407	0	
134	N140	82.999996	-13.000004	45.610674	0	
135	N141	1.999996	-13.000004	-94.685442	0	
136	N142	-1.999996	-13.000004	-94.685442	0	
137	N143	-82.999996	-13.000004	45.610674	0	
138	N144	73.999996	-13.000004	30.022216	0	
139	N145	10.999996	-13.000004	-79.096984	0	
140	N146	52.999996	-13.000004	-6.350851	0	
141	N147	31.999996	-13.000004	-42.723917	0	
142	N148	76.598072	-13.000004	28.522216	0	
143	N149	13.598072	-13.000004	-80.596984	0	
144	N150	55.598072	-13.000004	-7.850851	0	
145	N151	34.598072	-13.000004	-44.223917	0	
146	N152	-10.999996	-13.000004	-79.096984	0	
147	N153	-73.999996	-13.000004	30.022216	0	
148	N154	-31.999996	-13.000004	-42.723917	0	
149	N155	-52.999996	-13.000004	-6.350851	0	
150	N156	-13.598072	-13.000004	-80.596984	0	
151	N157	-76.598072	-13.000004	28.522216	0	
152	N158	-34.598072	-13.000004	-44.223917	0	
153	N159	-55.598072	-13.000004	-7.850851	0	
154	N160	19.999999	-13.000004	-63.508522	0	
155	N161	64.999993	-13.000004	14.433754	0	
156	N162	-64.999993	-13.000004	14.433754	0	
157	N163	-19.999999	-13.000004	-63.508522	0	

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

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Grating Support Angles	LL3x3x4x0	Beam	Double Angle (No ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
2	Face Horizontals	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
3	Inner Face Horizontals	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
4	Support Rails	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Support Rail Corner Braci...	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
6	Support Rail Plan Bracings	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25



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	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
7	Mount Pipes	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	V-Braces	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
9	Temp	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8

7c`X: cfa`YX`GhYY`GYWjcb`GYlg

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoff Arms	4.5CU4.5X05	Beam	CU	A570 Gr.33	Typical	5.874	11.552	17.965	.49

<chFc`YX`GhYY`DfcdYfHjYg

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

7c`X: cfa`YX`GhYY`DfcdYfHjYg

	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

A`Ya`VYf`Df`ja`Ufm8`UU

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N2		270	Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
2	M2	N2	N3		270	Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
3	M3	N3	N1		270	Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
4	M5	N1	N7		180	Grating Support Angles	Beam	Double Angl...	A36 Gr.36	Typical
5	M6	N2	N8		180	Grating Support Angles	Beam	Double Angl...	A36 Gr.36	Typical
6	M7	N3	N9		180	Grating Support Angles	Beam	Double Angl...	A36 Gr.36	Typical
7	M8	N7	N8		270	Inner Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
8	M9	N8	N9		270	Inner Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
9	M10	N9	N7		270	Inner Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
10	M11	N10	N11			Support Rails	Beam	Pipe	A53 Gr.B	Typical
11	M12	N12	N13			Support Rails	Beam	Pipe	A53 Gr.B	Typical
12	M13	N14	N15			Support Rails	Beam	Pipe	A53 Gr.B	Typical
13	M14	N16	N21		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
14	M15	N18	N17		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
15	M16	N20	N19		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
16	M20	N23	N33			RIGID	Column	None	RIGID	DR1 1
17	M21	N27	N37			RIGID	Column	None	RIGID	DR1 1
18	M22	N25	N35			RIGID	Column	None	RIGID	DR1 1
19	M23	N29	N39			RIGID	Column	None	RIGID	DR1 1
20	M24	N24	N34			RIGID	Column	None	RIGID	DR1 1
21	M25	N28	N38			RIGID	Column	None	RIGID	DR1 1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
22	M26	N22	N32			RIGID	Column	None	RIGID	DR1 1
23	M27	N26	N36			RIGID	Column	None	RIGID	DR1 1
24	MP1A	N41	N45			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
25	MP2A	N43	N47			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
26	MP3A	N42	N46			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
27	MP4A	N40	N44			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
28	M32	N4	N48			RIGID	Column	None	RIGID	DR1 1
29	M33	N6	N50			RIGID	Column	None	RIGID	DR1 1
30	M34	N5	N49			RIGID	Column	None	RIGID	DR1 1
31	M35	N55	N63			RIGID	Column	None	RIGID	DR1 1
32	M36	N59	N67			RIGID	Column	None	RIGID	DR1 1
33	M37	N57	N65			RIGID	Column	None	RIGID	DR1 1
34	M38	N61	N69			RIGID	Column	None	RIGID	DR1 1
35	M39	N56	N64			RIGID	Column	None	RIGID	DR1 1
36	M40	N60	N68			RIGID	Column	None	RIGID	DR1 1
37	M41	N54	N62			RIGID	Column	None	RIGID	DR1 1
38	M42	N58	N66			RIGID	Column	None	RIGID	DR1 1
39	MP1C	N71	N75			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
40	MP2C	N73	N77			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
41	MP3C	N72	N76			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
42	MP4C	N70	N74			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
43	M47	N79	N87			RIGID	Column	None	RIGID	DR1 1
44	M48	N83	N91			RIGID	Column	None	RIGID	DR1 1
45	M49	N81	N89			RIGID	Column	None	RIGID	DR1 1
46	M50	N85	N93			RIGID	Column	None	RIGID	DR1 1
47	M51	N80	N88			RIGID	Column	None	RIGID	DR1 1
48	M52	N84	N92			RIGID	Column	None	RIGID	DR1 1
49	M53	N78	N86			RIGID	Column	None	RIGID	DR1 1
50	M54	N82	N90			RIGID	Column	None	RIGID	DR1 1
51	MP1B	N95	N99			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
52	MP2B	N97	N101			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
53	MP3B	N96	N100			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
54	MP4B	N94	N98			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
55	M59	N103	N107			RIGID	Column	None	RIGID	DR1 1
56	M60	N105	N109			RIGID	Column	None	RIGID	DR1 1
57	M61	N104	N108			RIGID	Column	None	RIGID	DR1 1
58	M62	N102	N106			RIGID	Column	None	RIGID	DR1 1
59	M63	N110	N111			Support Rails	Beam	Pipe	A53 Gr.B	Typical
60	M68	N30	N116			RIGID	Column	None	RIGID	DR1 1
61	M69	N115	N121			RIGID	Column	None	RIGID	DR1 1
62	M72	N134	N139		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
63	M73	N136	N135		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
64	M74	N138	N137		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
65	M75	N140	N141			Support Rails	Beam	Pipe	A53 Gr.B	Typical
66	M76	N142	N143			Support Rails	Beam	Pipe	A53 Gr.B	Typical
67	M77	N133	N129			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
68	M78	N129	N132			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
69	M79	N145	N149			RIGID	Column	None	RIGID	DR1 1
70	M80	N147	N151			RIGID	Column	None	RIGID	DR1 1
71	M81	N146	N150			RIGID	Column	None	RIGID	DR1 1
72	M82	N144	N148			RIGID	Column	None	RIGID	DR1 1
73	M83	N153	N157			RIGID	Column	None	RIGID	DR1 1



A Ya Vyf Dfja Ufm8 UUf7 cbjbi YXL

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
74	M84	N155	N159			RIGID	Column	None	RIGID	DR1 1
75	M85	N154	N158			RIGID	Column	None	RIGID	DR1 1
76	M86	N152	N156			RIGID	Column	None	RIGID	DR1 1
77	M87	N161	N130			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
78	M88	N130	N160			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
79	M89	N163	N131			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
80	M90	N131	N162			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
81	M91	N51	N4		90	Standoff Arms	Beam	CU	A570 Gr...	Typical
82	M92	N52	N5		90	Standoff Arms	Beam	CU	A570 Gr...	Typical
83	M93	N53	N6		90	Standoff Arms	Beam	CU	A570 Gr...	Typical
84	M91A	N30	N115			Support Rail Plan Bracings	Beam	Pipe	A53 Gr.B	Typical
85	M85A	N112	N118			RIGID	Column	None	RIGID	DR1 1
86	M86A	N31	N117			RIGID	Column	None	RIGID	DR1 1
87	M87A	N112	N31			Support Rail Plan Bracings	Beam	Pipe	A53 Gr.B	Typical
88	M88A	N114	N120			RIGID	Column	None	RIGID	DR1 1
89	M89A	N113	N119			RIGID	Column	None	RIGID	DR1 1
90	M90A	N114	N113			Support Rail Plan Bracings	Beam	Pipe	A53 Gr.B	Typical

A Ya Vyf 5 Xj Ub WX 8 UHU

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1			M5	M6		Yes				None
2	M2			M6	M7		Yes	Default			None
3	M3			M7	M5		Yes				None
4	M5						Yes				None
5	M6						Yes				None
6	M7						Yes				None
7	M8						Yes				None
8	M9						Yes				None
9	M10						Yes				None
10	M11						Yes				None
11	M12						Yes				None
12	M13						Yes				None
13	M14						Yes				None
14	M15						Yes				None
15	M16						Yes				None
16	M20						Yes	** NA **			None
17	M21						Yes	** NA **			None
18	M22						Yes	** NA **			None
19	M23						Yes	** NA **			None
20	M24						Yes	** NA **			None
21	M25						Yes	** NA **			None
22	M26						Yes	** NA **			None
23	M27						Yes	** NA **			None
24	MP1A						Yes	** NA **			None
25	MP2A						Yes	** NA **			None
26	MP3A						Yes	** NA **			None
27	MP4A						Yes	** NA **			None
28	M32		BenPIN				Yes	** NA **			None
29	M33		BenPIN				Yes	** NA **			None
30	M34		BenPIN				Yes	** NA **			None



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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A Ya Vyf'5 Xj Ub WX'8 UHf7 cbh7bi YXL

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
31	M35						Yes	** NA **			None
32	M36						Yes	** NA **			None
33	M37						Yes	** NA **			None
34	M38						Yes	** NA **			None
35	M39						Yes	** NA **			None
36	M40						Yes	** NA **			None
37	M41						Yes	** NA **			None
38	M42						Yes	** NA **			None
39	MP1C						Yes	** NA **			None
40	MP2C						Yes	** NA **			None
41	MP3C						Yes	** NA **			None
42	MP4C						Yes	** NA **			None
43	M47						Yes	** NA **			None
44	M48						Yes	** NA **			None
45	M49						Yes	** NA **			None
46	M50						Yes	** NA **			None
47	M51						Yes	** NA **			None
48	M52						Yes	** NA **			None
49	M53						Yes	** NA **			None
50	M54						Yes	** NA **			None
51	MP1B						Yes	** NA **			None
52	MP2B						Yes	** NA **			None
53	MP3B						Yes	** NA **			None
54	MP4B						Yes	** NA **			None
55	M59						Yes	** NA **			None
56	M60						Yes	** NA **			None
57	M61						Yes	** NA **			None
58	M62						Yes	** NA **			None
59	M63						Yes				None
60	M68						Yes	** NA **			None
61	M69						Yes	** NA **			None
62	M72						Yes				None
63	M73						Yes				None
64	M74						Yes				None
65	M75						Yes				None
66	M76						Yes				None
67	M77	BenPIN	BenPIN				Yes				None
68	M78	BenPIN	BenPIN				Yes				None
69	M79						Yes	** NA **			None
70	M80						Yes	** NA **			None
71	M81						Yes	** NA **			None
72	M82						Yes	** NA **			None
73	M83						Yes	** NA **			None
74	M84						Yes	** NA **			None
75	M85						Yes	** NA **			None
76	M86						Yes	** NA **			None
77	M87	BenPIN	BenPIN				Yes				None
78	M88	BenPIN	BenPIN				Yes				None
79	M89	BenPIN	BenPIN				Yes				None
80	M90	BenPIN	BenPIN				Yes				None
81	M91						Yes				None
82	M92						Yes				None



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A Ya Vyf'5 Xj Ub WX'8 UHf7' c bh' bi YX

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
83	M93						Yes				None
84	M91A	BenPIN	BenPIN				Yes				None
85	M85A						Yes	** NA **			None
86	M86A						Yes	** NA **			None
87	M87A	BenPIN	BenPIN				Yes				None
88	M88A						Yes	** NA **			None
89	M89A						Yes	** NA **			None
90	M90A	BenPIN	BenPIN				Yes				None

< chFc`YX' GhY' 8 Yq[[b'DUfUa Yhfg

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Face Horizo...	170			Lbyy						Lateral
2	M2	Face Horizo...	170			Lbyy						Lateral
3	M3	Face Horizo...	170			Lbyy						Lateral
4	M5	Grating Sup...	47			Lbyy		.65	.65			Lateral
5	M6	Grating Sup...	47			Lbyy		.65	.65			Lateral
6	M7	Grating Sup...	47			Lbyy		.65	.65			Lateral
7	M8	Inner Face ...	88.594			Lbyy		.65	.65			Lateral
8	M9	Inner Face ...	88.594			Lbyy		.65	.65			Lateral
9	M10	Inner Face ...	88.594			Lbyy		.65	.65			Lateral
10	M11	Support Rails	162			Lbyy						Lateral
11	M12	Support Rails	162			Lbyy						Lateral
12	M13	Support Rails	162			Lbyy						Lateral
13	M14	Support Rail...	14.5			Lbyy						Lateral
14	M15	Support Rail...	14.5			Lbyy						Lateral
15	M16	Support Rail...	14.5			Lbyy						Lateral
16	MP1A	Mount Pipes	96			Lbyy						Lateral
17	MP2A	Mount Pipes	96			Lbyy						Lateral
18	MP3A	Mount Pipes	96			Lbyy						Lateral
19	MP4A	Mount Pipes	96			Lbyy						Lateral
20	MP1C	Mount Pipes	96			Lbyy						Lateral
21	MP2C	Mount Pipes	96			Lbyy						Lateral
22	MP3C	Mount Pipes	96			Lbyy						Lateral
23	MP4C	Mount Pipes	96			Lbyy						Lateral
24	MP1B	Mount Pipes	96			Lbyy						Lateral
25	MP2B	Mount Pipes	96			Lbyy						Lateral
26	MP3B	Mount Pipes	96			Lbyy						Lateral
27	MP4B	Mount Pipes	96			Lbyy						Lateral
28	M63	Support Rails	162			Lbyy						Lateral
29	M72	Support Rail...	14.5			Lbyy						Lateral
30	M73	Support Rail...	14.5			Lbyy						Lateral
31	M74	Support Rail...	14.5			Lbyy						Lateral
32	M75	Support Rails	162			Lbyy						Lateral
33	M76	Support Rails	162			Lbyy						Lateral
34	M77	V-Braces	71.148			Lbyy						Lateral
35	M78	V-Braces	71.148			Lbyy						Lateral
36	M87	V-Braces	71.148			Lbyy						Lateral
37	M88	V-Braces	71.148			Lbyy						Lateral
38	M89	V-Braces	71.148			Lbyy						Lateral
39	M90	V-Braces	71.148			Lbyy						Lateral



<chFc`YX`GhY`8 YgJ] b`DUfUa YhYfg`f7 cb]bi YXL

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
40	M91A	Support Rail...	58			Lbyy						Lateral
41	M87A	Support Rail...	58			Lbyy						Lateral
42	M90A	Support Rail...	58			Lbyy						Lateral

7c`X: cfa YX`GhY`8 YgJ] b`DUfUa YhYfg

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[in]	y sw...	z sw...
1	M91	Standoff...	26.5			Lbyy											
2	M92	Standoff...	26.5			Lbyy											
3	M93	Standoff...	26.5			Lbyy											

>c]bh6 ci bXUf mi7 cbX]h]cbg

	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	N51	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N52	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N53	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N129	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N130	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N131	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

9bj YcdY>c]bhFYUM]cbg

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N51	max	2647.627	4	1875.653	6	1319.268	1	-.562	1	5.613	4	.444	3
2		min	-2709.381	3	380.445	1	-1594.63	2	-4.176	6	-5.611	3	-.434	4
3	N52	max	1874.461	4	1859.766	7	2817.989	1	2.123	5	5.774	2	3.614	7
4		min	-2078.878	3	426.533	4	-2627.59	2	.261	2	-5.77	1	.458	4
5	N53	max	2254.918	4	1846.971	8	2532.727	1	2.115	5	5.429	1	-.572	3
6		min	-1986.774	3	495.545	3	-2452.52	2	.178	2	-5.433	2	-3.609	8
7	N129	max	431.125	10	1701.378	6	1432.198	6	0	10	0	3	0	3
8		min	-301.954	9	338.181	1	365.058	1	0	3	0	4	0	4
9	N130	max	1167.765	7	1691.752	7	-170.207	2	0	1	0	1	0	2
10		min	236.732	4	328.272	4	-852.127	5	0	2	0	2	0	1
11	N131	max	-318.469	3	1698.759	8	-80.755	2	0	1	0	2	0	1
12		min	-1318.114	8	311.679	3	-588.546	5	0	2	0	1	0	2
13	Totals:	max	6326.082	4	10205.906	7	6269.408	1						
14		min	-6326.08	3	3860.498	4	-6269.395	2						

9bj YcdYA Ya VYf`GYW]cb: cfWg

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
1	M1	1	max	454.398	3	318.927	2	-3.282	9	.004	1	.161	1	.754	6
2			min	-409.4	4	-219.615	1	-240.049	6	-.006	2	-.106	2	.125	1
3		2	max	856.771	3	98.613	7	45.335	4	.001	4	.11	6	.179	1
4			min	-1048.683	4	-29.221	4	-153.313	9	-.001	3	-.041	1	-.172	2
5		3	max	1330.157	3	838.336	2	1013.26	6	.002	3	.413	1	.464	2
6			min	-1565.861	4	-674.519	1	190.476	1	-.003	4	-.1	2	-.809	1
7		4	max	866.226	4	47.978	3	133.528	10	.001	1	.143	2	.252	1
8			min	-981.296	3	-83.959	4	-84.984	3	-.001	2	-.064	1	-.226	2



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9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
9	5	max	434.182	4	289.573	1	202.643	6	.005	2	.227	1	.797	6	
10		min	-342.78	3	-421.017	2	-9.642	10	-.005	1	-.195	2	.048	1	
11	M2	1	max	541.249	1	283.243	1	-27.717	2	.004	2	.156	2	.741	7
12			min	-496.271	2	-182.234	2	-235.778	5	-.006	1	-.103	1	.155	2
13		2	max	919.847	1	101.037	8	65.933	2	.002	2	.103	5	.181	2
14			min	-1111.607	2	-35.611	3	-132.952	1	-.001	1	-.026	2	-.176	1
15		3	max	997.093	4	696.26	3	1014.738	7	.002	1	.296	4	.325	3
16			min	-1564.203	2	-528.144	4	186.126	4	-.003	2	-.943	7	-.731	8
17		4	max	824.661	3	65.73	1	112.676	3	0	4	.14	3	.255	4
18			min	-940.968	4	-101.709	2	-88.323	4	0	3	-.061	4	-.23	3
19		5	max	488.811	3	283.496	4	210.35	7	.006	3	.212	4	.787	7
20			min	-397.428	4	-416.967	3	-24.424	4	-.006	4	-.182	3	.081	4
21	M3	1	max	455.972	4	362.83	4	8.94	3	.005	3	.18	3	.75	8
22			min	-411.476	3	-261.984	3	-244.783	8	-.007	4	-.127	4	.12	3
23		2	max	713.861	2	105.948	2	74.609	3	.002	3	.113	4	.225	3
24			min	-905.738	1	-45.924	1	-141.999	4	-.001	4	-.048	3	-.219	4
25		3	max	1304.578	2	775.703	4	1002.744	5	.002	4	.338	3	.464	4
26			min	-1538.718	1	-612.605	3	-255.001	2	-.002	3	-.966	8	-.809	3
27		4	max	943.084	1	61.567	4	119.357	1	0	3	.128	8	.183	3
28			min	-1059.525	2	-97.338	3	-94.945	2	0	4	-.038	3	-.157	4
29		5	max	512.777	1	193.931	3	207.011	5	.004	1	.185	3	.788	8
30			min	-421.262	2	-323.884	4	-8.659	2	-.004	2	-.151	4	.077	3
31	M5	1	max	246.444	4	-150.796	3	132.339	4	.002	9	.396	2	-.345	3
32			min	-479.245	3	-399.654	8	-128.596	3	-.001	2	-.434	1	-.997	8
33		2	max	237.622	4	-137.01	3	137.433	4	.002	9	.282	2	-.204	3
34			min	-470.422	3	-365.762	8	-133.69	3	-.001	2	-.314	1	-.621	8
35		3	max	228.799	4	-120.999	3	145.167	1	.002	9	.152	2	-.078	3
36			min	-461.599	3	-326.309	8	-140.344	2	-.001	2	-.179	1	-.282	8
37		4	max	219.976	4	-102.764	3	160.448	1	.002	9	.015	9	.032	3
38			min	-452.777	3	-281.296	8	-155.625	2	-.001	2	-.035	5	-.01	4
39		5	max	211.154	4	-82.305	3	175.73	1	.002	9	.136	4	.275	7
40			min	-443.954	3	-230.722	8	-170.906	2	-.001	2	-.154	3	.089	4
41	M6	1	max	290.469	3	-151.4	4	147.74	2	0	9	.541	1	-.353	4
42			min	-522.902	4	-399.575	7	-143.907	1	-.002	10	-.575	2	-.995	7
43		2	max	281.646	3	-137.614	4	163.021	2	0	9	.393	1	-.212	4
44			min	-514.08	4	-365.683	7	-159.189	1	-.002	10	-.422	2	-.62	7
45		3	max	272.823	3	-121.603	4	178.303	2	0	9	.229	1	-.085	4
46			min	-505.257	4	-326.231	7	-174.47	1	-.002	10	-.255	2	-.281	7
47		4	max	264.001	3	-103.368	4	193.584	2	0	9	.051	1	.026	8
48			min	-496.434	4	-281.217	7	-189.751	1	-.002	10	-.073	2	-.004	3
49		5	max	255.178	3	-82.909	4	208.865	2	0	9	.124	2	.274	8
50			min	-487.612	4	-230.644	7	-205.032	1	-.002	10	-.142	1	.094	2
51	M7	1	max	322.309	1	-150.736	2	137.379	3	0	3	.558	4	-.349	2
52			min	-554.614	2	-399.816	5	-132.816	4	-.001	4	-.594	3	-.996	5
53		2	max	322.309	1	-136.949	2	157.754	3	0	3	.418	4	-.208	2
54			min	-554.614	2	-365.924	5	-153.191	4	-.001	4	-.45	3	-.621	5
55		3	max	322.309	1	-120.939	2	178.129	3	0	3	.258	4	-.081	2
56			min	-554.614	2	-326.472	5	-173.566	4	-.001	4	-.285	3	-.282	5
57		4	max	322.309	1	-102.704	2	198.504	3	0	3	.078	4	.029	2
58			min	-554.614	2	-281.459	5	-193.941	4	-.001	4	-.101	3	-.007	1
59		5	max	322.309	1	-82.245	2	218.879	3	0	3	.103	3	.275	6
60			min	-554.614	2	-230.885	5	-214.316	4	-.001	4	-.122	4	.093	1



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9bj YcdYA Ya VYf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
61	M8	1	max	307.793	2	78.485	2	116.351	8	0	4	.065	1	.265	6
62			min	-442.871	1	-75.977	1	41.445	3	0	3	-.083	2	.028	1
63		2	max	307.793	2	40.079	2	58.657	8	0	4	.097	8	.36	7
64			min	-442.871	1	-37.57	1	19.661	3	0	3	.022	3	.114	4
65		3	max	307.793	2	13.014	3	2.362	4	0	4	.143	6	.399	5
66			min	-442.871	1	-10.505	4	-2.194	3	0	3	.025	1	.114	2
67		4	max	307.793	2	39.242	1	-19.493	4	0	4	.105	7	.351	8
68			min	-442.871	1	-36.734	2	-58.27	7	0	3	.028	4	.119	3
69		5	max	307.793	2	77.649	1	-41.277	4	0	4	.071	1	.25	6
70			min	-442.871	1	-75.14	2	-115.964	7	0	3	-.075	2	.025	1
71	M9	1	max	290.737	3	63.042	3	116.232	6	0	2	.059	4	.263	7
72			min	-425.463	4	-60.52	4	41.915	1	0	1	-.076	3	.037	4
73		2	max	274.106	3	34.237	3	58.538	6	0	2	.095	8	.356	5
74			min	-408.832	4	-31.715	4	20.131	1	0	1	.031	3	.129	2
75		3	max	257.476	3	5.432	3	1.959	2	0	2	.141	7	.396	8
76			min	-392.202	4	-2.91	4	-1.724	1	0	1	.032	4	.122	3
77		4	max	240.845	3	25.895	4	-19.896	2	0	2	.104	7	.351	8
78			min	-375.572	4	-23.372	3	-58.137	5	0	1	.032	4	.121	3
79		5	max	224.215	3	54.699	4	-41.68	2	0	2	.041	4	.242	7
80			min	-358.941	4	-52.177	3	-115.831	5	0	1	-.045	3	.049	4
81	M10	1	max	256.17	4	52.995	4	116.175	5	0	1	.029	3	.257	8
82			min	-391.266	3	-50.507	3	42.078	2	0	2	-.048	4	.056	3
83		2	max	272.8	4	24.191	4	58.481	5	0	1	.096	8	.358	7
84			min	-407.896	3	-21.703	3	20.294	2	0	2	.027	3	.123	1
85		3	max	289.43	4	7.102	3	1.644	1	0	1	.141	8	.396	7
86			min	-424.527	3	-4.614	4	-1.56	2	0	2	.033	3	.124	4
87		4	max	306.061	4	35.907	3	-20.21	1	0	1	.104	7	.349	5
88			min	-441.157	3	-33.419	4	-58.109	6	0	2	.029	4	.127	2
89		5	max	322.691	4	64.712	3	-41.994	1	0	1	.073	3	.249	8
90			min	-457.788	3	-62.224	4	-115.803	6	0	2	-.077	4	.026	3
91	M11	1	max	0	11	0	11	0	11	0	11	0	11	0	11
92			min	0	1	0	1	0	1	0	1	0	1	0	1
93		2	max	41.994	4	108.59	4	110.697	4	.119	1	.217	4	.074	2
94			min	-63.243	3	-153.044	3	-107.605	3	-.107	2	-.218	3	-.047	1
95		3	max	159.069	1	215.984	4	161.443	3	.159	1	.043	1	.027	3
96			min	-234.366	2	-168.601	3	-170.106	4	-.163	2	-.042	2	-.033	4
97		4	max	204.589	3	185.538	4	82.917	4	.213	2	.161	3	.1	2
98			min	-171.199	4	-167.302	3	-84.987	3	-.234	1	-.171	4	-.102	1
99		5	max	0	11	0	11	0	11	0	11	0	11	0	11
100			min	0	1	0	1	0	1	0	1	0	1	0	1
101	M12	1	max	0	11	.008	3	.002	4	0	11	0	11	0	11
102			min	0	1	0	5	-.01	2	0	1	0	1	0	1
103		2	max	59.882	2	124.729	2	84.449	2	.095	2	.201	2	.081	1
104			min	-84.096	10	-169.019	1	-81.078	1	-.084	1	-.202	1	-.055	2
105		3	max	53.548	2	212.294	2	142.504	4	.166	4	.039	2	.036	1
106			min	-131.862	7	-165.127	1	-151.272	3	-.169	3	-.038	1	-.043	2
107		4	max	192.408	1	188.757	3	59.259	3	.171	3	.188	4	.142	3
108			min	-159.425	2	-170.686	4	-61.492	4	-.192	4	-.198	3	-.145	4
109		5	max	0	11	.004	4	.009	3	0	11	0	11	0	11
110			min	0	1	-.008	2	-.002	1	0	1	0	1	0	1
111	M13	1	max	0	11	.008	1	0	11	0	11	0	11	0	11
112			min	0	1	-.002	4	-.008	3	0	1	0	1	0	1



9bj YcdYA Ya Vyf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
113		2	max	93.725	3	105.786	3	87.99	1	.129	3	.137	1	.087	4
114			min	-115.609	4	-150.269	4	-84.614	2	-.117	4	-.137	2	-.061	3
115		3	max	179.961	3	187.648	1	144.457	2	.104	2	.059	3	.046	4
116			min	-256.098	4	-140.092	2	-153.389	1	-.107	1	-.057	4	-.052	3
117		4	max	184.921	2	198.866	1	76.84	1	.188	4	.178	2	.11	1
118			min	-151.207	1	-180.693	2	-78.734	2	-.209	3	-.189	1	-.113	2
119		5	max	0	11	0	9	.006	1	0	11	0	11	0	11
120			min	0	1	-.009	4	-.008	4	0	1	0	1	0	1
121	M14	1	max	50.898	2	222.233	1	139.689	3	.004	1	.062	2	.203	1
122			min	-47.552	1	-253.383	2	-147.722	4	-.005	2	-.054	1	-.175	2
123		2	max	48.63	2	223.344	1	135.761	3	.004	1	.023	2	.139	1
124			min	-45.284	1	-252.272	2	-143.794	4	-.005	2	-.023	1	-.106	2
125		3	max	46.362	2	224.456	1	131.832	3	.004	1	.01	3	.089	3
126			min	-43.015	1	-251.161	2	-139.865	4	-.005	2	-.018	4	-.052	4
127		4	max	45.883	4	225.567	1	127.903	3	.004	1	.039	1	.151	3
128			min	-41.574	3	-250.049	2	-135.936	4	-.005	2	-.054	2	-.11	4
129		5	max	48.151	4	226.679	1	123.975	3	.004	1	.071	1	.212	3
130			min	-43.842	3	-248.938	2	-132.007	4	-.005	2	-.091	2	-.168	4
131	M15	1	max	79.274	3	244.416	2	143.945	1	.005	2	.057	1	.164	4
132			min	-74.61	4	-275.22	1	-151.611	2	-.006	1	-.048	2	-.137	3
133		2	max	77.006	3	245.527	2	142.635	1	.005	2	.029	1	.135	4
134			min	-72.342	4	-274.109	1	-150.302	2	-.006	1	-.028	2	-.103	3
135		3	max	74.738	3	246.639	2	141.326	1	.005	2	.016	4	.104	4
136			min	-70.074	4	-272.997	1	-148.992	2	-.006	1	-.023	3	-.068	3
137		4	max	72.47	3	247.75	2	140.016	1	.005	2	.029	4	.133	1
138			min	-67.806	4	-271.886	1	-147.683	2	-.006	1	-.044	3	-.092	2
139		5	max	70.201	3	248.861	2	138.707	1	.005	2	.043	4	.221	1
140			min	-65.537	4	-270.774	1	-146.373	2	-.006	1	-.063	3	-.177	2
141	M16	1	max	71.521	1	297.833	3	105.943	4	.006	3	.086	4	.216	3
142			min	-66.495	2	-328.885	4	-113.306	3	-.006	4	-.078	3	-.187	4
143		2	max	71.521	1	298.945	3	105.943	4	.006	3	.038	4	.128	3
144			min	-66.495	2	-327.774	4	-113.306	3	-.006	4	-.038	3	-.094	4
145		3	max	71.521	1	300.056	3	105.943	4	.006	3	.014	2	.105	2
146			min	-66.495	2	-326.663	4	-113.306	3	-.006	4	-.022	1	-.069	1
147		4	max	71.521	1	301.167	3	105.943	4	.006	3	.042	3	.118	2
148			min	-66.495	2	-325.551	4	-113.306	3	-.006	4	-.056	4	-.077	1
149		5	max	71.521	1	302.279	3	105.943	4	.006	3	.082	3	.182	4
150			min	-66.495	2	-324.44	4	-113.306	3	-.006	4	-.103	4	-.138	3
151	M20	1	max	25.772	1	190.711	1	179.625	4	.351	3	.041	2	.061	1
152			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.071	1	-.081	2
153		2	max	25.772	1	190.711	1	179.625	4	.351	3	.048	2	.05	1
154			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.079	1	-.07	2
155		3	max	25.772	1	190.711	1	179.625	4	.351	3	.055	2	.038	1
156			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.088	1	-.066	10
157		4	max	25.772	1	190.711	1	179.625	4	.351	3	.061	2	.026	1
158			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.096	1	-.077	10
159		5	max	25.772	1	190.711	1	179.625	4	.351	3	.068	2	.014	1
160			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.105	1	-.088	10
161	M21	1	max	294.006	1	-34.481	4	638.527	3	.271	3	.046	4	.007	2
162			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.197	7	-.006	1
163		2	max	294.006	1	-34.481	4	638.527	3	.271	3	.019	4	.036	10
164			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.169	7	0	1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
165		3	max	294.006	1	-34.481	4	638.527	3	.271	3	.006	1	.076	10
166			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.141	7	.005	1
167		4	max	294.006	1	-34.481	4	638.527	3	.271	3	.016	1	.116	10
168			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.119	6	.009	4
169		5	max	294.006	1	-34.481	4	638.527	3	.271	3	.025	1	.155	10
170			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.101	6	.011	4
171	M22	1	max	328.247	1	85.821	1	164.541	6	.576	3	.083	3	.531	2
172			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.092	4	-.548	1
173		2	max	328.247	1	85.821	1	164.541	6	.576	3	.089	3	.539	2
174			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.091	4	-.554	1
175		3	max	328.247	1	85.821	1	164.541	6	.576	3	.095	3	.546	2
176			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.09	4	-.559	1
177		4	max	328.247	1	85.821	1	164.541	6	.576	3	.101	3	.553	2
178			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.089	4	-.565	1
179		5	max	328.247	1	85.821	1	164.541	6	.576	3	.108	3	.56	2
180			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.088	4	-.57	1
181	M23	1	max	525.589	1	852.793	6	473.452	2	.16	1	.223	1	.002	1
182			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.24	2	-.003	2
183		2	max	525.589	1	852.793	6	473.452	2	.16	1	.205	1	-.01	1
184			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.211	2	-.054	6
185		3	max	525.589	1	852.793	6	473.452	2	.16	1	.187	1	-.022	1
186			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.181	2	-.107	6
187		4	max	525.589	1	852.793	6	473.452	2	.16	1	.169	1	-.034	1
188			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.152	2	-.16	6
189		5	max	525.589	1	852.793	6	473.452	2	.16	1	.151	1	-.046	1
190			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.122	2	-.214	6
191	M24	1	max	75.256	3	-8.225	3	162.965	4	.399	3	.118	1	.111	3
192			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.127	2	-.129	4
193		2	max	75.256	3	-8.225	3	162.965	4	.399	3	.12	1	.112	3
194			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.133	2	-.121	4
195		3	max	75.256	3	-8.225	3	162.965	4	.399	3	.122	1	.112	3
196			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.139	2	-.112	4
197		4	max	75.256	3	-8.225	3	162.965	4	.399	3	.124	1	.113	3
198			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.144	2	-.104	4
199		5	max	75.256	3	-8.225	3	162.965	4	.399	3	.126	1	.113	3
200			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.15	2	-.096	4
201	M25	1	max	505.825	1	541.75	6	473.284	3	.622	6	.286	2	.003	3
202			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.269	1	-.004	4
203		2	max	505.825	1	541.75	6	473.284	3	.622	6	.269	2	-.006	3
204			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.255	1	-.035	8
205		3	max	505.825	1	541.75	6	473.284	3	.622	6	.252	2	-.015	3
206			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.242	1	-.069	8
207		4	max	505.825	1	541.75	6	473.284	3	.622	6	.236	2	-.024	3
208			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.228	1	-.102	8
209		5	max	505.825	1	541.75	6	473.284	3	.622	6	.219	2	-.033	3
210			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.214	1	-.136	8
211	M26	1	max	7.744	3	180.007	1	150.182	4	.349	3	.095	4	.041	2
212			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.059	3	-.046	9
213		2	max	7.744	3	180.007	1	150.182	4	.349	3	.104	4	.053	2
214			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.069	3	-.056	9
215		3	max	7.744	3	180.007	1	150.182	4	.349	3	.114	4	.065	2
216			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.079	3	-.066	9



9bj YcdYA Ya Vyf GYVjcb: cfWkg fT cbhji YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
217		4	max	7.744	3	180.007	1	150.182	4	.349	3	.123	4	.077	2
218			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.09	3	-.076	9
219		5	max	7.744	3	180.007	1	150.182	4	.349	3	.133	4	.09	2
220			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.1	3	-.086	9
221	M27	1	max	213.806	1	-3.957	3	402.464	3	.206	2	.169	8	.005	2
222			min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.028	3	-.003	1
223		2	max	213.806	1	-3.957	3	402.464	3	.206	2	.139	8	.037	9
224			min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.002	3	.002	1
225		3	max	213.806	1	-3.957	3	402.464	3	.206	2	.109	5	.076	9
226			min	-252.716	2	-629.489	9	-639.275	4	-.172	1	.006	2	.003	3
227		4	max	213.806	1	-3.957	3	402.464	3	.206	2	.09	5	.115	9
228			min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.004	2	.003	3
229		5	max	213.806	1	-3.957	3	402.464	3	.206	2	.073	3	.155	9
230			min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.028	4	.004	3
231	MP1A	1	max	0	11	.013	4	.033	1	0	11	0	11	0	11
232			min	0	1	-.016	7	-.033	2	0	1	0	1	0	1
233		2	max	26.015	8	19.781	4	19.801	1	0	11	.02	1	.02	3
234			min	8.33	1	-19.782	3	-19.802	2	0	1	-.02	2	-.02	4
235		3	max	223.393	2	240.381	4	69.026	1	.105	1	.043	1	.121	3
236			min	-146.245	1	-265.605	3	-67.84	2	-.068	2	-.063	2	-.078	4
237		4	max	571.973	10	320.742	7	188.436	2	.154	5	.203	10	-.014	1
238			min	3.532	1	-129.187	4	-91.92	1	.027	2	-.056	2	-.252	6
239		5	max	0	11	.014	7	.017	6	0	11	0	11	0	11
240			min	0	1	-.005	4	-.01	1	0	1	0	1	0	1
241	MP2A	1	max	0	11	.594	4	2.052	1	0	11	0	11	0	11
242			min	0	1	-.608	3	-1.982	2	0	1	0	1	0	1
243		2	max	506.475	8	252.138	4	493.134	1	0	11	.706	1	.344	3
244			min	193.61	1	-252.151	3	-493.064	2	0	1	-.706	2	-.344	4
245		3	max	595.08	6	286.747	4	183.864	1	.088	4	.511	1	.105	3
246			min	110.599	1	-174.523	3	-181.511	2	-.108	3	-.516	2	-.198	4
247		4	max	46.201	10	564.956	2	511.155	2	.019	2	.37	1	.142	3
248			min	-145.177	6	-270.448	1	-305.417	1	-.078	10	-.338	2	-.054	4
249		5	max	0	11	0	10	.173	1	0	11	0	11	0	11
250			min	0	1	-.151	8	-.369	6	0	1	0	1	0	1
251	MP3A	1	max	0	11	.013	4	.057	5	0	11	0	11	0	11
252			min	0	1	-.016	7	-.045	2	0	1	0	1	0	1
253		2	max	26.015	8	19.782	4	19.817	1	0	11	.02	1	.02	3
254			min	8.33	1	-19.782	3	-19.813	2	0	1	-.02	2	-.02	4
255		3	max	410.151	8	253.523	4	181.64	1	.15	2	.245	1	.169	3
256			min	86.883	3	-308.855	3	-197.975	2	-.126	1	-.259	2	-.094	4
257		4	max	107.495	9	253.51	1	342.386	2	.088	1	.201	1	-.056	9
258			min	-20.528	2	-352.619	2	-187.638	1	-.069	2	-.19	2	-.187	8
259		5	max	0	11	.016	7	.005	3	0	11	0	11	0	11
260			min	0	1	-.005	4	-.029	5	0	1	0	1	0	1
261	MP4A	1	max	0	11	.061	8	.076	5	0	11	0	11	0	11
262			min	0	1	-.028	3	-.059	2	0	1	0	1	0	1
263		2	max	61.566	8	30.528	4	52.292	1	0	11	.052	1	.031	3
264			min	18.89	1	-30.521	3	-52.289	2	0	1	-.052	2	-.031	4
265		3	max	223.475	2	207.002	4	73.669	1	.1	3	.085	1	.088	3
266			min	-151.156	1	-223.948	3	-78.819	2	-.133	4	-.091	2	-.119	4
267		4	max	507.076	9	155.53	3	150.391	2	.038	2	.17	9	.294	6
268			min	-66.86	1	-432.286	8	-115.829	1	-.127	5	-.017	2	-.019	1



9bj YcdYA Ya Vyf GYVjcb: cfWkg fT cbhpi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
269	5	max	0	11	.004	3	.013	6	0	11	0	11	0	11	
270		min	0	1	-.02	8	-.01	1	0	1	0	1	0	1	
271	M32	1	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.266	2	.444	3
272			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.22	1	-.434	4
273		2	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.199	2	.333	3
274			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.165	1	-.325	4
275		3	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.133	2	.222	3
276			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.11	1	-.217	4
277		4	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.066	2	.111	3
278			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.055	1	-.108	4
279		5	max	1788.036	6	2662.674	3	1319.219	1	.304	3	0	1	0	4
280			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	0	5	0	3
281	M33	1	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.401	2	.326	3
282			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.415	1	-.371	4
283		2	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.301	2	.245	3
284			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.311	1	-.279	4
285		3	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.2	2	.163	3
286			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.208	1	-.186	4
287		4	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.1	2	.082	3
288			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.104	1	-.093	4
289		5	max	1759.354	8	1960.033	3	2496.166	1	.244	6	0	4	0	4
290			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	0	3	0	6
291	M34	1	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.43	2	.342	3
292			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.463	1	-.307	4
293		2	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.323	2	.257	3
294			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.347	1	-.23	4
295		3	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.215	2	.171	3
296			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.231	1	-.154	4
297		4	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.108	2	.086	3
298			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.116	1	-.077	4
299		5	max	1772.141	7	2056.967	3	2780.575	1	.271	1	0	3	0	2
300			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	0	6	0	4
301	M35	1	max	3.308	2	157.092	2	219.507	3	.476	4	.031	1	.038	2
302			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.061	2	-.058	1
303		2	max	3.308	2	157.092	2	219.507	3	.476	4	.025	3	.028	2
304			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.057	4	-.048	1
305		3	max	3.308	2	157.092	2	219.507	3	.476	4	.039	3	.019	2
306			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.072	4	-.039	1
307		4	max	3.308	2	157.092	2	219.507	3	.476	4	.053	3	.009	2
308			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.088	4	-.037	8
309		5	max	3.308	2	157.092	2	219.507	3	.476	4	.067	3	-.001	2
310			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.103	4	-.04	8
311	M36	1	max	266.237	4	-45.427	2	642.931	1	.272	4	.068	2	.007	3
312			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.2	5	-.006	4
313		2	max	266.237	4	-45.427	2	642.931	1	.272	4	.04	2	.016	7
314			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.172	5	0	4
315		3	max	266.237	4	-45.427	2	642.931	1	.272	4	.013	2	.031	5
316			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.144	5	.005	2
317		4	max	266.237	4	-45.427	2	642.931	1	.272	4	-.013	4	.046	5
318			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.117	5	.008	2
319		5	max	266.237	4	-45.427	2	642.931	1	.272	4	.019	4	.061	5
320			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.101	7	.011	2



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
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9bj YcdYA Ya Vyf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
321	M37	1	max	259.294	4	63.711	4	158.686	8	.554	1	.106	1	.453	3
322			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.115	2	-.47	4
323		2	max	259.294	4	63.711	4	158.686	8	.554	1	.114	1	.459	3
324			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.116	2	-.474	4
325		3	max	259.294	4	63.711	4	158.686	8	.554	1	.123	1	.465	3
326			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.118	2	-.478	4
327		4	max	259.294	4	63.711	4	158.686	8	.554	1	.131	1	.47	3
328			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.119	2	-.482	4
329		5	max	259.294	4	63.711	4	158.686	8	.554	1	.139	1	.476	3
330			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.12	2	-.486	4
331	M38	1	max	439.958	4	841.827	7	441.342	1	.247	4	.209	2	.002	2
332			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.226	1	-.002	1
333		2	max	439.958	4	841.827	7	441.342	1	.247	4	.193	2	-.014	4
334			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.198	1	-.053	7
335		3	max	439.958	4	841.827	7	441.342	1	.247	4	.176	2	-.028	4
336			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.171	1	-.105	7
337		4	max	439.958	4	841.827	7	441.342	1	.247	4	.16	2	-.043	4
338			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.143	1	-.158	7
339		5	max	439.958	4	841.827	7	441.342	1	.247	4	.144	2	-.057	4
340			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.116	1	-.211	7
341	M39	1	max	98.82	1	-4.54	4	174.86	2	.409	1	.15	4	.136	1
342			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.159	3	-.154	2
343		2	max	98.82	1	-4.54	4	174.86	2	.409	1	.144	4	.138	1
344			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.157	3	-.147	2
345		3	max	98.82	1	-4.54	4	174.86	2	.409	1	.138	4	.14	1
346			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.155	3	-.14	2
347		4	max	98.82	1	-4.54	4	174.86	2	.409	1	.132	4	.141	1
348			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.152	3	-.133	2
349		5	max	98.82	1	-4.54	4	174.86	2	.409	1	.127	4	.143	1
350			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.15	3	-.126	2
351	M40	1	max	371.899	4	544.26	7	536.823	4	.63	5	.32	3	.004	1
352			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.304	4	-.004	2
353		2	max	371.899	4	544.26	7	536.823	4	.63	5	.284	3	-.007	1
354			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.27	4	-.035	6
355		3	max	371.899	4	544.26	7	536.823	4	.63	5	.248	3	-.016	4
356			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.237	4	-.069	7
357		4	max	371.899	4	544.26	7	536.823	4	.63	5	.211	3	-.024	4
358			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.203	4	-.103	7
359		5	max	371.899	4	544.26	7	536.823	4	.63	5	.175	3	-.032	4
360			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.17	4	-.137	7
361	M41	1	max	30.416	1	147.974	4	211.275	2	.467	1	.079	2	.035	1
362			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.043	1	-.036	2
363		2	max	30.416	1	147.974	4	211.275	2	.467	1	.092	2	.043	1
364			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.057	1	-.042	2
365		3	max	30.416	1	147.974	4	211.275	2	.467	1	.106	2	.05	1
366			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.071	1	-.049	2
367		4	max	30.416	1	147.974	4	211.275	2	.467	1	.119	2	.058	1
368			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.085	1	-.056	2
369		5	max	30.416	1	147.974	4	211.275	2	.467	1	.132	2	.065	1
370			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.1	1	-.062	2
371	M42	1	max	172.09	2	-39.588	1	347.6	1	.245	10	.173	6	.004	1
372			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.049	1	-.002	2



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
373		2	max	172.09	2	-39.588	1	347.6	1	.245	10	.144	6	.017	7
374			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.027	1	.002	4
375		3	max	172.09	2	-39.588	1	347.6	1	.245	10	.115	6	.03	7
376			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.006	1	.005	4
377		4	max	172.09	2	-39.588	1	347.6	1	.245	10	.086	6	.043	7
378			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	.008	3	.008	4
379		5	max	172.09	2	-39.588	1	347.6	1	.245	10	.071	8	.056	7
380			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.02	3	.011	4
381	MP1C	1	max	0	11	.024	4	.023	5	0	11	0	11	0	11
382			min	0	1	-.024	3	-.022	2	0	1	0	1	0	1
383		2	max	26.015	8	19.793	4	19.79	1	0	11	.02	1	.02	3
384			min	8.33	1	-19.792	3	-19.79	2	0	1	-.02	2	-.02	4
385		3	max	190.34	1	209.664	4	212.458	4	.103	4	.139	1	.054	3
386			min	-112.445	2	-195.415	3	-191.349	3	-.067	3	-.091	2	-.059	4
387		4	max	549.163	5	153.578	3	187.637	2	.155	8	-.048	2	.104	3
388			min	-2.925	2	-161.545	4	-394.435	1	.023	3	-.286	5	-.121	4
389		5	max	0	11	.011	7	.007	2	0	11	0	11	0	11
390			min	0	1	-.009	4	-.018	5	0	1	0	1	0	1
391	MP2C	1	max	0	11	1.719	4	.912	1	0	11	0	11	0	11
392			min	0	1	-1.651	3	-.935	2	0	1	0	1	0	1
393		2	max	506.475	8	470.527	4	293.571	1	0	11	.415	1	.653	3
394			min	193.61	1	-470.46	3	-293.593	2	0	1	-.415	2	-.653	4
395		3	max	588.825	7	188.323	4	157.18	1	.12	2	.163	1	.455	3
396			min	134.476	4	-242.337	3	-255.682	2	-.139	1	-.241	2	-.404	4
397		4	max	-24.721	1	123.583	1	305.646	4	0	3	.168	1	.253	3
398			min	-141.907	6	-93.32	2	-664.636	3	-.071	8	-.107	2	-.325	4
399		5	max	0	11	.102	4	.258	7	0	11	0	11	0	11
400			min	0	1	-.213	7	-.01	4	0	1	0	1	0	1
401	MP3C	1	max	0	11	.047	8	.027	1	0	11	0	11	0	11
402			min	0	1	-.033	3	-.029	6	0	1	0	1	0	1
403		2	max	26.015	8	19.804	4	19.795	1	0	11	.02	1	.02	3
404			min	8.33	1	-19.801	3	-19.796	2	0	1	-.02	2	-.02	4
405		3	max	412.112	7	187.588	4	356.259	1	.15	3	.225	1	.181	3
406			min	83.006	4	-174.054	3	-300.525	2	-.127	4	-.154	2	-.207	4
407		4	max	83.027	10	465.054	3	206.685	3	.061	2	.011	1	.165	1
408			min	5.305	1	-283.003	4	-199.51	4	-.044	1	-.185	6	-.106	2
409		5	max	0	11	.005	1	.011	2	0	11	0	11	0	11
410			min	0	1	-.03	6	-.011	1	0	1	0	1	0	1
411	MP4C	1	max	0	11	.058	4	.036	1	0	11	0	11	0	11
412			min	0	1	-.057	3	-.071	6	0	1	0	1	0	1
413		2	max	61.566	8	46.853	4	35.963	1	0	11	.036	1	.047	3
414			min	18.89	1	-46.853	3	-35.971	2	0	1	-.036	2	-.047	4
415		3	max	191.776	3	87.172	1	273.802	1	.1	1	.103	1	.118	3
416			min	-119.524	4	-82.698	2	-256.785	2	-.132	2	-.127	2	-.097	4
417		4	max	395.952	7	324.195	3	371.88	10	.062	1	.213	7	-.051	4
418			min	-63.523	4	-166.293	4	-112.335	1	-.14	2	-.048	4	-.211	7
419		5	max	0	11	.018	7	.018	6	0	11	0	11	0	11
420			min	0	1	-.008	4	-.006	1	0	1	0	1	0	1
421	M47	1	max	22.482	3	217.991	3	216.619	1	.448	2	.065	4	.075	3
422			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.095	3	-.094	4
423		2	max	22.482	3	217.991	3	216.619	1	.448	2	.062	4	.061	3
424			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.094	3	-.081	4



9bj YcdYA Ya VYf GYWjcb: cfWkg fT cbhpi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
425		3	max	22.482	3	217.991	3	216.619	1	.448	2	.06	4	.047	3
426			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.093	3	-.068	4
427		4	max	22.482	3	217.991	3	216.619	1	.448	2	.057	4	.034	3
428			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.091	3	-.055	4
429		5	max	22.482	3	217.991	3	216.619	1	.448	2	.054	4	.02	3
430			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.09	3	-.043	2
431	M48	1	max	236.22	3	-60.069	1	606.855	2	.304	2	.071	3	.004	1
432			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.197	8	-.004	2
433		2	max	236.22	3	-60.069	1	606.855	2	.304	2	.055	3	.016	8
434			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.172	8	.001	3
435		3	max	236.22	3	-60.069	1	606.855	2	.304	2	.038	3	.031	8
436			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.148	8	.006	3
437		4	max	236.22	3	-60.069	1	606.855	2	.304	2	.021	3	.045	8
438			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.123	8	.011	3
439		5	max	236.22	3	-60.069	1	606.855	2	.304	2	.004	3	.06	8
440			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.099	5	.015	3
441	M49	1	max	270.191	3	71.687	3	200.782	4	.544	2	.097	4	.423	4
442			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.106	3	-.439	3
443		2	max	270.191	3	71.687	3	200.782	4	.544	2	.11	4	.429	4
444			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.112	3	-.443	3
445		3	max	270.191	3	71.687	3	200.782	4	.544	2	.122	4	.435	4
446			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.118	3	-.448	3
447		4	max	270.191	3	71.687	3	200.782	4	.544	2	.135	4	.441	4
448			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.123	3	-.452	3
449		5	max	270.191	3	71.687	3	200.782	4	.544	2	.148	4	.447	4
450			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.129	3	-.457	3
451	M50	1	max	460.505	3	844.658	8	527.589	4	.148	2	.272	3	.003	3
452			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.289	4	-.003	4
453		2	max	460.505	3	844.658	8	527.589	4	.148	2	.251	3	-.012	3
454			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.256	4	-.053	8
455		3	max	460.505	3	844.658	8	527.589	4	.148	2	.229	3	-.026	3
456			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.223	4	-.106	8
457		4	max	460.505	3	844.658	8	527.589	4	.148	2	.208	3	-.04	3
458			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.19	4	-.159	8
459		5	max	460.505	3	844.658	8	527.589	4	.148	2	.186	3	-.054	3
460			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.157	4	-.212	8
461	M51	1	max	87.34	4	.991	2	145.41	3	.339	2	.123	2	.106	4
462			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.133	1	-.124	3
463		2	max	87.34	4	.991	2	145.41	3	.339	2	.112	2	.109	4
464			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.126	1	-.118	3
465		3	max	87.34	4	.991	2	145.41	3	.339	2	.102	2	.112	4
466			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.118	1	-.113	3
467		4	max	87.34	4	.991	2	145.41	3	.339	2	.091	2	.115	4
468			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.111	1	-.107	3
469		5	max	87.34	4	.991	2	145.41	3	.339	2	.085	3	.118	4
470			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.109	4	-.101	3
471	M52	1	max	460.552	3	540.864	5	559.314	2	.688	4	.231	1	.003	4
472			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.215	2	-.004	3
473		2	max	460.552	3	540.864	5	559.314	2	.688	4	.194	1	-.007	2
474			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.18	2	-.035	5
475		3	max	460.552	3	540.864	5	559.314	2	.688	4	.163	4	-.016	2
476			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.152	3	-.069	5



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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9bj YcdYA Ya VYf GYVjcb: cfWVg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
477		4	max	460.552	3	540.864	5	559.314	2	.688	4	.173	4	-.025	2
478			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.164	3	-.102	5
479		5	max	460.552	3	540.864	5	559.314	2	.688	4	.182	4	-.034	2
480			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.176	3	-.136	5
481	M53	1	max	25.646	4	178.005	3	224.078	3	.489	4	.058	7	.053	4
482			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.012	2	-.053	3
483		2	max	25.646	4	178.005	3	224.078	3	.489	4	.061	3	.065	4
484			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.025	4	-.065	3
485		3	max	25.646	4	178.005	3	224.078	3	.489	4	.075	3	.077	4
486			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.04	4	-.076	3
487		4	max	25.646	4	178.005	3	224.078	3	.489	4	.089	3	.089	4
488			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.055	4	-.087	3
489		5	max	25.646	4	178.005	3	224.078	3	.489	4	.103	3	.101	4
490			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.07	4	-.098	3
491	M54	1	max	247.352	3	-16.094	2	349.271	2	.271	4	.168	7	.005	4
492			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.042	4	-.003	3
493		2	max	247.352	3	-16.094	2	349.271	2	.271	4	.142	7	.017	5
494			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.031	4	.002	2
495		3	max	247.352	3	-16.094	2	349.271	2	.271	4	.117	7	.03	5
496			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.02	4	.003	2
497		4	max	247.352	3	-16.094	2	349.271	2	.271	4	.091	7	.044	5
498			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.008	4	.004	2
499		5	max	247.352	3	-16.094	2	349.271	2	.271	4	.073	2	.057	5
500			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.027	1	.005	2
501	MP1B	1	max	0	11	.033	4	.013	1	0	11	0	11	0	11
502			min	0	1	-.033	3	-.016	6	0	1	0	1	0	1
503		2	max	26.015	8	19.802	4	19.781	1	0	11	.02	1	.02	3
504			min	8.33	1	-19.801	3	-19.782	2	0	1	-.02	2	-.02	4
505		3	max	251.778	4	109.278	2	263.378	1	.09	3	.058	1	.077	3
506			min	-173.474	3	-98.15	1	-286.235	2	-.054	4	-.086	2	-.116	4
507		4	max	560.71	8	148.255	3	330.411	9	.154	6	.176	9	.249	6
508			min	-34.172	3	-324.833	4	-107.788	1	.02	4	-.065	3	.065	1
509		5	max	0	11	.009	3	.01	6	0	11	0	11	0	11
510			min	0	1	-.02	8	-.006	1	0	1	0	1	0	1
511	MP2B	1	max	0	11	1.706	4	.863	1	0	11	0	11	0	11
512			min	0	1	-1.759	3	-.91	2	0	1	0	1	0	1
513		2	max	506.475	8	470.515	4	293.521	1	0	11	.415	1	.653	3
514			min	193.61	1	-470.568	3	-293.569	2	0	1	-.415	2	-.653	4
515		3	max	591.479	8	153.633	4	273.73	1	.129	3	.262	1	.423	3
516			min	126.304	3	-211.584	3	-178.086	2	-.148	4	-.179	2	-.381	4
517		4	max	26.728	9	307.327	3	242.094	8	.01	4	.116	1	.245	3
518			min	-142.935	6	-632.474	4	-14.344	2	-.072	7	-.208	2	-.262	4
519		5	max	0	11	.35	8	.042	6	0	11	0	11	0	11
520			min	0	1	-.088	3	-.035	3	0	1	0	1	0	1
521	MP3B	1	max	0	11	.044	4	.018	4	0	11	0	11	0	11
522			min	0	1	-.051	7	-.028	6	0	1	0	1	0	1
523		2	max	26.015	8	19.812	4	19.784	1	0	11	.02	1	.02	3
524			min	8.33	1	-19.815	3	-19.787	2	0	1	-.02	2	-.02	4
525		3	max	412.448	5	317.565	4	202.696	1	.109	4	.098	1	.238	3
526			min	77.389	2	-276.033	3	-242.699	2	-.085	3	-.157	2	-.287	4
527		4	max	53.944	3	102.423	3	215.18	2	.091	3	.178	8	.211	3
528			min	-16.333	4	-185.817	4	-376.944	1	-.073	4	-.061	3	-.131	4



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
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9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
529	5	max	0	11	.024	7	.024	6	0	11	0	11	0	11	
530		min	0	1	-.01	4	-.002	1	0	1	0	1	0	1	
531	MP4B	1	max	0	.053	4	.061	5	0	11	0	11	0	11	
532			min	0	-.081	7	-.04	2	0	1	0	1	0	1	
533		2	max	61.566	8	46.849	4	35.972	1	0	11	.036	1	.047	3
534			min	18.89	1	-46.855	3	-35.968	2	0	1	-.036	2	-.047	4
535		3	max	221.177	4	216.079	4	182.643	3	.07	4	.129	1	.12	3
536			min	-149.385	3	-203.266	3	-195.388	4	-.103	3	-.099	2	-.11	4
537		4	max	388.286	8	198.497	3	186.927	2	.067	4	-.038	3	.059	3
538			min	-45.555	3	-99.957	4	-424.41	1	-.146	3	-.285	8	-.099	4
539		5	max	0	.014	7	.005	2	0	11	0	11	0	11	
540			min	0	-.01	4	-.02	5	0	1	0	1	0	1	
541	M59	1	max	170.105	2	580.36	10	109.627	4	-.01	4	.225	7	.077	2
542			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.013	4	-.124	1
543		2	max	170.105	2	580.36	10	109.627	4	-.01	4	.205	7	.053	2
544			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.02	4	-.125	1
545		3	max	170.105	2	580.36	10	109.627	4	-.01	4	.186	7	.028	2
546			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.027	4	-.149	10
547		4	max	170.105	2	580.36	10	109.627	4	-.01	4	.168	5	.004	2
548			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.034	4	-.185	10
549		5	max	170.105	2	580.36	10	109.627	4	-.01	4	.154	5	-.02	2
550			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.027	2	-.221	10
551	M60	1	max	289.089	7	307.591	5	270.79	1	.157	1	.161	2	.26	1
552			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.135	1	-.302	2
553		2	max	289.089	7	307.591	5	270.79	1	.157	1	.125	2	.252	1
554			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.119	1	-.309	2
555		3	max	289.089	7	307.591	5	270.79	1	.157	1	.09	2	.243	1
556			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.102	1	-.315	2
557		4	max	289.089	7	307.591	5	270.79	1	.157	1	.055	2	.235	1
558			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.085	1	-.321	2
559		5	max	289.089	7	307.591	5	270.79	1	.157	1	.019	2	.227	1
560			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.078	10	-.328	2
561	M61	1	max	322.496	2	115.553	9	353.261	2	.039	2	.151	1	.061	3
562			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.158	2	-.111	4
563		2	max	322.496	2	115.553	9	353.261	2	.039	2	.135	1	.06	2
564			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.136	2	-.113	1
565		3	max	322.496	2	115.553	9	353.261	2	.039	2	.12	1	.061	2
566			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.114	2	-.117	1
567		4	max	322.496	2	115.553	9	353.261	2	.039	2	.104	1	.062	2
568			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.092	2	-.121	1
569		5	max	322.496	2	115.553	9	353.261	2	.039	2	.088	1	.062	2
570			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.069	2	-.126	1
571	M62	1	max	131.676	2	515.426	9	423.449	8	.43	6	.061	3	.036	2
572			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.227	8	-.05	9
573		2	max	131.676	2	515.426	9	423.449	8	.43	6	.053	3	.016	2
574			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.2	8	-.082	9
575		3	max	131.676	2	515.426	9	423.449	8	.43	6	.044	3	-.005	2
576			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.174	8	-.114	9
577		4	max	131.676	2	515.426	9	423.449	8	.43	6	.036	3	-.019	4
578			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.147	8	-.147	9
579		5	max	131.676	2	515.426	9	423.449	8	.43	6	.038	2	-.029	1
580			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.127	5	-.179	9



9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
581	M63	1	max	0	11	0	11	0	11	0	11	0	11	0	11
582			min	0	1	0	1	0	1	0	1	0	1	0	1
583		2	max	-107.517	4	189.983	5	259.071	6	.07	6	-.018	1	.274	6
584			min	-639.565	7	52.856	2	-45.36	1	-.015	1	-.328	6	.004	1
585		3	max	106.642	2	82.047	6	88.214	1	.118	2	.151	2	-.004	4
586			min	-558.189	5	-5.721	9	-81.961	2	-.124	1	-.087	1	-.063	7
587		4	max	-195.003	1	-64.772	2	-46.929	4	.136	1	.027	1	.279	6
588			min	-897.739	6	-277.094	5	-279.634	7	-.184	2	-.414	6	.044	4
589		5	max	0	11	0	11	0	11	0	11	0	11	0	11
590			min	0	1	0	1	0	1	0	1	0	1	0	1
591	M68	1	max	31.494	8	218.768	4	339.997	4	0	11	.073	3	.126	3
592			min	9.895	3	-217.985	3	-344.771	3	0	1	-.074	4	-.128	4
593		2	max	31.494	8	218.768	4	339.997	4	0	11	.07	2	.138	3
594			min	9.895	3	-217.985	3	-344.771	3	0	1	-.071	1	-.14	4
595		3	max	31.494	8	218.768	4	339.997	4	0	11	.078	2	.151	3
596			min	9.895	3	-217.985	3	-344.771	3	0	1	-.079	1	-.153	4
597		4	max	31.494	8	218.768	4	339.997	4	0	11	.086	2	.164	3
598			min	9.895	3	-217.985	3	-344.771	3	0	1	-.087	1	-.165	4
599		5	max	31.494	8	218.768	4	339.997	4	0	11	.094	2	.176	3
600			min	9.895	3	-217.985	3	-344.771	3	0	1	-.095	1	-.178	4
601	M69	1	max	31.509	7	176.463	3	344.708	3	0	11	.074	4	.128	4
602			min	9.979	2	-177.257	4	-339.928	4	0	1	-.073	3	-.126	3
603		2	max	31.509	7	176.463	3	344.708	3	0	11	.073	1	.138	4
604			min	9.979	2	-177.257	4	-339.928	4	0	1	-.071	2	-.136	3
605		3	max	31.509	7	176.463	3	344.708	3	0	11	.082	1	.148	4
606			min	9.979	2	-177.257	4	-339.928	4	0	1	-.081	2	-.146	3
607		4	max	31.509	7	176.463	3	344.708	3	0	11	.091	1	.158	4
608			min	9.979	2	-177.257	4	-339.928	4	0	1	-.09	2	-.156	3
609		5	max	31.509	7	176.463	3	344.708	3	0	11	.101	1	.169	4
610			min	9.979	2	-177.257	4	-339.928	4	0	1	-.099	2	-.167	3
611	M72	1	max	-64.905	3	84.464	9	39.946	4	.001	1	.137	5	.257	5
612			min	-440.198	8	-65.608	8	-35.666	3	-.002	2	.039	2	.078	2
613		2	max	-67.173	3	85.576	9	43.874	4	.001	1	.125	5	.271	5
614			min	-439.444	8	-61.715	8	-39.595	3	-.002	2	.033	2	.074	2
615		3	max	-69.441	3	86.687	9	47.803	4	.001	1	.114	5	.285	5
616			min	-438.689	8	-57.822	8	-43.524	3	-.002	2	.028	2	.066	3
617		4	max	-71.71	3	87.799	9	51.732	4	.001	1	.104	5	.299	8
618			min	-437.934	8	-53.929	8	-47.452	3	-.002	2	.023	2	.054	3
619		5	max	-73.978	3	88.91	9	55.661	4	.001	1	.122	9	.313	8
620			min	-437.18	8	-50.673	4	-51.381	3	-.002	2	.018	2	.04	3
621	M73	1	max	-45.934	1	28.166	1	57.698	2	.002	2	.137	6	.258	8
622			min	-441.064	6	-127.888	10	-53.749	1	-.002	1	.035	1	.064	3
623		2	max	-48.202	1	29.278	1	59.008	2	.002	2	.125	6	.274	6
624			min	-440.309	6	-126.777	10	-55.059	1	-.002	1	.03	1	.049	1
625		3	max	-50.471	1	30.389	1	60.318	2	.002	2	.114	8	.291	6
626			min	-439.555	6	-125.666	10	-56.368	1	-.002	1	.024	1	.031	1
627		4	max	-52.739	1	31.5	1	61.627	2	.002	2	.104	8	.307	6
628			min	-438.8	6	-124.554	10	-57.678	1	-.002	1	.019	1	.012	1
629		5	max	-55.007	1	32.612	1	62.937	2	.002	2	.094	8	.323	6
630			min	-438.045	6	-123.443	10	-58.987	1	-.002	1	.013	1	-.007	1
631	M74	1	max	-86.856	4	24.4	4	59.98	3	.002	3	.138	7	.259	6
632			min	-428.048	7	-72.712	7	-56.329	4	-.002	4	.035	4	.063	1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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9bj YcdYA Ya Vyf'GYW]cb: cfWkg'f7 cb]bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
633		2	max	-86.856	4	25.511	4	59.98	3	.002	3	.126	7	.273	7
634			min	-428.048	7	-70.23	3	-56.329	4	-.002	4	.028	4	.056	4
635		3	max	-86.856	4	26.622	4	59.98	3	.002	3	.115	6	.29	7
636			min	-428.048	7	-69.119	3	-56.329	4	-.002	4	.022	4	.038	4
637		4	max	-86.856	4	27.734	4	59.98	3	.002	3	.104	6	.306	7
638			min	-428.048	7	-68.008	3	-56.329	4	-.002	4	.015	4	.021	4
639		5	max	-86.856	4	28.845	4	59.98	3	.002	3	.095	6	.322	7
640			min	-428.048	7	-66.896	3	-56.329	4	-.002	4	.009	4	.002	4
641	M75	1	max	0	11	.004	3	.002	2	0	11	0	11	0	11
642			min	0	1	0	5	-.002	8	0	1	0	1	0	1
643		2	max	-93.205	2	189.614	8	253.257	7	.067	7	-.029	4	.272	7
644			min	-638.382	5	54.185	3	-34.325	4	-.005	4	-.32	7	.003	4
645		3	max	214.69	3	84.456	5	67.586	4	.083	1	.149	3	.003	2
646			min	-575.24	8	0	2	-61.775	3	-.089	2	-.084	4	-.065	5
647		4	max	-122.772	4	-87.538	10	-22.811	2	.097	4	.027	4	.283	5
648			min	-910.306	7	-273.163	6	-290.006	5	-.145	3	-.412	7	.009	2
649		5	max	0	11	0	7	.003	3	0	11	0	11	0	11
650			min	0	1	-.004	1	-.002	5	0	1	0	1	0	1
651	M76	1	max	0	11	.004	1	.002	3	0	11	0	11	0	11
652			min	0	1	0	8	-.002	2	0	1	0	1	0	1
653		2	max	-101.257	3	187.052	6	254.984	8	.065	5	-.021	3	.267	8
654			min	-639.016	8	57.117	9	-46.075	3	.007	2	-.323	8	.018	3
655		3	max	142.604	1	86.929	8	75.033	3	.116	4	.141	4	.006	3
656			min	-549.975	6	-11.793	3	-68.046	4	-.122	3	-.077	3	-.065	8
657		4	max	-207.457	2	-63.972	4	-62.676	3	.084	3	-.004	3	.286	8
658			min	-890.432	5	-278.653	7	-286.75	8	-.132	4	-.405	8	.009	3
659		5	max	0	11	0	9	.003	1	0	11	0	11	0	11
660			min	0	1	-.003	4	-.003	4	0	1	0	1	0	1
661	M77	1	max	1286.301	6	39.991	8	34.04	1	0	3	0	11	0	11
662			min	139.224	1	-5.985	3	-34.04	2	0	4	0	1	0	1
663		2	max	1294.531	6	19.995	8	17.02	1	0	3	.043	4	.03	1
664			min	154.757	1	-2.992	3	-17.02	2	0	4	-.025	3	-.049	2
665		3	max	1302.76	6	0	11	0	11	0	3	.057	4	.04	1
666			min	170.29	1	0	1	0	1	0	4	-.033	3	-.065	2
667		4	max	1310.989	6	2.992	3	17.02	2	0	3	.043	4	.03	1
668			min	185.824	1	-19.995	8	-17.02	1	0	4	-.025	3	-.049	2
669		5	max	1319.219	6	5.985	3	34.04	2	0	3	0	11	0	11
670			min	201.357	1	-39.991	8	-34.04	1	0	4	0	1	0	1
671	M78	1	max	1528.672	6	39.991	7	34.04	1	0	3	0	11	0	11
672			min	396.342	4	-5.985	4	-34.04	2	0	4	0	1	0	1
673		2	max	1520.443	6	19.995	7	17.02	1	0	3	.043	3	.03	1
674			min	379.599	4	-2.992	4	-17.02	2	0	4	-.025	4	-.049	2
675		3	max	1512.214	6	0	11	0	11	0	3	.057	3	.04	1
676			min	362.857	4	0	1	0	1	0	4	-.033	4	-.065	2
677		4	max	1503.984	6	2.992	4	17.02	2	0	3	.043	3	.03	1
678			min	346.114	4	-19.995	7	-17.02	1	0	4	-.025	4	-.049	2
679		5	max	1495.755	6	5.985	4	34.04	2	0	3	0	11	0	11
680			min	329.372	4	-39.991	7	-34.04	1	0	4	0	1	0	1
681	M79	1	max	170.69	3	575.322	5	172.867	2	.058	2	.221	8	.047	3
682			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.029	3	-.094	4
683		2	max	170.69	3	575.322	5	172.867	2	.058	2	.204	8	.026	3
684			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.027	3	-.106	8



9bj YcdYA Ya VYf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
685		3	max	170.69	3	575.322	5	172.867	2	.058	2	.188	8	.006	3
686			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.026	3	-.136	8
687		4	max	170.69	3	575.322	5	172.867	2	.058	2	.171	8	-.015	3
688			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.024	3	-.166	8
689		5	max	170.69	3	575.322	5	172.867	2	.058	2	.155	8	-.035	3
690			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.023	3	-.201	5
691	M80	1	max	298.873	5	305.016	5	436.438	4	.181	2	.184	3	.167	4
692			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.158	4	-.209	3
693		2	max	298.873	5	305.016	5	436.438	4	.181	2	.138	3	.16	4
694			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.131	4	-.217	3
695		3	max	298.873	5	305.016	5	436.438	4	.181	2	.092	3	.152	4
696			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.104	4	-.224	3
697		4	max	298.873	5	305.016	5	436.438	4	.181	2	.047	3	.145	4
698			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.076	4	-.232	3
699		5	max	298.873	5	305.016	5	436.438	4	.181	2	0	3	.138	4
700			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.071	8	-.239	3
701	M81	1	max	282.253	3	91.209	10	402.049	3	.068	3	.119	4	.08	1
702			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.126	3	-.129	2
703		2	max	282.253	3	91.209	10	402.049	3	.068	3	.1	4	.079	1
704			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.101	3	-.132	2
705		3	max	282.253	3	91.209	10	402.049	3	.068	3	.081	4	.078	1
706			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.075	3	-.134	2
707		4	max	282.253	3	91.209	10	402.049	3	.068	3	.062	4	.077	1
708			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.05	3	-.137	2
709		5	max	282.253	3	91.209	10	402.049	3	.068	3	.061	2	.076	1
710			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.044	1	-.139	2
711	M82	1	max	129.164	1	422.034	7	435.394	7	.439	7	.07	1	.038	10
712			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.228	6	-.041	4
713		2	max	129.164	1	422.034	7	435.394	7	.439	7	.068	1	.024	10
714			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.204	6	-.039	5
715		3	max	129.164	1	422.034	7	435.394	7	.439	7	.066	1	.011	10
716			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.179	6	-.063	5
717		4	max	129.164	1	422.034	7	435.394	7	.439	7	.064	1	-.002	10
718			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.158	2	-.087	5
719		5	max	129.164	1	422.034	7	435.394	7	.439	7	.062	1	-.008	2
720			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.14	2	-.111	5
721	M83	1	max	165.687	4	586.945	8	140.73	3	.057	3	.227	6	.048	4
722			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.012	1	-.096	3
723		2	max	165.687	4	586.945	8	140.73	3	.057	3	.209	6	.022	4
724			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.014	1	-.106	7
725		3	max	165.687	4	586.945	8	140.73	3	.057	3	.19	6	-.005	4
726			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.016	1	-.135	7
727		4	max	165.687	4	586.945	8	140.73	3	.057	3	.172	6	-.03	9
728			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.019	1	-.163	7
729		5	max	165.687	4	586.945	8	140.73	3	.057	3	.154	6	-.047	9
730			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.02	4	-.194	6
731	M84	1	max	294.064	8	307.832	5	277.696	2	.244	3	.124	1	.206	3
732			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.098	2	-.248	4
733		2	max	294.064	8	307.832	5	277.696	2	.244	3	.088	1	.199	3
734			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.081	2	-.255	4
735		3	max	294.064	8	307.832	5	277.696	2	.244	3	.052	1	.192	3
736			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.063	2	-.263	4



9bj YcdYA Ya Vyf GYVjcb : cfWg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
737		4	max	294.064	8	307.832	5	277.696	2	.244	3	.025	4	.184	3
738			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.054	3	-.27	4
739		5	max	294.064	8	307.832	5	277.696	2	.244	3	.01	4	.177	3
740			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.072	7	-.278	4
741	M85	1	max	300.359	4	68.692	7	303.018	1	.039	1	.113	3	.081	4
742			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.121	4	-.131	3
743		2	max	300.359	4	68.692	7	303.018	1	.039	1	.108	3	.082	4
744			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.109	4	-.135	3
745		3	max	300.359	4	68.692	7	303.018	1	.039	1	.102	3	.082	4
746			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.097	4	-.139	3
747		4	max	300.359	4	68.692	7	303.018	1	.039	1	.097	3	.083	4
748			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.085	4	-.143	3
749		5	max	300.359	4	68.692	7	303.018	1	.039	1	.091	3	.083	4
750			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.073	4	-.147	3
751	M86	1	max	161.836	4	414.405	8	436.822	5	.432	5	.038	4	.019	1
752			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.22	7	-.027	2
753		2	max	161.836	4	414.405	8	436.822	5	.432	5	.045	4	.002	1
754			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.198	7	-.036	6
755		3	max	161.836	4	414.405	8	436.822	5	.432	5	.053	4	-.01	9
756			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.176	7	-.061	8
757		4	max	161.836	4	414.405	8	436.822	5	.432	5	.06	4	-.013	3
758			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.154	7	-.087	8
759		5	max	161.836	4	414.405	8	436.822	5	.432	5	.067	4	-.01	3
760			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.146	3	-.112	8
761	M87	1	max	1284.776	7	40.026	7	46.034	2	0	1	0	11	0	11
762			min	100.16	4	-6.09	4	-46.034	1	0	2	0	1	0	1
763		2	max	1292.579	7	20.013	7	23.017	2	0	1	.053	2	.019	2
764			min	116.978	4	-3.045	4	-23.017	1	0	2	-.035	1	-.038	1
765		3	max	1300.381	7	0	11	0	11	0	1	.071	2	.025	2
766			min	133.795	4	0	1	0	1	0	2	-.046	1	-.05	1
767		4	max	1308.183	7	3.045	4	23.017	1	0	1	.053	2	.019	2
768			min	150.613	4	-20.013	7	-23.017	2	0	2	-.035	1	-.038	1
769		5	max	1315.985	7	6.09	4	46.034	1	0	1	0	11	0	11
770			min	167.43	4	-40.026	7	-46.034	2	0	2	0	1	0	1
771	M88	1	max	1542.942	5	39.833	5	50.287	4	0	1	0	11	0	11
772			min	282.947	2	-5.51	2	-50.287	3	0	2	0	1	0	1
773		2	max	1535.003	5	19.917	5	25.144	4	0	1	.045	4	.034	4
774			min	266.541	2	-2.755	2	-25.144	3	0	2	-.027	3	-.053	3
775		3	max	1527.064	5	0	11	0	11	0	1	.06	4	.045	4
776			min	250.135	2	0	1	0	1	0	2	-.035	3	-.07	3
777		4	max	1519.125	5	2.755	2	25.144	3	0	1	.045	4	.034	4
778			min	233.729	2	-19.917	5	-25.144	4	0	2	-.027	3	-.053	3
779		5	max	1511.186	5	5.51	2	50.287	3	0	1	0	11	0	11
780			min	217.323	2	-39.833	5	-50.287	4	0	2	0	1	0	1
781	M89	1	max	1270.847	5	39.833	5	50.287	3	0	2	0	11	0	11
782			min	142.932	2	-5.51	2	-50.287	4	0	1	0	1	0	1
783		2	max	1278.786	5	19.917	5	25.144	3	0	2	.045	3	.034	3
784			min	159.338	2	-2.755	2	-25.144	4	0	1	-.027	4	-.053	4
785		3	max	1286.725	5	0	11	0	11	0	2	.06	3	.045	3
786			min	175.744	2	0	1	0	1	0	1	-.035	4	-.07	4
787		4	max	1294.664	5	2.755	2	25.144	4	0	2	.045	3	.034	3
788			min	192.15	2	-19.917	5	-25.144	3	0	1	-.027	4	-.053	4



9bj YcdYA Ya VYf GYWjcb: cfWkg fT cbhpi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
789		5	max	1302.603	5	5.51	2	50.287	4	0	2	0	11	0	11
790			min	208.556	2	-39.833	5	-50.287	3	0	1	0	1	0	1
791	M90	1	max	1550.984	8	40.026	8	46.034	2	0	2	0	11	0	11
792			min	302.397	3	-6.09	3	-46.034	1	0	1	0	1	0	1
793		2	max	1543.182	8	20.013	8	23.017	2	0	2	.053	2	.019	2
794			min	285.579	3	-3.045	3	-23.017	1	0	1	-.035	1	-.038	1
795		3	max	1535.379	8	0	11	0	11	0	2	.071	2	.025	2
796			min	268.762	3	0	1	0	1	0	1	-.046	1	-.05	1
797		4	max	1527.577	8	3.045	3	23.017	1	0	2	.053	2	.019	2
798			min	251.944	3	-20.013	8	-23.017	2	0	1	-.035	1	-.038	1
799		5	max	1519.775	8	6.09	3	46.034	1	0	2	0	11	0	11
800			min	235.127	3	-40.026	8	-46.034	2	0	1	0	1	0	1
801	M91	1	max	1319.268	1	2709.055	3	-380.639	1	.444	3	4.176	6	5.611	3
802			min	-1594.63	2	-2647.583	4	-1874.56	6	-.434	4	.562	1	-5.613	4
803		2	max	1319.268	1	2693.737	3	-367.396	1	.444	3	3.148	6	4.119	3
804			min	-1594.63	2	-2632.266	4	-1852.655	6	-.434	4	.356	1	-4.156	4
805		3	max	1319.268	1	2678.42	3	-354.153	1	.444	3	2.131	6	2.636	3
806			min	-1594.63	2	-2616.948	4	-1830.75	6	-.434	4	.157	1	-2.707	4
807		4	max	1319.268	1	2663.102	3	-340.91	1	.444	3	1.126	6	1.162	3
808			min	-1594.63	2	-2601.631	4	-1808.845	6	-.434	4	-.035	1	-1.266	4
809		5	max	1319.268	1	2647.785	3	-327.667	1	.444	3	.266	2	.166	4
810			min	-1594.63	2	-2586.314	4	-1786.939	6	-.434	4	-.22	1	-.304	3
811	M92	1	max	1078.224	4	2758.332	1	-426.747	4	.454	1	4.128	7	5.77	1
812			min	-1351.976	3	-2699.146	2	-1858.787	7	-.444	2	.709	4	-5.774	2
813		2	max	1071.591	4	2746.844	1	-413.504	4	.454	1	3.108	7	4.25	1
814			min	-1345.344	3	-2687.658	2	-1836.882	7	-.444	2	.477	4	-4.287	2
815		3	max	1064.959	4	2735.356	1	-400.261	4	.454	1	2.1	7	2.737	1
816			min	-1338.711	3	-2676.17	2	-1814.977	7	-.444	2	.252	4	-2.806	2
817		4	max	1058.326	4	2723.868	1	-387.018	4	.454	1	1.104	7	1.23	1
818			min	-1332.078	3	-2664.682	2	-1793.072	7	-.444	2	.035	4	-1.332	2
819		5	max	1051.693	4	2712.38	1	-373.775	4	.454	1	.221	3	.136	2
820			min	-1325.446	3	-2653.194	2	-1771.166	7	-.444	2	-.175	4	-.271	1
821	M93	1	max	1192.052	3	2590.144	2	-495.83	3	.425	2	4.104	8	5.433	2
822			min	-1466.883	4	-2522.812	1	-1845.963	8	-.415	1	.843	3	-5.429	1
823		2	max	1185.419	3	2578.656	2	-482.587	3	.425	2	3.091	8	4.006	2
824			min	-1460.25	4	-2511.324	1	-1824.058	8	-.415	1	.573	3	-4.04	1
825		3	max	1178.787	3	2567.168	2	-469.344	3	.425	2	2.09	8	2.586	2
826			min	-1453.618	4	-2499.836	1	-1802.153	8	-.415	1	.31	3	-2.656	1
827		4	max	1172.154	3	2555.68	2	-456.101	3	.425	2	1.101	8	1.172	2
828			min	-1446.985	4	-2488.348	1	-1780.247	8	-.415	1	.054	3	-1.279	1
829		5	max	1165.521	3	2544.192	2	-442.858	3	.425	2	.24	4	.103	3
830			min	-1440.353	4	-2476.86	1	-1758.342	8	-.415	1	-.194	3	-.244	6
831	M91A	1	max	407.543	3	31.434	8	17.915	4	.147	4	0	11	0	11
832			min	-403.79	4	10.065	1	-17.915	3	-.145	3	0	1	0	1
833		2	max	402.372	3	15.717	8	8.957	4	.147	4	.016	4	-.009	10
834			min	-398.618	4	5.033	1	-8.957	3	-.145	3	-.016	3	-.028	5
835		3	max	397.2	3	0	11	0	11	.147	4	.022	4	-.012	10
836			min	-393.447	4	0	1	0	1	-.145	3	-.022	3	-.038	5
837		4	max	392.028	3	-5.033	10	8.957	3	.147	4	.016	4	-.009	10
838			min	-388.275	4	-15.717	5	-8.957	4	-.145	3	-.016	3	-.028	5
839		5	max	386.857	3	-10.065	10	17.915	3	.147	4	0	11	0	11
840			min	-383.103	4	-31.434	5	-17.915	4	-.145	3	0	1	0	1



9bj YcdYA Ya VYf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
841	M85A	1	max	31.479	7	154.155	2	283.818	1	0	11	.095	1	.167	2
842			min	9.87	1	-158.429	1	-281.407	2	0	1	-.096	2	-.165	1
843		2	max	31.479	7	154.155	2	283.818	1	0	11	.112	1	.158	2
844			min	9.87	1	-158.429	1	-281.407	2	0	1	-.112	2	-.156	1
845		3	max	31.479	7	154.155	2	283.818	1	0	11	.128	1	.149	2
846			min	9.87	1	-158.429	1	-281.407	2	0	1	-.129	2	-.147	1
847		4	max	31.479	7	154.155	2	283.818	1	0	11	.144	1	.14	2
848			min	9.87	1	-158.429	1	-281.407	2	0	1	-.145	2	-.137	1
849		5	max	31.479	7	154.155	2	283.818	1	0	11	.161	1	.131	2
850			min	9.87	1	-158.429	1	-281.407	2	0	1	-.161	2	-.128	1
851	M86A	1	max	31.494	5	171.801	4	259.307	3	0	11	.096	2	.165	1
852			min	9.956	3	-170.789	3	-262.34	4	0	1	-.095	1	-.167	2
853		2	max	31.494	5	171.801	4	259.307	3	0	11	.111	2	.156	1
854			min	9.956	3	-170.789	3	-262.34	4	0	1	-.11	1	-.158	2
855		3	max	31.494	5	171.801	4	259.307	3	0	11	.126	2	.147	1
856			min	9.956	3	-170.789	3	-262.34	4	0	1	-.125	1	-.149	2
857		4	max	31.494	5	171.801	4	259.307	3	0	11	.141	2	.137	1
858			min	9.956	3	-170.789	3	-262.34	4	0	1	-.14	1	-.14	2
859		5	max	31.494	5	171.801	4	259.307	3	0	11	.156	2	.128	1
860			min	9.956	3	-170.789	3	-262.34	4	0	1	-.155	1	-.131	2
861	M87A	1	max	324.936	1	31.434	8	17.915	3	.192	2	0	11	0	11
862			min	-320.714	2	10.065	1	-17.915	4	-.19	1	0	1	0	1
863		2	max	319.765	1	15.717	8	8.957	3	.192	2	.016	3	-.009	10
864			min	-315.543	2	5.033	1	-8.957	4	-.19	1	-.016	4	-.028	5
865		3	max	314.593	1	0	11	0	11	.192	2	.022	3	-.012	10
866			min	-310.371	2	0	1	0	1	-.19	1	-.022	4	-.038	5
867		4	max	309.421	1	-5.033	10	8.957	4	.192	2	.016	3	-.009	10
868			min	-305.199	2	-15.717	5	-8.957	3	-.19	1	-.016	4	-.028	5
869		5	max	313.079	4	-10.065	10	17.915	4	.192	2	0	11	0	11
870			min	-309.943	3	-31.434	5	-17.915	3	-.19	1	0	1	0	1
871	M88A	1	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	0	4
872			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	0	3
873		2	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.018	1
874			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.018	2
875		3	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.036	1
876			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.036	2
877		4	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.054	1
878			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.054	2
879		5	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.072	1
880			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.073	2
881	M89A	1	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	0	4
882			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	0	7
883		2	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.018	2
884			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.018	1
885		3	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.036	2
886			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.036	1
887		4	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.054	2
888			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.054	1
889		5	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.073	2
890			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.072	1
891	M90A	1	max	314.19	2	31.434	8	23.886	1	.191	3	0	11	0	11
892			min	-311.014	1	10.065	1	-23.886	2	-.188	4	0	1	0	1



9bj YcdYA Ya VYf'GYW]cb: cfWg'f7 cb]bi YXL

Member	Sec	Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
893	2	max	314.19	2	15.717	8	11.943	1	.191	3	.022	1	-.009	10
894		min	-311.014	1	5.033	1	-11.943	2	-.188	4	-.022	2	-.028	5
895	3	max	314.19	2	0	11	0	11	.191	3	.029	1	-.012	10
896		min	-311.014	1	0	1	0	1	-.188	4	-.029	2	-.038	5
897	4	max	314.19	2	-5.033	10	11.943	2	.191	3	.022	1	-.009	10
898		min	-311.014	1	-15.717	5	-11.943	1	-.188	4	-.022	2	-.028	5
899	5	max	314.19	2	-10.065	10	23.886	2	.191	3	0	11	0	11
900		min	-311.014	1	-31.434	5	-23.886	1	-.188	4	0	1	0	1

9bj YcdY5=G7 % h fl * \$!%\$L @F: 8 GhY 7cXY7\ YWg

Member	Shape	Code Check	Loc[in]	LC	Shear Ch...Lo.....	LC	phi*... phi*... phi*... phi*... .. Eqn
1	M1	L3X3X4	.768	83.5	2	.071 83.5z	8 3991...46656 1.688 2.727 ... H2-1
2	M3	L3X3X4	.743	83.5	4	.071 83.5z	5 3991...46656 1.688 2.698 ... H2-1
3	M2	L3X3X4	.710	83.5	7	.070 83.5z	7 3991...46656 1.688 3.213 ... H2-1
4	MP2C	PIPE 2.0	.551	61	3	.128 61	1 1491...32130 1.872 1.872 ... H1-...
5	MP2A	PIPE 2.0	.538	61	2	.143 61	2 1491...32130 1.872 1.872 ... H1-...
6	MP2B	PIPE 2.0	.495	61	4	.161 61	4 1491...32130 1.872 1.872 ... H1-...
7	MP3B	PIPE 2.0	.425	61	4	.110 61	4 1491...32130 1.872 1.872 ... H1-...
8	MP3C	PIPE 2.0	.377	61	1	.154 61	3 1491...32130 1.872 1.872 ... H1-...
9	MP3A	PIPE 2.0	.367	61	2	.151 61	2 1491...32130 1.872 1.872 ... H1-...
10	M63	PIPE 2.0	.337	124.875	6	.159 14...	2 5397...32130 1.872 1.872 ... H1-...
11	M76	PIPE 2.0	.337	124.875	8	.133 12...	8 5397...32130 1.872 1.872 ... H1-...
12	M75	PIPE 2.0	.335	124.875	7	.131 12...	7 5397...32130 1.872 1.872 ... H1-...
13	M73	L2.5x2.5x3	.303	0	6	.022 14.5z	1 2740...2919... 873 1.972 ... H2-1
14	M74	L2.5x2.5x3	.302	0	7	.025 12...z	4 2740...2919... 873 1.972 ... H2-1
15	M72	L2.5x2.5x3	.301	0	5	.017 0 z	2 2740...2919... 873 1.972 ... H2-1
16	MP1B	PIPE 2.0	.266	61	2	.126 61	6 1491...32130 1.872 1.872 ... H1-...
17	MP4B	PIPE 2.0	.257	25	4	.117 61	7 1491...32130 1.872 1.872 ... H1-...
18	MP1A	PIPE 2.0	.256	61	3	.125 61	7 1491...32130 1.872 1.872 ... H1-...
19	MP4C	PIPE 2.0	.253	76	7	.120 61	6 1491...32130 1.872 1.872 ... H1-...
20	MP1C	PIPE 2.0	.251	25	3	.122 61	8 1491...32130 1.872 1.872 ... H1-...
21	MP4A	PIPE 2.0	.250	76	6	.123 61	4 1491...32130 1.872 1.872 ... H1-...
22	M11	PIPE 2.0	.250	101.25	4	.262 108	1 5397...32130 1.872 1.872 ... H1-...
23	M12	PIPE 2.0	.243	108	4	.204 108	4 5397...32130 1.872 1.872 ... H1-...
24	M13	PIPE 2.0	.236	108	2	.246 108	3 5397...32130 1.872 1.872 ... H1-...
25	M7	LL3x3x4x0	.235	0	7	.016 0 y	8 8174...93312 6.48 4.911 ... H1-...
26	M6	LL3x3x4x0	.235	0	6	.016 0 y	7 8174...93312 6.48 4.911 ... H1-...
27	M5	LL3x3x4x0	.229	0	5	.016 0 y	6 8174...93312 6.48 4.911 ... H1-...
28	M9	L3X3X4	.214	45.22	6	.008 88...z	5 2801...46656 1.688 3.014 ... H2-1
29	M10	L3X3X4	.214	45.22	7	.008 88...z	6 2801...46656 1.688 3.018 ... H2-1
30	M8	L3X3X4	.214	44.297	5	.009 88...z	7 2801...46656 1.688 3.019 ... H2-1
31	M16	L2.5x2.5x3	.212	14.5	4	.088 0 y	4 2740...2919... 873 1.972 ... H2-1
32	M78	L2.5x2.5x4	.181	34.833	7	.005 0 z	4 1233...38556 1.114 2.218 ... H2-1
33	M88	L2.5x2.5x4	.181	34.833	5	.006 71...z	3 1233...38556 1.114 2.218 ... H2-1
34	M90	L2.5x2.5x4	.179	34.833	8	.007 71...z	1 1233...38556 1.114 2.218 ... H2-1
35	M15	L2.5x2.5x3	.176	14.5	1	.079 0 y	1 2740...2919... 873 1.972 ... H2-1
36	M14	L2.5x2.5x3	.167	0	1	.067 0 y	2 2740...2919... 873 1.972 ... H2-1
37	M77	L2.5x2.5x4	.162	36.315	8	.006 71...y	4 1233...38556 1.114 2.218 ... H2-1
38	M89	L2.5x2.5x4	.161	36.315	5	.006 71...z	3 1233...38556 1.114 2.218 ... H2-1
39	M87	L2.5x2.5x4	.160	36.315	7	.007 0 z	2 1233...38556 1.114 2.218 ... H2-1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

9bj YcdY5=G7 % h fl * \$!%\$L @: 8 GhY 7cXY7\ YWg fl cbhbi YXL

Member	Shape	Code Check	Loc[in]	LC	Shear Ch...Lo.....	LC	phi*...	phi*...	phi*...	phi*...	Eqn	
40	M90A	PIPE 2.0	.023	29	6	.116	0	3	2428..32130	1.872	1.872	H1-..
41	M91A	PIPE 2.0	.023	29	7	.091	0	4	2428..32130	1.872	1.872	H1-..
42	M87A	PIPE 2.0	.023	29	8	.117	0	2	2428..32130	1.872	1.872	H1-..

9bj YcdY5=G-G\$\$!%\$. @: 8 7c`X': cfa YX GhY 7cXY7\ YWg

Member	Shape	Code ...	Loc[in]	LC	Shear ..Loc[in]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	Cb	Cmyy	Cmzz	Eqn		
1	M91	4.5CU4....	.466	0	3	.369	0	y	3	153148...	174471...	10.576	19.759	1.735	.85	.85	C3.3.2-1
2	M92	4.5CU4....	.477	0	1	.377	0	y	1	153148...	174471...	10.576	19.759	1.725	.85	.85	C3.3.2-1
3	M93	4.5CU4....	.462	0	5	.353	0	y	2	153148...	174471...	10.576	19.759	1.587	.85	.85	C5.1.2-2

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: CT00248-S-SBA

Customer Site Name: North Bethel

Carrier Name: T-Mobile Sprint (App#: 153138-2, V2)

Carrier Site ID / Name: CTF709A / CT33XC521

Site Location: 11 Francis J. Clarke Circle

Bethel, Connecticut

Fairfield County

Latitude: 41.360522

Longitude: -73.424474

Exp. 01/31/2022



12/06/2021

Analysis Result:

Max Structural Usage: 76.8% [Pass]

Report Prepared By: Progesh Roka

Introduction

The purpose of this report is to summarize the analysis results on the (1) Platform with Support Rails at 157.00' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

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

Sources of Information

Mount Drawings	Mapping provided by Engineered Tower Solutions, dated 5/25/2021
Antenna Loading	Provided by SBA; Application #: 153138, v2; 12/2/2021
Existing Modification	N/A
Proposed Modification	TES Project No. 111511; dated 09/01/2021

Analysis Criteria

Basic Wind Speed Used in the Analysis: $V_{ULT} = 120$ mph (3-Sec. Gust) / Equivalent to
 $V_{ASD} = 93$ 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/2015 IBC/2018 Connecticut State Building Code

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) Platform with Support Rails at 157.00' elevation

Final Antenna Configuration

3	RFS APXVAALL24_43-U-NA20
3	Ericsson AIR6449 B41
4	RFS ACU-A20-N RET
3	Ericsson 4480 B71 + B85
3	Ericsson 4460 B25 + B66
3	ALU TD-RRH8x20-25
3	ALU 800 MHz Filter

Analysis Results

Our calculations have determined that under design wind load the existing mount will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 76.8%, which occurs in the face horizontal 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.



Structure: CT00248-S-SBA - North Bethel

Sector: A

12/6/2021

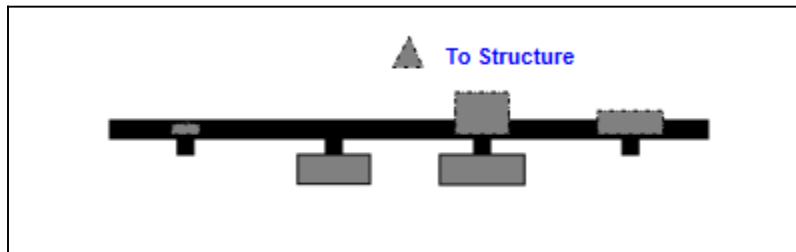
Structure Type: Monopole

Mount Elev: 157.00

Page: 1

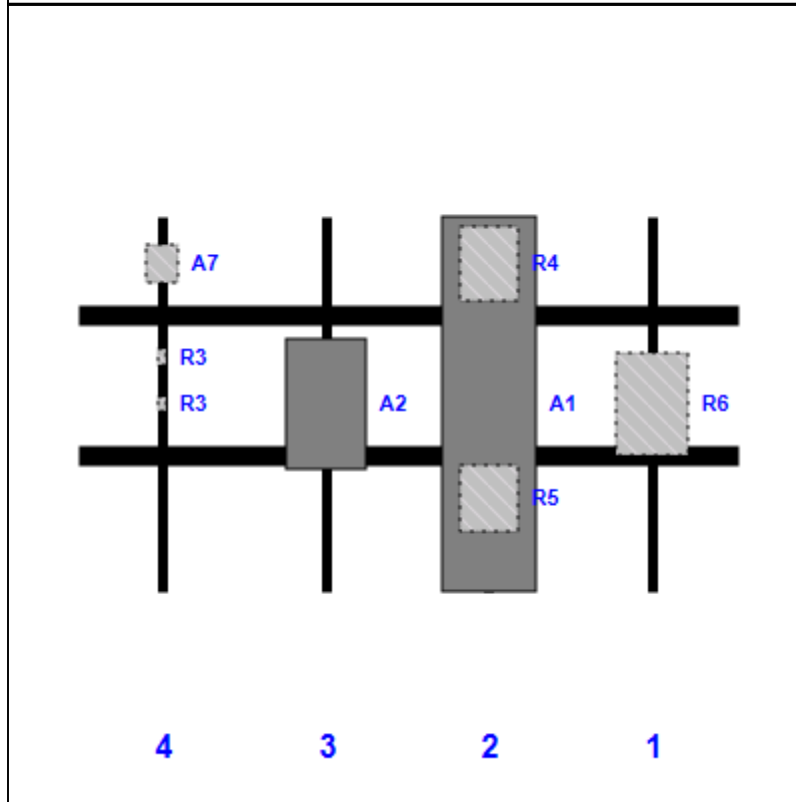


Plan View



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
R6	TD-RRH8x20-25	26.10	18.60	148.00	1	a	Behind	48.00			
A1	APXVAALL24_43-U-NA20	95.90	24.00	106.00	2	a	Front	48.00		Added	
R4	4480 B71 + B85	19.20	15.10	106.00	2	a	Behind	12.00			
R5	4460 B25 + B66	17.00	15.10	106.00	2	a	Behind	72.00			
A2	AIR6449 B41	33.10	20.50	64.00	3	a	Front	48.00		Added	
R3	ACU-A20-N RET	4.00	2.00	22.00	4	a	Behind	36.00		Retained	
A7	800 MHz Filter	10.00	8.00	22.00	4	a	Behind	12.00			
R3	ACU-A20-N RET	4.00	2.00	22.00	4	b	Behind	48.00		Retained	

Sector: **B**

12/6/2021

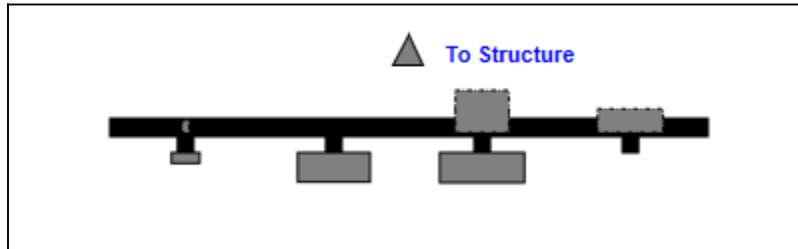
Structure Type: Monopole

Mount Elev: 157.00

Page: 2

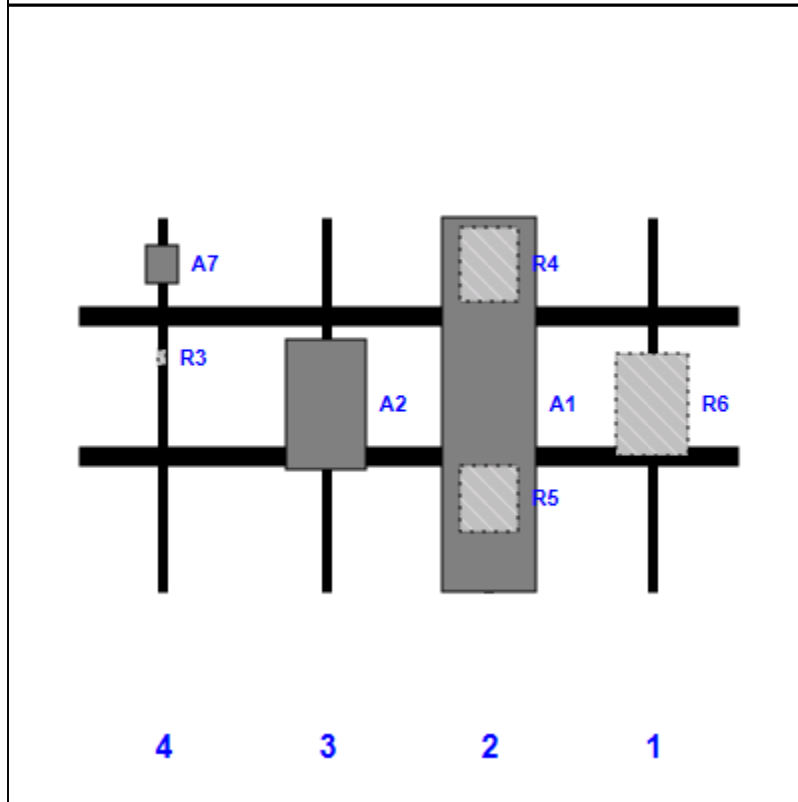


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
R6	TD-RRH8x20-25	26.10	18.60	148.00	1	a	Behind	48.00			
A1	APXVAALL24_43-U-NA20	95.90	24.00	106.00	2	a	Front	48.00		Added	
R4	4480 B71 + B85	19.20	15.10	106.00	2	a	Behind	12.00			
R5	4460 B25 + B66	17.00	15.10	106.00	2	a	Behind	72.00			
A2	AIR6449 B41	33.10	20.50	64.00	3	a	Front	48.00		Added	
R3	ACU-A20-N RET	4.00	2.00	22.00	4	a	Behind	36.00		Retained	
A7	800 MHz Filter	10.00	8.00	22.00	4	a	Front	12.00			

Structure: CT00248-S-SBA - North Bethel

Sector: C

12/6/2021

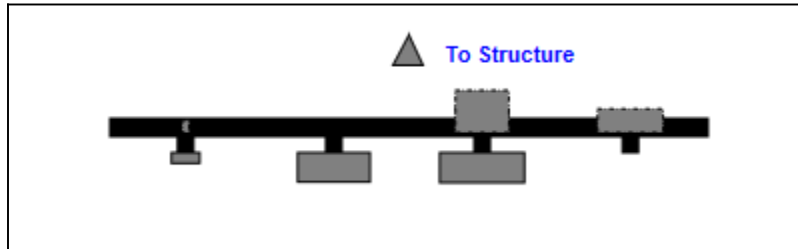
Structure Type: Monopole

Mount Elev: 157.00

Page: 3

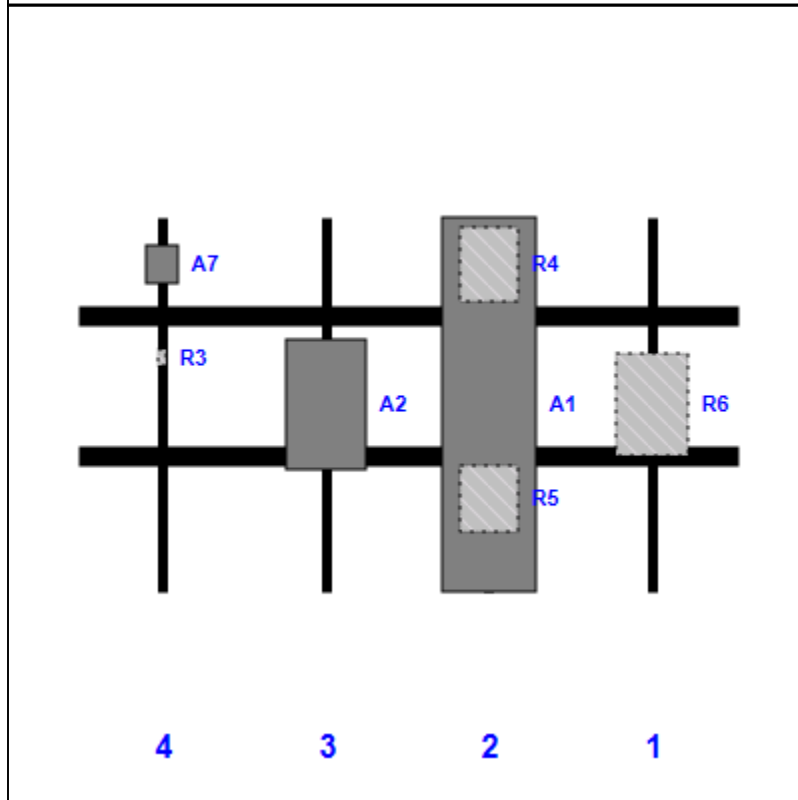


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
R6	TD-RRH8x20-25	26.10	18.60	148.00	1	a	Behind	48.00			
A1	APXVAALL24_43-U-NA20	95.90	24.00	106.00	2	a	Front	48.00		Added	
R4	4480 B71 + B85	19.20	15.10	106.00	2	a	Behind	12.00			
R5	4460 B25 + B66	17.00	15.10	106.00	2	a	Behind	72.00			
A2	AIR6449 B41	33.10	20.50	64.00	3	a	Front	48.00		Added	
R3	ACU-A20-N RET	4.00	2.00	22.00	4	a	Behind	36.00		Retained	
A7	800 MHz Filter	10.00	8.00	22.00	4	a	Front	12.00			

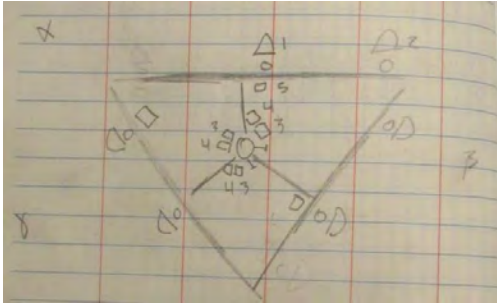


Antenna Mount Mapping Form (PATENT PENDING)

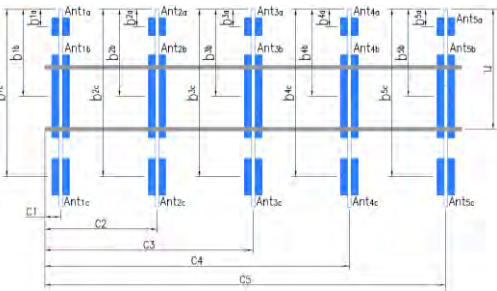
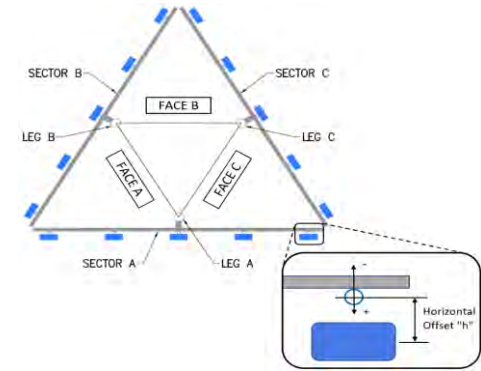
FCC #
1051825

Tower Owner:	SBA	Mapping Date:	5/25/2021
Site Name:	North Bethel	Tower Type:	Monopole
Site Number or ID:	CT00248-S	Tower Height (Ft.):	158
Mapping Contractor:	Engineered Tower Solutions, PLLC	Mount Elevation (Ft.):	156

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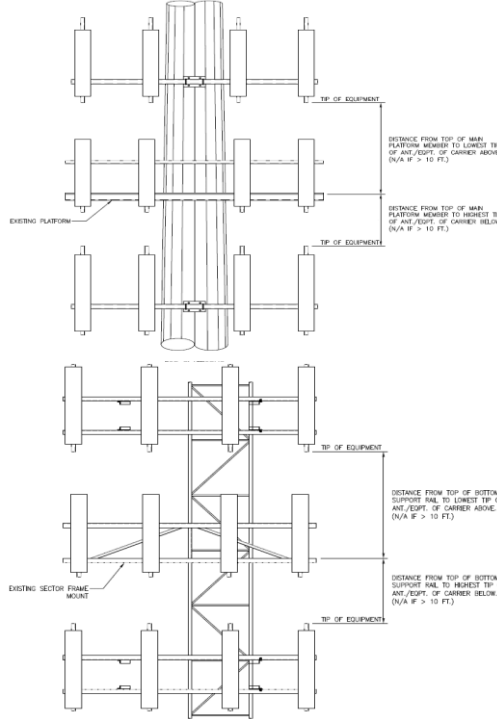
Mount Pipe Configuration and Geometries [Unit = Inches]								
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "V"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "V"	Horizontal Offset "C1, C2, C3, etc."	
A1	2.4"Øx0.153"x72"	30.00	89.00	C1	2.4"Øx0.153"x78"	48.00	89.00	
A2	2.4"Øx0.153"x78"	48.00	149.00	C2	2.4"Øx0.153"x72"	30.00	149.00	
A3				C3				
A4				C4				
A5				C5				
A6				C6				
B1	2.4"Øx0.153"x78"	48.00	89.00	D1				
B2	2.4"Øx0.153"x72"	30.00	149.00	D2				
B3				D3				
B4				D4				
B5				D5				
B6				D6				
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :							0.00	
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :								
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :								
Please enter additional information or comments below.								
Tower Face Width at Mount Elev. (ft.):				Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):				18



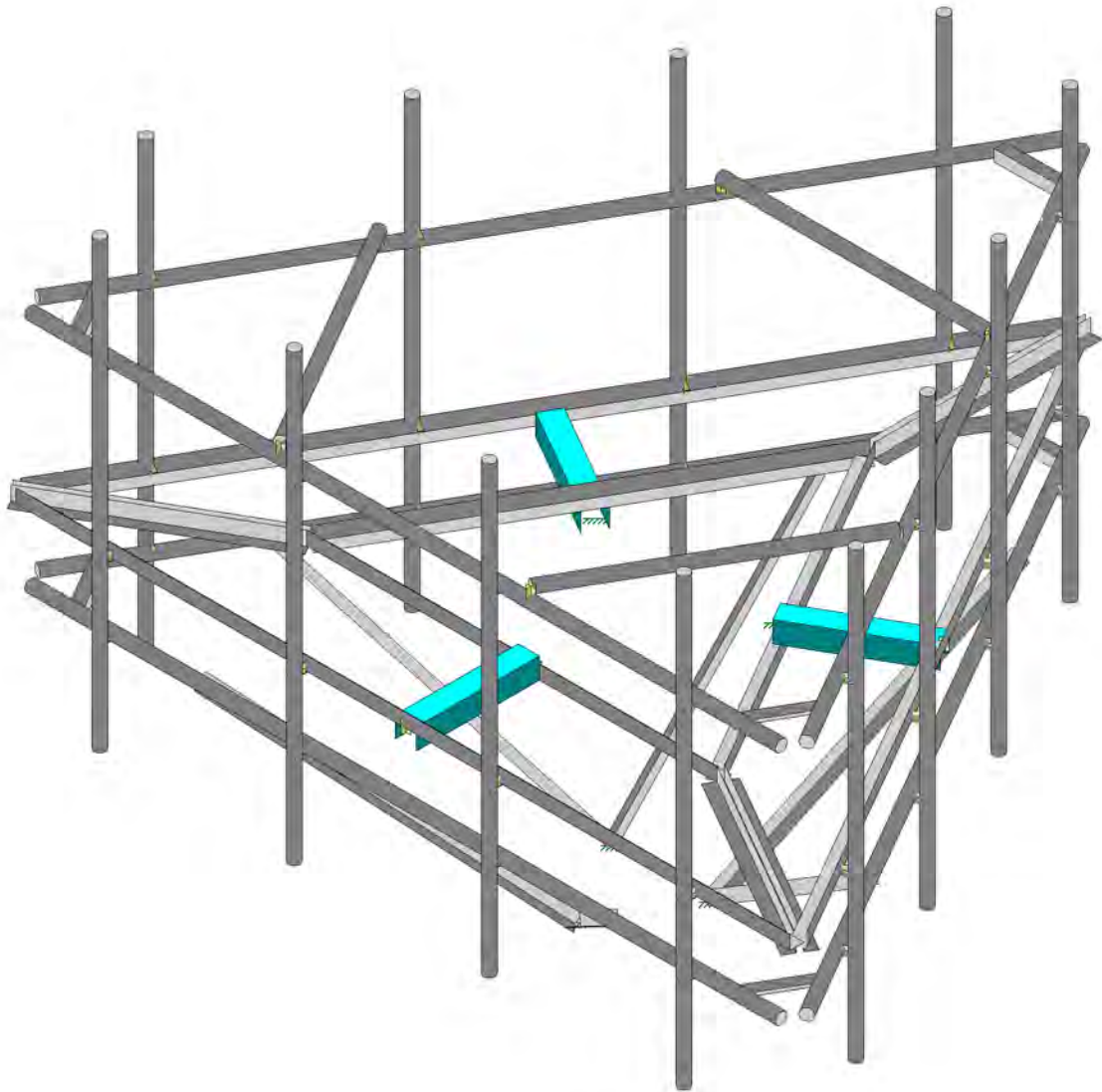
Ants. Items	Enter antenna model. If not labeled, enter "Unknown".					Mounting Locations [Units are inches and degrees]				Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b _{1a} , b _{2a} , b _{3a} , b _{1b} ,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant _{1a}	Alcatel-Lucent RRH8X	17.50	5.70	25.40	158	6.00	-6.00			97
Ant _{1b}	RFS APXVTM14-ALU-I	12.60	6.30	56.30	156.167	28.00	8.00	0.00		98
Ant _{1c}										
Ant _{2a}										
Ant _{2b}	Unknown	12.00	8.00	70.50	157.25	33.00	8.00	0.00		101
Ant _{2c}										
Ant _{3a}										
Ant _{3b}										
Ant _{3c}										
Ant _{4a}										
Ant _{4b}										
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	(1) Alcatel-Lucent RRH	13.00	9.80	15.70	151					12
Ant on Tower	(1) Alcatel-Lucent RRH	11.10	11.40	25.00	153					12

Antenna Layout (Looking Out From Tower)

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B													
Sector A:	0.00	Deg	Leg A:		Deg			Ant _{1a}													
Sector B:	120.00	Deg	Leg B:		Deg			Ant _{1b}	Unknown	12.00	8.00	70.50		157.25	33.00	8.00	100.00	90			
Sector C:	240.00	Deg	Leg C:		Deg			Ant _{1c}													
Sector D:		Deg	Leg D:		Deg			Ant _{2a}	Alcatel-Lucent RRH8X	17.50	5.70	25.40		158	6.00	-6.00					176
Climbing Facility Information								Ant _{2b}	RFS APXVTM14-ALU-I	12.60	6.30	56.30		156.167	28.00	8.00	100.00	91			
Location:	140.00	Deg	Sector B				Ant _{2c}														
Climbing Facility	Corrosion Type:		Good condition.				Ant _{3a}														
	Access:		Climbing path was unobstructed.				Ant _{3b}														
	Condition:		Good condition.				Ant _{3c}														
								Ant _{4a}													
								Ant _{4b}													
								Ant _{4c}													
								Ant _{5a}													
								Ant _{5b}													
								Ant _{5c}													
								Ant on Standoff													
								Ant on Standoff													
								Ant on Tower	(1) Alcatel-Lucent RRR	13.00	9.80	15.70		151						82	
								Ant on Tower	(1) Alcatel-Lucent RRR	11.10	11.40	25.00		153					83		
								Sector C													
								Ant _{1a}													
								Ant _{1b}	Unknown	12.00	8.00	70.50		157.25	33.00	8.00	270.00	94			
								Ant _{1c}													
								Ant _{2a}	Alcatel-Lucent RRH8X	17.50	5.70	25.40		158	6.00	-6.00			95		
								Ant _{2b}	RFS APXVTM14-ALU-I	12.60	6.30	56.30		156.167	28.00	8.00	270.00	95			
								Ant _{2c}													
								Ant _{3a}													
								Ant _{3b}													
								Ant _{3c}													
								Ant _{4a}													
								Ant _{4b}													
								Ant _{4c}													
								Ant _{5a}													
								Ant _{5b}													
								Ant _{5c}													
								Ant on Standoff													
								Ant on Standoff													
								Ant on Tower	(1) Alcatel-Lucent RRR	13.00	9.80	15.70		151					22		
								Ant on Tower	(1) Alcatel-Lucent RRR	11.10	11.40	25.00		153				22			
								Sector D													
								Ant _{1a}													
								Ant _{1b}													
								Ant _{1c}													
								Ant _{2a}													
								Ant _{2b}													
								Ant _{2c}													
								Ant _{3a}													
								Ant _{3b}													
								Ant _{3c}													
								Ant _{4a}													
								Ant _{4b}													
								Ant _{4c}													
								Ant _{5a}													
								Ant _{5b}													
								Ant _{5c}													
								Ant on Standoff													
								Ant on Standoff													
								Ant on Tower													
								Ant on Tower													



Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #



Tower Engineering Solutio...

CT00248-S-SBA_MT_LO_Loads Only_G

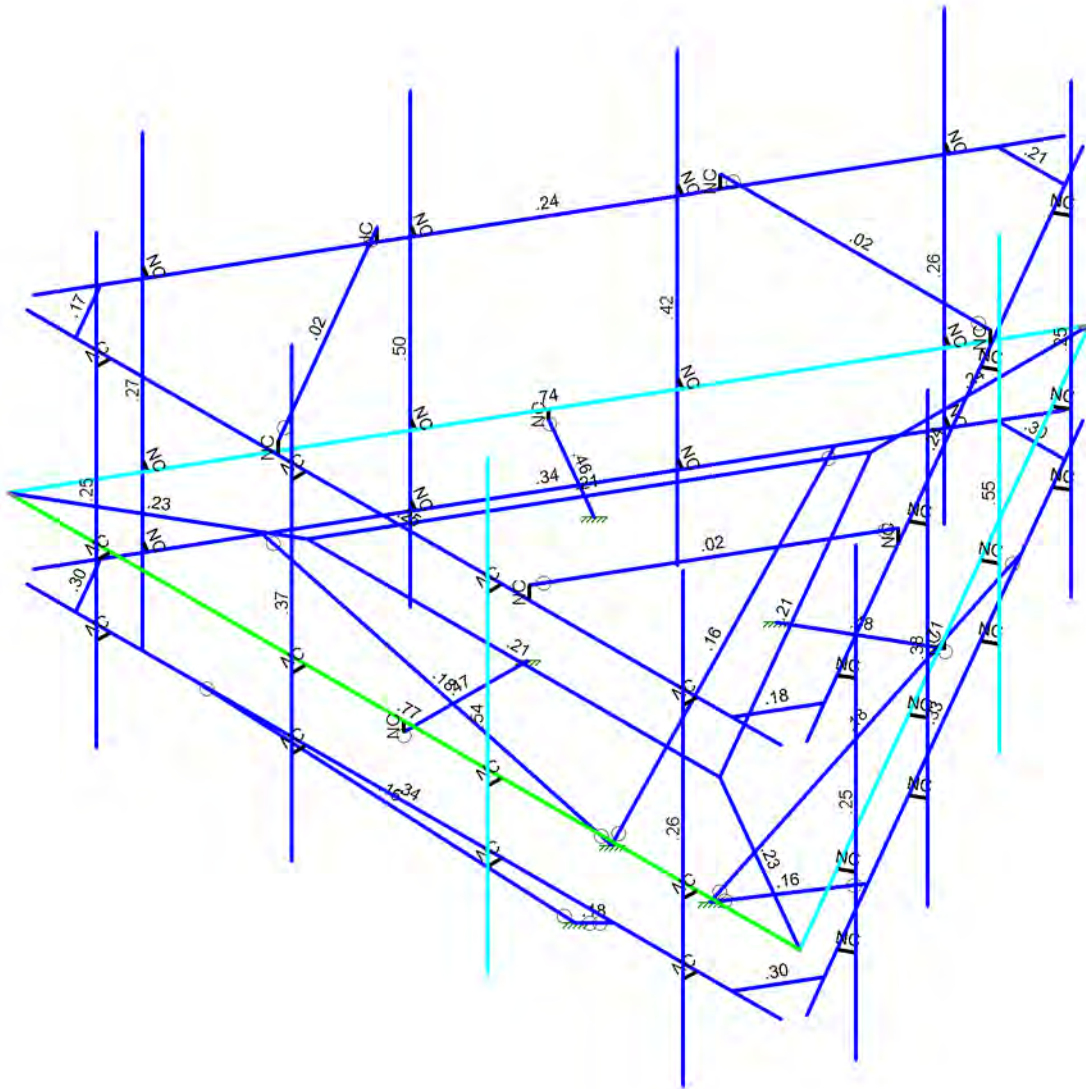
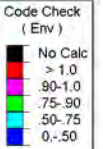
SK - 1

Dec 6, 2021 at 4:49 PM

TES Project No. 120128

RENDER

CT00248-S-SBA_120128_G_RISA_...



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

Tower Engineering Solutio...

CT00248-S-SBA_MT_LO_Loads Only_G

SK - 2

Dec 6, 2021 at 4:49 PM

TES Project No. 120128

UNITY

CT00248-S-SBA_120128_G_RISA_...



6 UqjW@ UX'7 UqYg

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribu...	Area(M...	Surface...
1	Antenna D	None					28			
2	Antenna Di	None					28			
3	Antenna W Front	None					28			
4	Antenna Wi Front	None					28			
5	Antenna W Side	None					28			
6	Antenna Wi Side	None					28			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						45	3	
11	Structure W Front	None						45		
12	Structure Wi Front	None						45		
13	Structure W Side	None						45		
14	Structure Wi Side	None						45		
15	BLC 9 Transient Area Loads	None							27	
16	BLC 10 Transient Area Loads	None							27	

@ UX'7 ca VjbUhc bg

	Description	So..P...	S...	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	
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 (Mai...	Yes	Y	1	1.2	9	1.2	7	1.5	3	.16	11	.16								
10	1.2D+1.5L2+.16W (Mai...	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														

>cjbh7 ccfXjbUhg'UbX'HYa dYfUi fYg

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N1	-85.	2.	49.074773	0	
2	N2	85.	2.	49.074773	0	
3	N3	-2.4e-13	2.	-98.149546	0	
4	N4	0	0.00004	49.074773	0	
5	N5	42.5	0.004	-24.537386	0	
6	N6	-42.5	0.004	-24.537386	0	
7	N7	-44.296784	2.	25.57476	0	
8	N8	44.296784	2.	25.57476	0	
9	N9	-1.2e-13	2.	-51.14952	0	
10	N10	-81	37.999996	49.074768	0	
11	N11	81	37.999996	49.074768	0	
12	N12	82.999996	37.999996	45.610674	0	



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
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>c]bh7 ccfX]bUhg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
13	N13	1.999996	37.999996	-94.685442	0	
14	N14	-1.999996	37.999996	-94.685442	0	
15	N15	-82.999996	37.999996	45.610674	0	
16	N16	-70.5	37.999996	49.074768	0	
17	N17	70.5	37.999996	49.074768	0	
18	N18	77.749996	37.999996	36.517407	0	
19	N19	7.249996	37.999996	-85.592175	0	
20	N20	-7.249996	37.999996	-85.592175	0	
21	N21	-77.749996	37.999996	36.517407	0	
22	N22	-63	37.999996	49.074768	0	
23	N23	63	37.999996	49.074768	0	
24	N24	-21	37.999996	49.074768	0	
25	N25	21.	37.999996	49.074768	0	
26	N26	-63	2.	49.074773	0	
27	N27	63	2.	49.074773	0	
28	N28	-21	2.	49.074773	0	
29	N29	21.	2.	49.074773	0	
30	N30	-27	40.774996	49.074768	0	
31	N31	27	40.774996	49.074768	0	
32	N32	-63	37.999996	52.074768	0	
33	N33	63	37.999996	52.074768	0	
34	N34	-21	37.999996	52.074768	0	
35	N35	21.	37.999996	52.074768	0	
36	N36	-63	2.	52.074768	0	
37	N37	63	2.	52.074768	0	
38	N38	-21	2.	52.074768	0	
39	N39	21.	2.	52.074768	0	
40	N40	-63	62.999996	52.074768	0	
41	N41	63	62.999996	52.074768	0	
42	N42	-21	62.999996	52.074768	0	
43	N43	21.	62.999996	52.074768	0	
44	N44	-63	-33.000004	52.074768	0	
45	N45	63	-33.000004	52.074768	0	
46	N46	-21	-33.000004	52.074768	0	
47	N47	21.	-33.000004	52.074768	0	
48	N48	0	2.	49.074773	0	
49	N49	42.5	2.	-24.537386	0	
50	N50	-42.5	2.	-24.537386	0	
51	N51	0.	0.00004	22.57476	0	
52	N52	19.550316	0.00004	-11.28738	0	
53	N53	-19.550316	0.00004	-11.28738	0	
54	N54	73.999996	37.999996	30.022216	0	
55	N55	10.999996	37.999996	-79.096984	0	
56	N56	52.999996	37.999996	-6.350851	0	
57	N57	31.999996	37.999996	-42.723917	0	
58	N58	74.	2.	30.022214	0	
59	N59	11.	2.	-79.096987	0	
60	N60	53.	2.	-6.350853	0	
61	N61	32.	2.	-42.72392	0	
62	N62	76.598072	37.999996	28.522216	0	
63	N63	13.598072	37.999996	-80.596984	0	
64	N64	55.598072	37.999996	-7.850851	0	



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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>c]bh7ccfX]bUHyg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
65	N65	34.598072	37.999996	-44.223917	0	
66	N66	76.598072	2.	28.522216	0	
67	N67	13.598072	2.	-80.596984	0	
68	N68	55.598072	2.	-7.850851	0	
69	N69	34.598072	2.	-44.223917	0	
70	N70	76.598072	62.999996	28.522216	0	
71	N71	13.598072	62.999996	-80.596984	0	
72	N72	55.598072	62.999996	-7.850851	0	
73	N73	34.598072	62.999996	-44.223917	0	
74	N74	76.598072	-33.000004	28.522216	0	
75	N75	13.598072	-33.000004	-80.596984	0	
76	N76	55.598072	-33.000004	-7.850851	0	
77	N77	34.598072	-33.000004	-44.223917	0	
78	N78	-10.999996	37.999996	-79.096984	0	
79	N79	-73.999996	37.999996	30.022216	0	
80	N80	-31.999996	37.999996	-42.723917	0	
81	N81	-52.999996	37.999996	-6.350851	0	
82	N82	-11.	2.	-79.096987	0	
83	N83	-74.	2.	30.022214	0	
84	N84	-32.	2.	-42.72392	0	
85	N85	-53.	2.	-6.350853	0	
86	N86	-13.598072	37.999996	-80.596984	0	
87	N87	-76.598072	37.999996	28.522216	0	
88	N88	-34.598072	37.999996	-44.223917	0	
89	N89	-55.598072	37.999996	-7.850851	0	
90	N90	-13.598072	2.	-80.596984	0	
91	N91	-76.598072	2.	28.522216	0	
92	N92	-34.598072	2.	-44.223917	0	
93	N93	-55.598072	2.	-7.850851	0	
94	N94	-13.598072	62.999996	-80.596984	0	
95	N95	-76.598072	62.999996	28.522216	0	
96	N96	-34.598072	62.999996	-44.223917	0	
97	N97	-55.598072	62.999996	-7.850851	0	
98	N98	-13.598072	-33.000004	-80.596984	0	
99	N99	-76.598072	-33.000004	28.522216	0	
100	N100	-34.598072	-33.000004	-44.223917	0	
101	N101	-55.598072	-33.000004	-7.850851	0	
102	N102	-63	-13.	49.074768	0	
103	N103	63	-13.	49.074768	0	
104	N104	-21	-13.	49.074768	0	
105	N105	21.	-13.	49.074768	0	
106	N106	-63	-13.	52.074768	0	
107	N107	63	-13.	52.074768	0	
108	N108	-21	-13.	52.074768	0	
109	N109	21.	-13.	52.074768	0	
110	N110	-81	-13.000004	49.074768	0	
111	N111	81	-13.000004	49.074768	0	
112	N112	55.999996	40.774996	-1.154698	0	
113	N113	28.999996	40.774996	-47.92007	0	
114	N114	-28.999996	40.774996	-47.92007	0	
115	N115	-55.999996	40.774996	-1.154698	0	
116	N116	-27	37.999996	49.074768	0	



>c]bh7ccfX]bUhg'UbX'HYa dYUhi fYg'f7 cb]bi YXL

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
117	N117	27	37.999996	49.074768	0	
118	N118	55.999996	37.999996	-1.154698	0	
119	N119	28.999996	37.999996	-47.92007	0	
120	N120	-28.999996	37.999996	-47.92007	0	
121	N121	-55.999996	37.999996	-1.154698	0	
122	N128	0	0	0	0	
123	N129	0	-54	12.25	0	
124	N130	10.608811	-54	-6.125	0	
125	N131	-10.608811	-54	-6.125	0	
126	N132	44.999994	-13.000004	49.074768	0	
127	N133	-44.999994	-13.000004	49.074768	0	
128	N134	-70.5	-13.000004	49.074768	0	
129	N135	70.5	-13.000004	49.074768	0	
130	N136	77.749996	-13.000004	36.517407	0	
131	N137	7.249996	-13.000004	-85.592175	0	
132	N138	-7.249996	-13.000004	-85.592175	0	
133	N139	-77.749996	-13.000004	36.517407	0	
134	N140	82.999996	-13.000004	45.610674	0	
135	N141	1.999996	-13.000004	-94.685442	0	
136	N142	-1.999996	-13.000004	-94.685442	0	
137	N143	-82.999996	-13.000004	45.610674	0	
138	N144	73.999996	-13.000004	30.022216	0	
139	N145	10.999996	-13.000004	-79.096984	0	
140	N146	52.999996	-13.000004	-6.350851	0	
141	N147	31.999996	-13.000004	-42.723917	0	
142	N148	76.598072	-13.000004	28.522216	0	
143	N149	13.598072	-13.000004	-80.596984	0	
144	N150	55.598072	-13.000004	-7.850851	0	
145	N151	34.598072	-13.000004	-44.223917	0	
146	N152	-10.999996	-13.000004	-79.096984	0	
147	N153	-73.999996	-13.000004	30.022216	0	
148	N154	-31.999996	-13.000004	-42.723917	0	
149	N155	-52.999996	-13.000004	-6.350851	0	
150	N156	-13.598072	-13.000004	-80.596984	0	
151	N157	-76.598072	-13.000004	28.522216	0	
152	N158	-34.598072	-13.000004	-44.223917	0	
153	N159	-55.598072	-13.000004	-7.850851	0	
154	N160	19.999999	-13.000004	-63.508522	0	
155	N161	64.999993	-13.000004	14.433754	0	
156	N162	-64.999993	-13.000004	14.433754	0	
157	N163	-19.999999	-13.000004	-63.508522	0	

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

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Grating Support Angles	LL3x3x4x0	Beam	Double Angle (No ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
2	Face Horizontals	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
3	Inner Face Horizontals	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
4	Support Rails	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Support Rail Corner Braci...	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
6	Support Rail Plan Bracings	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25



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	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
7	Mount Pipes	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	V-Braces	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
9	Temp	HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8

7c`X: cfa`YX`GhYY`GYWjcb`GYlg

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoff Arms	4.5CU4.5X05	Beam	CU	A570 Gr.33	Typical	5.874	11.552	17.965	.49

<chFc`YX`GhYY`DfcdYfjYg

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

7c`X: cfa`YX`GhYY`DfcdYfjYg

	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

A`Ya`Vyf`Df`ja`Ufm8`UU

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N2		270	Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
2	M2	N2	N3		270	Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
3	M3	N3	N1		270	Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
4	M5	N1	N7		180	Grating Support Angles	Beam	Double Angl...	A36 Gr.36	Typical
5	M6	N2	N8		180	Grating Support Angles	Beam	Double Angl...	A36 Gr.36	Typical
6	M7	N3	N9		180	Grating Support Angles	Beam	Double Angl...	A36 Gr.36	Typical
7	M8	N7	N8		270	Inner Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
8	M9	N8	N9		270	Inner Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
9	M10	N9	N7		270	Inner Face Horizontals	Beam	Single Angle	A36 Gr.36	Typical
10	M11	N10	N11			Support Rails	Beam	Pipe	A53 Gr.B	Typical
11	M12	N12	N13			Support Rails	Beam	Pipe	A53 Gr.B	Typical
12	M13	N14	N15			Support Rails	Beam	Pipe	A53 Gr.B	Typical
13	M14	N16	N21		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
14	M15	N18	N17		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
15	M16	N20	N19		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
16	M20	N23	N33			RIGID	Column	None	RIGID	DR1 1
17	M21	N27	N37			RIGID	Column	None	RIGID	DR1 1
18	M22	N25	N35			RIGID	Column	None	RIGID	DR1 1
19	M23	N29	N39			RIGID	Column	None	RIGID	DR1 1
20	M24	N24	N34			RIGID	Column	None	RIGID	DR1 1
21	M25	N28	N38			RIGID	Column	None	RIGID	DR1 1



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A Ya Vyf Df ja Ufm8 UUf7 cbHbi YXL

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
22	M26	N22	N32			RIGID	Column	None	RIGID	DR1 1
23	M27	N26	N36			RIGID	Column	None	RIGID	DR1 1
24	MP1A	N41	N45			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
25	MP2A	N43	N47			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
26	MP3A	N42	N46			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
27	MP4A	N40	N44			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
28	M32	N4	N48			RIGID	Column	None	RIGID	DR1 1
29	M33	N6	N50			RIGID	Column	None	RIGID	DR1 1
30	M34	N5	N49			RIGID	Column	None	RIGID	DR1 1
31	M35	N55	N63			RIGID	Column	None	RIGID	DR1 1
32	M36	N59	N67			RIGID	Column	None	RIGID	DR1 1
33	M37	N57	N65			RIGID	Column	None	RIGID	DR1 1
34	M38	N61	N69			RIGID	Column	None	RIGID	DR1 1
35	M39	N56	N64			RIGID	Column	None	RIGID	DR1 1
36	M40	N60	N68			RIGID	Column	None	RIGID	DR1 1
37	M41	N54	N62			RIGID	Column	None	RIGID	DR1 1
38	M42	N58	N66			RIGID	Column	None	RIGID	DR1 1
39	MP1C	N71	N75			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
40	MP2C	N73	N77			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
41	MP3C	N72	N76			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
42	MP4C	N70	N74			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
43	M47	N79	N87			RIGID	Column	None	RIGID	DR1 1
44	M48	N83	N91			RIGID	Column	None	RIGID	DR1 1
45	M49	N81	N89			RIGID	Column	None	RIGID	DR1 1
46	M50	N85	N93			RIGID	Column	None	RIGID	DR1 1
47	M51	N80	N88			RIGID	Column	None	RIGID	DR1 1
48	M52	N84	N92			RIGID	Column	None	RIGID	DR1 1
49	M53	N78	N86			RIGID	Column	None	RIGID	DR1 1
50	M54	N82	N90			RIGID	Column	None	RIGID	DR1 1
51	MP1B	N95	N99			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
52	MP2B	N97	N101			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
53	MP3B	N96	N100			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
54	MP4B	N94	N98			Mount Pipes	Column	Pipe	A53 Gr.B	Typical
55	M59	N103	N107			RIGID	Column	None	RIGID	DR1 1
56	M60	N105	N109			RIGID	Column	None	RIGID	DR1 1
57	M61	N104	N108			RIGID	Column	None	RIGID	DR1 1
58	M62	N102	N106			RIGID	Column	None	RIGID	DR1 1
59	M63	N110	N111			Support Rails	Beam	Pipe	A53 Gr.B	Typical
60	M68	N30	N116			RIGID	Column	None	RIGID	DR1 1
61	M69	N115	N121			RIGID	Column	None	RIGID	DR1 1
62	M72	N134	N139		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
63	M73	N136	N135		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
64	M74	N138	N137		180	Support Rail Corner Bracings	Beam	Single Angle	A36 Gr.36	Typical
65	M75	N140	N141			Support Rails	Beam	Pipe	A53 Gr.B	Typical
66	M76	N142	N143			Support Rails	Beam	Pipe	A53 Gr.B	Typical
67	M77	N133	N129			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
68	M78	N129	N132			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
69	M79	N145	N149			RIGID	Column	None	RIGID	DR1 1
70	M80	N147	N151			RIGID	Column	None	RIGID	DR1 1
71	M81	N146	N150			RIGID	Column	None	RIGID	DR1 1
72	M82	N144	N148			RIGID	Column	None	RIGID	DR1 1
73	M83	N153	N157			RIGID	Column	None	RIGID	DR1 1



A Ya VYf DfJa Ufm8 UUf7 cbHbi YXL

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
74	M84	N155	N159			RIGID	Column	None	RIGID	DR1 1
75	M85	N154	N158			RIGID	Column	None	RIGID	DR1 1
76	M86	N152	N156			RIGID	Column	None	RIGID	DR1 1
77	M87	N161	N130			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
78	M88	N130	N160			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
79	M89	N163	N131			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
80	M90	N131	N162			V-Braces	Beam	Single Angle	A36 Gr.36	Typical
81	M91	N51	N4		90	Standoff Arms	Beam	CU	A570 Gr...	Typical
82	M92	N52	N5		90	Standoff Arms	Beam	CU	A570 Gr...	Typical
83	M93	N53	N6		90	Standoff Arms	Beam	CU	A570 Gr...	Typical
84	M91A	N30	N115			Support Rail Plan Bracings	Beam	Pipe	A53 Gr.B	Typical
85	M85A	N112	N118			RIGID	Column	None	RIGID	DR1 1
86	M86A	N31	N117			RIGID	Column	None	RIGID	DR1 1
87	M87A	N112	N31			Support Rail Plan Bracings	Beam	Pipe	A53 Gr.B	Typical
88	M88A	N114	N120			RIGID	Column	None	RIGID	DR1 1
89	M89A	N113	N119			RIGID	Column	None	RIGID	DR1 1
90	M90A	N114	N113			Support Rail Plan Bracings	Beam	Pipe	A53 Gr.B	Typical

A Ya VYf 5 Xj UbWX 8 UHU

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1			M5	M6		Yes				None
2	M2			M6	M7		Yes	Default			None
3	M3			M7	M5		Yes				None
4	M5						Yes				None
5	M6						Yes				None
6	M7						Yes				None
7	M8						Yes				None
8	M9						Yes				None
9	M10						Yes				None
10	M11						Yes				None
11	M12						Yes				None
12	M13						Yes				None
13	M14						Yes				None
14	M15						Yes				None
15	M16						Yes				None
16	M20						Yes	** NA **			None
17	M21						Yes	** NA **			None
18	M22						Yes	** NA **			None
19	M23						Yes	** NA **			None
20	M24						Yes	** NA **			None
21	M25						Yes	** NA **			None
22	M26						Yes	** NA **			None
23	M27						Yes	** NA **			None
24	MP1A						Yes	** NA **			None
25	MP2A						Yes	** NA **			None
26	MP3A						Yes	** NA **			None
27	MP4A						Yes	** NA **			None
28	M32		BenPIN				Yes	** NA **			None
29	M33		BenPIN				Yes	** NA **			None
30	M34		BenPIN				Yes	** NA **			None



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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
31	M35						Yes	** NA **			None
32	M36						Yes	** NA **			None
33	M37						Yes	** NA **			None
34	M38						Yes	** NA **			None
35	M39						Yes	** NA **			None
36	M40						Yes	** NA **			None
37	M41						Yes	** NA **			None
38	M42						Yes	** NA **			None
39	MP1C						Yes	** NA **			None
40	MP2C						Yes	** NA **			None
41	MP3C						Yes	** NA **			None
42	MP4C						Yes	** NA **			None
43	M47						Yes	** NA **			None
44	M48						Yes	** NA **			None
45	M49						Yes	** NA **			None
46	M50						Yes	** NA **			None
47	M51						Yes	** NA **			None
48	M52						Yes	** NA **			None
49	M53						Yes	** NA **			None
50	M54						Yes	** NA **			None
51	MP1B						Yes	** NA **			None
52	MP2B						Yes	** NA **			None
53	MP3B						Yes	** NA **			None
54	MP4B						Yes	** NA **			None
55	M59						Yes	** NA **			None
56	M60						Yes	** NA **			None
57	M61						Yes	** NA **			None
58	M62						Yes	** NA **			None
59	M63						Yes				None
60	M68						Yes	** NA **			None
61	M69						Yes	** NA **			None
62	M72						Yes				None
63	M73						Yes				None
64	M74						Yes				None
65	M75						Yes				None
66	M76						Yes				None
67	M77	BenPIN	BenPIN				Yes				None
68	M78	BenPIN	BenPIN				Yes				None
69	M79						Yes	** NA **			None
70	M80						Yes	** NA **			None
71	M81						Yes	** NA **			None
72	M82						Yes	** NA **			None
73	M83						Yes	** NA **			None
74	M84						Yes	** NA **			None
75	M85						Yes	** NA **			None
76	M86						Yes	** NA **			None
77	M87	BenPIN	BenPIN				Yes				None
78	M88	BenPIN	BenPIN				Yes				None
79	M89	BenPIN	BenPIN				Yes				None
80	M90	BenPIN	BenPIN				Yes				None
81	M91						Yes				None
82	M92						Yes				None



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	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
83	M93						Yes				None
84	M91A	BenPIN	BenPIN				Yes				None
85	M85A						Yes	** NA **			None
86	M86A						Yes	** NA **			None
87	M87A	BenPIN	BenPIN				Yes				None
88	M88A						Yes	** NA **			None
89	M89A						Yes	** NA **			None
90	M90A	BenPIN	BenPIN				Yes				None

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	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Face Horizo...	170			Lbyy						Lateral
2	M2	Face Horizo...	170			Lbyy						Lateral
3	M3	Face Horizo...	170			Lbyy						Lateral
4	M5	Grating Sup...	47			Lbyy		.65	.65			Lateral
5	M6	Grating Sup...	47			Lbyy		.65	.65			Lateral
6	M7	Grating Sup...	47			Lbyy		.65	.65			Lateral
7	M8	Inner Face ...	88.594			Lbyy		.65	.65			Lateral
8	M9	Inner Face ...	88.594			Lbyy		.65	.65			Lateral
9	M10	Inner Face ...	88.594			Lbyy		.65	.65			Lateral
10	M11	Support Rails	162			Lbyy						Lateral
11	M12	Support Rails	162			Lbyy						Lateral
12	M13	Support Rails	162			Lbyy						Lateral
13	M14	Support Rail...	14.5			Lbyy						Lateral
14	M15	Support Rail...	14.5			Lbyy						Lateral
15	M16	Support Rail...	14.5			Lbyy						Lateral
16	MP1A	Mount Pipes	96			Lbyy						Lateral
17	MP2A	Mount Pipes	96			Lbyy						Lateral
18	MP3A	Mount Pipes	96			Lbyy						Lateral
19	MP4A	Mount Pipes	96			Lbyy						Lateral
20	MP1C	Mount Pipes	96			Lbyy						Lateral
21	MP2C	Mount Pipes	96			Lbyy						Lateral
22	MP3C	Mount Pipes	96			Lbyy						Lateral
23	MP4C	Mount Pipes	96			Lbyy						Lateral
24	MP1B	Mount Pipes	96			Lbyy						Lateral
25	MP2B	Mount Pipes	96			Lbyy						Lateral
26	MP3B	Mount Pipes	96			Lbyy						Lateral
27	MP4B	Mount Pipes	96			Lbyy						Lateral
28	M63	Support Rails	162			Lbyy						Lateral
29	M72	Support Rail...	14.5			Lbyy						Lateral
30	M73	Support Rail...	14.5			Lbyy						Lateral
31	M74	Support Rail...	14.5			Lbyy						Lateral
32	M75	Support Rails	162			Lbyy						Lateral
33	M76	Support Rails	162			Lbyy						Lateral
34	M77	V-Braces	71.148			Lbyy						Lateral
35	M78	V-Braces	71.148			Lbyy						Lateral
36	M87	V-Braces	71.148			Lbyy						Lateral
37	M88	V-Braces	71.148			Lbyy						Lateral
38	M89	V-Braces	71.148			Lbyy						Lateral
39	M90	V-Braces	71.148			Lbyy						Lateral



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	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
40	M91A	Support Rail...	58			Lbyy						Lateral
41	M87A	Support Rail...	58			Lbyy						Lateral
42	M90A	Support Rail...	58			Lbyy						Lateral

7c`X: cfa YX`GhY`8 YgJ] b`DUUa YhYfg

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[in]	y sw...	z sw...
1	M91	Standoff...	26.5			Lbyy											
2	M92	Standoff...	26.5			Lbyy											
3	M93	Standoff...	26.5			Lbyy											

>c]bh6 ci bXUf mi7 cbX]h]cbg

	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	N51	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N52	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N53	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N129	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N130	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N131	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

9bj YcdY>c]bhFYUM]cbg

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N51	max	2647.627	4	1875.653	6	1319.268	1	-.562	1	5.613	4	.444	3
2		min	-2709.381	3	380.445	1	-1594.63	2	-4.176	6	-5.611	3	-.434	4
3	N52	max	1874.461	4	1859.766	7	2817.989	1	2.123	5	5.774	2	3.614	7
4		min	-2078.878	3	426.533	4	-2627.59	2	.261	2	-5.77	1	.458	4
5	N53	max	2254.918	4	1846.971	8	2532.727	1	2.115	5	5.429	1	-.572	3
6		min	-1986.774	3	495.545	3	-2452.52	2	.178	2	-5.433	2	-3.609	8
7	N129	max	431.125	10	1701.378	6	1432.198	6	0	10	0	3	0	3
8		min	-301.954	9	338.181	1	365.058	1	0	3	0	4	0	4
9	N130	max	1167.765	7	1691.752	7	-170.207	2	0	1	0	1	0	2
10		min	236.732	4	328.272	4	-852.127	5	0	2	0	2	0	1
11	N131	max	-318.469	3	1698.759	8	-80.755	2	0	1	0	2	0	1
12		min	-1318.114	8	311.679	3	-588.546	5	0	2	0	1	0	2
13	Totals:	max	6326.082	4	10205.906	7	6269.408	1						
14		min	-6326.08	3	3860.498	4	-6269.395	2						

9bj YcdYA Ya VYf`GYW]cb: cfWg

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
1	M1	1	max	454.398	3	318.927	2	-3.282	9	.004	1	.161	1	.754	6
2			min	-409.4	4	-219.615	1	-240.049	6	-.006	2	-.106	2	.125	1
3		2	max	856.771	3	98.613	7	45.335	4	.001	4	.11	6	.179	1
4			min	-1048.683	4	-29.221	4	-153.313	9	-.001	3	-.041	1	-.172	2
5		3	max	1330.157	3	838.336	2	1013.26	6	.002	3	.413	1	.464	2
6			min	-1565.861	4	-674.519	1	190.476	1	-.003	4	-.1	2	-.809	1
7		4	max	866.226	4	47.978	3	133.528	10	.001	1	.143	2	.252	1
8			min	-981.296	3	-83.959	4	-84.984	3	-.001	2	-.064	1	-.226	2



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
9		5	max 434.182	4	289.573	1	202.643	6	.005	2	.227	1	.797	6
10			min -342.78	3	-421.017	2	-9.642	10	-.005	1	-.195	2	.048	1
11	M2	1	max 541.249	1	283.243	1	-27.717	2	.004	2	.156	2	.741	7
12			min -496.271	2	-182.234	2	-235.778	5	-.006	1	-.103	1	.155	2
13		2	max 919.847	1	101.037	8	65.933	2	.002	2	.103	5	.181	2
14			min -1111.607	2	-35.611	3	-132.952	1	-.001	1	-.026	2	-.176	1
15		3	max 997.093	4	696.26	3	1014.738	7	.002	1	.296	4	.325	3
16			min -1564.203	2	-528.144	4	186.126	4	-.003	2	-.943	7	-.731	8
17		4	max 824.661	3	65.73	1	112.676	3	0	4	.14	3	.255	4
18			min -940.968	4	-101.709	2	-88.323	4	0	3	-.061	4	-.23	3
19		5	max 488.811	3	283.496	4	210.35	7	.006	3	.212	4	.787	7
20			min -397.428	4	-416.967	3	-24.424	4	-.006	4	-.182	3	.081	4
21	M3	1	max 455.972	4	362.83	4	8.94	3	.005	3	.18	3	.75	8
22			min -411.476	3	-261.984	3	-244.783	8	-.007	4	-.127	4	.12	3
23		2	max 713.861	2	105.948	2	74.609	3	.002	3	.113	4	.225	3
24			min -905.738	1	-45.924	1	-141.999	4	-.001	4	-.048	3	-.219	4
25		3	max 1304.578	2	775.703	4	1002.744	5	.002	4	.338	3	.464	4
26			min -1538.718	1	-612.605	3	-255.001	2	-.002	3	-.966	8	-.809	3
27		4	max 943.084	1	61.567	4	119.357	1	0	3	.128	8	.183	3
28			min -1059.525	2	-97.338	3	-94.945	2	0	4	-.038	3	-.157	4
29		5	max 512.777	1	193.931	3	207.011	5	.004	1	.185	3	.788	8
30			min -421.262	2	-323.884	4	-8.659	2	-.004	2	-.151	4	.077	3
31	M5	1	max 246.444	4	-150.796	3	132.339	4	.002	9	.396	2	-.345	3
32			min -479.245	3	-399.654	8	-128.596	3	-.001	2	-.434	1	-.997	8
33		2	max 237.622	4	-137.01	3	137.433	4	.002	9	.282	2	-.204	3
34			min -470.422	3	-365.762	8	-133.69	3	-.001	2	-.314	1	-.621	8
35		3	max 228.799	4	-120.999	3	145.167	1	.002	9	.152	2	-.078	3
36			min -461.599	3	-326.309	8	-140.344	2	-.001	2	-.179	1	-.282	8
37		4	max 219.976	4	-102.764	3	160.448	1	.002	9	.015	9	.032	3
38			min -452.777	3	-281.296	8	-155.625	2	-.001	2	-.035	5	-.01	4
39		5	max 211.154	4	-82.305	3	175.73	1	.002	9	.136	4	.275	7
40			min -443.954	3	-230.722	8	-170.906	2	-.001	2	-.154	3	.089	4
41	M6	1	max 290.469	3	-151.4	4	147.74	2	0	9	.541	1	-.353	4
42			min -522.902	4	-399.575	7	-143.907	1	-.002	10	-.575	2	-.995	7
43		2	max 281.646	3	-137.614	4	163.021	2	0	9	.393	1	-.212	4
44			min -514.08	4	-365.683	7	-159.189	1	-.002	10	-.422	2	-.62	7
45		3	max 272.823	3	-121.603	4	178.303	2	0	9	.229	1	-.085	4
46			min -505.257	4	-326.231	7	-174.47	1	-.002	10	-.255	2	-.281	7
47		4	max 264.001	3	-103.368	4	193.584	2	0	9	.051	1	.026	8
48			min -496.434	4	-281.217	7	-189.751	1	-.002	10	-.073	2	-.004	3
49		5	max 255.178	3	-82.909	4	208.865	2	0	9	.124	2	.274	8
50			min -487.612	4	-230.644	7	-205.032	1	-.002	10	-.142	1	.094	2
51	M7	1	max 322.309	1	-150.736	2	137.379	3	0	3	.558	4	-.349	2
52			min -554.614	2	-399.816	5	-132.816	4	-.001	4	-.594	3	-.996	5
53		2	max 322.309	1	-136.949	2	157.754	3	0	3	.418	4	-.208	2
54			min -554.614	2	-365.924	5	-153.191	4	-.001	4	-.45	3	-.621	5
55		3	max 322.309	1	-120.939	2	178.129	3	0	3	.258	4	-.081	2
56			min -554.614	2	-326.472	5	-173.566	4	-.001	4	-.285	3	-.282	5
57		4	max 322.309	1	-102.704	2	198.504	3	0	3	.078	4	.029	2
58			min -554.614	2	-281.459	5	-193.941	4	-.001	4	-.101	3	-.007	1
59		5	max 322.309	1	-82.245	2	218.879	3	0	3	.103	3	.275	6
60			min -554.614	2	-230.885	5	-214.316	4	-.001	4	-.122	4	.093	1



9bj YcdYA Ya VYf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
61	M8	1	max	307.793	2	78.485	2	116.351	8	0	4	.065	1	.265	6
62			min	-442.871	1	-75.977	1	41.445	3	0	3	-.083	2	.028	1
63		2	max	307.793	2	40.079	2	58.657	8	0	4	.097	8	.36	7
64			min	-442.871	1	-37.57	1	19.661	3	0	3	.022	3	.114	4
65		3	max	307.793	2	13.014	3	2.362	4	0	4	.143	6	.399	5
66			min	-442.871	1	-10.505	4	-2.194	3	0	3	.025	1	.114	2
67		4	max	307.793	2	39.242	1	-19.493	4	0	4	.105	7	.351	8
68			min	-442.871	1	-36.734	2	-58.27	7	0	3	.028	4	.119	3
69		5	max	307.793	2	77.649	1	-41.277	4	0	4	.071	1	.25	6
70			min	-442.871	1	-75.14	2	-115.964	7	0	3	-.075	2	.025	1
71	M9	1	max	290.737	3	63.042	3	116.232	6	0	2	.059	4	.263	7
72			min	-425.463	4	-60.52	4	41.915	1	0	1	-.076	3	.037	4
73		2	max	274.106	3	34.237	3	58.538	6	0	2	.095	8	.356	5
74			min	-408.832	4	-31.715	4	20.131	1	0	1	.031	3	.129	2
75		3	max	257.476	3	5.432	3	1.959	2	0	2	.141	7	.396	8
76			min	-392.202	4	-2.91	4	-1.724	1	0	1	.032	4	.122	3
77		4	max	240.845	3	25.895	4	-19.896	2	0	2	.104	7	.351	8
78			min	-375.572	4	-23.372	3	-58.137	5	0	1	.032	4	.121	3
79		5	max	224.215	3	54.699	4	-41.68	2	0	2	.041	4	.242	7
80			min	-358.941	4	-52.177	3	-115.831	5	0	1	-.045	3	.049	4
81	M10	1	max	256.17	4	52.995	4	116.175	5	0	1	.029	3	.257	8
82			min	-391.266	3	-50.507	3	42.078	2	0	2	-.048	4	.056	3
83		2	max	272.8	4	24.191	4	58.481	5	0	1	.096	8	.358	7
84			min	-407.896	3	-21.703	3	20.294	2	0	2	.027	3	.123	1
85		3	max	289.43	4	7.102	3	1.644	1	0	1	.141	8	.396	7
86			min	-424.527	3	-4.614	4	-1.56	2	0	2	.033	3	.124	4
87		4	max	306.061	4	35.907	3	-20.21	1	0	1	.104	7	.349	5
88			min	-441.157	3	-33.419	4	-58.109	6	0	2	.029	4	.127	2
89		5	max	322.691	4	64.712	3	-41.994	1	0	1	.073	3	.249	8
90			min	-457.788	3	-62.224	4	-115.803	6	0	2	-.077	4	.026	3
91	M11	1	max	0	11	0	11	0	11	0	11	0	11	0	11
92			min	0	1	0	1	0	1	0	1	0	1	0	1
93		2	max	41.994	4	108.59	4	110.697	4	.119	1	.217	4	.074	2
94			min	-63.243	3	-153.044	3	-107.605	3	-.107	2	-.218	3	-.047	1
95		3	max	159.069	1	215.984	4	161.443	3	.159	1	.043	1	.027	3
96			min	-234.366	2	-168.601	3	-170.106	4	-.163	2	-.042	2	-.033	4
97		4	max	204.589	3	185.538	4	82.917	4	.213	2	.161	3	.1	2
98			min	-171.199	4	-167.302	3	-84.987	3	-.234	1	-.171	4	-.102	1
99		5	max	0	11	0	11	0	11	0	11	0	11	0	11
100			min	0	1	0	1	0	1	0	1	0	1	0	1
101	M12	1	max	0	11	.008	3	.002	4	0	11	0	11	0	11
102			min	0	1	0	5	-.01	2	0	1	0	1	0	1
103		2	max	59.882	2	124.729	2	84.449	2	.095	2	.201	2	.081	1
104			min	-84.096	10	-169.019	1	-81.078	1	-.084	1	-.202	1	-.055	2
105		3	max	53.548	2	212.294	2	142.504	4	.166	4	.039	2	.036	1
106			min	-131.862	7	-165.127	1	-151.272	3	-.169	3	-.038	1	-.043	2
107		4	max	192.408	1	188.757	3	59.259	3	.171	3	.188	4	.142	3
108			min	-159.425	2	-170.686	4	-61.492	4	-.192	4	-.198	3	-.145	4
109		5	max	0	11	.004	4	.009	3	0	11	0	11	0	11
110			min	0	1	-.008	2	-.002	1	0	1	0	1	0	1
111	M13	1	max	0	11	.008	1	0	11	0	11	0	11	0	11
112			min	0	1	-.002	4	-.008	3	0	1	0	1	0	1



9bj YcdYA Ya Vyf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
113		2	max	93.725	3	105.786	3	87.99	1	.129	3	.137	1	.087	4
114			min	-115.609	4	-150.269	4	-84.614	2	-.117	4	-.137	2	-.061	3
115		3	max	179.961	3	187.648	1	144.457	2	.104	2	.059	3	.046	4
116			min	-256.098	4	-140.092	2	-153.389	1	-.107	1	-.057	4	-.052	3
117		4	max	184.921	2	198.866	1	76.84	1	.188	4	.178	2	.11	1
118			min	-151.207	1	-180.693	2	-78.734	2	-.209	3	-.189	1	-.113	2
119		5	max	0	11	0	9	.006	1	0	11	0	11	0	11
120			min	0	1	-.009	4	-.008	4	0	1	0	1	0	1
121	M14	1	max	50.898	2	222.233	1	139.689	3	.004	1	.062	2	.203	1
122			min	-47.552	1	-253.383	2	-147.722	4	-.005	2	-.054	1	-.175	2
123		2	max	48.63	2	223.344	1	135.761	3	.004	1	.023	2	.139	1
124			min	-45.284	1	-252.272	2	-143.794	4	-.005	2	-.023	1	-.106	2
125		3	max	46.362	2	224.456	1	131.832	3	.004	1	.01	3	.089	3
126			min	-43.015	1	-251.161	2	-139.865	4	-.005	2	-.018	4	-.052	4
127		4	max	45.883	4	225.567	1	127.903	3	.004	1	.039	1	.151	3
128			min	-41.574	3	-250.049	2	-135.936	4	-.005	2	-.054	2	-.11	4
129		5	max	48.151	4	226.679	1	123.975	3	.004	1	.071	1	.212	3
130			min	-43.842	3	-248.938	2	-132.007	4	-.005	2	-.091	2	-.168	4
131	M15	1	max	79.274	3	244.416	2	143.945	1	.005	2	.057	1	.164	4
132			min	-74.61	4	-275.22	1	-151.611	2	-.006	1	-.048	2	-.137	3
133		2	max	77.006	3	245.527	2	142.635	1	.005	2	.029	1	.135	4
134			min	-72.342	4	-274.109	1	-150.302	2	-.006	1	-.028	2	-.103	3
135		3	max	74.738	3	246.639	2	141.326	1	.005	2	.016	4	.104	4
136			min	-70.074	4	-272.997	1	-148.992	2	-.006	1	-.023	3	-.068	3
137		4	max	72.47	3	247.75	2	140.016	1	.005	2	.029	4	.133	1
138			min	-67.806	4	-271.886	1	-147.683	2	-.006	1	-.044	3	-.092	2
139		5	max	70.201	3	248.861	2	138.707	1	.005	2	.043	4	.221	1
140			min	-65.537	4	-270.774	1	-146.373	2	-.006	1	-.063	3	-.177	2
141	M16	1	max	71.521	1	297.833	3	105.943	4	.006	3	.086	4	.216	3
142			min	-66.495	2	-328.885	4	-113.306	3	-.006	4	-.078	3	-.187	4
143		2	max	71.521	1	298.945	3	105.943	4	.006	3	.038	4	.128	3
144			min	-66.495	2	-327.774	4	-113.306	3	-.006	4	-.038	3	-.094	4
145		3	max	71.521	1	300.056	3	105.943	4	.006	3	.014	2	.105	2
146			min	-66.495	2	-326.663	4	-113.306	3	-.006	4	-.022	1	-.069	1
147		4	max	71.521	1	301.167	3	105.943	4	.006	3	.042	3	.118	2
148			min	-66.495	2	-325.551	4	-113.306	3	-.006	4	-.056	4	-.077	1
149		5	max	71.521	1	302.279	3	105.943	4	.006	3	.082	3	.182	4
150			min	-66.495	2	-324.44	4	-113.306	3	-.006	4	-.103	4	-.138	3
151	M20	1	max	25.772	1	190.711	1	179.625	4	.351	3	.041	2	.061	1
152			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.071	1	-.081	2
153		2	max	25.772	1	190.711	1	179.625	4	.351	3	.048	2	.05	1
154			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.079	1	-.07	2
155		3	max	25.772	1	190.711	1	179.625	4	.351	3	.055	2	.038	1
156			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.088	1	-.066	10
157		4	max	25.772	1	190.711	1	179.625	4	.351	3	.061	2	.026	1
158			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.096	1	-.077	10
159		5	max	25.772	1	190.711	1	179.625	4	.351	3	.068	2	.014	1
160			min	-29.449	2	-178.952	2	-204.313	3	-.346	4	-.105	1	-.088	10
161	M21	1	max	294.006	1	-34.481	4	638.527	3	.271	3	.046	4	.007	2
162			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.197	7	-.006	1
163		2	max	294.006	1	-34.481	4	638.527	3	.271	3	.019	4	.036	10
164			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.169	7	0	1



9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
165		3	max	294.006	1	-34.481	4	638.527	3	.271	3	.006	1	.076	10
166			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.141	7	.005	1
167		4	max	294.006	1	-34.481	4	638.527	3	.271	3	.016	1	.116	10
168			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.119	6	.009	4
169		5	max	294.006	1	-34.481	4	638.527	3	.271	3	.025	1	.155	10
170			min	-388.29	2	-636.45	10	-432.088	4	-.201	4	-.101	6	.011	4
171	M22	1	max	328.247	1	85.821	1	164.541	6	.576	3	.083	3	.531	2
172			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.092	4	-.548	1
173		2	max	328.247	1	85.821	1	164.541	6	.576	3	.089	3	.539	2
174			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.091	4	-.554	1
175		3	max	328.247	1	85.821	1	164.541	6	.576	3	.095	3	.546	2
176			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.09	4	-.559	1
177		4	max	328.247	1	85.821	1	164.541	6	.576	3	.101	3	.553	2
178			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.089	4	-.565	1
179		5	max	328.247	1	85.821	1	164.541	6	.576	3	.108	3	.56	2
180			min	-332.703	2	-115.959	2	14.447	4	-.698	4	-.088	4	-.57	1
181	M23	1	max	525.589	1	852.793	6	473.452	2	.16	1	.223	1	.002	1
182			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.24	2	-.003	2
183		2	max	525.589	1	852.793	6	473.452	2	.16	1	.205	1	-.01	1
184			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.211	2	-.054	6
185		3	max	525.589	1	852.793	6	473.452	2	.16	1	.187	1	-.022	1
186			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.181	2	-.107	6
187		4	max	525.589	1	852.793	6	473.452	2	.16	1	.169	1	-.034	1
188			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.152	2	-.16	6
189		5	max	525.589	1	852.793	6	473.452	2	.16	1	.151	1	-.046	1
190			min	-726.921	2	192.185	1	-287.239	1	-.898	6	-.122	2	-.214	6
191	M24	1	max	75.256	3	-8.225	3	162.965	4	.399	3	.118	1	.111	3
192			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.127	2	-.129	4
193		2	max	75.256	3	-8.225	3	162.965	4	.399	3	.12	1	.112	3
194			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.133	2	-.121	4
195		3	max	75.256	3	-8.225	3	162.965	4	.399	3	.122	1	.112	3
196			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.139	2	-.112	4
197		4	max	75.256	3	-8.225	3	162.965	4	.399	3	.124	1	.113	3
198			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.144	2	-.104	4
199		5	max	75.256	3	-8.225	3	162.965	4	.399	3	.126	1	.113	3
200			min	-59.235	4	-219.481	8	-218.66	3	-.368	4	-.15	2	-.096	4
201	M25	1	max	505.825	1	541.75	6	473.284	3	.622	6	.286	2	.003	3
202			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.269	1	-.004	4
203		2	max	505.825	1	541.75	6	473.284	3	.622	6	.269	2	-.006	3
204			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.255	1	-.035	8
205		3	max	505.825	1	541.75	6	473.284	3	.622	6	.252	2	-.015	3
206			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.242	1	-.069	8
207		4	max	505.825	1	541.75	6	473.284	3	.622	6	.236	2	-.024	3
208			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.228	1	-.102	8
209		5	max	505.825	1	541.75	6	473.284	3	.622	6	.219	2	-.033	3
210			min	-676.331	2	133.599	1	-517.179	4	-.211	1	-.214	1	-.136	8
211	M26	1	max	7.744	3	180.007	1	150.182	4	.349	3	.095	4	.041	2
212			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.059	3	-.046	9
213		2	max	7.744	3	180.007	1	150.182	4	.349	3	.104	4	.053	2
214			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.069	3	-.056	9
215		3	max	7.744	3	180.007	1	150.182	4	.349	3	.114	4	.065	2
216			min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.079	3	-.066	9



9bj YcdYA Ya VYf GYWjcb: cfWkg fT cbhpi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
217	4	max	7.744	3	180.007	1	150.182	4	.349	3	.123	4	.077	2	
218		min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.09	3	-.076	9	
219	5	max	7.744	3	180.007	1	150.182	4	.349	3	.133	4	.09	2	
220		min	-15.705	9	-194.606	2	-167.029	3	-.286	4	-.1	3	-.086	9	
221	M27	1	max	213.806	1	-3.957	3	402.464	3	.206	2	.169	8	.005	2
222		min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.028	3	-.003	1	
223	2	max	213.806	1	-3.957	3	402.464	3	.206	2	.139	8	.037	9	
224		min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.002	3	.002	1	
225	3	max	213.806	1	-3.957	3	402.464	3	.206	2	.109	5	.076	9	
226		min	-252.716	2	-629.489	9	-639.275	4	-.172	1	.006	2	.003	3	
227	4	max	213.806	1	-3.957	3	402.464	3	.206	2	.09	5	.115	9	
228		min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.004	2	.003	3	
229	5	max	213.806	1	-3.957	3	402.464	3	.206	2	.073	3	.155	9	
230		min	-252.716	2	-629.489	9	-639.275	4	-.172	1	-.028	4	.004	3	
231	MP1A	1	max	0	11	.013	4	.033	1	0	11	0	11	0	11
232		min	0	1	-.016	7	-.033	2	0	1	0	1	0	1	1
233	2	max	26.015	8	19.781	4	19.801	1	0	11	.02	1	.02	3	3
234		min	8.33	1	-19.782	3	-19.802	2	0	1	-.02	2	-.02	4	4
235	3	max	223.393	2	240.381	4	69.026	1	.105	1	.043	1	.121	3	3
236		min	-146.245	1	-265.605	3	-67.84	2	-.068	2	-.063	2	-.078	4	4
237	4	max	571.973	10	320.742	7	188.436	2	.154	5	.203	10	-.014	1	1
238		min	3.532	1	-129.187	4	-91.92	1	.027	2	-.056	2	-.252	6	6
239	5	max	0	11	.014	7	.017	6	0	11	0	11	0	11	11
240		min	0	1	-.005	4	-.01	1	0	1	0	1	0	1	1
241	MP2A	1	max	0	11	.594	4	2.052	1	0	11	0	11	0	11
242		min	0	1	-.608	3	-1.982	2	0	1	0	1	0	1	1
243	2	max	506.475	8	252.138	4	493.134	1	0	11	.706	1	.344	3	3
244		min	193.61	1	-252.151	3	-493.064	2	0	1	-.706	2	-.344	4	4
245	3	max	595.08	6	286.747	4	183.864	1	.088	4	.511	1	.105	3	3
246		min	110.599	1	-174.523	3	-181.511	2	-.108	3	-.516	2	-.198	4	4
247	4	max	46.201	10	564.956	2	511.155	2	.019	2	.37	1	.142	3	3
248		min	-145.177	6	-270.448	1	-305.417	1	-.078	10	-.338	2	-.054	4	4
249	5	max	0	11	0	10	.173	1	0	11	0	11	0	11	11
250		min	0	1	-.151	8	-.369	6	0	1	0	1	0	1	1
251	MP3A	1	max	0	11	.013	4	.057	5	0	11	0	11	0	11
252		min	0	1	-.016	7	-.045	2	0	1	0	1	0	1	1
253	2	max	26.015	8	19.782	4	19.817	1	0	11	.02	1	.02	3	3
254		min	8.33	1	-19.782	3	-19.813	2	0	1	-.02	2	-.02	4	4
255	3	max	410.151	8	253.523	4	181.64	1	.15	2	.245	1	.169	3	3
256		min	86.883	3	-308.855	3	-197.975	2	-.126	1	-.259	2	-.094	4	4
257	4	max	107.495	9	253.51	1	342.386	2	.088	1	.201	1	-.056	9	9
258		min	-20.528	2	-352.619	2	-187.638	1	-.069	2	-.19	2	-.187	8	8
259	5	max	0	11	.016	7	.005	3	0	11	0	11	0	11	11
260		min	0	1	-.005	4	-.029	5	0	1	0	1	0	1	1
261	MP4A	1	max	0	11	.061	8	.076	5	0	11	0	11	0	11
262		min	0	1	-.028	3	-.059	2	0	1	0	1	0	1	1
263	2	max	61.566	8	30.528	4	52.292	1	0	11	.052	1	.031	3	3
264		min	18.89	1	-30.521	3	-52.289	2	0	1	-.052	2	-.031	4	4
265	3	max	223.475	2	207.002	4	73.669	1	.1	3	.085	1	.088	3	3
266		min	-151.156	1	-223.948	3	-78.819	2	-.133	4	-.091	2	-.119	4	4
267	4	max	507.076	9	155.53	3	150.391	2	.038	2	.17	9	.294	6	6
268		min	-66.86	1	-432.286	8	-115.829	1	-.127	5	-.017	2	-.019	1	1



9bj YcdYA Ya VYf GYVJcb: cfWVg fT cbhpi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
269	5	max	0	11	.004	3	.013	6	0	11	0	11	0	11	
270		min	0	1	-.02	8	-.01	1	0	1	0	1	0	1	
271	M32	1	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.266	2	.444	3
272			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.22	1	-.434	4
273		2	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.199	2	.333	3
274			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.165	1	-.325	4
275		3	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.133	2	.222	3
276			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.11	1	-.217	4
277		4	max	1788.036	6	2662.674	3	1319.219	1	.304	3	.066	2	.111	3
278			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	-.055	1	-.108	4
279		5	max	1788.036	6	2662.674	3	1319.219	1	.304	3	0	1	0	4
280			min	327.473	1	-2603.991	4	-1595.81	2	-.166	4	0	5	0	3
281	M33	1	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.401	2	.326	3
282			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.415	1	-.371	4
283		2	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.301	2	.245	3
284			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.311	1	-.279	4
285		3	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.2	2	.163	3
286			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.208	1	-.186	4
287		4	max	1759.354	8	1960.033	3	2496.166	1	.244	6	.1	2	.082	3
288			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	-.104	1	-.093	4
289		5	max	1759.354	8	1960.033	3	2496.166	1	.244	6	0	4	0	4
290			min	442.573	3	-2232.924	4	-2409.826	2	-.103	3	0	3	0	6
291	M34	1	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.43	2	.342	3
292			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.463	1	-.307	4
293		2	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.323	2	.257	3
294			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.347	1	-.23	4
295		3	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.215	2	.171	3
296			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.231	1	-.154	4
297		4	max	1772.141	7	2056.967	3	2780.575	1	.271	1	.108	2	.086	3
298			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	-.116	1	-.077	4
299		5	max	1772.141	7	2056.967	3	2780.575	1	.271	1	0	3	0	2
300			min	373.56	4	-1847.081	4	-2587.555	2	-.136	2	0	6	0	4
301	M35	1	max	3.308	2	157.092	2	219.507	3	.476	4	.031	1	.038	2
302			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.061	2	-.058	1
303		2	max	3.308	2	157.092	2	219.507	3	.476	4	.025	3	.028	2
304			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.057	4	-.048	1
305		3	max	3.308	2	157.092	2	219.507	3	.476	4	.039	3	.019	2
306			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.072	4	-.039	1
307		4	max	3.308	2	157.092	2	219.507	3	.476	4	.053	3	.009	2
308			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.088	4	-.037	8
309		5	max	3.308	2	157.092	2	219.507	3	.476	4	.067	3	-.001	2
310			min	-6.713	9	-145.695	1	-245.5	4	-.471	3	-.103	4	-.04	8
311	M36	1	max	266.237	4	-45.427	2	642.931	1	.272	4	.068	2	.007	3
312			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.2	5	-.006	4
313		2	max	266.237	4	-45.427	2	642.931	1	.272	4	.04	2	.016	7
314			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.172	5	0	4
315		3	max	266.237	4	-45.427	2	642.931	1	.272	4	.013	2	.031	5
316			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.144	5	.005	2
317		4	max	266.237	4	-45.427	2	642.931	1	.272	4	-.013	4	.046	5
318			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.117	5	.008	2
319		5	max	266.237	4	-45.427	2	642.931	1	.272	4	.019	4	.061	5
320			min	-359.538	3	-240.332	5	-436.355	2	-.201	3	-.101	7	.011	2



9bj YcdYA Ya Vyf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
321	M37	1	max	259.294	4	63.711	4	158.686	8	.554	1	.106	1	.453	3
322			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.115	2	-.47	4
323		2	max	259.294	4	63.711	4	158.686	8	.554	1	.114	1	.459	3
324			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.116	2	-.474	4
325		3	max	259.294	4	63.711	4	158.686	8	.554	1	.123	1	.465	3
326			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.118	2	-.478	4
327		4	max	259.294	4	63.711	4	158.686	8	.554	1	.131	1	.47	3
328			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.119	2	-.482	4
329		5	max	259.294	4	63.711	4	158.686	8	.554	1	.139	1	.476	3
330			min	-263.355	3	-90.134	3	-41.156	3	-.675	2	-.12	2	-.486	4
331	M38	1	max	439.958	4	841.827	7	441.342	1	.247	4	.209	2	.002	2
332			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.226	1	-.002	1
333		2	max	439.958	4	841.827	7	441.342	1	.247	4	.193	2	-.014	4
334			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.198	1	-.053	7
335		3	max	439.958	4	841.827	7	441.342	1	.247	4	.176	2	-.028	4
336			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.171	1	-.105	7
337		4	max	439.958	4	841.827	7	441.342	1	.247	4	.16	2	-.043	4
338			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.143	1	-.158	7
339		5	max	439.958	4	841.827	7	441.342	1	.247	4	.144	2	-.057	4
340			min	-641.449	3	232.115	4	-258.856	2	-.923	7	-.116	1	-.211	7
341	M39	1	max	98.82	1	-4.54	4	174.86	2	.409	1	.15	4	.136	1
342			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.159	3	-.154	2
343		2	max	98.82	1	-4.54	4	174.86	2	.409	1	.144	4	.138	1
344			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.157	3	-.147	2
345		3	max	98.82	1	-4.54	4	174.86	2	.409	1	.138	4	.14	1
346			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.155	3	-.14	2
347		4	max	98.82	1	-4.54	4	174.86	2	.409	1	.132	4	.141	1
348			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.152	3	-.133	2
349		5	max	98.82	1	-4.54	4	174.86	2	.409	1	.127	4	.143	1
350			min	-82.638	2	-221.385	7	-230.408	1	-.377	2	-.15	3	-.126	2
351	M40	1	max	371.899	4	544.26	7	536.823	4	.63	5	.32	3	.004	1
352			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.304	4	-.004	2
353		2	max	371.899	4	544.26	7	536.823	4	.63	5	.284	3	-.007	1
354			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.27	4	-.035	6
355		3	max	371.899	4	544.26	7	536.823	4	.63	5	.248	3	-.016	4
356			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.237	4	-.069	7
357		4	max	371.899	4	544.26	7	536.823	4	.63	5	.211	3	-.024	4
358			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.203	4	-.103	7
359		5	max	371.899	4	544.26	7	536.823	4	.63	5	.175	3	-.032	4
360			min	-541.289	3	123.809	4	-580.121	3	-.244	2	-.17	4	-.137	7
361	M41	1	max	30.416	1	147.974	4	211.275	2	.467	1	.079	2	.035	1
362			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.043	1	-.036	2
363		2	max	30.416	1	147.974	4	211.275	2	.467	1	.092	2	.043	1
364			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.057	1	-.042	2
365		3	max	30.416	1	147.974	4	211.275	2	.467	1	.106	2	.05	1
366			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.071	1	-.049	2
367		4	max	30.416	1	147.974	4	211.275	2	.467	1	.119	2	.058	1
368			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.085	1	-.056	2
369		5	max	30.416	1	147.974	4	211.275	2	.467	1	.132	2	.065	1
370			min	-26.738	2	-163.306	3	-227.602	1	-.404	2	-.1	1	-.062	2
371	M42	1	max	172.09	2	-39.588	1	347.6	1	.245	10	.173	6	.004	1
372			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.049	1	-.002	2



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
373		2	max	172.09	2	-39.588	1	347.6	1	.245	10	.144	6	.017	7
374			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.027	1	.002	4
375		3	max	172.09	2	-39.588	1	347.6	1	.245	10	.115	6	.03	7
376			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.006	1	.005	4
377		4	max	172.09	2	-39.588	1	347.6	1	.245	10	.086	6	.043	7
378			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	.008	3	.008	4
379		5	max	172.09	2	-39.588	1	347.6	1	.245	10	.071	8	.056	7
380			min	-209.729	1	-209.069	6	-583.897	2	-.183	2	-.02	3	.011	4
381	MP1C	1	max	0	11	.024	4	.023	5	0	11	0	11	0	11
382			min	0	1	-.024	3	-.022	2	0	1	0	1	0	1
383		2	max	26.015	8	19.793	4	19.79	1	0	11	.02	1	.02	3
384			min	8.33	1	-19.792	3	-19.79	2	0	1	-.02	2	-.02	4
385		3	max	190.34	1	209.664	4	212.458	4	.103	4	.139	1	.054	3
386			min	-112.445	2	-195.415	3	-191.349	3	-.067	3	-.091	2	-.059	4
387		4	max	549.163	5	153.578	3	187.637	2	.155	8	-.048	2	.104	3
388			min	-2.925	2	-161.545	4	-394.435	1	.023	3	-.286	5	-.121	4
389		5	max	0	11	.011	7	.007	2	0	11	0	11	0	11
390			min	0	1	-.009	4	-.018	5	0	1	0	1	0	1
391	MP2C	1	max	0	11	1.719	4	.912	1	0	11	0	11	0	11
392			min	0	1	-1.651	3	-.935	2	0	1	0	1	0	1
393		2	max	506.475	8	470.527	4	293.571	1	0	11	.415	1	.653	3
394			min	193.61	1	-470.46	3	-293.593	2	0	1	-.415	2	-.653	4
395		3	max	588.825	7	188.323	4	157.18	1	.12	2	.163	1	.455	3
396			min	134.476	4	-242.337	3	-255.682	2	-.139	1	-.241	2	-.404	4
397		4	max	-24.721	1	123.583	1	305.646	4	0	3	.168	1	.253	3
398			min	-141.907	6	-93.32	2	-664.636	3	-.071	8	-.107	2	-.325	4
399		5	max	0	11	.102	4	.258	7	0	11	0	11	0	11
400			min	0	1	-.213	7	-.01	4	0	1	0	1	0	1
401	MP3C	1	max	0	11	.047	8	.027	1	0	11	0	11	0	11
402			min	0	1	-.033	3	-.029	6	0	1	0	1	0	1
403		2	max	26.015	8	19.804	4	19.795	1	0	11	.02	1	.02	3
404			min	8.33	1	-19.801	3	-19.796	2	0	1	-.02	2	-.02	4
405		3	max	412.112	7	187.588	4	356.259	1	.15	3	.225	1	.181	3
406			min	83.006	4	-174.054	3	-300.525	2	-.127	4	-.154	2	-.207	4
407		4	max	83.027	10	465.054	3	206.685	3	.061	2	.011	1	.165	1
408			min	5.305	1	-283.003	4	-199.51	4	-.044	1	-.185	6	-.106	2
409		5	max	0	11	.005	1	.011	2	0	11	0	11	0	11
410			min	0	1	-.03	6	-.011	1	0	1	0	1	0	1
411	MP4C	1	max	0	11	.058	4	.036	1	0	11	0	11	0	11
412			min	0	1	-.057	3	-.071	6	0	1	0	1	0	1
413		2	max	61.566	8	46.853	4	35.963	1	0	11	.036	1	.047	3
414			min	18.89	1	-46.853	3	-35.971	2	0	1	-.036	2	-.047	4
415		3	max	191.776	3	87.172	1	273.802	1	.1	1	.103	1	.118	3
416			min	-119.524	4	-82.698	2	-256.785	2	-.132	2	-.127	2	-.097	4
417		4	max	395.952	7	324.195	3	371.88	10	.062	1	.213	7	-.051	4
418			min	-63.523	4	-166.293	4	-112.335	1	-.14	2	-.048	4	-.211	7
419		5	max	0	11	.018	7	.018	6	0	11	0	11	0	11
420			min	0	1	-.008	4	-.006	1	0	1	0	1	0	1
421	M47	1	max	22.482	3	217.991	3	216.619	1	.448	2	.065	4	.075	3
422			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.095	3	-.094	4
423		2	max	22.482	3	217.991	3	216.619	1	.448	2	.062	4	.061	3
424			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.094	3	-.081	4



9bj YcdYA Ya VYf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
425		3	max	22.482	3	217.991	3	216.619	1	.448	2	.06	4	.047	3
426			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.093	3	-.068	4
427		4	max	22.482	3	217.991	3	216.619	1	.448	2	.057	4	.034	3
428			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.091	3	-.055	4
429		5	max	22.482	3	217.991	3	216.619	1	.448	2	.054	4	.02	3
430			min	-25.701	4	-207.282	4	-242.269	2	-.443	1	-.09	3	-.043	2
431	M48	1	max	236.22	3	-60.069	1	606.855	2	.304	2	.071	3	.004	1
432			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.197	8	-.004	2
433		2	max	236.22	3	-60.069	1	606.855	2	.304	2	.055	3	.016	8
434			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.172	8	.001	3
435		3	max	236.22	3	-60.069	1	606.855	2	.304	2	.038	3	.031	8
436			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.148	8	.006	3
437		4	max	236.22	3	-60.069	1	606.855	2	.304	2	.021	3	.045	8
438			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.123	8	.011	3
439		5	max	236.22	3	-60.069	1	606.855	2	.304	2	.004	3	.06	8
440			min	-331.746	4	-235.676	6	-399.34	1	-.234	1	-.099	5	.015	3
441	M49	1	max	270.191	3	71.687	3	200.782	4	.544	2	.097	4	.423	4
442			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.106	3	-.439	3
443		2	max	270.191	3	71.687	3	200.782	4	.544	2	.11	4	.429	4
444			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.112	3	-.443	3
445		3	max	270.191	3	71.687	3	200.782	4	.544	2	.122	4	.435	4
446			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.118	3	-.448	3
447		4	max	270.191	3	71.687	3	200.782	4	.544	2	.135	4	.441	4
448			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.123	3	-.452	3
449		5	max	270.191	3	71.687	3	200.782	4	.544	2	.148	4	.447	4
450			min	-273.962	4	-98.065	4	-89.261	3	-.666	1	-.129	3	-.457	3
451	M50	1	max	460.505	3	844.658	8	527.589	4	.148	2	.272	3	.003	3
452			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.289	4	-.003	4
453		2	max	460.505	3	844.658	8	527.589	4	.148	2	.251	3	-.012	3
454			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.256	4	-.053	8
455		3	max	460.505	3	844.658	8	527.589	4	.148	2	.229	3	-.026	3
456			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.223	4	-.106	8
457		4	max	460.505	3	844.658	8	527.589	4	.148	2	.208	3	-.04	3
458			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.19	4	-.159	8
459		5	max	460.505	3	844.658	8	527.589	4	.148	2	.186	3	-.054	3
460			min	-662.534	4	226.688	3	-343.532	3	-.903	5	-.157	4	-.212	8
461	M51	1	max	87.34	4	.991	2	145.41	3	.339	2	.123	2	.106	4
462			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.133	1	-.124	3
463		2	max	87.34	4	.991	2	145.41	3	.339	2	.112	2	.109	4
464			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.126	1	-.118	3
465		3	max	87.34	4	.991	2	145.41	3	.339	2	.102	2	.112	4
466			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.118	1	-.113	3
467		4	max	87.34	4	.991	2	145.41	3	.339	2	.091	2	.115	4
468			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.111	1	-.107	3
469		5	max	87.34	4	.991	2	145.41	3	.339	2	.085	3	.118	4
470			min	-71.081	3	-221.761	5	-201.4	4	-.308	1	-.109	4	-.101	3
471	M52	1	max	460.552	3	540.864	5	559.314	2	.688	4	.231	1	.003	4
472			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.215	2	-.004	3
473		2	max	460.552	3	540.864	5	559.314	2	.688	4	.194	1	-.007	2
474			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.18	2	-.035	5
475		3	max	460.552	3	540.864	5	559.314	2	.688	4	.163	4	-.016	2
476			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.152	3	-.069	5



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
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 Checked By: _____

9bj YcdYA Ya VYf GYVjcb: cfWVg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
477		4	max	460.552	3	540.864	5	559.314	2	.688	4	.173	4	-.025	2
478			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.164	3	-.102	5
479		5	max	460.552	3	540.864	5	559.314	2	.688	4	.182	4	-.034	2
480			min	-630.671	4	139.603	2	-601.958	1	-.323	3	-.176	3	-.136	5
481	M53	1	max	25.646	4	178.005	3	224.078	3	.489	4	.058	7	.053	4
482			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.012	2	-.053	3
483		2	max	25.646	4	178.005	3	224.078	3	.489	4	.061	3	.065	4
484			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.025	4	-.065	3
485		3	max	25.646	4	178.005	3	224.078	3	.489	4	.075	3	.077	4
486			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.04	4	-.076	3
487		4	max	25.646	4	178.005	3	224.078	3	.489	4	.089	3	.089	4
488			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.055	4	-.087	3
489		5	max	25.646	4	178.005	3	224.078	3	.489	4	.103	3	.101	4
490			min	-23.177	3	-192.552	4	-240.643	4	-.425	3	-.07	4	-.098	3
491	M54	1	max	247.352	3	-16.094	2	349.271	2	.271	4	.168	7	.005	4
492			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.042	4	-.003	3
493		2	max	247.352	3	-16.094	2	349.271	2	.271	4	.142	7	.017	5
494			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.031	4	.002	2
495		3	max	247.352	3	-16.094	2	349.271	2	.271	4	.117	7	.03	5
496			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.02	4	.003	2
497		4	max	247.352	3	-16.094	2	349.271	2	.271	4	.091	7	.044	5
498			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.008	4	.004	2
499		5	max	247.352	3	-16.094	2	349.271	2	.271	4	.073	2	.057	5
500			min	-284.226	4	-215.67	5	-585.798	1	-.239	3	-.027	1	.005	2
501	MP1B	1	max	0	11	.033	4	.013	1	0	11	0	11	0	11
502			min	0	1	-.033	3	-.016	6	0	1	0	1	0	1
503		2	max	26.015	8	19.802	4	19.781	1	0	11	.02	1	.02	3
504			min	8.33	1	-19.801	3	-19.782	2	0	1	-.02	2	-.02	4
505		3	max	251.778	4	109.278	2	263.378	1	.09	3	.058	1	.077	3
506			min	-173.474	3	-98.15	1	-286.235	2	-.054	4	-.086	2	-.116	4
507		4	max	560.71	8	148.255	3	330.411	9	.154	6	.176	9	.249	6
508			min	-34.172	3	-324.833	4	-107.788	1	.02	4	-.065	3	.065	1
509		5	max	0	11	.009	3	.01	6	0	11	0	11	0	11
510			min	0	1	-.02	8	-.006	1	0	1	0	1	0	1
511	MP2B	1	max	0	11	1.706	4	.863	1	0	11	0	11	0	11
512			min	0	1	-1.759	3	-.91	2	0	1	0	1	0	1
513		2	max	506.475	8	470.515	4	293.521	1	0	11	.415	1	.653	3
514			min	193.61	1	-470.568	3	-293.569	2	0	1	-.415	2	-.653	4
515		3	max	591.479	8	153.633	4	273.73	1	.129	3	.262	1	.423	3
516			min	126.304	3	-211.584	3	-178.086	2	-.148	4	-.179	2	-.381	4
517		4	max	26.728	9	307.327	3	242.094	8	.01	4	.116	1	.245	3
518			min	-142.935	6	-632.474	4	-14.344	2	-.072	7	-.208	2	-.262	4
519		5	max	0	11	.35	8	.042	6	0	11	0	11	0	11
520			min	0	1	-.088	3	-.035	3	0	1	0	1	0	1
521	MP3B	1	max	0	11	.044	4	.018	4	0	11	0	11	0	11
522			min	0	1	-.051	7	-.028	6	0	1	0	1	0	1
523		2	max	26.015	8	19.812	4	19.784	1	0	11	.02	1	.02	3
524			min	8.33	1	-19.815	3	-19.787	2	0	1	-.02	2	-.02	4
525		3	max	412.448	5	317.565	4	202.696	1	.109	4	.098	1	.238	3
526			min	77.389	2	-276.033	3	-242.699	2	-.085	3	-.157	2	-.287	4
527		4	max	53.944	3	102.423	3	215.18	2	.091	3	.178	8	.211	3
528			min	-16.333	4	-185.817	4	-376.944	1	-.073	4	-.061	3	-.131	4



9bj YcdYA Ya VYf GYVJcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
529	5	max	0	11	.024	7	.024	6	0	11	0	11	0	11	
530		min	0	1	-.01	4	-.002	1	0	1	0	1	0	1	
531	MP4B	1	max	0	.053	4	.061	5	0	11	0	11	0	11	
532			min	0	-.081	7	-.04	2	0	1	0	1	0	1	
533		2	max	61.566	8	46.849	4	35.972	1	0	11	.036	1	.047	3
534			min	18.89	1	-46.855	3	-35.968	2	0	1	-.036	2	-.047	4
535		3	max	221.177	4	216.079	4	182.643	3	.07	4	.129	1	.12	3
536			min	-149.385	3	-203.266	3	-195.388	4	-.103	3	-.099	2	-.11	4
537		4	max	388.286	8	198.497	3	186.927	2	.067	4	-.038	3	.059	3
538			min	-45.555	3	-99.957	4	-424.41	1	-.146	3	-.285	8	-.099	4
539		5	max	0	.014	7	.005	2	0	11	0	11	0	11	
540			min	0	-.01	4	-.02	5	0	1	0	1	0	1	
541	M59	1	max	170.105	2	580.36	10	109.627	4	-.01	4	.225	7	.077	2
542			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.013	4	-.124	1
543		2	max	170.105	2	580.36	10	109.627	4	-.01	4	.205	7	.053	2
544			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.02	4	-.125	1
545		3	max	170.105	2	580.36	10	109.627	4	-.01	4	.186	7	.028	2
546			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.027	4	-.149	10
547		4	max	170.105	2	580.36	10	109.627	4	-.01	4	.168	5	.004	2
548			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.034	4	-.185	10
549		5	max	170.105	2	580.36	10	109.627	4	-.01	4	.154	5	-.02	2
550			min	-72.163	1	12.072	1	-311.437	7	-.349	6	.027	2	-.221	10
551	M60	1	max	289.089	7	307.591	5	270.79	1	.157	1	.161	2	.26	1
552			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.135	1	-.302	2
553		2	max	289.089	7	307.591	5	270.79	1	.157	1	.125	2	.252	1
554			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.119	1	-.309	2
555		3	max	289.089	7	307.591	5	270.79	1	.157	1	.09	2	.243	1
556			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.102	1	-.315	2
557		4	max	289.089	7	307.591	5	270.79	1	.157	1	.055	2	.235	1
558			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.085	1	-.321	2
559		5	max	289.089	7	307.591	5	270.79	1	.157	1	.019	2	.227	1
560			min	43.549	2	80.923	9	-565.103	2	-.167	2	-.078	10	-.328	2
561	M61	1	max	322.496	2	115.553	9	353.261	2	.039	2	.151	1	.061	3
562			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.158	2	-.111	4
563		2	max	322.496	2	115.553	9	353.261	2	.039	2	.135	1	.06	2
564			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.136	2	-.113	1
565		3	max	322.496	2	115.553	9	353.261	2	.039	2	.12	1	.061	2
566			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.114	2	-.117	1
567		4	max	322.496	2	115.553	9	353.261	2	.039	2	.104	1	.062	2
568			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.092	2	-.121	1
569		5	max	322.496	2	115.553	9	353.261	2	.039	2	.088	1	.062	2
570			min	-167.968	1	-11.871	2	-253.32	1	-.161	5	-.069	2	-.126	1
571	M62	1	max	131.676	2	515.426	9	423.449	8	.43	6	.061	3	.036	2
572			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.227	8	-.05	9
573		2	max	131.676	2	515.426	9	423.449	8	.43	6	.053	3	.016	2
574			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.2	8	-.082	9
575		3	max	131.676	2	515.426	9	423.449	8	.43	6	.044	3	-.005	2
576			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.174	8	-.114	9
577		4	max	131.676	2	515.426	9	423.449	8	.43	6	.036	3	-.019	4
578			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.147	8	-.147	9
579		5	max	131.676	2	515.426	9	423.449	8	.43	6	.038	2	-.029	1
580			min	-95.821	1	-58.24	1	-135.937	3	-.035	1	-.127	5	-.179	9



9bj YcdYA Ya Vyf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial [lb]	LC	y Shear [lb]	LC	z Shear [lb]	LC	Torque [k-...]	LC	y-y Mome...	LC	z-z Mome...	LC	
581	M63	1	max	0	11	0	11	0	11	0	11	0	11	0	11
582			min	0	1	0	1	0	1	0	1	0	1	0	1
583		2	max	-107.517	4	189.983	5	259.071	6	.07	6	-.018	1	.274	6
584			min	-639.565	7	52.856	2	-45.36	1	-.015	1	-.328	6	.004	1
585		3	max	106.642	2	82.047	6	88.214	1	.118	2	.151	2	-.004	4
586			min	-558.189	5	-5.721	9	-81.961	2	-.124	1	-.087	1	-.063	7
587		4	max	-195.003	1	-64.772	2	-46.929	4	.136	1	.027	1	.279	6
588			min	-897.739	6	-277.094	5	-279.634	7	-.184	2	-.414	6	.044	4
589		5	max	0	11	0	11	0	11	0	11	0	11	0	11
590			min	0	1	0	1	0	1	0	1	0	1	0	1
591	M68	1	max	31.494	8	218.768	4	339.997	4	0	11	.073	3	.126	3
592			min	9.895	3	-217.985	3	-344.771	3	0	1	-.074	4	-.128	4
593		2	max	31.494	8	218.768	4	339.997	4	0	11	.07	2	.138	3
594			min	9.895	3	-217.985	3	-344.771	3	0	1	-.071	1	-.14	4
595		3	max	31.494	8	218.768	4	339.997	4	0	11	.078	2	.151	3
596			min	9.895	3	-217.985	3	-344.771	3	0	1	-.079	1	-.153	4
597		4	max	31.494	8	218.768	4	339.997	4	0	11	.086	2	.164	3
598			min	9.895	3	-217.985	3	-344.771	3	0	1	-.087	1	-.165	4
599		5	max	31.494	8	218.768	4	339.997	4	0	11	.094	2	.176	3
600			min	9.895	3	-217.985	3	-344.771	3	0	1	-.095	1	-.178	4
601	M69	1	max	31.509	7	176.463	3	344.708	3	0	11	.074	4	.128	4
602			min	9.979	2	-177.257	4	-339.928	4	0	1	-.073	3	-.126	3
603		2	max	31.509	7	176.463	3	344.708	3	0	11	.073	1	.138	4
604			min	9.979	2	-177.257	4	-339.928	4	0	1	-.071	2	-.136	3
605		3	max	31.509	7	176.463	3	344.708	3	0	11	.082	1	.148	4
606			min	9.979	2	-177.257	4	-339.928	4	0	1	-.081	2	-.146	3
607		4	max	31.509	7	176.463	3	344.708	3	0	11	.091	1	.158	4
608			min	9.979	2	-177.257	4	-339.928	4	0	1	-.09	2	-.156	3
609		5	max	31.509	7	176.463	3	344.708	3	0	11	.101	1	.169	4
610			min	9.979	2	-177.257	4	-339.928	4	0	1	-.099	2	-.167	3
611	M72	1	max	-64.905	3	84.464	9	39.946	4	.001	1	.137	5	.257	5
612			min	-440.198	8	-65.608	8	-35.666	3	-.002	2	.039	2	.078	2
613		2	max	-67.173	3	85.576	9	43.874	4	.001	1	.125	5	.271	5
614			min	-439.444	8	-61.715	8	-39.595	3	-.002	2	.033	2	.074	2
615		3	max	-69.441	3	86.687	9	47.803	4	.001	1	.114	5	.285	5
616			min	-438.689	8	-57.822	8	-43.524	3	-.002	2	.028	2	.066	3
617		4	max	-71.71	3	87.799	9	51.732	4	.001	1	.104	5	.299	8
618			min	-437.934	8	-53.929	8	-47.452	3	-.002	2	.023	2	.054	3
619		5	max	-73.978	3	88.91	9	55.661	4	.001	1	.122	9	.313	8
620			min	-437.18	8	-50.673	4	-51.381	3	-.002	2	.018	2	.04	3
621	M73	1	max	-45.934	1	28.166	1	57.698	2	.002	2	.137	6	.258	8
622			min	-441.064	6	-127.888	10	-53.749	1	-.002	1	.035	1	.064	3
623		2	max	-48.202	1	29.278	1	59.008	2	.002	2	.125	6	.274	6
624			min	-440.309	6	-126.777	10	-55.059	1	-.002	1	.03	1	.049	1
625		3	max	-50.471	1	30.389	1	60.318	2	.002	2	.114	8	.291	6
626			min	-439.555	6	-125.666	10	-56.368	1	-.002	1	.024	1	.031	1
627		4	max	-52.739	1	31.5	1	61.627	2	.002	2	.104	8	.307	6
628			min	-438.8	6	-124.554	10	-57.678	1	-.002	1	.019	1	.012	1
629		5	max	-55.007	1	32.612	1	62.937	2	.002	2	.094	8	.323	6
630			min	-438.045	6	-123.443	10	-58.987	1	-.002	1	.013	1	-.007	1
631	M74	1	max	-86.856	4	24.4	4	59.98	3	.002	3	.138	7	.259	6
632			min	-428.048	7	-72.712	7	-56.329	4	-.002	4	.035	4	.063	1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

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9bj YcdYA Ya VYf GYWjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
633	2	max	-86.856	4	25.511	4	59.98	3	.002	3	.126	7	.273	7	
634		min	-428.048	7	-70.23	3	-56.329	4	-.002	4	.028	4	.056	4	
635	3	max	-86.856	4	26.622	4	59.98	3	.002	3	.115	6	.29	7	
636		min	-428.048	7	-69.119	3	-56.329	4	-.002	4	.022	4	.038	4	
637	4	max	-86.856	4	27.734	4	59.98	3	.002	3	.104	6	.306	7	
638		min	-428.048	7	-68.008	3	-56.329	4	-.002	4	.015	4	.021	4	
639	5	max	-86.856	4	28.845	4	59.98	3	.002	3	.095	6	.322	7	
640		min	-428.048	7	-66.896	3	-56.329	4	-.002	4	.009	4	.002	4	
641	M75	1	max	0	11	.004	3	.002	2	0	11	0	11	0	11
642		min	0	1	0	5	-.002	8	0	1	0	1	0	1	1
643	2	max	-93.205	2	189.614	8	253.257	7	.067	7	-.029	4	.272	7	
644		min	-638.382	5	54.185	3	-34.325	4	-.005	4	-.32	7	.003	4	
645	3	max	214.69	3	84.456	5	67.586	4	.083	1	.149	3	.003	2	
646		min	-575.24	8	0	2	-61.775	3	-.089	2	-.084	4	-.065	5	
647	4	max	-122.772	4	-87.538	10	-22.811	2	.097	4	.027	4	.283	5	
648		min	-910.306	7	-273.163	6	-290.006	5	-.145	3	-.412	7	.009	2	
649	5	max	0	11	0	7	.003	3	0	11	0	11	0	11	
650		min	0	1	-.004	1	-.002	5	0	1	0	1	0	1	
651	M76	1	max	0	11	.004	1	.002	3	0	11	0	11	0	11
652		min	0	1	0	8	-.002	2	0	1	0	1	0	1	1
653	2	max	-101.257	3	187.052	6	254.984	8	.065	5	-.021	3	.267	8	
654		min	-639.016	8	57.117	9	-46.075	3	.007	2	-.323	8	.018	3	
655	3	max	142.604	1	86.929	8	75.033	3	.116	4	.141	4	.006	3	
656		min	-549.975	6	-11.793	3	-68.046	4	-.122	3	-.077	3	-.065	8	
657	4	max	-207.457	2	-63.972	4	-62.676	3	.084	3	-.004	3	.286	8	
658		min	-890.432	5	-278.653	7	-286.75	8	-.132	4	-.405	8	.009	3	
659	5	max	0	11	0	9	.003	1	0	11	0	11	0	11	
660		min	0	1	-.003	4	-.003	4	0	1	0	1	0	1	
661	M77	1	max	1286.301	6	39.991	8	34.04	1	0	3	0	11	0	11
662		min	139.224	1	-5.985	3	-34.04	2	0	4	0	1	0	1	
663	2	max	1294.531	6	19.995	8	17.02	1	0	3	.043	4	.03	1	
664		min	154.757	1	-2.992	3	-17.02	2	0	4	-.025	3	-.049	2	
665	3	max	1302.76	6	0	11	0	11	0	3	.057	4	.04	1	
666		min	170.29	1	0	1	0	1	0	4	-.033	3	-.065	2	
667	4	max	1310.989	6	2.992	3	17.02	2	0	3	.043	4	.03	1	
668		min	185.824	1	-19.995	8	-17.02	1	0	4	-.025	3	-.049	2	
669	5	max	1319.219	6	5.985	3	34.04	2	0	3	0	11	0	11	
670		min	201.357	1	-39.991	8	-34.04	1	0	4	0	1	0	1	
671	M78	1	max	1528.672	6	39.991	7	34.04	1	0	3	0	11	0	11
672		min	396.342	4	-5.985	4	-34.04	2	0	4	0	1	0	1	
673	2	max	1520.443	6	19.995	7	17.02	1	0	3	.043	3	.03	1	
674		min	379.599	4	-2.992	4	-17.02	2	0	4	-.025	4	-.049	2	
675	3	max	1512.214	6	0	11	0	11	0	3	.057	3	.04	1	
676		min	362.857	4	0	1	0	1	0	4	-.033	4	-.065	2	
677	4	max	1503.984	6	2.992	4	17.02	2	0	3	.043	3	.03	1	
678		min	346.114	4	-19.995	7	-17.02	1	0	4	-.025	4	-.049	2	
679	5	max	1495.755	6	5.985	4	34.04	2	0	3	0	11	0	11	
680		min	329.372	4	-39.991	7	-34.04	1	0	4	0	1	0	1	
681	M79	1	max	170.69	3	575.322	5	172.867	2	.058	2	.221	8	.047	3
682		min	-73.915	4	5.443	2	-355.7	1	-.363	5	.029	3	-.094	4	
683	2	max	170.69	3	575.322	5	172.867	2	.058	2	.204	8	.026	3	
684		min	-73.915	4	5.443	2	-355.7	1	-.363	5	.027	3	-.106	8	



9bj YcdYA Ya VYf GYVjcb: cfWkg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
685		3	max	170.69	3	575.322	5	172.867	2	.058	2	.188	8	.006	3
686			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.026	3	-.136	8
687		4	max	170.69	3	575.322	5	172.867	2	.058	2	.171	8	-.015	3
688			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.024	3	-.166	8
689		5	max	170.69	3	575.322	5	172.867	2	.058	2	.155	8	-.035	3
690			min	-73.915	4	5.443	2	-355.7	1	-.363	5	.023	3	-.201	5
691	M80	1	max	298.873	5	305.016	5	436.438	4	.181	2	.184	3	.167	4
692			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.158	4	-.209	3
693		2	max	298.873	5	305.016	5	436.438	4	.181	2	.138	3	.16	4
694			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.131	4	-.217	3
695		3	max	298.873	5	305.016	5	436.438	4	.181	2	.092	3	.152	4
696			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.104	4	-.224	3
697		4	max	298.873	5	305.016	5	436.438	4	.181	2	.047	3	.145	4
698			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.076	4	-.232	3
699		5	max	298.873	5	305.016	5	436.438	4	.181	2	0	3	.138	4
700			min	46.454	2	95.702	10	-732.183	3	-.191	1	-.071	8	-.239	3
701	M81	1	max	282.253	3	91.209	10	402.049	3	.068	3	.119	4	.08	1
702			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.126	3	-.129	2
703		2	max	282.253	3	91.209	10	402.049	3	.068	3	.1	4	.079	1
704			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.101	3	-.132	2
705		3	max	282.253	3	91.209	10	402.049	3	.068	3	.081	4	.078	1
706			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.075	3	-.134	2
707		4	max	282.253	3	91.209	10	402.049	3	.068	3	.062	4	.077	1
708			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.05	3	-.137	2
709		5	max	282.253	3	91.209	10	402.049	3	.068	3	.061	2	.076	1
710			min	-128.2	4	14.135	1	-304.313	4	-.174	4	-.044	1	-.139	2
711	M82	1	max	129.164	1	422.034	7	435.394	7	.439	7	.07	1	.038	10
712			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.228	6	-.041	4
713		2	max	129.164	1	422.034	7	435.394	7	.439	7	.068	1	.024	10
714			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.204	6	-.039	5
715		3	max	129.164	1	422.034	7	435.394	7	.439	7	.066	1	.011	10
716			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.179	6	-.063	5
717		4	max	129.164	1	422.034	7	435.394	7	.439	7	.064	1	-.002	10
718			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.158	2	-.087	5
719		5	max	129.164	1	422.034	7	435.394	7	.439	7	.062	1	-.008	2
720			min	-95.184	2	-55.042	4	-166.832	4	-.082	4	-.14	2	-.111	5
721	M83	1	max	165.687	4	586.945	8	140.73	3	.057	3	.227	6	.048	4
722			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.012	1	-.096	3
723		2	max	165.687	4	586.945	8	140.73	3	.057	3	.209	6	.022	4
724			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.014	1	-.106	7
725		3	max	165.687	4	586.945	8	140.73	3	.057	3	.19	6	-.005	4
726			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.016	1	-.135	7
727		4	max	165.687	4	586.945	8	140.73	3	.057	3	.172	6	-.03	9
728			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.019	1	-.163	7
729		5	max	165.687	4	586.945	8	140.73	3	.057	3	.154	6	-.047	9
730			min	-66.952	3	-25.681	3	-400.796	9	-.369	8	.02	4	-.194	6
731	M84	1	max	294.064	8	307.832	5	277.696	2	.244	3	.124	1	.206	3
732			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.098	2	-.248	4
733		2	max	294.064	8	307.832	5	277.696	2	.244	3	.088	1	.199	3
734			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.081	2	-.255	4
735		3	max	294.064	8	307.832	5	277.696	2	.244	3	.052	1	.192	3
736			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.063	2	-.263	4



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
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9bj YcdYA Ya Vyf GYVjcb: cfWg f7 cbh7bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
737		4	max	294.064	8	307.832	5	277.696	2	.244	3	.025	4	.184	3
738			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.054	3	-.27	4
739		5	max	294.064	8	307.832	5	277.696	2	.244	3	.01	4	.177	3
740			min	88.927	1	106.855	2	-573.649	1	-.253	4	-.072	7	-.278	4
741	M85	1	max	300.359	4	68.692	7	303.018	1	.039	1	.113	3	.081	4
742			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.121	4	-.131	3
743		2	max	300.359	4	68.692	7	303.018	1	.039	1	.108	3	.082	4
744			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.109	4	-.135	3
745		3	max	300.359	4	68.692	7	303.018	1	.039	1	.102	3	.082	4
746			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.097	4	-.139	3
747		4	max	300.359	4	68.692	7	303.018	1	.039	1	.097	3	.083	4
748			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.085	4	-.143	3
749		5	max	300.359	4	68.692	7	303.018	1	.039	1	.091	3	.083	4
750			min	-146.489	3	-7.3	4	-204.698	2	-.161	6	-.073	4	-.147	3
751	M86	1	max	161.836	4	414.405	8	436.822	5	.432	5	.038	4	.019	1
752			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.22	7	-.027	2
753		2	max	161.836	4	414.405	8	436.822	5	.432	5	.045	4	.002	1
754			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.198	7	-.036	6
755		3	max	161.836	4	414.405	8	436.822	5	.432	5	.053	4	-.01	9
756			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.176	7	-.061	8
757		4	max	161.836	4	414.405	8	436.822	5	.432	5	.06	4	-.013	3
758			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.154	7	-.087	8
759		5	max	161.836	4	414.405	8	436.822	5	.432	5	.067	4	-.01	3
760			min	-127.431	3	-36.786	3	-172.015	2	-.055	2	-.146	3	-.112	8
761	M87	1	max	1284.776	7	40.026	7	46.034	2	0	1	0	11	0	11
762			min	100.16	4	-6.09	4	-46.034	1	0	2	0	1	0	1
763		2	max	1292.579	7	20.013	7	23.017	2	0	1	.053	2	.019	2
764			min	116.978	4	-3.045	4	-23.017	1	0	2	-.035	1	-.038	1
765		3	max	1300.381	7	0	11	0	11	0	1	.071	2	.025	2
766			min	133.795	4	0	1	0	1	0	2	-.046	1	-.05	1
767		4	max	1308.183	7	3.045	4	23.017	1	0	1	.053	2	.019	2
768			min	150.613	4	-20.013	7	-23.017	2	0	2	-.035	1	-.038	1
769		5	max	1315.985	7	6.09	4	46.034	1	0	1	0	11	0	11
770			min	167.43	4	-40.026	7	-46.034	2	0	2	0	1	0	1
771	M88	1	max	1542.942	5	39.833	5	50.287	4	0	1	0	11	0	11
772			min	282.947	2	-5.51	2	-50.287	3	0	2	0	1	0	1
773		2	max	1535.003	5	19.917	5	25.144	4	0	1	.045	4	.034	4
774			min	266.541	2	-2.755	2	-25.144	3	0	2	-.027	3	-.053	3
775		3	max	1527.064	5	0	11	0	11	0	1	.06	4	.045	4
776			min	250.135	2	0	1	0	1	0	2	-.035	3	-.07	3
777		4	max	1519.125	5	2.755	2	25.144	3	0	1	.045	4	.034	4
778			min	233.729	2	-19.917	5	-25.144	4	0	2	-.027	3	-.053	3
779		5	max	1511.186	5	5.51	2	50.287	3	0	1	0	11	0	11
780			min	217.323	2	-39.833	5	-50.287	4	0	2	0	1	0	1
781	M89	1	max	1270.847	5	39.833	5	50.287	3	0	2	0	11	0	11
782			min	142.932	2	-5.51	2	-50.287	4	0	1	0	1	0	1
783		2	max	1278.786	5	19.917	5	25.144	3	0	2	.045	3	.034	3
784			min	159.338	2	-2.755	2	-25.144	4	0	1	-.027	4	-.053	4
785		3	max	1286.725	5	0	11	0	11	0	2	.06	3	.045	3
786			min	175.744	2	0	1	0	1	0	1	-.035	4	-.07	4
787		4	max	1294.664	5	2.755	2	25.144	4	0	2	.045	3	.034	3
788			min	192.15	2	-19.917	5	-25.144	3	0	1	-.027	4	-.053	4



9bj YcdYA Ya VYf GYWjcb: cfWkg fT cbhpi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
789		5	max	1302.603	5	5.51	2	50.287	4	0	2	0	11	0	11
790			min	208.556	2	-39.833	5	-50.287	3	0	1	0	1	0	1
791	M90	1	max	1550.984	8	40.026	8	46.034	2	0	2	0	11	0	11
792			min	302.397	3	-6.09	3	-46.034	1	0	1	0	1	0	1
793		2	max	1543.182	8	20.013	8	23.017	2	0	2	.053	2	.019	2
794			min	285.579	3	-3.045	3	-23.017	1	0	1	-.035	1	-.038	1
795		3	max	1535.379	8	0	11	0	11	0	2	.071	2	.025	2
796			min	268.762	3	0	1	0	1	0	1	-.046	1	-.05	1
797		4	max	1527.577	8	3.045	3	23.017	1	0	2	.053	2	.019	2
798			min	251.944	3	-20.013	8	-23.017	2	0	1	-.035	1	-.038	1
799		5	max	1519.775	8	6.09	3	46.034	1	0	2	0	11	0	11
800			min	235.127	3	-40.026	8	-46.034	2	0	1	0	1	0	1
801	M91	1	max	1319.268	1	2709.055	3	-380.639	1	.444	3	4.176	6	5.611	3
802			min	-1594.63	2	-2647.583	4	-1874.56	6	-.434	4	.562	1	-5.613	4
803		2	max	1319.268	1	2693.737	3	-367.396	1	.444	3	3.148	6	4.119	3
804			min	-1594.63	2	-2632.266	4	-1852.655	6	-.434	4	.356	1	-4.156	4
805		3	max	1319.268	1	2678.42	3	-354.153	1	.444	3	2.131	6	2.636	3
806			min	-1594.63	2	-2616.948	4	-1830.75	6	-.434	4	.157	1	-2.707	4
807		4	max	1319.268	1	2663.102	3	-340.91	1	.444	3	1.126	6	1.162	3
808			min	-1594.63	2	-2601.631	4	-1808.845	6	-.434	4	-.035	1	-1.266	4
809		5	max	1319.268	1	2647.785	3	-327.667	1	.444	3	.266	2	.166	4
810			min	-1594.63	2	-2586.314	4	-1786.939	6	-.434	4	-.22	1	-.304	3
811	M92	1	max	1078.224	4	2758.332	1	-426.747	4	.454	1	4.128	7	5.77	1
812			min	-1351.976	3	-2699.146	2	-1858.787	7	-.444	2	.709	4	-5.774	2
813		2	max	1071.591	4	2746.844	1	-413.504	4	.454	1	3.108	7	4.25	1
814			min	-1345.344	3	-2687.658	2	-1836.882	7	-.444	2	.477	4	-4.287	2
815		3	max	1064.959	4	2735.356	1	-400.261	4	.454	1	2.1	7	2.737	1
816			min	-1338.711	3	-2676.17	2	-1814.977	7	-.444	2	.252	4	-2.806	2
817		4	max	1058.326	4	2723.868	1	-387.018	4	.454	1	1.104	7	1.23	1
818			min	-1332.078	3	-2664.682	2	-1793.072	7	-.444	2	.035	4	-1.332	2
819		5	max	1051.693	4	2712.38	1	-373.775	4	.454	1	.221	3	.136	2
820			min	-1325.446	3	-2653.194	2	-1771.166	7	-.444	2	-.175	4	-.271	1
821	M93	1	max	1192.052	3	2590.144	2	-495.83	3	.425	2	4.104	8	5.433	2
822			min	-1466.883	4	-2522.812	1	-1845.963	8	-.415	1	.843	3	-5.429	1
823		2	max	1185.419	3	2578.656	2	-482.587	3	.425	2	3.091	8	4.006	2
824			min	-1460.25	4	-2511.324	1	-1824.058	8	-.415	1	.573	3	-4.04	1
825		3	max	1178.787	3	2567.168	2	-469.344	3	.425	2	2.09	8	2.586	2
826			min	-1453.618	4	-2499.836	1	-1802.153	8	-.415	1	.31	3	-2.656	1
827		4	max	1172.154	3	2555.68	2	-456.101	3	.425	2	1.101	8	1.172	2
828			min	-1446.985	4	-2488.348	1	-1780.247	8	-.415	1	.054	3	-1.279	1
829		5	max	1165.521	3	2544.192	2	-442.858	3	.425	2	.24	4	.103	3
830			min	-1440.353	4	-2476.86	1	-1758.342	8	-.415	1	-.194	3	-.244	6
831	M91A	1	max	407.543	3	31.434	8	17.915	4	.147	4	0	11	0	11
832			min	-403.79	4	10.065	1	-17.915	3	-.145	3	0	1	0	1
833		2	max	402.372	3	15.717	8	8.957	4	.147	4	.016	4	-.009	10
834			min	-398.618	4	5.033	1	-8.957	3	-.145	3	-.016	3	-.028	5
835		3	max	397.2	3	0	11	0	11	.147	4	.022	4	-.012	10
836			min	-393.447	4	0	1	0	1	-.145	3	-.022	3	-.038	5
837		4	max	392.028	3	-5.033	10	8.957	3	.147	4	.016	4	-.009	10
838			min	-388.275	4	-15.717	5	-8.957	4	-.145	3	-.016	3	-.028	5
839		5	max	386.857	3	-10.065	10	17.915	3	.147	4	0	11	0	11
840			min	-383.103	4	-31.434	5	-17.915	4	-.145	3	0	1	0	1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

9bj YcdYA Ya Vyf'GYW]cb: cfWkg'f7 cb]bi YXL

Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
841	M85A	1	max	31.479	7	154.155	2	283.818	1	0	11	.095	1	.167	2
842			min	9.87	1	-158.429	1	-281.407	2	0	1	-.096	2	-.165	1
843		2	max	31.479	7	154.155	2	283.818	1	0	11	.112	1	.158	2
844			min	9.87	1	-158.429	1	-281.407	2	0	1	-.112	2	-.156	1
845		3	max	31.479	7	154.155	2	283.818	1	0	11	.128	1	.149	2
846			min	9.87	1	-158.429	1	-281.407	2	0	1	-.129	2	-.147	1
847		4	max	31.479	7	154.155	2	283.818	1	0	11	.144	1	.14	2
848			min	9.87	1	-158.429	1	-281.407	2	0	1	-.145	2	-.137	1
849		5	max	31.479	7	154.155	2	283.818	1	0	11	.161	1	.131	2
850			min	9.87	1	-158.429	1	-281.407	2	0	1	-.161	2	-.128	1
851	M86A	1	max	31.494	5	171.801	4	259.307	3	0	11	.096	2	.165	1
852			min	9.956	3	-170.789	3	-262.34	4	0	1	-.095	1	-.167	2
853		2	max	31.494	5	171.801	4	259.307	3	0	11	.111	2	.156	1
854			min	9.956	3	-170.789	3	-262.34	4	0	1	-.11	1	-.158	2
855		3	max	31.494	5	171.801	4	259.307	3	0	11	.126	2	.147	1
856			min	9.956	3	-170.789	3	-262.34	4	0	1	-.125	1	-.149	2
857		4	max	31.494	5	171.801	4	259.307	3	0	11	.141	2	.137	1
858			min	9.956	3	-170.789	3	-262.34	4	0	1	-.14	1	-.14	2
859		5	max	31.494	5	171.801	4	259.307	3	0	11	.156	2	.128	1
860			min	9.956	3	-170.789	3	-262.34	4	0	1	-.155	1	-.131	2
861	M87A	1	max	324.936	1	31.434	8	17.915	3	.192	2	0	11	0	11
862			min	-320.714	2	10.065	1	-17.915	4	-.19	1	0	1	0	1
863		2	max	319.765	1	15.717	8	8.957	3	.192	2	.016	3	-.009	10
864			min	-315.543	2	5.033	1	-8.957	4	-.19	1	-.016	4	-.028	5
865		3	max	314.593	1	0	11	0	11	.192	2	.022	3	-.012	10
866			min	-310.371	2	0	1	0	1	-.19	1	-.022	4	-.038	5
867		4	max	309.421	1	-5.033	10	8.957	4	.192	2	.016	3	-.009	10
868			min	-305.199	2	-15.717	5	-8.957	3	-.19	1	-.016	4	-.028	5
869		5	max	313.079	4	-10.065	10	17.915	4	.192	2	0	11	0	11
870			min	-309.943	3	-31.434	5	-17.915	3	-.19	1	0	1	0	1
871	M88A	1	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	0	4
872			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	0	3
873		2	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.018	1
874			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.018	2
875		3	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.036	1
876			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.036	2
877		4	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.054	1
878			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.054	2
879		5	max	31.487	5	314.174	2	24.337	1	0	11	.191	3	.072	1
880			min	9.989	2	-311.005	1	-23.512	2	0	1	-.188	4	-.073	2
881	M89A	1	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	0	4
882			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	0	7
883		2	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.018	2
884			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.018	1
885		3	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.036	2
886			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.036	1
887		4	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.054	2
888			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.054	1
889		5	max	31.494	6	310.98	1	23.525	1	0	11	.188	4	.073	2
890			min	9.979	1	-314.147	2	-24.354	2	0	1	-.191	3	-.072	1
891	M90A	1	max	314.19	2	31.434	8	23.886	1	.191	3	0	11	0	11
892			min	-311.014	1	10.065	1	-23.886	2	-.188	4	0	1	0	1



9bj YcdYA Ya VYf'GYW]cb: cfWg'f7 cb]bi YXL

Member	Sec	Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC	
893	2	max	314.19	2	15.717	8	11.943	1	.191	3	.022	1	-.009	10
894		min	-311.014	1	5.033	1	-11.943	2	-.188	4	-.022	2	-.028	5
895	3	max	314.19	2	0	11	0	11	.191	3	.029	1	-.012	10
896		min	-311.014	1	0	1	0	1	-.188	4	-.029	2	-.038	5
897	4	max	314.19	2	-5.033	10	11.943	2	.191	3	.022	1	-.009	10
898		min	-311.014	1	-15.717	5	-11.943	1	-.188	4	-.022	2	-.028	5
899	5	max	314.19	2	-10.065	10	23.886	2	.191	3	0	11	0	11
900		min	-311.014	1	-31.434	5	-23.886	1	-.188	4	0	1	0	1

9bj YcdY5=G7 % h fl * \$!%\$L @F: 8 'GhY'7cXY7\ YWg

Member	Shape	Code Check	Loc[in]	LC	Shear Ch...Lo.....	LC	phi*... phi*... phi*... phi*... .. Eqn
1	M1	L3X3X4	.768	83.5	2	.071 83.5z	8 3991...46656 1.688 2.727 ... H2-1
2	M3	L3X3X4	.743	83.5	4	.071 83.5z	5 3991...46656 1.688 2.698 ... H2-1
3	M2	L3X3X4	.710	83.5	7	.070 83.5z	7 3991...46656 1.688 3.213 ... H2-1
4	MP2C	PIPE 2.0	.551	61	3	.128 61	1 1491...32130 1.872 1.872 ... H1-...
5	MP2A	PIPE 2.0	.538	61	2	.143 61	2 1491...32130 1.872 1.872 ... H1-...
6	MP2B	PIPE 2.0	.495	61	4	.161 61	4 1491...32130 1.872 1.872 ... H1-...
7	MP3B	PIPE 2.0	.425	61	4	.110 61	4 1491...32130 1.872 1.872 ... H1-...
8	MP3C	PIPE 2.0	.377	61	1	.154 61	3 1491...32130 1.872 1.872 ... H1-...
9	MP3A	PIPE 2.0	.367	61	2	.151 61	2 1491...32130 1.872 1.872 ... H1-...
10	M63	PIPE 2.0	.337	124.875	6	.159 14...	2 5397...32130 1.872 1.872 ... H1-...
11	M76	PIPE 2.0	.337	124.875	8	.133 12...	8 5397...32130 1.872 1.872 ... H1-...
12	M75	PIPE 2.0	.335	124.875	7	.131 12...	7 5397...32130 1.872 1.872 ... H1-...
13	M73	L2.5x2.5x3	.303	0	6	.022 14.5z	1 2740...2919... 873 1.972 ... H2-1
14	M74	L2.5x2.5x3	.302	0	7	.025 12...z	4 2740...2919... 873 1.972 ... H2-1
15	M72	L2.5x2.5x3	.301	0	5	.017 0 z	2 2740...2919... 873 1.972 ... H2-1
16	MP1B	PIPE 2.0	.266	61	2	.126 61	6 1491...32130 1.872 1.872 ... H1-...
17	MP4B	PIPE 2.0	.257	25	4	.117 61	7 1491...32130 1.872 1.872 ... H1-...
18	MP1A	PIPE 2.0	.256	61	3	.125 61	7 1491...32130 1.872 1.872 ... H1-...
19	MP4C	PIPE 2.0	.253	76	7	.120 61	6 1491...32130 1.872 1.872 ... H1-...
20	MP1C	PIPE 2.0	.251	25	3	.122 61	8 1491...32130 1.872 1.872 ... H1-...
21	MP4A	PIPE 2.0	.250	76	6	.123 61	4 1491...32130 1.872 1.872 ... H1-...
22	M11	PIPE 2.0	.250	101.25	4	.262 108	1 5397...32130 1.872 1.872 ... H1-...
23	M12	PIPE 2.0	.243	108	4	.204 108	4 5397...32130 1.872 1.872 ... H1-...
24	M13	PIPE 2.0	.236	108	2	.246 108	3 5397...32130 1.872 1.872 ... H1-...
25	M7	LL3x3x4x0	.235	0	7	.016 0 y	8 8174...93312 6.48 4.911 ... H1-...
26	M6	LL3x3x4x0	.235	0	6	.016 0 y	7 8174...93312 6.48 4.911 ... H1-...
27	M5	LL3x3x4x0	.229	0	5	.016 0 y	6 8174...93312 6.48 4.911 ... H1-...
28	M9	L3X3X4	.214	45.22	6	.008 88...z	5 2801...46656 1.688 3.014 ... H2-1
29	M10	L3X3X4	.214	45.22	7	.008 88...z	6 2801...46656 1.688 3.018 ... H2-1
30	M8	L3X3X4	.214	44.297	5	.009 88...z	7 2801...46656 1.688 3.019 ... H2-1
31	M16	L2.5x2.5x3	.212	14.5	4	.088 0 y	4 2740...2919... 873 1.972 ... H2-1
32	M78	L2.5x2.5x4	.181	34.833	7	.005 0 z	4 1233...38556 1.114 2.218 ... H2-1
33	M88	L2.5x2.5x4	.181	34.833	5	.006 71...z	3 1233...38556 1.114 2.218 ... H2-1
34	M90	L2.5x2.5x4	.179	34.833	8	.007 71...z	1 1233...38556 1.114 2.218 ... H2-1
35	M15	L2.5x2.5x3	.176	14.5	1	.079 0 y	1 2740...2919... 873 1.972 ... H2-1
36	M14	L2.5x2.5x3	.167	0	1	.067 0 y	2 2740...2919... 873 1.972 ... H2-1
37	M77	L2.5x2.5x4	.162	36.315	8	.006 71...y	4 1233...38556 1.114 2.218 ... H2-1
38	M89	L2.5x2.5x4	.161	36.315	5	.006 71...z	3 1233...38556 1.114 2.218 ... H2-1
39	M87	L2.5x2.5x4	.160	36.315	7	.007 0 z	2 1233...38556 1.114 2.218 ... H2-1



Company : Tower Engineering Solutions, LLC
 Designer :
 Job Number : TES Project No. 120128
 Model Name : CT00248-S-SBA_MT_LO_Loads Only_G

Dec 6, 2021
 4:50 PM
 Checked By: _____

9bj YcdY5=G7 % h fl * \$!%\$L @: 8 GhY 7cXY7\ YWg f7 cbhbi YXL

Member	Shape	Code Check	Loc[in]	LC	Shear Ch...Lo.....	LC	phi*...	phi*...	phi*...	phi*...	Eqn	
40	M90A	PIPE 2.0	.023	29	6	.116	0	3	2428..32130	1.872	1.872	H1-..
41	M91A	PIPE 2.0	.023	29	7	.091	0	4	2428..32130	1.872	1.872	H1-..
42	M87A	PIPE 2.0	.023	29	8	.117	0	2	2428..32130	1.872	1.872	H1-..

9bj YcdY5=G-G\$\$!%\$. @: 8 7c`X': cfa YX GhY 7cXY7\ YWg

Member	Shape	Code ...	Loc[in]	LC	Shear ..Loc[in]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	Cb	Cmyy	Cmzz	Eqn		
1	M91	4.5CU4....	.466	0	3	.369	0	y	3	153148...	174471...	10.576	19.759	1.735	.85	.85	C3.3.2-1
2	M92	4.5CU4....	.477	0	1	.377	0	y	1	153148...	174471...	10.576	19.759	1.725	.85	.85	C3.3.2-1
3	M93	4.5CU4....	.462	0	5	.353	0	y	2	153148...	174471...	10.576	19.759	1.587	.85	.85	C5.1.2-2

EXHIBIT 9

EME Report

Radio Frequency Emissions Analysis Report

T-Mobile Wireless Monopole Facility

January 6, 2022

Analysis Format: Theoretical Calculations

	Sign Count	
		1
		0
		1
		0
	1	

Statement of Compliance

T-Mobile will be compliant with FCC Regulations once the mitigation measures recommended in this report are implemented.

CFFF709A
 North Bethel
 11 Francis J Clarke Cir, Bethel, CT 06801



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Overview

Centerline Communications, LLC (“Centerline”) has been contracted to provide a Radio Frequency (RF) Analysis for the following T-Mobile wireless monopole facility to determine whether the facility is in compliance with federal standards and regulations regarding RF emissions. This analysis includes theoretical emissions calculations for all existing equipment for T-Mobile .

The facility is located on a monopole in Bethel, Connecticut. Access to the facility is restricted to authorized personnel and facility management.

Analysis Site Data

Site ID:	CTFF709A
Site Name:	North Bethel
Site Address:	11 Francis J Clarke Cir, Bethel, CT 06801
Site Latitude:	41.360075
Site Longitude:	-73.42502
Facility Type:	Monopole

Compliance Summary

Status:	T-Mobile will be compliant with FCC Regulations Upon Installation of Signage
Site Modeled Composite MPE% (General Public Limit):	0.90 %
T-Mobile Max Modeled MPE% (General Public Limit):	0.90 %
Lock or Control Measures if Present:	Unlocked Gateknown

In addition to the T-Mobile antennas and radio equipment there are antennas and radio equipment for AT&T and Verizon which have been included in this analysis as part of the overall site compliance determination.

*To be conservative, all sites are considered uncontrolled for modeling purposes unless confirmed otherwise by a site visit.

FCC Guidelines

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

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

General Population/Uncontrolled exposure limits apply to situations in which the general public 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 public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 600, 700, and 800 MHz Bands is approximately $400 \mu\text{W}/\text{cm}^2$, $467 \mu\text{W}/\text{cm}^2$, and $567 \mu\text{W}/\text{cm}^2$ respectively, and the general population exposure limit for the 1900 MHz PCS, 2100 MHz AWS, 2500 MHz, 3500 MHz CBRS, 5000 MHz LAA, 28GHz, and 39GHz bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density. Reference the Site Antenna Data Table for list of frequencies in operation at this site.

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, have been properly trained in RF safety 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, have been trained in RF safety and can exercise control over his or her exposure by leaving the area or by some other appropriate means. The Occupational/Controlled exposure limits all utilized frequency bands is five (5) times the FCC's General Public / Uncontrolled exposure limit.

Additional details can be found in FCC OET 65.

Calculation Methodology & Data

Centerline has performed theoretical calculations on all transmission equipment located on this facility. All calculations have been performed using the RoofMaster® software from Waterford Consultants LLC. This software performs calculations using a cylindrical model for very conservative power density predictions within the near-field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations the power decreases inversely with the square of the distance. This modeling technique is accurate with low antenna centerlines, such as rooftops, where persons can get close to the antennas and pass through fields in close proximity.

The below calculation in Figure 1 shows the theoretical distribution of power over an imaginary cylinder with equal power distribution in all directions.

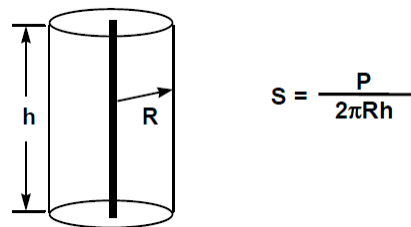


Figure 1: Distribution of power over an imaginary cylinder in all directions

This model can be modified for directional antennas to show directionality of power distribution. This formula will tend to be conservative as it assumes that all power is focused between the 3 dB power roll off points as shown in Figure 2.

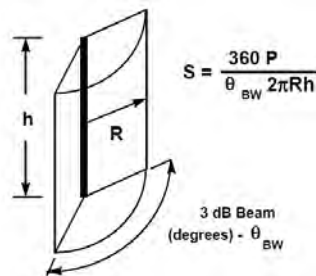


Figure 2: Distribution of power over an imaginary cylinder in all directions inside the half power roll off points (HBW)

The **proposed antenna configuration** for T-Mobile and any other known wireless carriers at this facility are shown below in **Table 1 – Site Antenna Data Table**.

All calculations for this facility were performed assuming that all radios were running at full power and were uncombined in their RF paths with the configuration shown in table 1. FCC OET Bulletin 65 – Edition 97-01 recommends that modeling of this nature should be done as described prior to yield a worst-case scenario. Due to the dynamic nature of many deployed systems the “real world” values will most likely be less than those shown in this report due to worst-case values being shown in all instances.

For all “Other” systems on this facility, exact equipment was used if available. In instances where “Other” system equipment was not available, standard radio configurations for these systems were utilized based upon prior experience with these systems on facilities in this area.

Site Antenna Data Table

Sector	Operator	Frequency Band	TX Power		ERP	Antenna Make	Antenna Model	Gain (dBd)	Az (°)	Antenna Centerline Height (ft)	Z Value (ft)**
			Per Channel	Tx #							
A1	T-Mobile	L700	40	2	1853.92	RFS	APXVAALL24 43-U-NA20	13.65	20	157	153.00
A1	T-Mobile	L600	60	4	4733.81	RFS	APXVAALL24 43-U-NA20	12.95	20	157	153.00
A1	T-Mobile	N600	40	2	1577.94	RFS	APXVAALL24 43-U-NA20	12.95	20	157	153.00
A1	T-Mobile	L2100	140	2	12363.97	RFS	APXVAALL24 43-U-NA20	16.45	20	157	153.00
A1	T-Mobile	L1900	140	2	9821.05	RFS	APXVAALL24 43-U-NA20	15.45	20	157	153.00
A1	T-Mobile	G1900	15	1	526.13	RFS	APXVAALL24 43-U-NA20	15.45	20	157	153.00
A2	T-Mobile	L2500	90	1	15461.18	ERICSSON	SON_AIR6449 2500 LTE TB	22.35	20	157	155.62
A2	T-Mobile	N2500	90	1	15461.18	ERICSSON	SON_AIR6449 2500 NR TB	22.35	20	157	155.62
A2	T-Mobile	L/N2500	60	1	3222.19	ERICSSON	SON_AIR6449 2500 LTE MACRO	17.3	20	157	155.62
B3	T-Mobile	L700	40	2	1853.92	RFS	APXVAALL24 43-U-NA20	13.65	120	157	153.00
B3	T-Mobile	L600	60	4	4733.81	RFS	APXVAALL24 43-U-NA20	12.95	120	157	153.00
B3	T-Mobile	N600	40	2	1577.94	RFS	APXVAALL24 43-U-NA20	12.95	120	157	153.00
B3	T-Mobile	L2100	140	2	12363.97	RFS	APXVAALL24 43-U-NA20	16.45	120	157	153.00
B3	T-Mobile	L1900	140	2	9821.05	RFS	APXVAALL24 43-U-NA20	15.45	120	157	153.00
B3	T-Mobile	G1900	15	1	526.13	RFS	APXVAALL24 43-U-NA20	15.45	120	157	153.00
B4	T-Mobile	L2500	90	1	15461.18	ERICSSON	SON_AIR6449 2500 LTE TB	22.35	120	157	155.62
B4	T-Mobile	N2500	90	1	15461.18	ERICSSON	SON_AIR6449 2500 NR TB	22.35	120	157	155.62
B4	T-Mobile	L/N2500	60	1	3222.19	ERICSSON	SON_AIR6449 2500 LTE MACRO	17.3	120	157	155.62
C5	T-Mobile	L700	40	2	1853.92	RFS	APXVAALL24 43-U-NA20	13.65	270	157	153.00
C5	T-Mobile	L600	60	4	4733.81	RFS	APXVAALL24 43-U-NA20	12.95	270	157	153.00
C5	T-Mobile	N600	40	2	1577.94	RFS	APXVAALL24 43-U-NA20	12.95	270	157	153.00
C5	T-Mobile	L2100	140	2	12363.97	RFS	APXVAALL24 43-U-NA20	16.45	270	157	153.00
C5	T-Mobile	L1900	140	2	9821.05	RFS	APXVAALL24 43-U-NA20	15.45	270	157	153.00
C5	T-Mobile	G1900	15	1	526.13	RFS	APXVAALL24 43-U-NA20	15.45	270	157	153.00
C6	T-Mobile	L2500	90	1	15461.18	ERICSSON	SON_AIR6449 2500 LTE TB	22.35	270	157	155.62
C6	T-Mobile	N2500	90	1	15461.18	ERICSSON	SON_AIR6449 2500 NR TB	22.35	270	157	155.62
C6	T-Mobile	L/N2500	60	1	3222.19	ERICSSON	SON_AIR6449 2500 LTE MACRO	17.3	270	157	155.62
7	Dish	2007	40	4	6181.87	COMMSCOPE	FFV-65B-R2	15.87	20	147	144.00
7	Dish	2100	40	4	6325.87	COMMSCOPE	FFV-65B-R2	15.97	20	147	144.00
8	Dish	2007	40	4	6181.87	COMMSCOPE	FFV-65B-R2	15.87	120	147	144.00
8	Dish	2100	40	4	6325.87	COMMSCOPE	FFV-65B-R2	15.97	120	147	144.00
9	Dish	2007	40	4	6181.87	COMMSCOPE	FFV-65B-R2	15.87	270	147	144.00
9	Dish	2100	40	4	6325.87	COMMSCOPE	FFV-65B-R2	15.97	270	147	144.00
10	Verizon	850	20	7	2489.59	AMPHENOL	LPA-80080-4CF-EDIN-0	12.5	20	137	135.03
11	Verizon	700	40	2	2559.12	JMA	MX06FIT665-02	15.05	20	137	133.00
11	Verizon	850	40	2	3006.70	JMA	MX06FIT665-02	15.75	20	137	133.00

11	Verizon	1900	40	4	8494.15	JMA	MX06FIT665-02	17.25	20	137	133.00
11	Verizon	700	40	2	2559.12	JMA	MX06FIT665-02	15.05	20	137	133.00
11	Verizon	850	40	2	3006.70	JMA	MX06FIT665-02	15.75	20	137	133.00
11	Verizon	2100	40	4	8300.80	JMA	MX06FIT665-02	17.15	20	137	133.00
12	Verizon	850	20	7	2489.59	AMPHENOL	LPA-80080-4CF-EDIN-0	12.5	20	137	135.03
13	Verizon	850	20	7	3516.64	AMPHENOL	LPA-80080-6CF-EDIN-0	14	120	137	134.05
14	Verizon	700	40	2	2559.12	JMA	MX06FIT665-02	15.05	120	137	133.00
14	Verizon	850	40	2	3006.70	JMA	MX06FIT665-02	15.75	120	137	133.00
14	Verizon	1900	40	4	8494.15	JMA	MX06FIT665-02	17.25	120	137	133.00
14	Verizon	700	40	2	2559.12	JMA	MX06FIT665-02	15.05	120	137	133.00
14	Verizon	850	40	2	3006.70	JMA	MX06FIT665-02	15.75	120	137	133.00
14	Verizon	2100	40	4	8300.80	JMA	MX06FIT665-02	17.15	120	137	133.00
15	Verizon	850	20	7	3516.64	AMPHENOL	LPA-80080-6CF-EDIN-0	14	120	137	134.05
16	Verizon	850	20	7	3945.74	AMPHENOL	LPA-80063-6CF-EDIN-0	14.5	270	137	134.05
17	Verizon	700	40	2	2559.12	JMA	MX06FIT665-02	15.05	270	137	133.00
17	Verizon	850	40	2	3006.70	JMA	MX06FIT665-02	15.75	270	137	133.00
17	Verizon	1900	40	4	8494.15	JMA	MX06FIT665-02	17.25	270	137	133.00
17	Verizon	700	40	2	2559.12	JMA	MX06FIT665-02	15.05	270	137	133.00
17	Verizon	850	40	2	3006.70	JMA	MX06FIT665-02	15.75	270	137	133.00
17	Verizon	2100	40	4	8300.80	JMA	MX06FIT665-02	17.15	270	137	133.00
18	Verizon	850	20	7	3945.74	AMPHENOL	LPA-80063-6CF-EDIN-0	14.5	270	137	134.05
19	AT&T	850	40	4	2624.94	CCI	HPA65R-BU6A	12.15	20	127	124.04
19	AT&T	2300	25	4	3349.65	CCI	HPA65R-BU6A	15.25	20	127	124.04
20	AT&T	700	40	4	2393.98	CCI	DMP65R-BU6D	11.75	20	127	124.03
20	AT&T	1900	40	4	4065.56	CCI	DMP65R-BU6D	14.05	20	127	124.03
20	AT&T	2100	40	4	4776.61	CCI	DMP65R-BU6D	14.75	20	127	124.03
21	AT&T	850	40	1	545.83	POWERWAVE	7770 00	11.35	20	127	124.69
22	AT&T	850	40	4	2624.94	CCI	HPA65R-BU6A	12.15	120	127	124.04
22	AT&T	2300	25	4	3349.65	CCI	HPA65R-BU6A	15.25	120	127	124.04
23	AT&T	700	40	4	2393.98	CCI	DMP65R-BU6D	11.75	120	127	124.03
23	AT&T	1900	40	4	4065.56	CCI	DMP65R-BU6D	14.05	120	127	124.03
23	AT&T	2100	40	4	4776.61	CCI	DMP65R-BU6D	14.75	120	127	124.03
24	AT&T	850	40	1	545.83	POWERWAVE	7770 00	11.35	120	127	124.69
25	AT&T	850	40	4	2624.94	CCI	HPA65R-BU6A	12.15	270	127	124.04
25	AT&T	2300	25	4	3349.65	CCI	HPA65R-BU6A	15.25	270	127	124.04
26	AT&T	700	40	4	2393.98	CCI	DMP65R-BU6D	11.75	270	127	124.03
26	AT&T	1900	40	4	4065.56	CCI	DMP65R-BU6D	14.05	270	127	124.03
26	AT&T	2100	40	4	4776.61	CCI	DMP65R-BU6D	14.75	270	127	124.03
27	AT&T	850	40	1	545.83	POWERWAVE	7770 00	11.35	270	127	124.69

Table 1: Total Site Antenna data table ******(Z Value is distance from bottom of antenna to walking surface)

Results

All calculations performed based upon the data listed for this facility have produced results that are within allowable limits for General Population for exposure to RF emissions as specified by federal standards.

T-Mobile's RF Exposure: Responsibilities, Procedures & Guidelines document states that microwave dishes are compliant if they are mounted 20 feet or greater above any accessible walking or working surface.

Maximum Predicted MPE Level on Site:	% of MPE Limit:	Location:
Accessible General Population MPE Limits:	0.90%	Sector A
Accessible Occupational MPE Limits:	0.18%	

Ground Level Assessment:	% of MPE Limit:
Ground Level General Population MPE Limits:	0.99%
Ground Level Occupational MPE Limits:	0.20%

Sector A: Transmitting over Ground	% of MPE Limit:	*Distance from Antenna:
Accessible General Population MPE Limits:	0.90%	0
Accessible Occupational MPE Limits:	0.18%	0

Sector B: Transmitting over Ground	% of MPE Limit:	*Distance from Antenna:
Accessible General Population MPE Limits:	0.90%	0
Accessible Occupational MPE Limits:	0.18%	0

Sector C: Transmitting over Ground	% of MPE Limit:	*Distance from Antenna:
Accessible General Population MPE Limits:	0.90%	0
Accessible Occupational MPE Limits:	0.18%	0

**Distance from Antenna is the distance in feet that the MPE limits are exceeded from the front face of the antenna, outward across an accessible area.*

APPENDIX A: Emissions Thresholds for Walking Surfaces and Signage





Percent MPE Legend
 0% - 5%
 5% - 100%
 100% - 500%
 500% - 5000%
 5000% +

General Population Limits
 Sula 09
 20 foot grid size
 (Avg: 0 to 6 Feet)

Carrier Color Code
 AT&T
 T-Mobile
 Verizon
 Unknown

Ground (0ft.)
 Emissions Thresholds for Walking Surfaces for:
 CTF709A / North Bethel



▲
N

Percent MPE Legend

0% - 5%
5% - 100%
100% - 500%
500% - 5000%
5000% +

General Population Limits
Sula 09
20 foot grid size
(Avg: 20 to 26 Feet)

Carrier Color Code






AT&T
T-Mobile
Verizon
Unknown

Adjacent Building(s) (20ft.)
Emissions Thresholds for Walking Surfaces for:
CTFF709A / North Bethel



Adjacent Building(s) (25ft.)
 Emissions Thresholds for Walking Surfaces for:
 CTFF709A / North Bethel








Signage Count								Signage Diagram		
	1		0		1		0		1	Signage for: CTFF709A/ North Bethel

Compliance Actions

Access	<ul style="list-style-type: none"> • Install (1) Guideline sign at the base of the monopole. • Install (1) Caution sign at the base of the monopole. • Install (1) Emergency sign at the base of the monopole.
Alpha Sector	<ul style="list-style-type: none"> • No Action Needed.
Beta Sector	<ul style="list-style-type: none"> • No Action Needed.
Gamma Sector	<ul style="list-style-type: none"> • No Action Needed.
Notes:	<ul style="list-style-type: none"> • If there is a fixed climbing point located on this site, a Guideline, Emergency and Caution sign should be installed at that location.

APPENDIX B: RF Signage Description Table

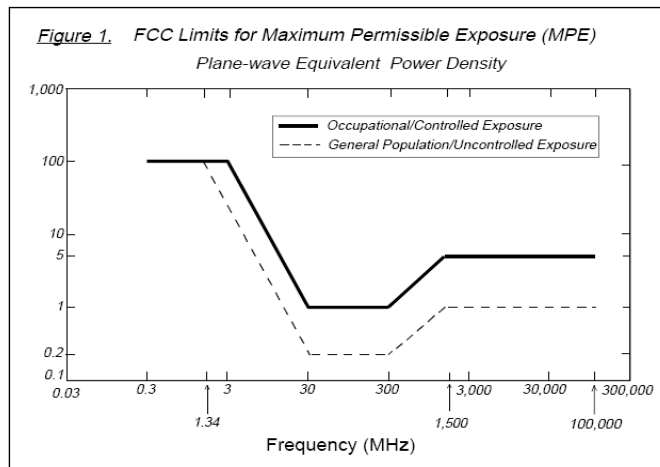
Sign	Description
	<p align="center">RF Guideline Sign</p> <p align="center">Gives guidelines on how to proceed in areas that may exceed either the FCC's General Population or Occupational emissions limits.</p>
	<p align="center">Emergency Sign</p> <p align="center">Used to inform individuals to call 911 in case of emergency.</p>
	<p align="center">Blue Notice Sign</p> <p>Used to inform individuals that they are entering an area that may exceed the FCC's General Population limits. Must be placed anywhere the public can get within 30 feet vertically or horizontally of an antenna.</p>
	<p align="center">Yellow Caution Sign</p> <p>Used to inform individuals that they are entering an area that may exceed the either the FCC's General Population or Occupational Emissions limits. It must be placed so it is visible from all approachable sides. It must also be just outside of the area predicted to exceed the MPE limits so it can be read without standing within the affected area.</p>
	<p align="center">Orange Warning Sign (Previously Red)</p> <p>Used to inform individuals that they are entering an area that may exceed 5x the FCC's Occupational emissions limit. It must be placed so it is visible from all approachable sides. It must also be just outside of the area predicted to exceed the MPE limits so it can be read without standing within the affected area.</p>

APPENDIX C: FCC Emissions Threshold Limits

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time [E] ² , [H] ² , or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time [E] ² , [H] ² , or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)

* Plane-wave equivalent power density



APPENDIX D: Certifications

I, Michelle Stone, preparer of this report certify that I am fully trained and aware of the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in T-Mobile's FCC Regulatory Compliance Manual.

Michelle Stone

1/6/2022

I, Yasir Alqadhili, reviewer and approver of this report certify that I am fully trained and aware of the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in T-Mobile's FCC Regulatory Compliance Manual.

Yasir Alqadhili

1/6/2022