750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379 *Corporate Headquarters*
781.713.4725
617.249.0819

Centerline Communications
Ryan Clark
750 West Center Street, Floor 3
West Bridgewater, MA 02379
203-300-7310
rclark@clinellc.com

April 30, 2021

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

Notice of Exempt Modification
290 Preston Avenue Middletown, CT 06457
Latitude: 41.557300
Longitude:-72.742900
T-Mobile Site#: CT11056J_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 140-foot level of the existing 148-foot monopole tower at 290 Preston Avenue Middletown, CT 06457. The 140-foot tower is owned by AT&T and property is owned by Ernest & Brenda Trumpold. T-Mobile now intends to replace nine (9) of its existing antennas with three (3) 2100 MHz antennas, (3) 600/700 MHz antennas and (3) 2500 MHz antennas. The new antennas would be installed at the 140-foot level of the tower. A mount stabilizer kit is to be installed as recommended in the attached Mount Analysis. The proposed modifications will make the site available for 5G at some point in the future.

Planned Modifications:

Add:
(3) Radio 4415 B25

Remove and Replace:
(3) AIR21 B2P_B4A **(Remove)** – (3) AIR6449 B41 (**Replace**)
(3) LNX-6515DS-A1M (**Remove**) - (3) RFS- APXVAALL24 (**Replace**)
(3) AIR21 B2A_B4P (**Remove**) - (3) AIR32 B66_B2A **(Replace)**
(3) RRUS11 B12 (**Remove**) – (3) Radio 4449 B71+B12 (**Replace**)

Install New:
(3) Fiber Hybrid Line

Existing to Remain:
(3) AIR21 _B2A_B4P 1900 MHz/2100 MHz Antennas

Removing:
(12) 1-5/8" Coax
(3) TMA

Ground:
(1) Generator to remain
(3) Cabinets to be replaced

CENTERLINE COMMUNICATIONS

750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379 *Corporate Headquarters*
781.713.4725
617.249.0819

This facility was approved by the CT Siting Council TS-VOICESTREAM-083-010719 on July 19, 2001 for 290 Preston Avenue Middletown, CT with conditions. The original approval documents were not available on the Siting Council Website. Attached is the original approval from the Town of Middletown.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Mayor Benjamin Florsheim, Chief Elected Official and Joseph Samolis, Director of Planning for the Town of Middletown, AT&T as tower owner and the property owner Ernest & Brenda Trumpold.

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

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

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

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

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

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

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

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

Sincerely,

Ryan Clark
Mobile: 203-300-7310
Fax: 508-819-3017
Office: 750 West Center Street, Floor 3 West Bridgewater, MA 02379
Email: rclark@clinellc.com

Attachments
cc: Mayor Benjamin Florsheim, Chief Elected Official, Town of Middletown
Joseph Samolis, Director of Planning for the Town of Middletown
AT&T as tower owner
Ernest & Brenda Trumpold as property owners

Exhibit A

Original Facility Approval

DEPT. FILE COPY

BUILDING PERMIT

AMOUNT PAID

VALIDATION

DATE 9/10/2001 20 PERMIT NO. 26221

APPLICANT VoicesStream Wireless/Omnipoint Communications ADDRESS 100 FILLEY ST. BLOOMFIELD, CT. 06002 MCO.901003 (CONTR'S LICENSE)

PERMIT TO Install telecommunication antennas & associated equipment on a EXISTING TOWER NUMBER OF DWELLING UNITS

(TYPE OF IMPROVEMENT) NO. STORY (PROPOSED USE)

AT (LOCATION) 290 Preston Avenue ZONING DISTRICT

(NO.) (STREET)

BETWEEN (CROSS STREET) AND (CROSS STREET)

SUBDIVISION LOT BLOCK LOT SIZE

BUILDING IS TO BE FT. WIDE BY FT. LONG BY FT. IN HEIGHT AND SHALL CONFORM IN CONSTRUCTION

TO TYPE USE GROUP BASEMENT WALLS OR FOUNDATION (TYPE)

REMARKS: Install Telecommunication Antennas and Associated Equipment on an Existing Tower.

AREA OR VOLUME (CUBIC/SQUARE FEET) ESTIMATED COST $ 75,000.00 PERMIT FEE $ 767.00

OWNER AT&T

ADDRESS 15 East Midland Avenue, Paramus, NJ 07652

BUILDING DEPT. BY John C. Parker

(Affidavit on reverse side of application to be completed by authorized agent of owner)

FORM NO. BOCA - BP 1994

City of Middletown

PUBLIC WORKS DEPARTMENT / BUILDING DIVISION
245 deKoven Drive, P.O. Box 1300, Middletown, CT 06457-1300
TEL: (860) 344-3416 FAX: (860) 344-3590
TDD: (860) 344-3521

October 10, 2002

To: Voice Stream Wireless/
Omnipoint Communications
100 Filley Street
Bloomfield, CT. 06002

From: John C. Parker, Jr.
Chief Building Official
City of Middletown

Re: Building Permit #26221
290 Preston Avenue
Installed Telecommunication Antennas &
Associated Equipment On An Existing Tower

To Whom It May Concern:

Please be advised that the Middletown Building Department has inspected the above referenced property (Installed telecommunication antennas and associated equipment on an existing tower) and it has been determined that it meets all the requirements of the Connecticut Building Code.

If you have any questions, please feel free to contact this office.

Yours truly,

John C. Parker, Jr.
Chief Building Official

Guy Cardella
Mechanical Inspector

Dean Lisitano
Electrical Inspector

Jcp/mld

Exhibit B

Property Card

290 PRESTON AVE

Location	290 PRESTON AVE	**Map-Lot**	04/ / 0020/ /
Acct#	R08547	**Owner**	TRUMPOLD ERNEST & BRENDA
Municipality		**Assessment**	$319,920
Appraisal	$457,020	**PID**	9217
Building Count	2	**Assessing District**	

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$170,270	$286,750	$457,020
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$119,190	$200,730	$319,920

Parcel Addreses

Additional Addresses
No Additional Addresses available for this parcel

Owner of Record

Owner	TRUMPOLD ERNEST & BRENDA	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	PO BOX 1761 WALLINGFORD, CT 06492	**Book & Page**	1142/0098
		Sale Date	11/04/1997

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
TRUMPOLD ERNEST & BRENDA	$0		1142/0098	11/04/1997

Building Information

Building 1 : Section 1

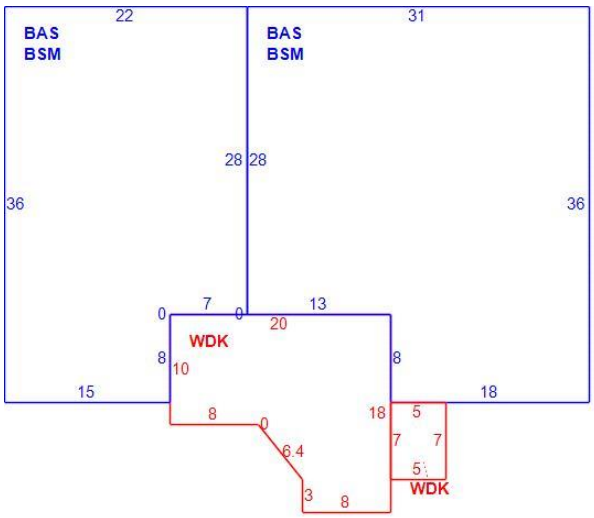
Year Built: 1950
Living Area: 1,748
Replacement Cost: $213,851
Building Percent Good: 56
Replacement Cost Less Depreciation: $119,760

Building Attributes	
Field	**Description**
Style	Ranch
Model	Residential
Grade	C
Stories	1
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick Veneer
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Plastered
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	Laminate Flr
Heat Fuel	Oil
Heat Type	Hot Water
Ac Type	None
Bedrooms	2
Full Baths	1
Half Baths	1
Extra Fixtures	1
Total Rooms	5
Bath Remodel	Not Updated
Kitchen Remodel	Not Updated
Extra Kitchens	0
Fireplaces	1
Extra Openings	0
Gas Fireplace	0
Int vs Ext	Same
A/C Type	None
A/C %	0
Fireplaces 1	1768
Fin Bsmt Area	624.00
FBM grade	Blw Gr-Av

Building Photo

(http://images.vgsi.com/photos/MiddletownCTPhotos//\00\03\08\65.jpg)

Building Layout



(ParcelSketch.ashx?pid=9217&bid=9217)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,748	1,748
BSM	Basement	1,748	0
WDK	Wood Deck	309	0
		3,805	1,748

Bsmt Garage	2
Fndtn Cndtn	
In Law	0

Building 2 : Section 1

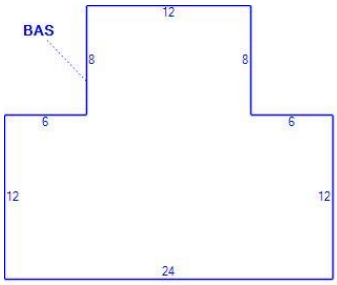
Year Built: 2013
Living Area: 384
Replacement Cost: $32,059
Building Percent Good: 81
Replacement Cost Less Depreciation: $25,970

Building Attributes : Bldg 2 of 2	
Field	**Description**
Style	Workshop
Model	Residential
Grade	D
Stories	1
Occupancy	1
Exterior Wall 1	Wood
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	
Heat Fuel	Propane
Heat Type	Hot Air-No Duc
Ac Type	
Bedrooms	0
Full Baths	0
Half Baths	0
Extra Fixtures	0
Total Rooms	1
Bath Remodel	Not Updated
Kitchen Remodel	Not Updated
Extra Kitchens	0
Fireplaces	0
Extra Openings	0
Gas Fireplace	0
Int vs Ext	Same
A/C Type	None

Building Photo

(http://images.vgsi.com/photos/MiddletownCTPhotos//\00\03\36\91.jpg)

Building Layout



(ParcelSketch.ashx?pid=9217&bid=20783)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	384	384
		384	384

A/C %	0
Fireplaces 1	
Fin Bsmt Area	0.00
FBM grade	0
Bsmt Garage	0
Fndtn Cndtn	
In Law	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	101
Description	Single Family
Zone	R-60
Neighborhood	02
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	4.30
Assessed Value	$200,730
Appraised Value	$286,750

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
BRN5	2s Barn			700.00 UNITS	$5,180	1
SHD1	Shed	FR	Frame	192.00 UNITS	$1,870	1
SHD1	Shed	FR	Frame	120.00 UNITS	$1,170	1
SPL4	Above Ground Pool			1.00 UNITS	$0	1
FOP	Porch			64.00 UNITS	$0	1
CUB	Commercial Util Bldg			320.00 UNITS	$5,120	1
CUB	Commercial Util Bldg			320.00 UNITS	$5,120	1
CUB	Commercial Util Bldg			200.00 UNITS	$6,080	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$170,270	$286,750	$457,020
2019	$170,270	$286,750	$457,020
2018	$164,190	$286,750	$450,940

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$119,190	$200,730	$319,920
2019	$119,190	$200,730	$319,920
2018	$114,930	$200,730	$315,660

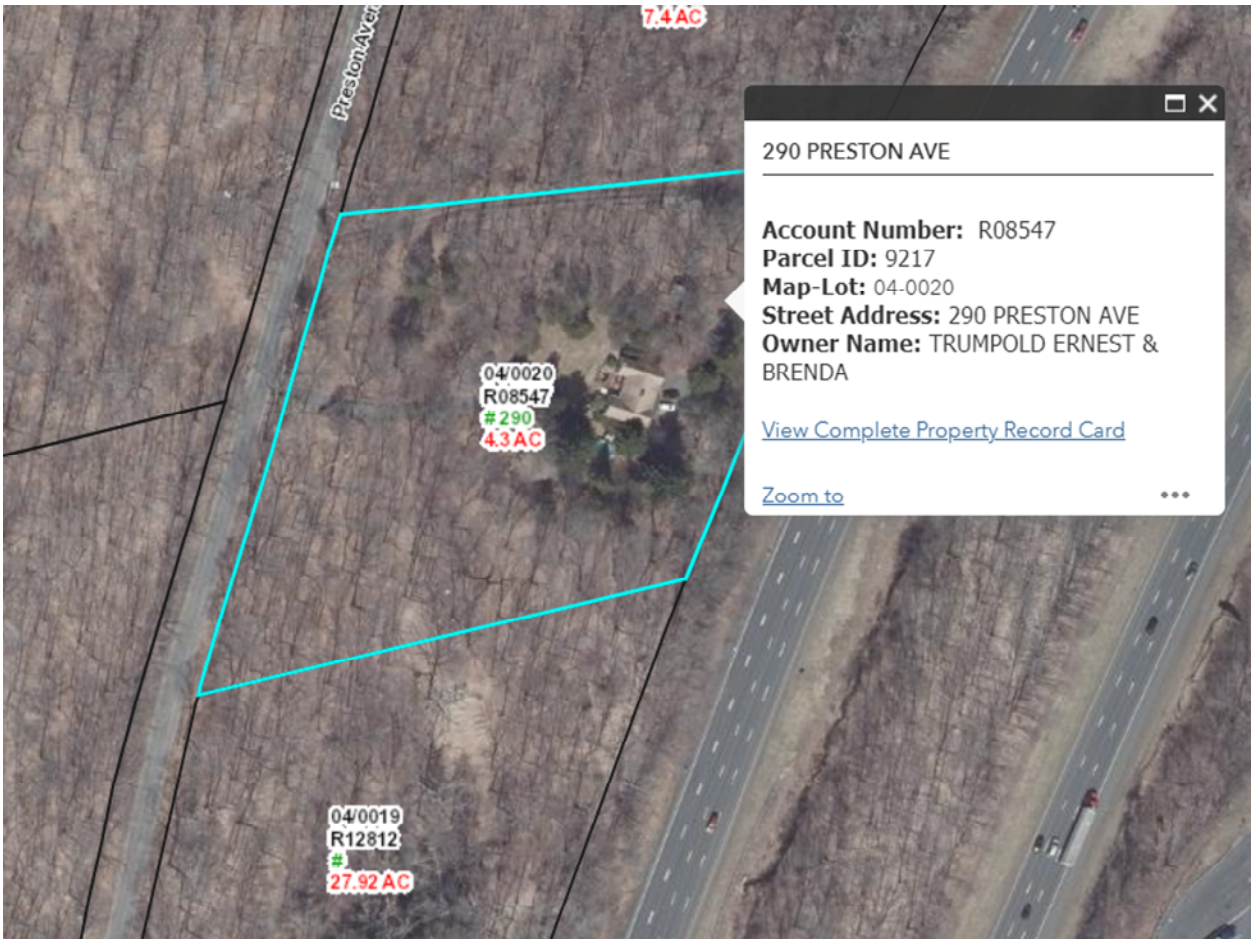

7.4 AC
Preston Aven
290 PRESTON AVE
Account Number: R08547
Parcel ID: 9217
Map-Lot: 04-0020
Street Address: 290 PRESTON AVE
Owner Name: TRUMPOLD ERNEST & BRENDA
View Complete Property Record Card
Zoom to
04/0020
R08547
#290
4.3 AC
04/0019
R12812
#
27.92 AC

Exhibit C

Construction Drawings

PROJECT INFORMATION

SITE NAME:	ATT MIDDLETOWN
SITE NUMBER:	CT11056J
SITE ADDRESS:	290 PRESTON AVE. MIDDLETOWN, CT 06457
COUNTY	MIDDLESEX
MUNICIPALITY:	CITY OF MIDDLETOWN
ZONING:	ELIGIBLE FACILITY REQUEST
LATITUDE:	41.557300
LONGITUDE:	-72.742900
TYPE OF SITE:	MONOPOLE
STRUCTURE HEIGHT:	148'-0" AGL
ANTENNA CENTER:	140'-0" AGL
GROUND ELEVATION:	±398'
TOWER OWNER NAME:	AT&T MOBILITY TAG - LEASE ADMINISTRATION
TOWER OWNER ADDRESS:	1025 LENOX PARK BLVD NE 3RD FLOOR ATLANTA, GA 30319-5309
APPLICANT:	T-MOBILE NORTHEAST, LLC. 15 COMMERCE WAY, SUITE B NORTON, MASSACHUSETTS 02766
APPLICANT PHONE:	(508) 286-2700
APPLICANT FAX:	(508) 286-2893

PROJECT DIRECTORY

ENGINEERING FIRM:
CENTERLINE COMMUNICATIONS
750 WEST CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
DEREK CREASER (617) 306-3034

CARRIER:
T-MOBILE NORTHEAST, LLC.
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
PHONE: (508) 286-2700
FAX: (508) 286-2893

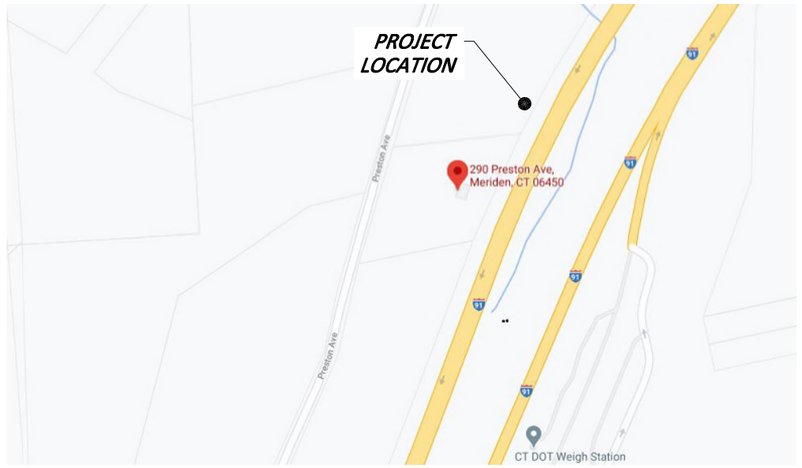
811 Know what's below. Call before you dig.

CENTERLINE COMMUNICATIONS

T - Mobile NORTHEAST LLC

SITE NAME: ATT MIDDLETOWN
SITE ID: CT11056J
ADDRESS: 290 PRESTON AVE.
MIDDLETOWN, CT 06457

TECHNOLOGY: 67D5997DB 6160 (GSM ONLY)
MODIFICATION: ANCHOR_PHASE 3



VICINITY MAP
N.T.S.

LOCATION MAP
N.T.S.

GENERAL NOTES

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

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

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

SCOPE OF WORK

1. REMOVE NINE EXISTING ANTENNAS
2. REMOVE THREE TMAs
3. REMOVE ALL EXISTING COAX & HCS CABLES
4. INSTALL NINE NEW ANTENNAS
5. INSTALL SIX NEW RRUs
6. INSTALL ONE 6160 CABINET
7. INSTALL ONE B160 CABINET
8. INSTALL ONE 6416 AAV CABINET
9. INSTALL THREE 6x24 HYBRID CABLES
10. INSTALL ONE NEW GEN PLUG PPC
11. INSTALL ONE HEAVY DUTY V-FRAME HANDRAIL KIT

DRAWING INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES, RF NOTES, CABLING NOTES
A-1	ROOFTOP/COMPOUND PLAN
A-2	EQUIPMENT LAYOUT
A-3	NORTHEAST ELEVATION
A-4	ANTENNA PLAN & SCHEDULE
A-5	EQUIPMENT DETAILS
A-6	ANTENNA & RRU MOUNTING DETAILS
S-1	PROPOSED PPC CABINET SPECS
S-2	PROPOSED HEAVY DUTY HANDRAIL KIT
S-3	PROPOSED HANDRAIL REINFORCEMENT KIT
SN-1	STRUCTURAL NOTES & SPECIAL INSPECTIONS
E-1	ONE-LINE DIAGRAM & GROUNDING DETAILS

DRAWING SCALE NOTES:

THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"x34". CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

T - Mobile NORTHEAST LLC
T-MOBILE NORTHEAST, LLC.
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
PHONE: (508) 286-2700
FAX: (508) 286-2893

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	04/28/21	ISSUED FOR CONSTRUCTION	MJS
A	04/19/21	ISSUED FOR REVIEW	TRP

DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

SITE NAME: ATT MIDDLETOWN
SITE ID: CT11056J
SITE ADDRESS: 290 PRESTON AVE. MIDDLETOWN, CT 06457
SHEET TITLE: TITLE SHEET
DRAWING: T-1

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
11. ANTENNAS SHALL BE PAINTED,WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE & SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T-MOBILE ANTENNA CABLE MARKING STANDARD:
   - TOP OF TOWER END OF MAIN COAX
   - BOTTOM OF TOWER END OF MAIN COAX
   - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
   - END OF JUMPERS AT BTS EQUIPMENT
3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR - CENTERLINE COMMUNICATIONS
   SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER - T-MOBILE MOBILITY

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

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

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

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

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

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

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

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, 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.

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

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

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

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

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

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

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

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

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

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

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

2015 INTERNATIONAL BUILDING CODE (W/LOCAL AMENDMENTS)
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 NFPA 101 - LIFE SAFETY CODE
2017 NFPA 70 NATIONAL ELECTRIC CODE (W/LOCAL AMENDMENTS)

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

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

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

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

ABBREVIATIONS

AGL	ABOVE GROUND LEVEL	GRC	GALVANIZED RIDGID CONDUIT	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAGE	MGB	MASTER GROUND BUSS	R&R	REMOVE AND REPLACE
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBR	TO BE REMOVED
BTS	BASE TRANSCEIVER STATION	NEC	NATIONAL ELEC. CODE	TYP	TYPICAL
EG	EQUIPMENT GROUND	NTS	NOT TO SCALE		
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		
G.C.	GENERAL CONTRACTOR	REQ	REQUIRED		

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CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	04/28/21	ISSUED FOR CONSTRUCTION	MJS
A	04/19/21	ISSUED FOR REVIEW	TRP

DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED
PROFESSIONAL ENGINEER

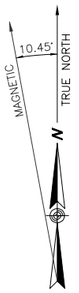
SITE NAME:
ATT MIDDLETOWN

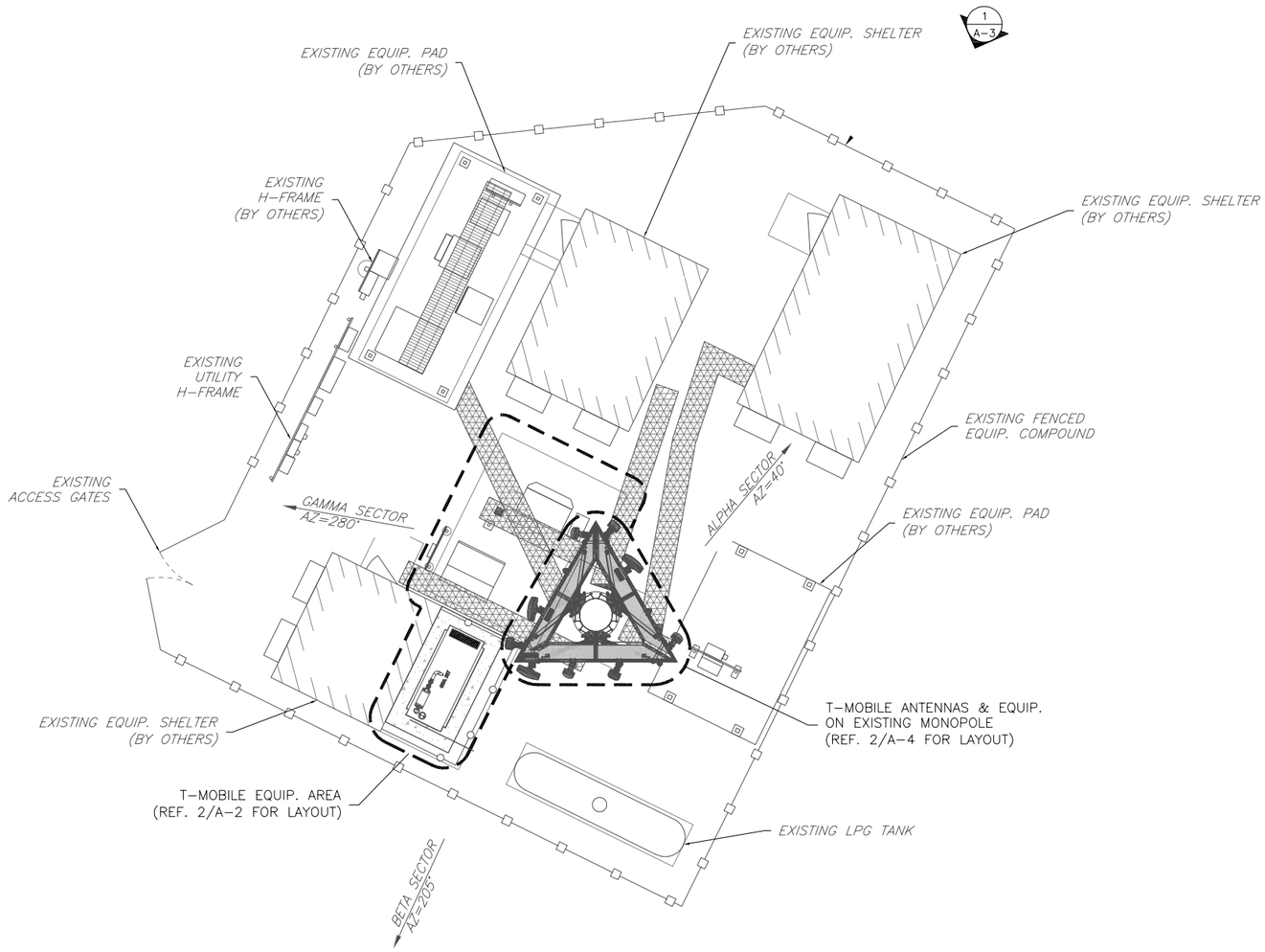
SITE ID:
CT11056J

SITE ADDRESS:
290 PRESTON AVE.
MIDDLETOWN, CT 06457

SHEET TITLE:
GENERAL NOTES, RF NOTES, CABLING NOTES

DRAWING:
GN-1





1 A-1 COMPOUND PLAN

GRAPHIC SCALE

8 4 0 1 2 4 8

3/16 INCH = 1 FOOT (22X34)
3/32 INCH = 1 FOOT (11X17)

NOTES

1. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
2. CONSTRUCTION TO COMMENCE UPON COMPLETION OF A PASSING STRUCTURAL ANALYSIS. STRUCTURAL ANALYSIS TO BE PERFORMED BY CENTERLINE COMMUNICATIONS.
3. REFERENCE STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
4. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA MODELS AND SETTINGS.

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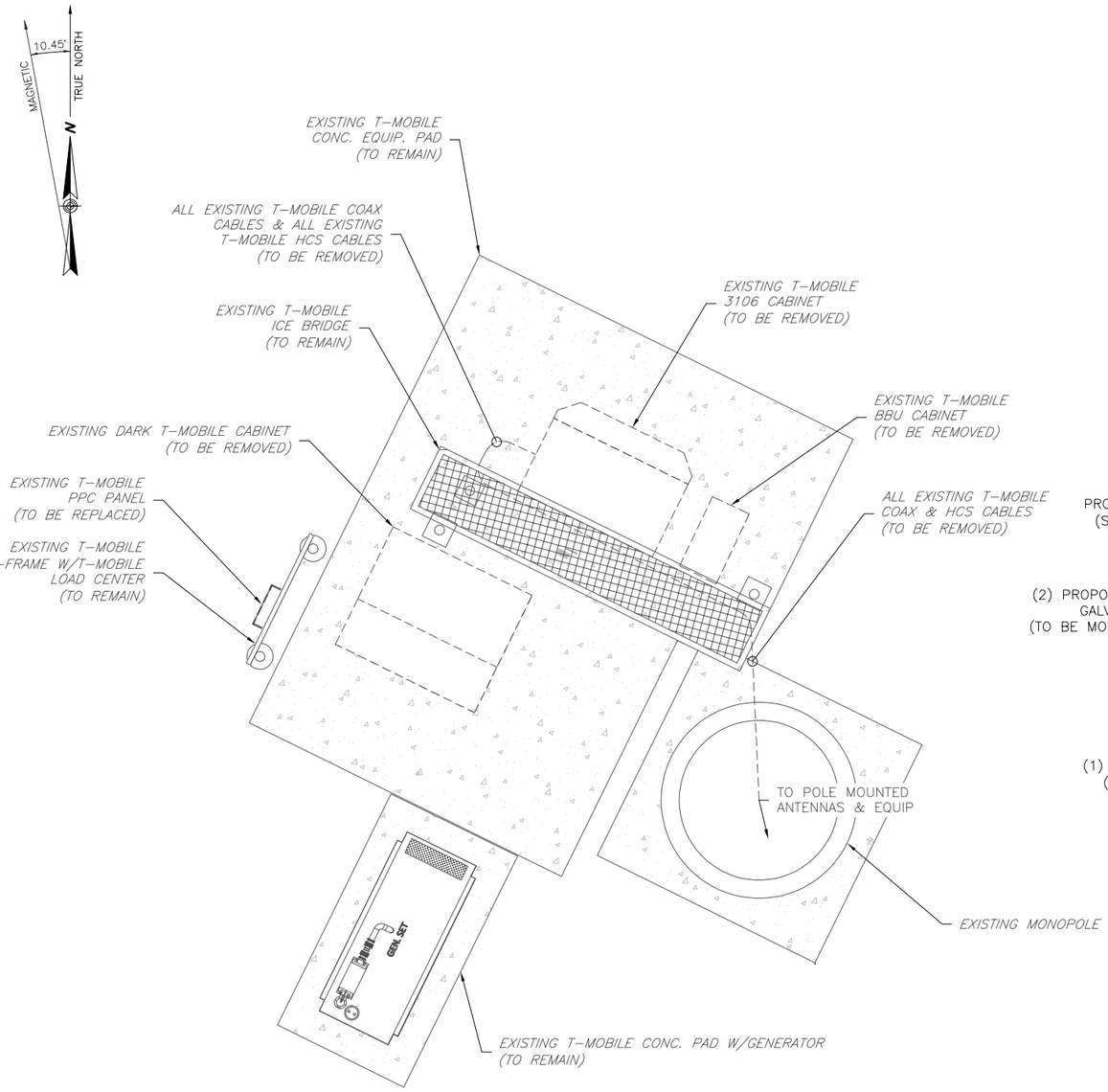
SHEET TITLE:
ROOFTOP / COMPOUND PLAN

DRAWING:
A-1



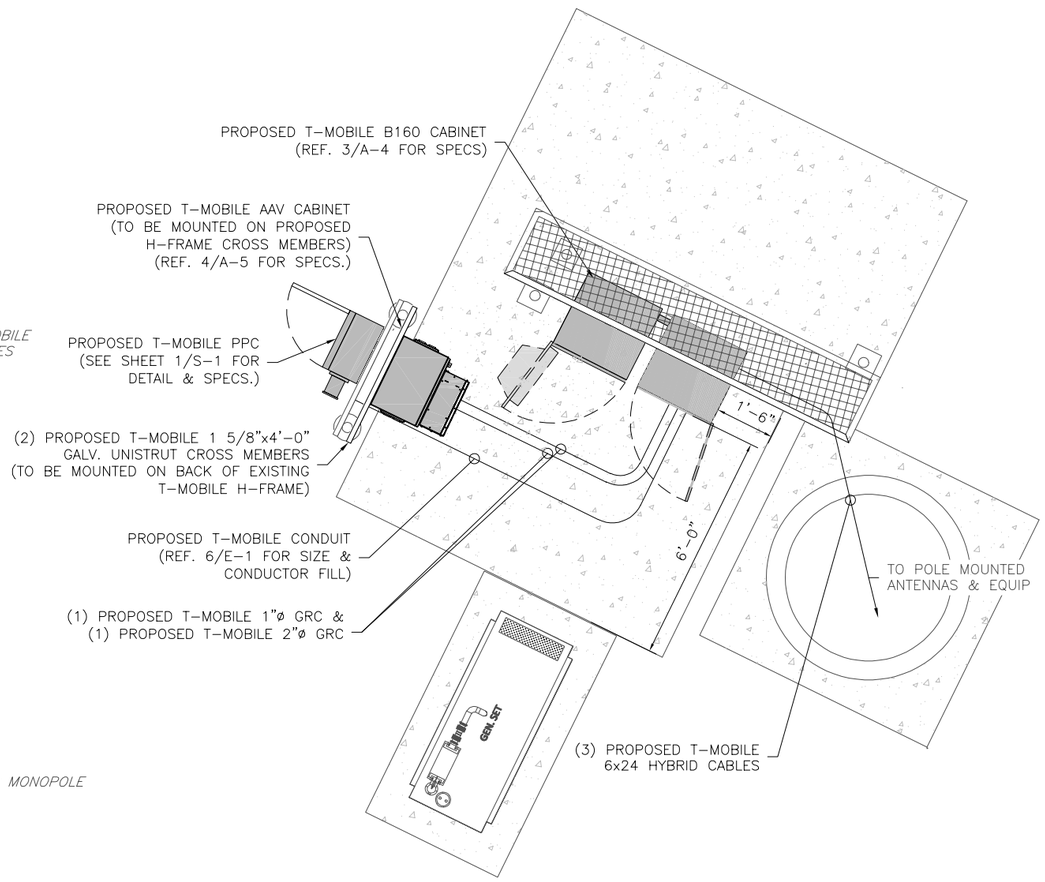
1 EXISTING EQUIP. LAYOUT

A-2

GRAPHIC SCALE

4 2 0 1 2 4

1/2 INCH = 1 FOOT (22X34)
1/4 INCH = 1 FOOT (11X17)



2 PROPOSED EQUIP. LAYOUT

A-2

GRAPHIC SCALE

4 2 0 1 2 4

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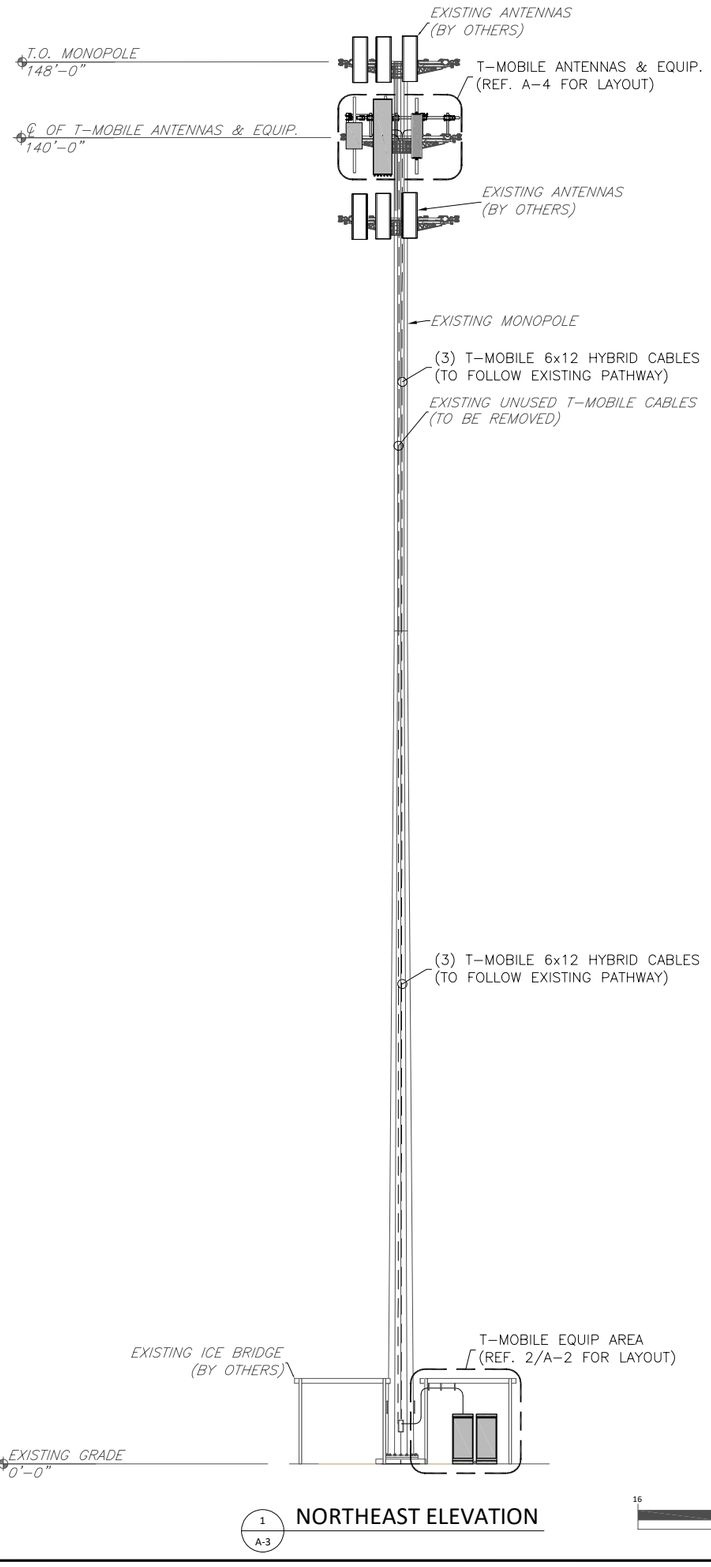
SHEET TITLE:
EQUIP. LAYOUT

DRAWING:
A-2



1 / A-3 NORTHEAST ELEVATION

GRAPHIC SCALE

16 8 0 1 2 4 8 16

1/8 INCH = 1 FOOT (22X34)
1/16 INCH = 1 FOOT (11X17)

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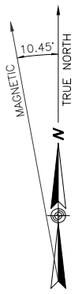
SHEET TITLE:
NORTHEAST ELEVATION

DRAWING:
A-3



ANTENNA & CABLE NOTES:

1. REFERENCE STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
2. REFERENCE MOUNT ANALYSIS BY CENTERLINE COMMUNICATIONS FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
3. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.
4. REMOVE ALL UNUSED CABLE, RRUs AND TMAs.
5. PAINT ANTENNAS AND EQUIP. TO MATCH EXISTING.

STRUCTURAL NOTES:

CONCLUSIONS:

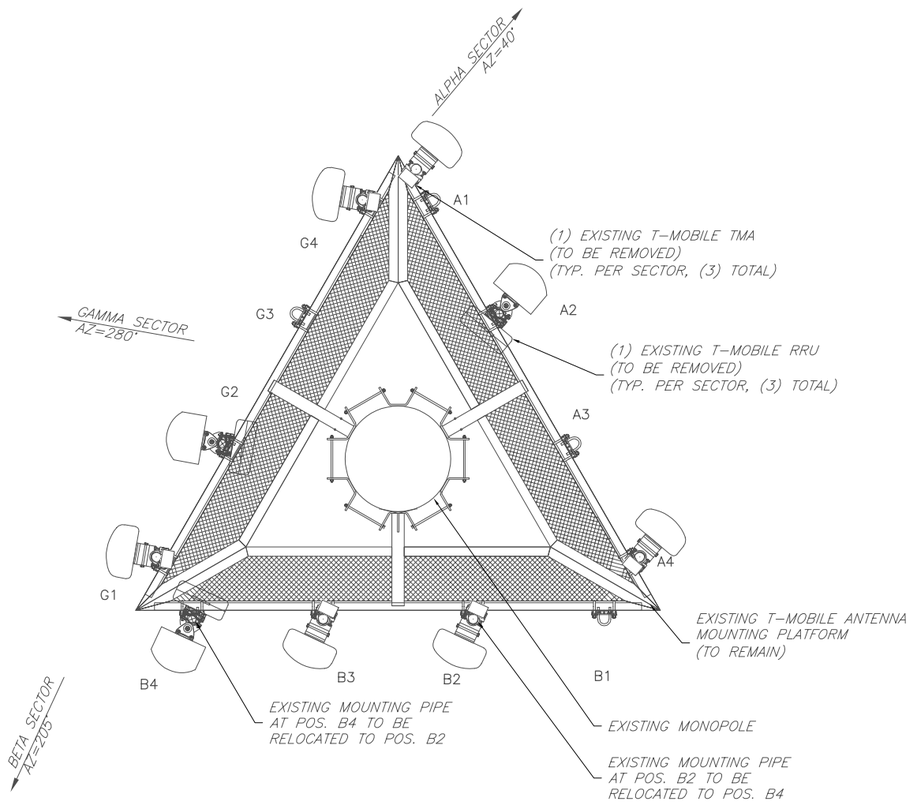
THE RESULTS OF THE ANALYSIS CONCLUDED THAT THE EXISTING STRUCTURE *IS ADEQUATE* TO SUPPORT THE PROPOSED AND EXISTING T-MOBILE EQUIPMENT LOADING.

THE RESULTS OF THE ANALYSIS CONCLUDED THAT THE EXISTING MOUNTS *ARE ADEQUATE* TO SUPPORT THE EXISTING AND PROPOSED T-MOBILE EQUIPMENT LOADING UPON COMPLETION OF THE FOLLOWING MODIFICATIONS. CENTERLINE RECOMMENDS THE FOLLOWING:

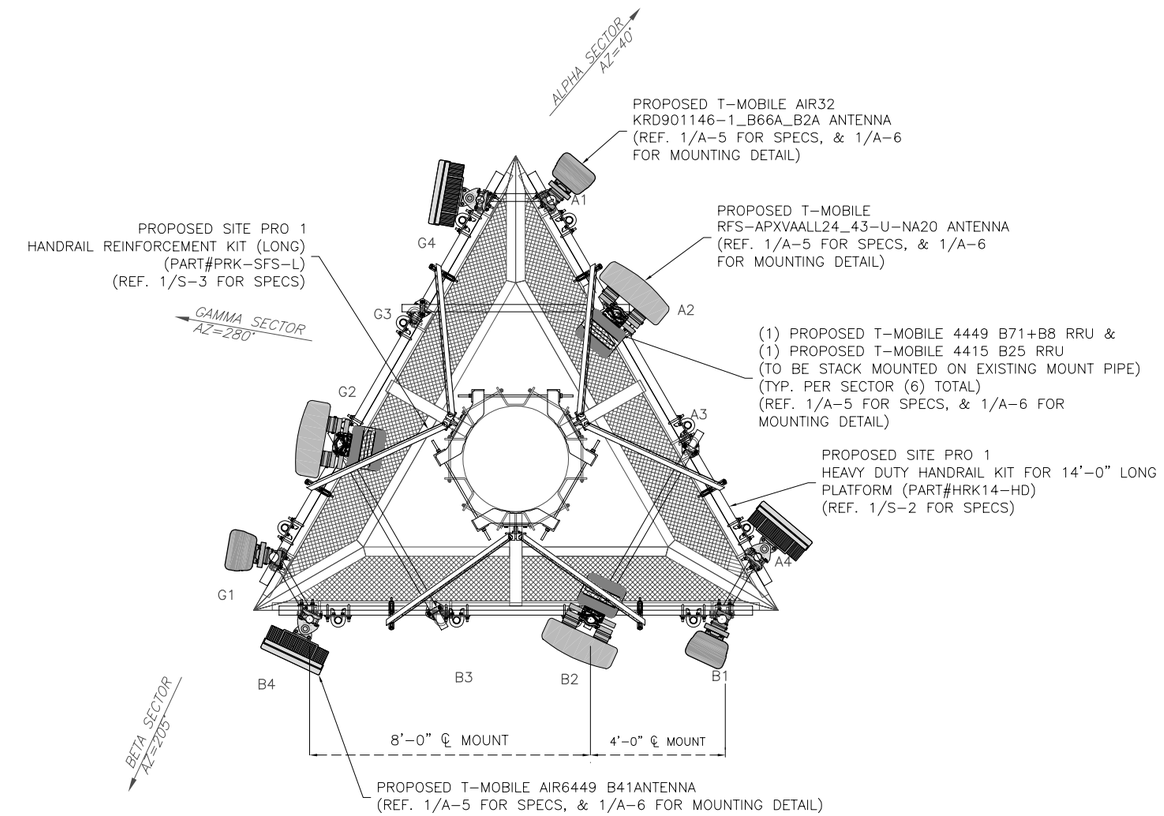
- SWAP BETA POSITION 4 AND BETA POSITION 2 MOUNT PIPES TO ACCOMMODATE APXVAALL24_43-U-NA20 ANTENNA IN BETA SECTOR.
- INSTALL (1) SITE PRO 1 HRK14-HD HANDRAIL KIT AT 42" ABOVE TOP OF PLATFORM GRATING.
- INSTALL (1) SITE PRO 1 PRK-SFS-L REINFORCEMENT KIT ON PROPOSED HANDRAIL. INSTALL REINFORCEMENT KIT RING MOUNT 60" ABOVE TOP OF PLATFORM GRATING.

ANTENNA & CABLE SCHEDULE

	LOCATION	AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL	MECH. DOWN-TILT	ELEC. DOWN-TILT	CABLES	DIPLEXERS	TMA/RRU MODEL	CABLE SIZE	CABLE LENGTH
ALPHA	A-1	40°	140'-0"	PROPOSED	L2100, L1900, G1900	AIR32 KRD901146-1_B66A_B2A	0°	2°/2°/2°/2°	(4) FIBER JUMPERS	---	---	6x24 HYBRID	±160'
	A-2	40°	140'-0"	PROPOSED	L700, L600, N600, L1900	RFS-APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(4) FIBER JUMPERS (8) COAX JUMPERS	---	RRU 4449 B71+B8 RRU 4115 B25	SHARED	---
	A-3					EMPTY							
	A-4	40°	140'-0"	PROPOSED	L2500, N2500	AIR6449 B41	0°	2°/2°	(4) FIBER JUMPRES	---	---	SHARED	---
BETA	B-1	205°	140'-0"	PROPOSED	L2100, L1900, G1900	AIR32 KRD901146-1_B66A_B2A	0°	2°/2°/2°/2°	(4) FIBER JUMPERS	---	---	6x24 HYBRID	±160'
	B-2	205°	140'-0"	PROPOSED	L700, L600, N600, L1900	RFS-APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(4) FIBER JUMPERS (8) COAX JUMPERS	---	RRU 4449 B71+B8 RRU 4115 B25	SHARED	---
	B-3					EMPTY							
	B-4	205°	140'-0"	PROPOSED	L2500, N2500	AIR6449 B41	0°	2°/2°	(4) FIBER JUMPRES	---	---	SHARED	---
GAMMA	G-1	280°	140'-0"	PROPOSED	L2100, L1900, G1900	AIR32 KRD901146-1_B66A_B2A	0°	2°/2°/2°/2°	(4) FIBER JUMPERS	---	---	6x24 HYBRID	±160'
	G-2	280°	140'-0"	PROPOSED	L700, L600, N600, L1900	RFS-APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(4) FIBER JUMPERS (8) COAX JUMPERS	---	RRU 4449 B71+B8 RRU 4115 B25	SHARED	
	G-3					EMPTY							
	G-4	280°	140'-0"	PROPOSED	L2500, N2500	AIR6449 B41	0°	2°/2°	(4) FIBER JUMPRES	---	---	SHARED	---
NOTE: DARK TEXT IN TABLE ABOVE DENOTES PROPOSED EQUIPMENT											TOTAL 6x24 HYBRID CABLE		±480'



1 A-4 EXISTING ANTENNA PLAN
NOT TO SCALE



2 A-4 PROPOSED ANTENNA PLAN
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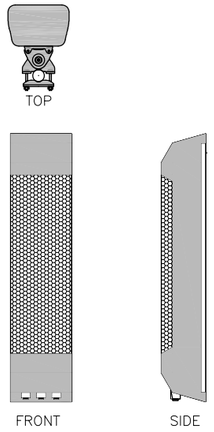
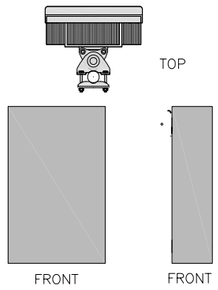
SHEET TITLE: **ANTENNA PLANS & SCHEDULE**

DRAWING: **A-4**

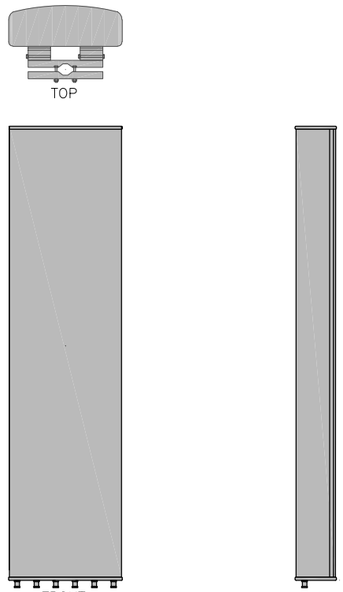
ERICSSON AIR-32 B4A/B2P+ B2A/B66AA	
MODEL #	
MANUF.	ERICSSON
HEIGHT	51.1"
WIDTH	12.0"
DEPTH	6.5"
WEIGHT	29.8 LBS



ERICSSON AIR6449-B41 ANTENNA DETAILS	
MODEL #	AIR6449
MANUF.	ERICSSON
WIDTH	20.6"(1'-8 1/2")
DEPTH (W/ DOOR)	8.6" (8 1/2")
HEIGHT	33.1"(2'9 1/8")
WEIGHT	104± LBS
(INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES)	

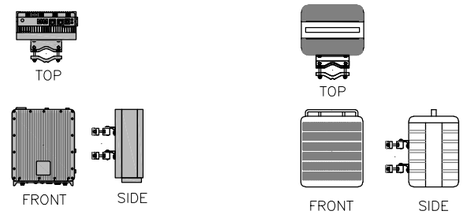


RFS APXVAALL24_43-U-NA20	
MODEL #	APXVAALL24_43-U-NA20 (OCTA)
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24"
DEPTH	8.7"
WEIGHT	128/153.3 LBS with Mounting Hardware



RADIO 4415 DIMENSIONS	
MODEL #	RADIO 4415 B66A RADIO 4415 B25
MANUF.	ERICSSON
WIDTH	13.47"
DEPTH	5.9"
HEIGHT	16.54"
WEIGHT	49.6 LBS

RADIO DIMENSIONS	
MODEL #	RADIO 4449 B71+B12 (WITH FILTER)
MANUF.	ERICSSON
HEIGHT	17.91"
WIDTH	13.18"
DEPTH	10.63"
WEIGHT	91.09 LBS

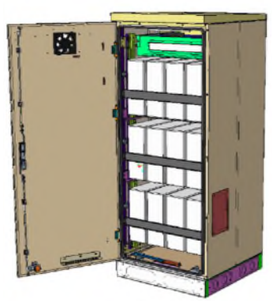


2 A-5 RADIO DETAILS
NOT TO SCALE

1 A-5 ANTENNA DETAILS
NOT TO SCALE

6160 AC ENCLOSURE

CAPACITY	
RACK SPACE USER EQUIP.	19U(19" RACK)
HARDWARE CAPABILITIES	POWER AND CPRI SUPPORT FOR MULTI-STANDARD REMOTE RADIOS(RRU OR AIR) ERS BASEBAND AND TRANSPORT UNITS LI-ION BATTERIES 3PP EQUIPMENT ADDITIONAL POWER FEED OPTIONS AVAILABLE
MECHANICAL SPECIFICATIONS	
WEIGHT	320lbs (INCLUDING ACTIVE EQUIPMENT)
DIMENSIONS	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MOUNTING POSITION	GROUND
ENCLOSURE MATERIAL	ALUMINUM
COLOR	POWDER PAINT NCS 2002-B
DOOR	FRONT ACCESS
RACK TYPE	19" (IEC 60297-3-100)
LOCK TYPE	CYLINDER/PAD LOCK
POWER SYSTEM	
INPUT VOLTAGE	3P+N+PE 346/200-415/240 VAC 2P+N+PE 208/120-220/127 VAC 1P+N+PE 200-250 VAC

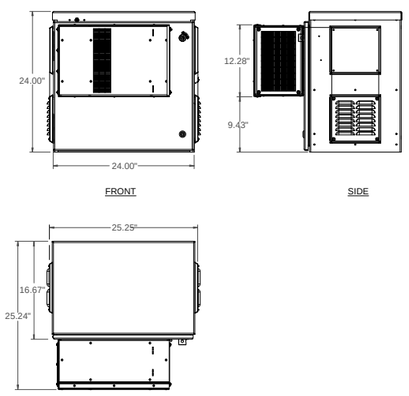


B160 BATTERY ENCLOSURE

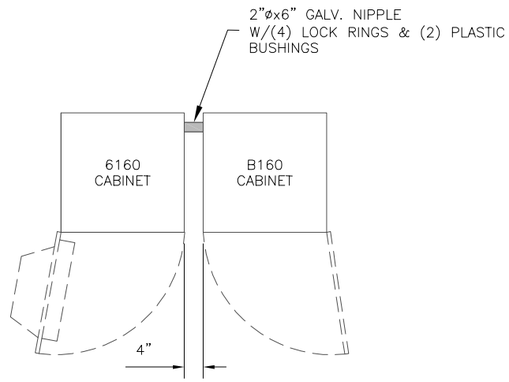
CAPACITY	
VRLA12V:	100Ah/150Ah/170Ah/190Ah/210Ah
LI-ION	24U 19"/23"
SODIUM-NICKEL	3xFIAMM
ELECTRICAL SPECIFICATIONS	
DC OUTPUT	-48VDC/200A
BATTERY BREAKERS	2x125/2p
ALARMS	DOOR OPEN, CLIMATE FAILURE, MCB CONNECTION
MECHANICAL SPECIFICATIONS	
WEIGHT	134kg/296lbs
DIMENSIONS	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MATERIAL	GALVANIZED STEEL (180g/m²)
COLOR	POWDER PAINT NCS 2002-B
LOCKING TYPE	CYLINDER/PAD LOCK

3 A-5 PROPOSED EQUIPMENT CABINETS SPECS.
NOT TO SCALE

2416 CABINET DIMENSIONS	
MODEL #	2416 CABINET
MANUF.	ERICSSON
WIDTH	24"
DEPTH (W/ DOOR)	13"
HEIGHT	24.0"
WEIGHT	64 LBS WITHOUT (4) BATTERIES 36LBS
(INSTALL PER MANUFACTURER'S INSTALLATION GUIDELINES)	



4 A-5 AAV CABINET DETAIL
NOT TO SCALE



5 A-5 NEW EQUIPMENT CONDUIT DETAIL
NOT TO SCALE

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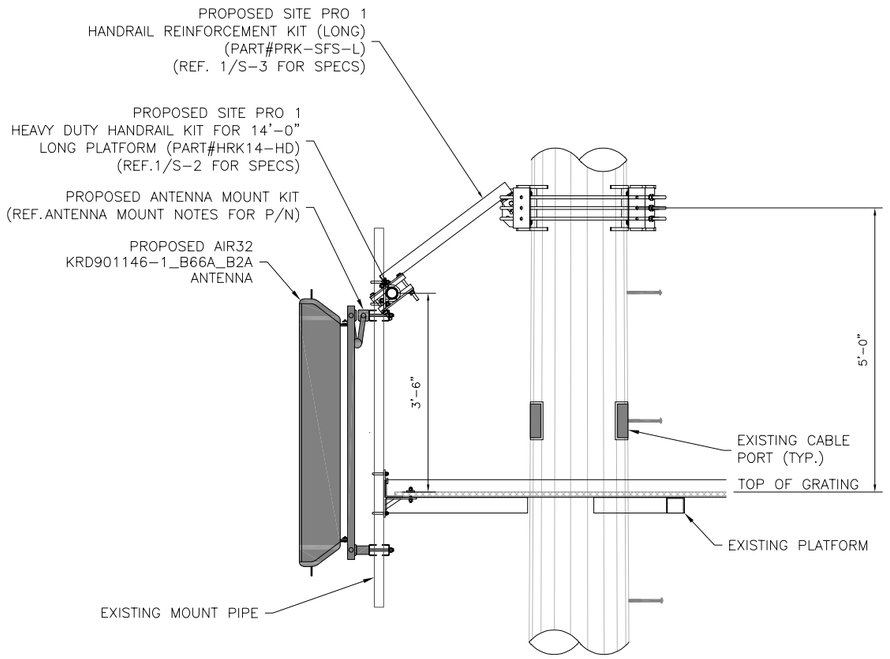
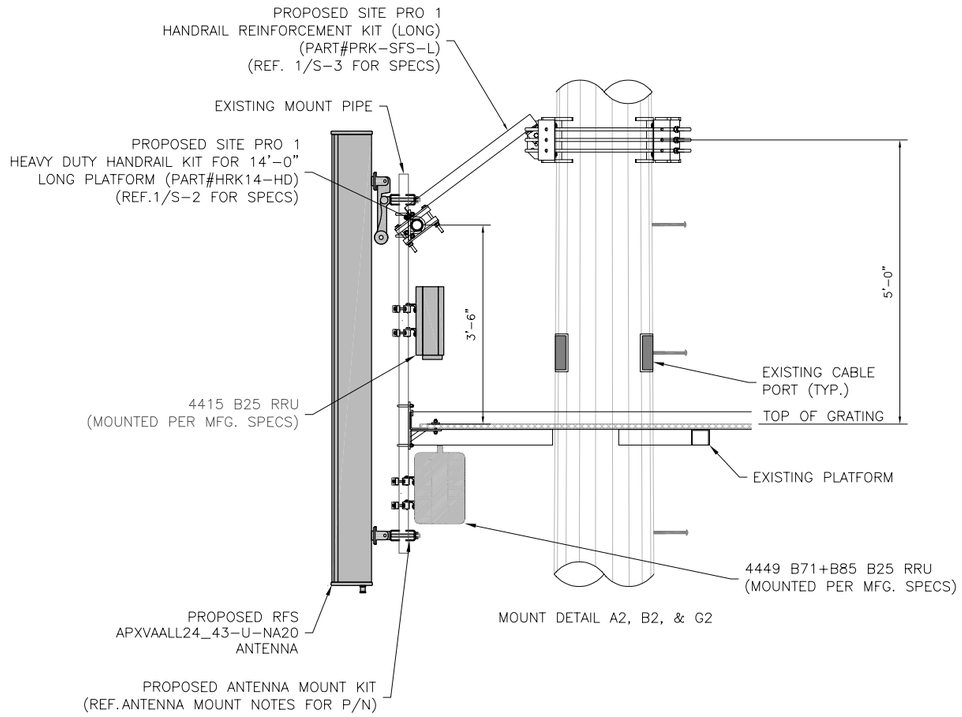
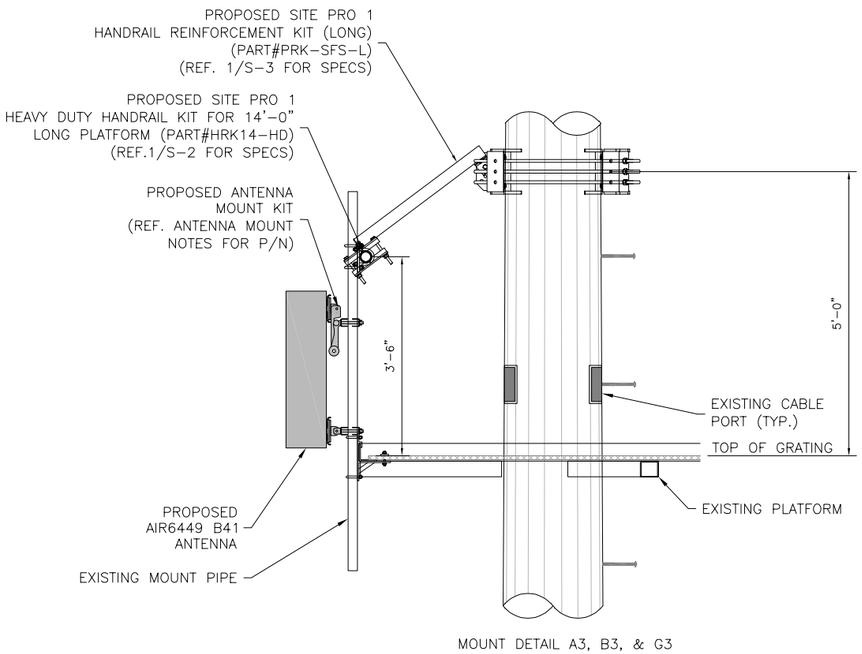
SHEET TITLE: EQUIPMENT DETAILS
DRAWING: A-5



MOUNT DETAIL A1, B1, & G1



MOUNT DETAIL A2, B2, & G2



MOUNT DETAIL A3, B3, & G3

1 A-6 ANTENNA MOUNTING DETAILS

NOT TO SCALE

ANTENNA MOUNT NOTES:

1. AIR 32: KATHREIN SCALA PIPE MOUNT KIT # P/N 85010070
2. AIR6449: ERICSSON R2A PIPE MOUNT KIT
3. APXVAALL24-43-U-NA20: APM40-5E PIPE MOUNT KIT

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CENTERLINE COMMUNICATIONS

750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	04/28/21	ISSUED FOR CONSTRUCTION	MJS
A	04/19/21	ISSUED FOR REVIEW	TRP

DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

SITE NAME:
ATT MIDDLETOWN

SITE ID:
CT11056J

SITE ADDRESS:
290 PRESTON AVE.
MIDDLETOWN, CT 06457

SHEET TITLE:
ANTENNA & RRU MOUNTING DETAILS

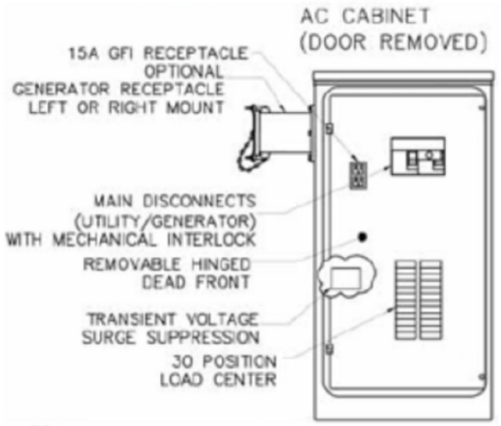
DRAWING:
A-6

EMERSON
Network Power

CAC-A75201090
Specifications

Cabinet Configuration
- 120/240 VAC, 1 Phase, 3 Wire & Ground
- Cabinet Dimensions: 20"W x 10"D x 40"H
- Weight: approx. 80 lbs.
- NEMA 3R Type Enclosure
- Wall or Bracket Mount
- Suitable For Use As Service Equipment
- UL Listed 891, Dead Front Switch Boards

Component Configuration
- Service: 200 Amp Utility/Standby
- Slide Bar Mechanical Interlock (prevents both source from being energized simultaneously)
- 65kAIC Rated Utility Service Disconnect
- 30 Position Square-D Load Center (12 position shown)
- 15Amp, 120Vac GFI duplex receptacle
- N-G Bonding Jumper Kit (customer installed if required)
- Standby Power Receptacle Appleton AR20044RS
- Transient Voltage Surge Suppression rated 100kA



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NORTHERN TECHNOLOGIES

1 / S-1 PPC DETAIL
NOT TO SCALE

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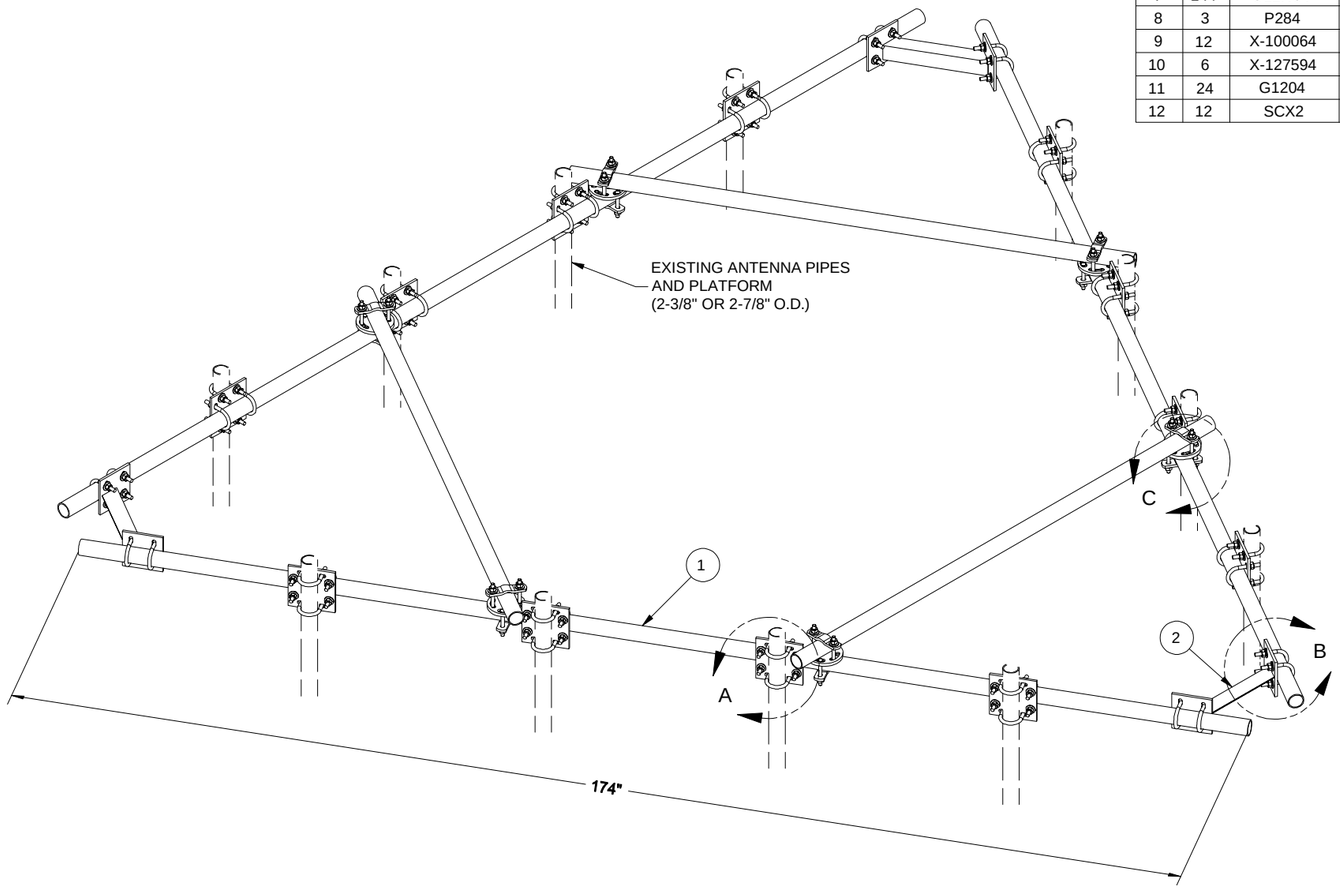
A	04/19/21	ISSUED FOR REVIEW	TRP

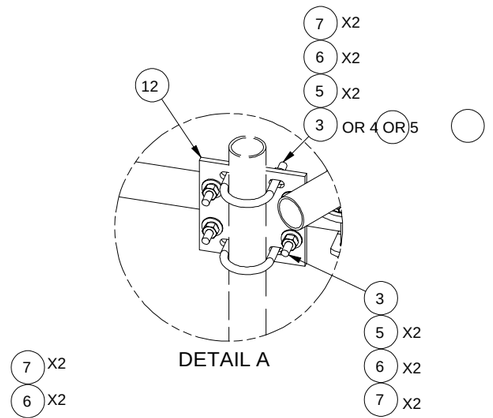
DESIGNED BY:	APPROVED BY:
TRP	MK

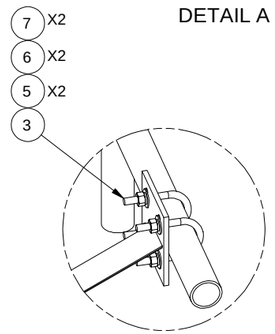
STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

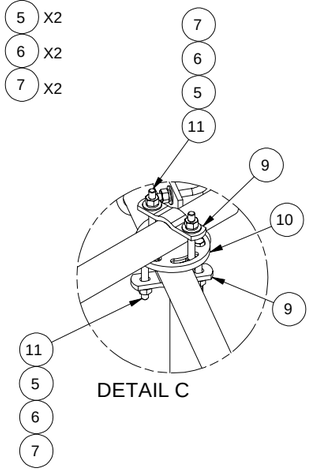
SITE NAME: ATT MIDDLETOWN
SITE ID: CT11056J
SITE ADDRESS: 290 PRESTON AVE. MIDDLETOWN, CT 06457
SHEET TITLE: **PROPOSED PPC CABINET SPECS**
DRAWING: **S-1**

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	P2174	2-3/8" OD X 174" SCH 40 GALVANIZED PIPE	174 in	55.75	167.24
2	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
3	60	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	15.42
4	24	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.26	6.17
5	144	G12FW	1/2" HDG USS FLATWASHER		0.03	4.91
6	144	G12LW	1/2" HDG LOCKWASHER		0.01	2.00
7	144	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	10.31
8	3	P284	2-3/8" X 84" SCH 40 GALVANIZED PIPE	84 in	26.91	80.74
9	12	X-100064	CLAMP (S) (4" V-CLAMP) GALVANIZED		0.91	10.95
10	6	X-127594	FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)		2.48	14.90
11	24	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	6.48
12	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
					TOTAL WT. #	448.08









TOLERANCE NOTES

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

DESCRIPTION
HEAVY DUTY HANDRAIL KIT
FOR 14' PLATFORMS WITH
2-3/8" OR 2-7/8" ANTENNA PIPES

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	CEK 3/31/2015		HRK14-HD	1 OF 1
CLASS SUB	DRAWING USAGE	CHECKED BY	DWG. NO.	
81 01	CUSTOMER	BMC 3/31/2015	HRK14-HD	

1 / S-2 HEAVY DUTY HANDRAIL KIT
NOT TO SCALE

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PHONE: 781.713.4725

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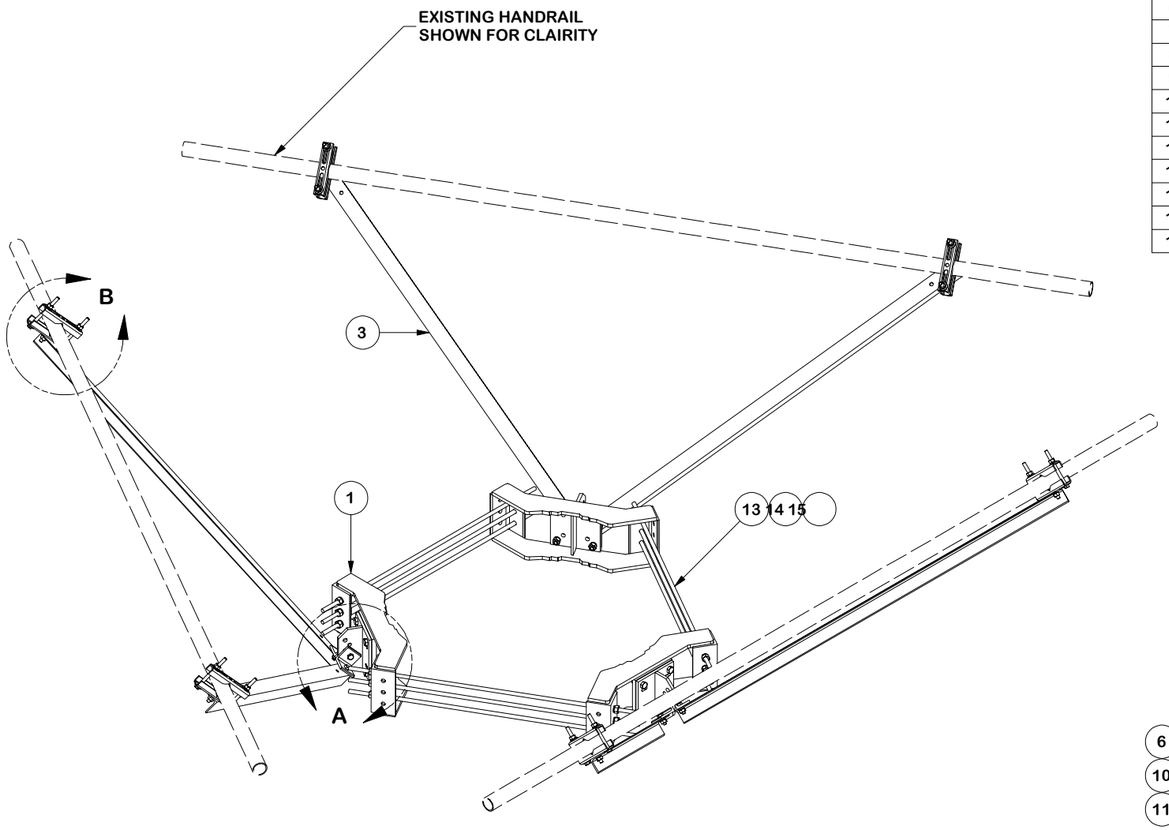
A	04/19/21	ISSUED FOR REVIEW	TRP

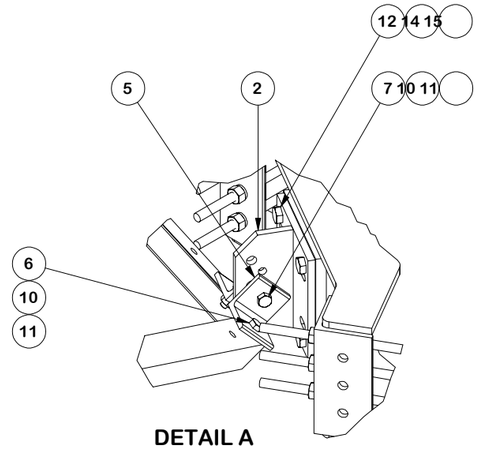
DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

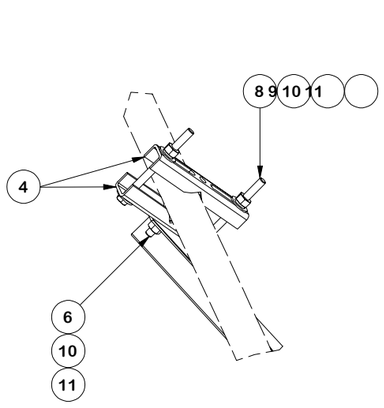
SITE NAME: ATT MIDDLETOWN
SITE ID: CT11056J
SITE ADDRESS: 290 PRESTON AVE. MIDDLETOWN, CT 06457
SHEET TITLE: **PROPOSED HEAVY DUTY HANDRAIL KIT**
DRAWING: **S-2**



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	3	X-TBW	T-BRACKET WELDMENT		13.60	40.80
3	6	X-254924	DIAGONAL ANGLE - SITE PRO 1	72 in	19.71	118.24
4	12	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	16.46
5	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
6	12	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	1.77
7	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
8	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
9	24	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.82
10	27	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.38
11	27	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.93
12	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
13	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	3.59
13	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	3.59
14	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
15	30	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	3.90
					TOTAL WT. #	642.04



DETAIL A



DETAIL B

REV	DESCRIPTION OF REVISIONS	CPD BY	DATE
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1 BC	10/25/2017

REVISION HISTORY

TOLERANCE NOTES

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

DESCRIPTION: HANDRAIL REINFORCEMENT KIT (LONG)

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL3 2/23/2017	3RD PARTY	PRK-SFS-L
CLASS SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81 02	SHOP	BMC 9/8/2017	PRK-SFS-L

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

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

PAGE 1 OF 3

1 S-3 HANDRAIL REINFORCEMENT KIT
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PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	04/28/21	ISSUED FOR CONSTRUCTION	MJS
A	04/19/21	ISSUED FOR REVIEW	TRP

DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT — DEREK J. CREASER — No. 28551 — LICENSED PROFESSIONAL ENGINEER

SITE NAME: ATT MIDDLETOWN

SITE ID: CT11056J

SITE ADDRESS: 290 PRESTON AVE. MIDDLETOWN, CT 06457

SHEET TITLE: PROPOSED HANDRAIL REINFORCEMENT KIT

DRAWING: S-3

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	**MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]**
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	**PHOTOGRAPHS**
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
PHONE: (508) 286-2700
FAX: (508) 286-2893

CENTERLINE COMMUNICATIONS
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	04/28/21	ISSUED FOR CONSTRUCTION	MJS
A	04/19/21	ISSUED FOR REVIEW	TRP

DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

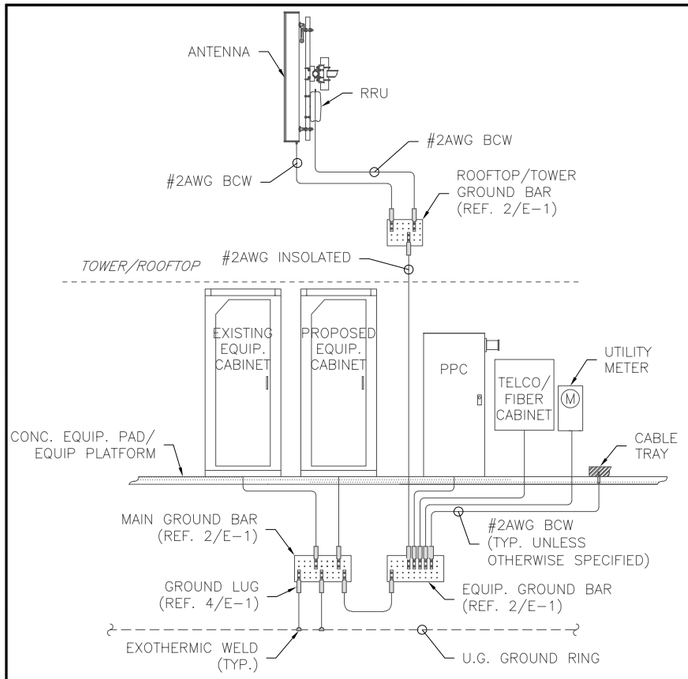
SITE NAME: ATT MIDDLETOWN

SITE ID: CT11056J

SITE ADDRESS: 290 PRESTON AVE. MIDDLETOWN, CT 06457

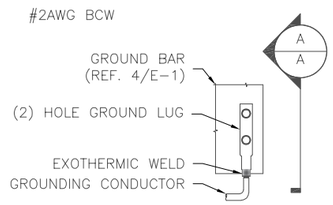
SHEET TITLE: **STRUCTURAL NOTES & SPECIAL INSPECTIONS**

DRAWING: **SN-1**

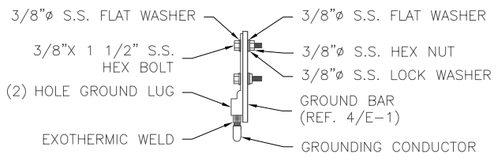


GROUNDING RISER NOTE:
UNLESS OTHERWISE SPECIFIED ALL GROUNDING CONDUCTORS ARE TO BE #2AWG BCW

1 / E-1 GROUNDING RISER DIAGRAM
NOT TO SCALE

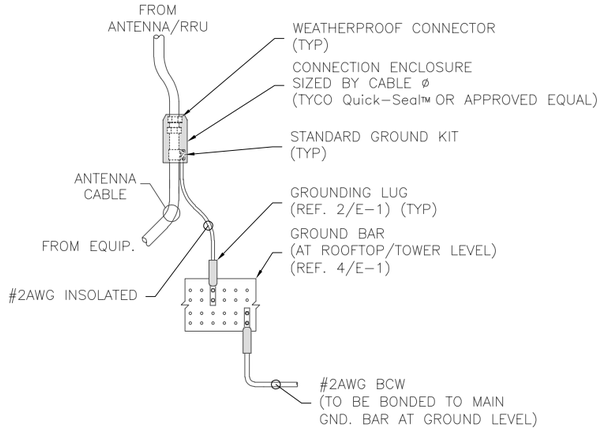


SECTION "A-A"



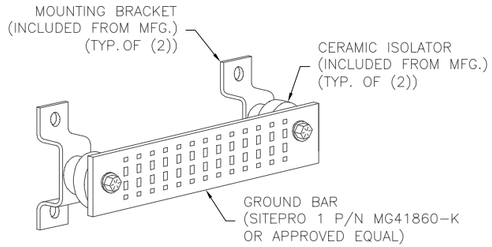
GROUNDING LUG NOTES:
1. DO NOT DOUBLE UP OR STACK LUGS.
2. OXIDE INHIBITING COMPOUND TO BE APPLIED TO ALL LUGS.
3. ALL LUGS ARE TO BE EXOTHERMIC WELDED TO GROUNDING CONDUCTORS.
4. FOR INSOLATED GROUNDING CONDUCTORS, EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM.
5. NO INSULATION IS ALLOWED WITHIN THE BARREL OF THE COMPRESSION TERMINAL.

2 / E-1 GROUND LUG DETAIL
NOT TO SCALE



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT BEND IN CABLE.
2. GROUND CABLES DIRECTLY TO CIGBE
3. JUMPER REQUIRED ONLY WHEN CABLE IS 1 1/4" OR LARGER

3 / E-1 ANTENNA/RRU GROUNDING DETAIL
NOT TO SCALE



4 / E-1 GROUND BAR DETAIL
NOT TO SCALE

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

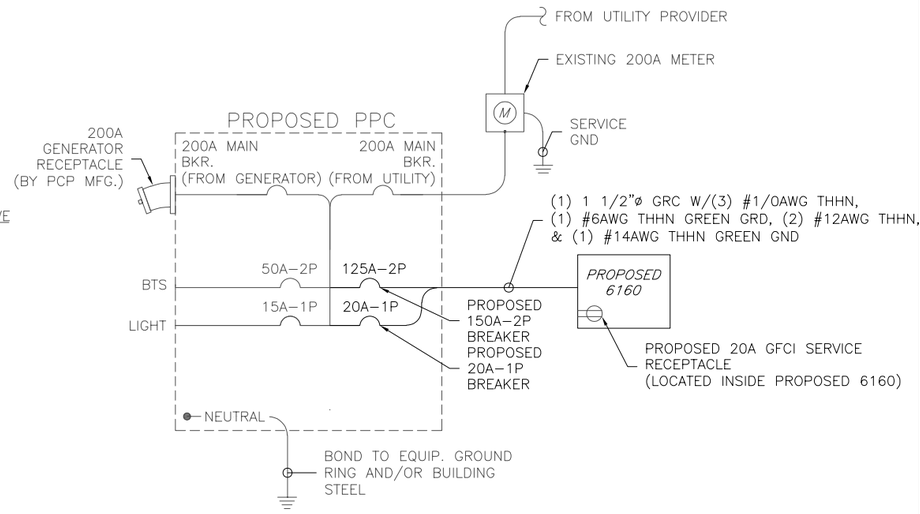
SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

5 / E-1 GROUND WIRE SCHEDULE
NOT TO SCALE



6 / E-1 ONE LINE DIAGRAM
NOT TO SCALE

T - Mobile
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PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
0	04/28/21	ISSUED FOR CONSTRUCTION	MJS
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DESIGNED BY:	APPROVED BY:
TRP	MK

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

SITE NAME:
ATT MIDDLETOWN

SITE ID:
CT11056J

SITE ADDRESS:
290 PRESTON AVE.
MIDDLETOWN, CT 06457

SHEET TITLE:
ONE-LINE DIAGRAM & GROUNDING DETAILS

DRAWING:
E-1

Exhibit D

Structural Analysis Report

CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

Structural Analysis Report

Site ID: CT11056J
Site Name: ATT Middletown
Project Name: ANCHOR
Address: 290 Preston Avenue
Middletown, CT 06457

Client:

T - Mobile

NORTHEAST, LLC
15 Commerce Way, Suite B
Norton, MA 02766

Date: 4/27/2021

Scope of Work:

Centerline Communications was authorized by T-Mobile Northeast LLC to perform an analysis of the existing structure to determine its capacity to support the proposed and existing T-Mobile equipment/appurtenances listed in this report.

Existing & Proposed Equipment:

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
AT&T	148.0	150.0	6	Powerwave	7770 Panel Antenna	(12) 1-5/8 (2) 7/8 (1) 3/8 (6) 1-5/8[1]
			1	Andrew	SBNHH-1D65C Panel Antenna	
			1	CCI	HPA-65R-BUU-H6 Panel Antenna	
			1	Andrew	SBNHH-1D65A Panel Antenna	
			3	Andrew	SBNHH-1D65C Panel Antenna[1]	
			12	Powerwave	LGP21401	
			3	Ericsson	RRUS 32 B2	
			3	Ericsson	RRUS 11	
			1	Raycap	DC6-48-60-18-8F	
			1	-	12' LP Platform	
T-Mobile	140.0	140.0	**3**	**Ericsson**	**AIR32 KRD901146-1_B66A-B2A Panel Antennas**	**(3) 6x24 Hybrid**
			3	**RFS**	**APXVAALL24_43-U-NA20 Panel Antenna**	
			3	**Ericsson**	**AIR6449 B41 Panel Antennas**	
			3	**Ericsson**	**Radio 4449 B71+B85 RRH**	
			3	**Ericsson**	**4415 B25 RRH**	
			1	-	Platform Mount	
			1	**Site Pro 1**	**HRK14-HD Reinforcement Kit**	
			1	**Site Pro 1**	**PRK-SFS-L Reinforcement Kit**	
Sprint	126.0	130.0	3	RFS	APXVSPP18-C-A20	(3) 1-1/4 (1) 1-5/8
			3	RFS	APXVTM14-ALU-I20	
			6	ALU	1900 MHz RRH	
			3	ALU	800 MHz RRH	
			3	ALU	RRH8x20-25/TD RRH	
			1	Site Pro 1	12' LP Platform w/ Handrail	

Verizon	110.0	111.0	1	Andrew	LNX-6514DS-T4M	(12) 1-5/8 (1) 1-5/8
		111.0	2	Antel	BXA-70063-6CF	
		110.0	3	Andrew	HBX-6517DS-VTM	
		110.0	3	Andrew	LNX-6513DS-VTM	
		110.0	3	Andrew	HBX-6516DS-VTM	
		111.0	6	RFS	FD9R6004/2C-3L	
		110.0	3	Alcatel Lucent	RRH2x40-AWS	
		110.0	1	RFS	DB-T1-6Z-8AB-0Z	
		110.0	1	-	13' LP Platform	
City of Middletown	105.0	105.0	1	Radiowaves	HP3-11	(1) EW90
			1	-	Dish Mount	
City of Middletown	100.0	105.0	2	RFI	CC807-08	(3) 7/8 (1) 1/2
		104.0	1	dbSpectra	DS1F00F36U-D	
		100.0	1	Bird Tech	DS428E-83I-01-T	
		100.0	3	-	6' Standoff	
Metro PCS	90.0	90.0	3	-	742 213 Panel Antennas	(6) 1-5/8
			3	-	Pipe Mounts	
Metro PCS	55.0	55.0	1	-	GPS Unit	(1) 3/8
-	50.0	50.0	1	-	GPS Unit	(1) 1/2

*Note: Proposed equipment shown in **bold**.*
[1]Equipment Reserved for Future Loading

Design Criteria:

Design Codes:

2018 Connecticut State Building Code
2015 International Building Code
ASCE 7-10
TIA-222-G Standards

Ultimate Design Wind Speed (V_{ult})	130 mph
Wind Speed with Ice	50 mph
Ice Thickness	0.75 in.
Exposure Category	B
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D – Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.180 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.063 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

***Refer to calculations for additional design criteria.**

Conclusion:

Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
148 - 143	Pole	TP24.9x24x0.25	Pole	4.9%	Pass
143 - 138	Pole	TP25.8x24.9x0.25	Pole	10.0%	Pass
138 - 133	Pole	TP26.7x25.8x0.25	Pole	17.0%	Pass
133 - 128	Pole	TP27.601x26.7x0.25	Pole	23.4%	Pass
128 - 123	Pole	TP28.501x27.601x0.25	Pole	31.6%	Pass
123 - 118	Pole	TP29.401x28.501x0.25	Pole	39.0%	Pass
118 - 115	Pole	TP30.661x29.401x0.25	Pole	43.1%	Pass
115 - 110	Pole	TP30.341x29.441x0.25	Pole	51.0%	Pass
110 - 105	Pole	TP31.241x30.341x0.25	Pole	58.6%	Pass
105 - 100	Pole	TP32.142x31.241x0.25	Pole	65.7%	Pass
100 - 99.4	Pole	TP32.251x32.142x0.25	Pole	66.7%	Pass
99.4 - 99.15	Pole	TP32.296x32.251x0.25	Pole	67.1%	Pass
99.15 - 94.15	Pole	TP33.196x32.296x0.25	Pole	74.0%	Pass
94.15 - 89.15	Pole	TP34.096x33.196x0.25	Pole	80.4%	Pass
89.15 - 88.1	Pole	TP34.284x34.096x0.25	Pole	81.7%	Pass
88.1 - 87.85	Pole + Reinf.	TP34.329x34.284x0.4313	Reinf. 5 Tension Rupture	64.3%	Pass
87.85 - 82.85	Pole + Reinf.	TP35.229x34.329x0.425	Reinf. 5 Tension Rupture	69.1%	Pass
82.85 - 79.75	Pole + Reinf.	TP36.643x35.229x0.425	Reinf. 5 Tension Rupture	71.8%	Pass
79.75 - 74.75	Pole + Reinf.	TP36.188x35.288x0.4875	Reinf. 5 Tension Rupture	67.8%	Pass
74.75 - 69.75	Pole + Reinf.	TP37.088x36.188x0.475	Reinf. 5 Tension Rupture	71.2%	Pass
69.75 - 64.75	Pole + Reinf.	TP37.988x37.088x0.475	Reinf. 5 Tension Rupture	74.4%	Pass
64.75 - 59.75	Pole + Reinf.	TP38.888x37.988x0.4688	Reinf. 5 Tension Rupture	77.3%	Pass
59.75 - 57.1	Pole + Reinf.	TP39.365x38.888x0.4625	Reinf. 5 Tension Rupture	78.7%	Pass
57.1 - 56.85	Pole + Reinf.	TP39.41x39.365x0.55	Reinf. 4 Tension Rupture	66.3%	Pass
56.85 - 51.85	Pole + Reinf.	TP40.31x39.41x0.5375	Reinf. 4 Tension Rupture	68.7%	Pass
51.85 - 46.85	Pole + Reinf.	TP41.21x40.31x0.5375	Reinf. 4 Tension Rupture	70.9%	Pass
46.85 - 45	Pole + Reinf.	TP42.489x41.21x0.5375	Reinf. 4 Tension Rupture	71.7%	Pass
45 - 38.75	Pole + Reinf.	TP42.044x40.919x0.6	Reinf. 4 Tension Rupture	68.1%	Pass
38.75 - 33.75	Pole + Reinf.	TP42.944x42.044x0.5875	Reinf. 4 Tension Rupture	69.7%	Pass
33.75 - 28.75	Pole + Reinf.	TP43.844x42.944x0.5875	Reinf. 4 Tension Rupture	71.2%	Pass
28.75 - 26.58	Pole + Reinf.	TP44.234x43.844x0.5875	Reinf. 4 Tension Rupture	71.8%	Pass
26.58 - 26.33	Pole + Reinf.	TP44.279x44.234x0.625	Reinf. 3 Bolt Shear	70.1%	Pass
26.33 - 21.33	Pole + Reinf.	TP45.18x44.279x0.625	Reinf. 3 Tension Rupture	67.7%	Pass

21.33 - 18.08	Pole + Reinf.	TP45.765x45.18x0.625	Reinf. 3 Tension Rupture	68.5%	Pass
18.08 - 17.83	Pole + Reinf.	TP45.81x45.765x0.6125	Reinf. 1 Tension Rupture	70.5%	Pass
17.83 - 12.83	Pole + Reinf.	TP46.71x45.81x0.6125	Reinf. 1 Tension Rupture	71.7%	Pass
12.83 - 7.83	Pole + Reinf.	TP47.61x46.71x0.6	Reinf. 1 Tension Rupture	72.8%	Pass
7.83 - 2.83	Pole + Reinf.	TP48.51x47.61x0.6	Reinf. 1 Tension Rupture	73.8%	Pass
2.83 - 0	Pole + Reinf.	TP49.02x48.51x0.6	Reinf. 1 Tension Rupture	74.3%	Pass
				Summary	
			Pole	81.7%	Pass
			Reinforcement	78.7%	Pass
			Anchor Rods – Group 1	72.9%	Pass
			Anchor Rods – Group 2	67.1%	Pass
			Base Plate	83.9%	Pass
			Overall	83.9%	Pass

Structure Rating (max from all components) =	**83.9%**

Foundation	Capacity	PASS/FAIL
Soil Rating	**68.8%**	**PASS**
Structural Rating	**57.1%**	**PASS**

Foundation Rating (max from all components) =	**68.8%**

Recommendations:

The existing tower and its foundation have sufficient capacity to support the existing and proposed loading for the final loading configuration. Modifications to the tower structure are not required.

Reference Documents:

- T-Mobile RFDS CT11056J_Anchor_7, dated February 23, 2021
- Site Photos and Notes by Centerline Communications, dated January 7, 2021
- Construction Drawings by ProTerra Design Group, dated June 11, 2019
- Structural Analysis by B+T Group, dated August 23, 2019

Assumptions and Limitations:

- The tower and structures were built and maintained with the manufacturer's specifications.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in this report and the referenced drawings.

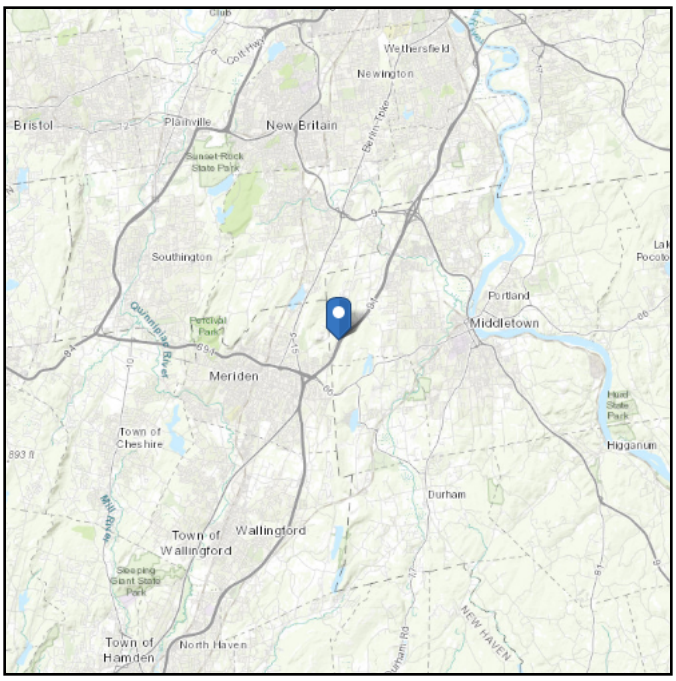
Design Calculations

ASCE 7 Hazards Report

Address:
290 Preston Ave
Middletown, Connecticut
06457

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

Elevation: 380.14 ft (NAVD 88)
Latitude: 41.55692
Longitude: -72.743833



Wind

Results:

Wind Speed:	124 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	93 Vmph
100-year MRI	101 Vmph

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

Date Accessed: Thu Apr 22 2021

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

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

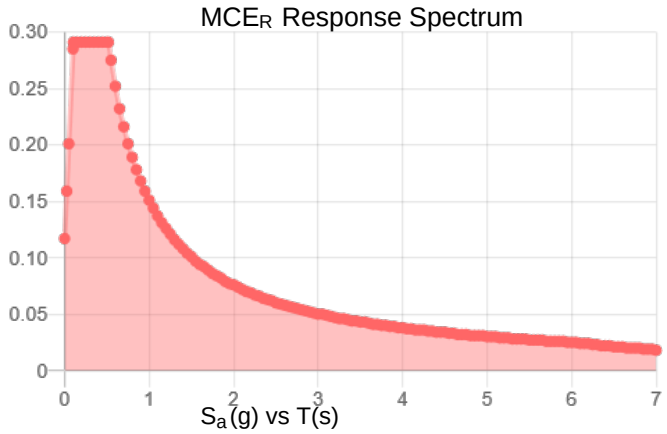
Seismic

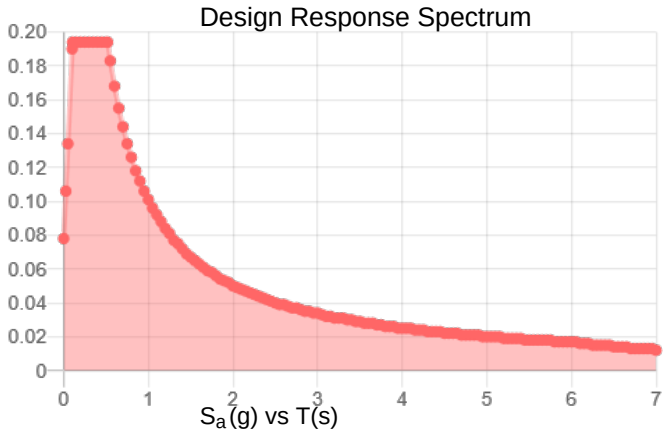
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.182	S_{DS} :	0.194
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.291	PGA_M :	0.149
S_{M1} :	0.151	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Apr 22 2021

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Apr 22 2021

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

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

Snow

Results:

Ground Snow Load, p_g:	30 lb/ft^2
Elevation:	380.1 ft
Data Source:	ASCE/SEI 7-10, Fig. 7-1.
Date Accessed:	Thu Apr 22 2021

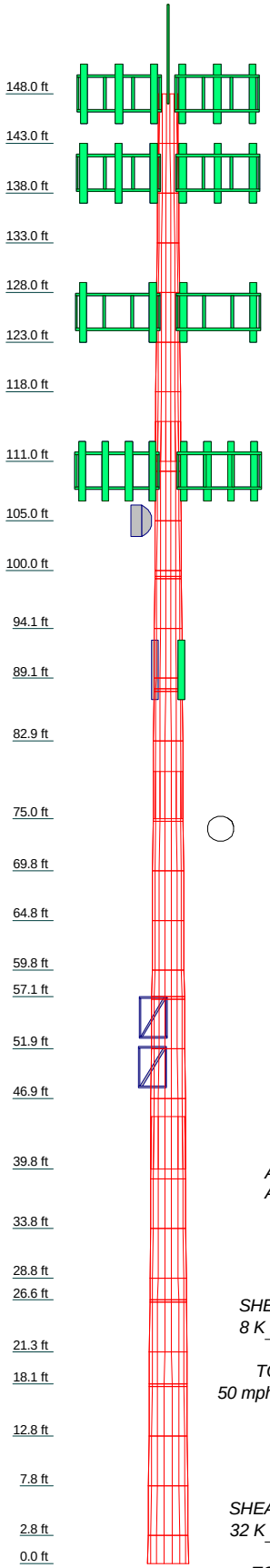
Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.2500		24.0000	24.9001		0.3
2	5.00	18	0.2500		24.9001	25.8003		0.3
3	5.00	18	0.2500		25.8003	26.7004		0.4
4	5.00	18	0.2500		26.7004	27.6005		0.4
5	5.00	18	0.2500		27.6005	28.5007		0.4
6	5.00	18	0.2500		28.5007	29.4008		0.4
7	7.00	18	0.2500	4.00	29.4008	30.3410		0.6
8	5.00	18	0.2500		30.3410	31.2412		0.4
9	5.00	18	0.2500		31.2412	32.1417		0.4
10	5.00	18	0.2500		32.1417	33.0423		0.4
11	5.00	18	0.2500		33.0423	33.9430		0.4
12	5.00	18	0.2500		33.9430	34.8438		0.4
13	5.00	18	0.2500		34.8438	35.7447		0.4
14	5.00	18	0.2500		35.7447	36.6457		0.5
15	5.00	18	0.2500		36.6457	37.5468		0.5
16	5.00	18	0.2500		37.5468	38.4480		0.5
17	5.00	18	0.4250		38.4480	39.4099		0.8
18	5.00	18	0.4250	4.75	39.4099	40.3101		0.8
19	5.00	18	0.4750		40.3101	41.2102		0.9
20	5.00	18	0.4750		41.2102	42.1104		0.9
21	5.00	18	0.4750		42.1104	43.0106		0.9
22	5.00	18	0.4688		43.0106	43.9108		0.9
23	5.00	18	0.4688		43.9108	44.8111		0.9
24	5.00	18	0.5313		44.8111	45.7114		1.0
25	5.00	18	0.5313		45.7114	46.6118		1.0
26	5.00	18	0.5375		46.6118	47.6099		1.1
27	6.75	18	0.5375	5.25	47.6099	48.5100		1.6
28	5.00	18	0.5625		48.5100	49.4102		1.6
29	5.00	18	0.5875		49.4102	50.3104		1.7
30	5.00	18	0.5875		50.3104	51.2106		1.7
31	5.00	18	0.5875		51.2106	52.1108		1.7
32	5.00	18	0.5875		52.1108	53.0111		1.7
33	5.00	18	0.6250		53.0111	53.9114		1.8
34	5.25	18	0.6250		53.9114	54.8118		1.9
35	5.00	18	0.6250		54.8118	55.7122		1.8
36	5.00	18	0.6125		55.7122	56.6126		1.8
37	5.00	18	0.6000		56.6126	57.6099		1.8
38	5.00	18	0.6000		57.6099	58.5100		1.8
39	2.83	18	0.6000		58.5100	59.0200		0.9
							A607-65	27.5



ALL REACTIONS ARE FACTORED

AXIAL 108 K

SHEAR 8 K

MOMENT 1026966 lb-ft

TORQUE 4125 lb-ft

50 mph WIND - 0.7500 in ICE

AXIAL 58 K

SHEAR 32 K

MOMENT 3679791 lb-ft

TORQUE 15636 lb-ft

REACTIONS - 101 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft

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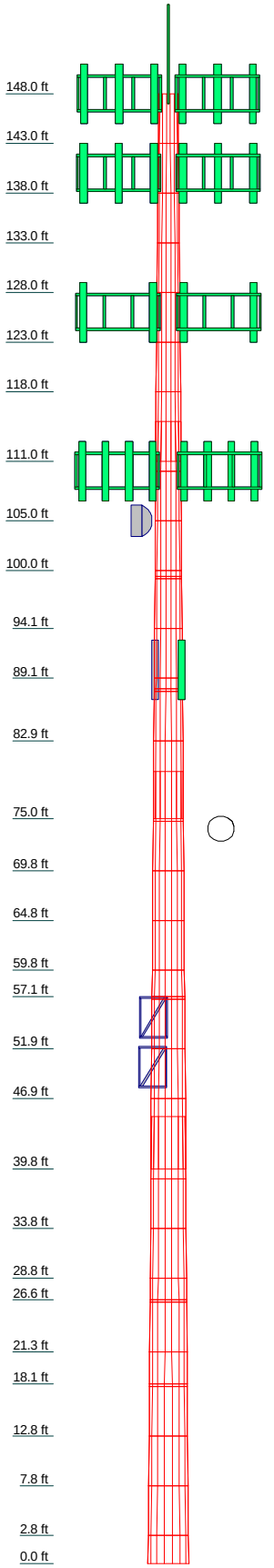
Code: TIA-222-G	Date: 04/27/21	Scale: NTS	
Path:		Dwg No. E-1	

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.2500		24.0000	24.9001		0.3
2	5.00	18	0.2500		24.9001	25.8003		0.3
3	5.00	18	0.2500		25.8003	26.7004		0.4
4	5.00	18	0.2500		26.7004	27.6005		0.4
5	5.00	18	0.2500		27.6005	28.5007		0.4
6	5.00	18	0.2500		28.5007	29.4008		0.4
7	5.00	18	0.2500	4.00	29.4008	30.3010		0.6
8	5.00	18	0.2500		30.3010	31.2011		0.4
9	5.00	18	0.2500		31.2011	32.1013		0.4
10	5.00	18	0.2500		32.1013	33.0014		0.4
12	5.00	18	0.2500		33.0014	33.9016		0.4
13	5.00	18	0.2500		33.9016	34.8017		0.4
14	5.00	18	0.2500		34.8017	35.7019		0.5
15	5.00	18	0.2500		35.7019	36.6020		0.5
16	5.00	18	0.2500		36.6020	37.5022		0.5
17	5.00	18	0.4250		37.5022	38.4023		0.8
18	5.00	18	0.4250	4.75	38.4023	39.3025		1.2
19	5.00	18	0.4750		39.3025	40.2026		0.9
20	5.00	18	0.4750		40.2026	41.1028		0.9
21	5.00	18	0.4750		41.1028	42.0029		0.9
22	5.00	18	0.4688		42.0029	42.9031		0.9
23	2.65	18	0.4688		42.9031	43.3032		0.5
24	2.35	18	0.4688		43.3032	43.6533		0.5
25	5.00	18	0.5313		43.6533	44.5534		1.1
26	5.00	18	0.5375		44.5534	45.4536		1.1
27	6.75	18	0.5375	5.25	45.4536	46.4890		1.6
28	1.60	18	0.5375		46.4890	46.7391		1.6
29	5.00	18	0.5875		46.7391	47.6393		1.3
30	5.00	18	0.5875		47.6393	48.5394		1.3
31	1.70	18	0.5875		48.5394	48.8145		0.6
32	0.30	18	0.5875		48.8145	48.8646		0.1
33	5.00	18	0.6250		48.8646	49.7648		1.4
34	3.25	18	0.6250		49.7648	50.3398		0.9
35	1.75	18	0.6250		50.3398	50.6399		0.5
36	5.00	18	0.6125		50.6399	51.5401		1.5
37	5.00	18	0.6000		51.5401	52.4402		1.5
38	5.00	18	0.6000		52.4402	53.3404		1.5
39	2.83	18	0.6000		53.3404	53.8505		0.9
					48.5100	49.0200	A607-65	27.5



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8x8'	152	(2) 1900 MHz RRH (Sprint)	126
(2) 7770.00 w/ Mount Pipe (ATT)	148	800 MHz RRH (Sprint)	126
(2) 7770.00 w/ Mount Pipe (ATT)	148	800 MHz RRH (Sprint)	126
(2) 7770.00 w/ Mount Pipe (ATT)	148	800 MHz RRH (Sprint)	126
HPA-65R-BUU-H6 w/ Mount Pipe (ATT)	148	APXVTM14-ALU-I20 w/ Mount Pipe (Sprint)	126
SBNHH-1D65A w/ Mount Pipe (ATT)	148	APXVTM14-ALU-I20 w/ Mount Pipe (Sprint)	126
SBNHH-1D65C w/ Mount Pipe (ATT)	148	APXVTM14-ALU-I20 w/ Mount Pipe (Sprint)	126
(4) LGP21401 (ATT)	148	RRH8x20-25/TD RRH (Sprint)	126
(4) LGP21401 (ATT)	148	RRH8x20-25/TD RRH (Sprint)	126
(4) LGP21401 (ATT)	148	RRH8x20-25/TD RRH (Sprint)	126
RRUS 32 B2 (ATT)	148	Platform Mount [LP 1201-1] (Sprint)	126
RRUS 32 B2 (ATT)	148	Platform Mount [LP 1201-1] (VZW)	110
RRUS 32 B2 (ATT)	148	HBX-6517DS-VTM w/ Mount Pipe (VZW)	110
RRUS 11 (ATT)	148	HBX-6517DS-VTM w/ Mount Pipe (VZW)	110
RRUS 11 (ATT)	148	HBX-6517DS-VTM w/ Mount Pipe (VZW)	110
RRUS 11 (ATT)	148	LNX-6513DS-VTM w/ Mount Pipe (VZW)	110
DC6-48-60-18-8F (ATT)	148	LNX-6513DS-VTM w/ Mount Pipe (VZW)	110
SBNHH-1D65C w/ Mount Pipe (ATT)	148	LNX-6513DS-VTM w/ Mount Pipe (VZW)	110
SBNHH-1D65C w/ Mount Pipe (ATT)	148	HBX-6516DS-VTM w/ Mount Pipe (VZW)	110
SBNHH-1D65C w/ Mount Pipe (ATT)	148	HBX-6516DS-VTM w/ Mount Pipe (VZW)	110
(2) 6' x 2" Mount Pipe (ATT)	148	HBX-6516DS-VTM w/ Mount Pipe (VZW)	110
(2) 6' x 2" Mount Pipe (ATT)	148	(2) FD9R6004/2C-3L (VZW)	110
(2) 6' x 2" Mount Pipe (ATT)	148	(2) FD9R6004/2C-3L (VZW)	110
Platform Mount [LP 1201-1] (ATT)	148	(2) FD9R6004/2C-3L (VZW)	110
AIR32 B2A/B66A W/ MOUNT PIPE (TMO)	140	RRH2x40-AWS (VZW)	110
AIR32 B2A/B66A W/ MOUNT PIPE (TMO)	140	RRH2x40-AWS (VZW)	110
AIR32 B2A/B66A W/ MOUNT PIPE (TMO)	140	RRH2x40-AWS (VZW)	110
APXVAALL24_43-U-NA20 W/ MP (TMO)	140	DB-T1-6Z-8AB-0Z (VZW)	110
APXVAALL24_43-U-NA20 W/ MP (TMO)	140	LNX-6514DS-T4M w/ Mount Pipe (VZW)	110
APXVAALL24_43-U-NA20 W/ MP (TMO)	140	BXA-70063-6CF w/ Mount Pipe (VZW)	110
AIR 6449 B41 W/ MOUNT PIPE (TMO)	140	BXA-70063-6CF w/ Mount Pipe (VZW)	110
AIR 6449 B41 W/ MOUNT PIPE (TMO)	140	Pipe Mount [PM 601-1]	105
AIR 6449 B41 W/ MOUNT PIPE (TMO)	140	HP3-11	105
RADIO 4449 B71+B85 (TMO)	140	CC807-08	100
RADIO 4449 B71+B85 (TMO)	140	CC807-08	100
RADIO 4449 B71+B85 (TMO)	140	DS1F00F36U-D	100
RADIO 4415 B25 (TMO)	140	DS428E-83I-01-T	100
RADIO 4415 B25 (TMO)	140	Side Arm Mount [SO 602-3]	100
RADIO 4415 B25 (TMO)	140	742 213 w/ Mount Pipe	90
6' x 2" Mount Pipe (TMO)	140	742 213 w/ Mount Pipe	90
6' x 2" Mount Pipe (TMO)	140	742 213 w/ Mount Pipe	90
6' x 2" Mount Pipe (TMO)	140	Side Arm Mount [SO 701-1]	55
Reinforced Platform Mount [LP 1201-1] (TMO)	140	GPS	55
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	126	Side Arm Mount [SO 701-1]	50
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	126	GPS	50
APXVSPP18-C-A20 w/ Mount Pipe (Sprint)	126		
(2) 1900 MHz RRH (Sprint)	126		
(2) 1900 MHz RRH (Sprint)	126		

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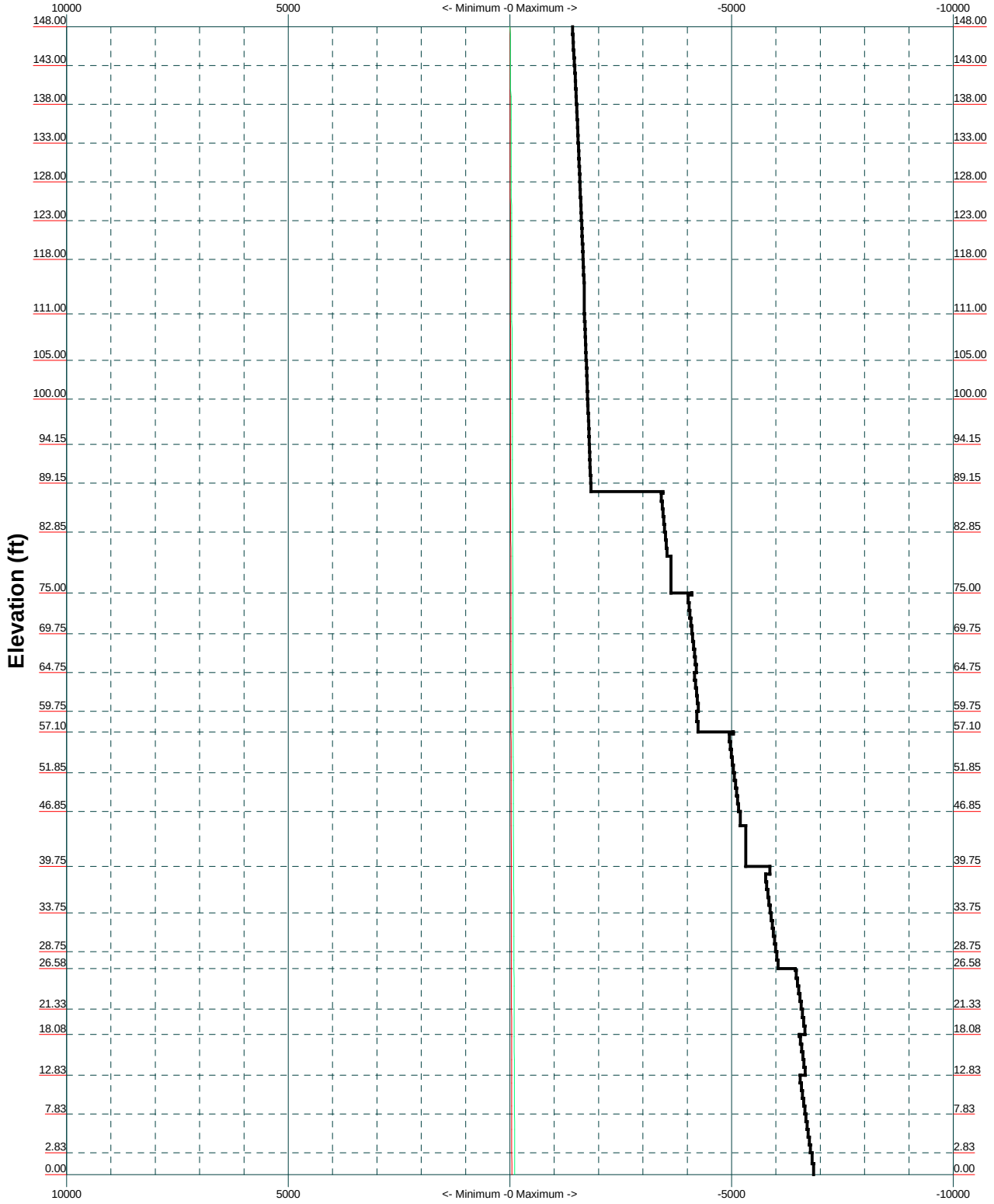
Job: ***CT11056J***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 04/27/21		Scale: NTS
Path:			Dwg No. E-1

TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure B

Leg Capacity ——— **Leg Compression (K)**



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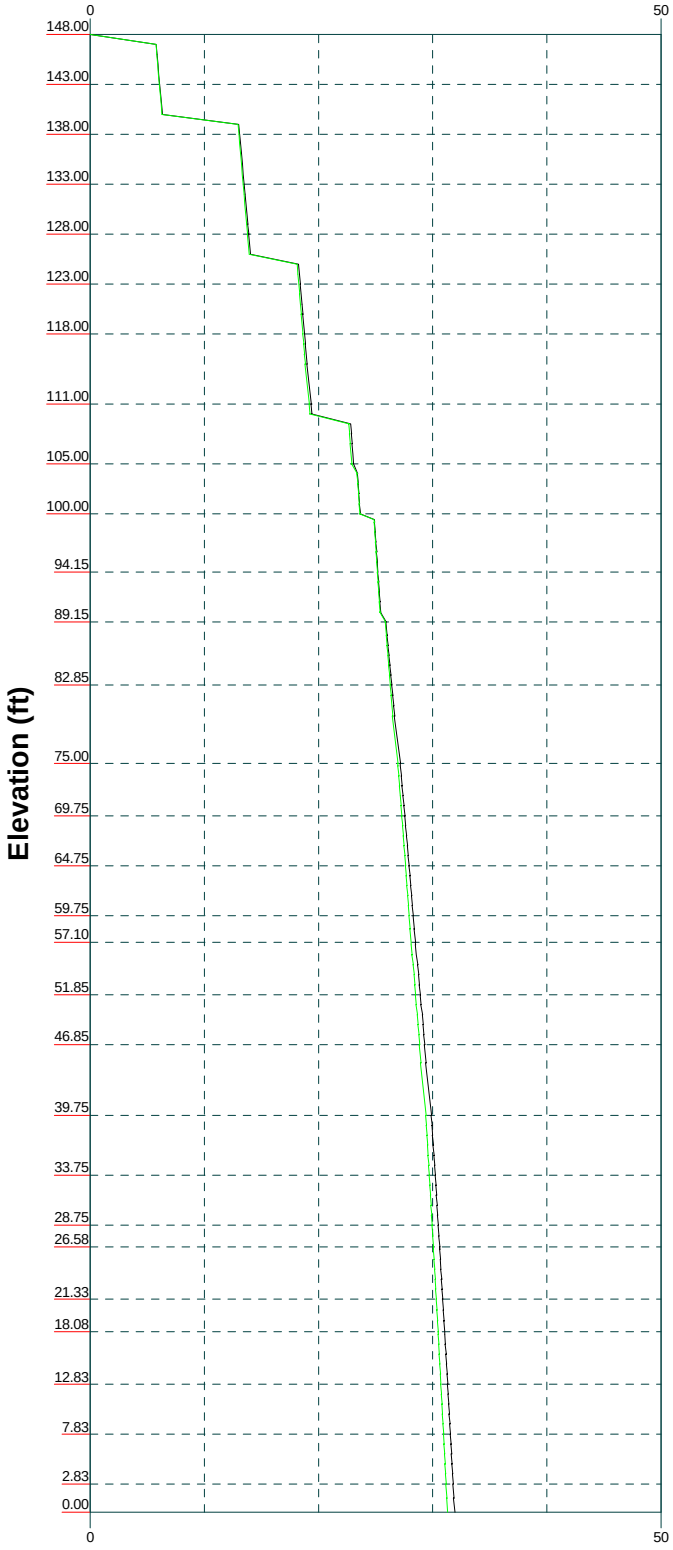
Job: ***CT11056J***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak		App'd:
Code: TIA-222-G	Date: 04/27/21		Scale: NTS
Path:			Dwg No. E-3

TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure B

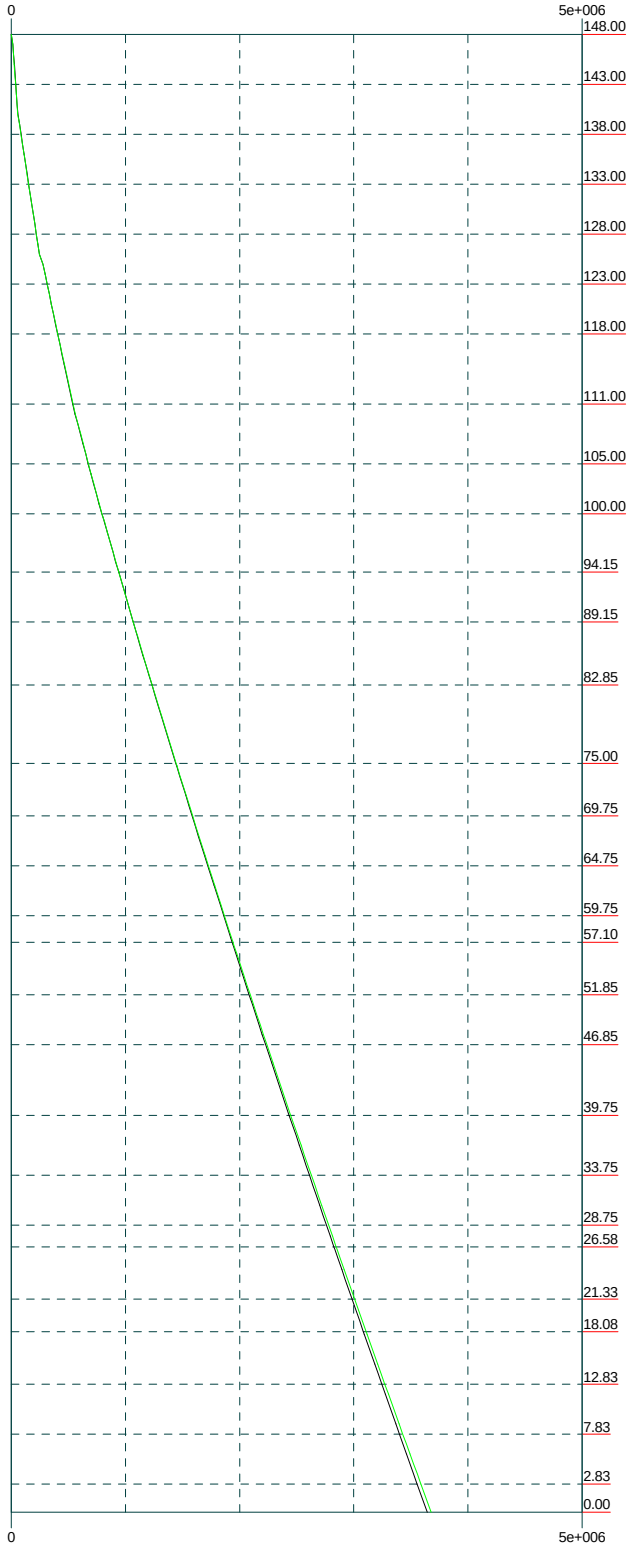
Maximum Values

Vx Vz Mx Mz

Global Mast Shear (K)



Global Mast Moment (lb-ft)



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Job: ***CT11056J***			
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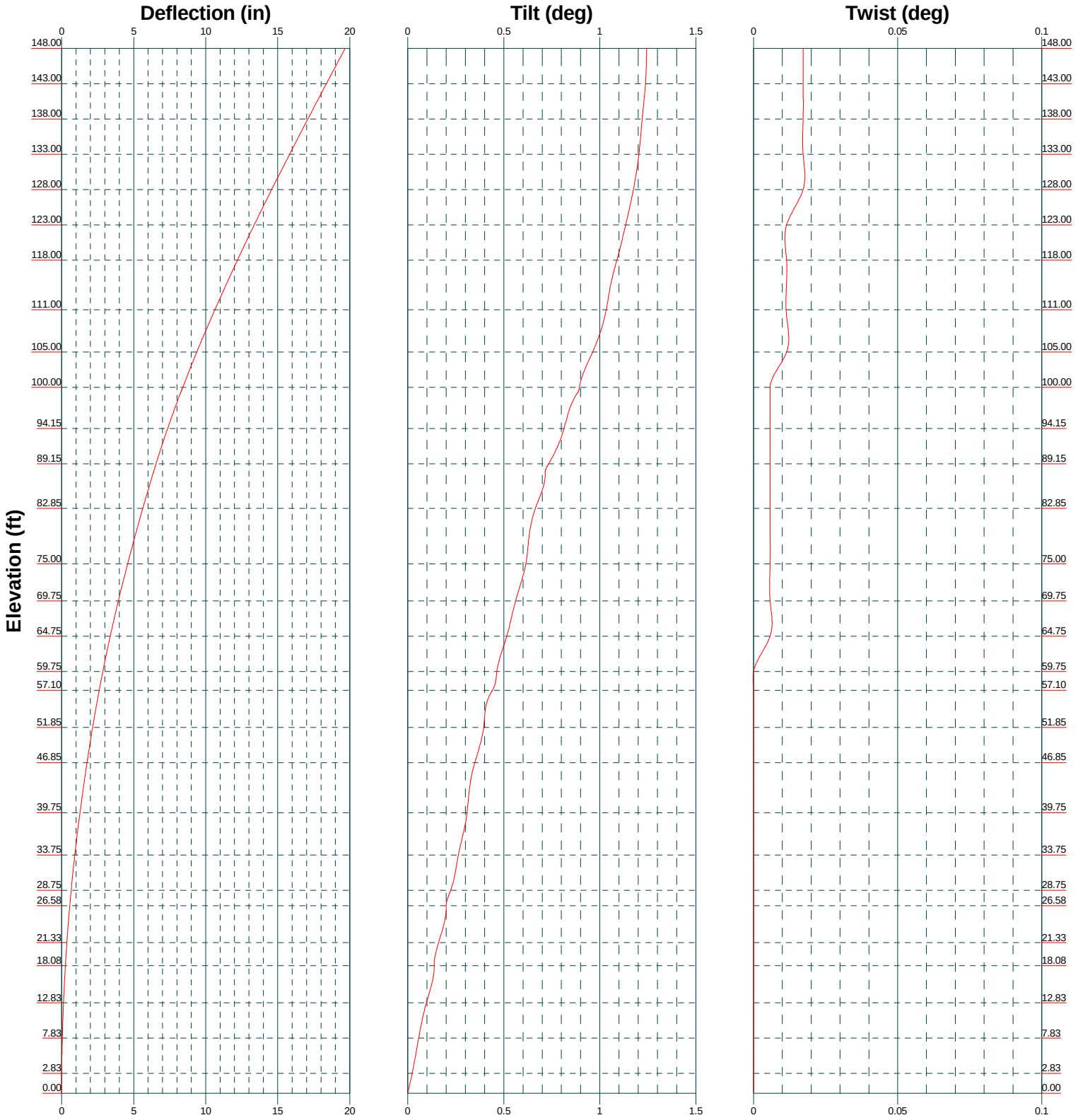
Client: T-MOBILE	Drawn by: Arielle Novak	App'd:	
Code: TIA-222-G	Date: 04/27/21	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-G - Service - 60 mph

Maximum Values



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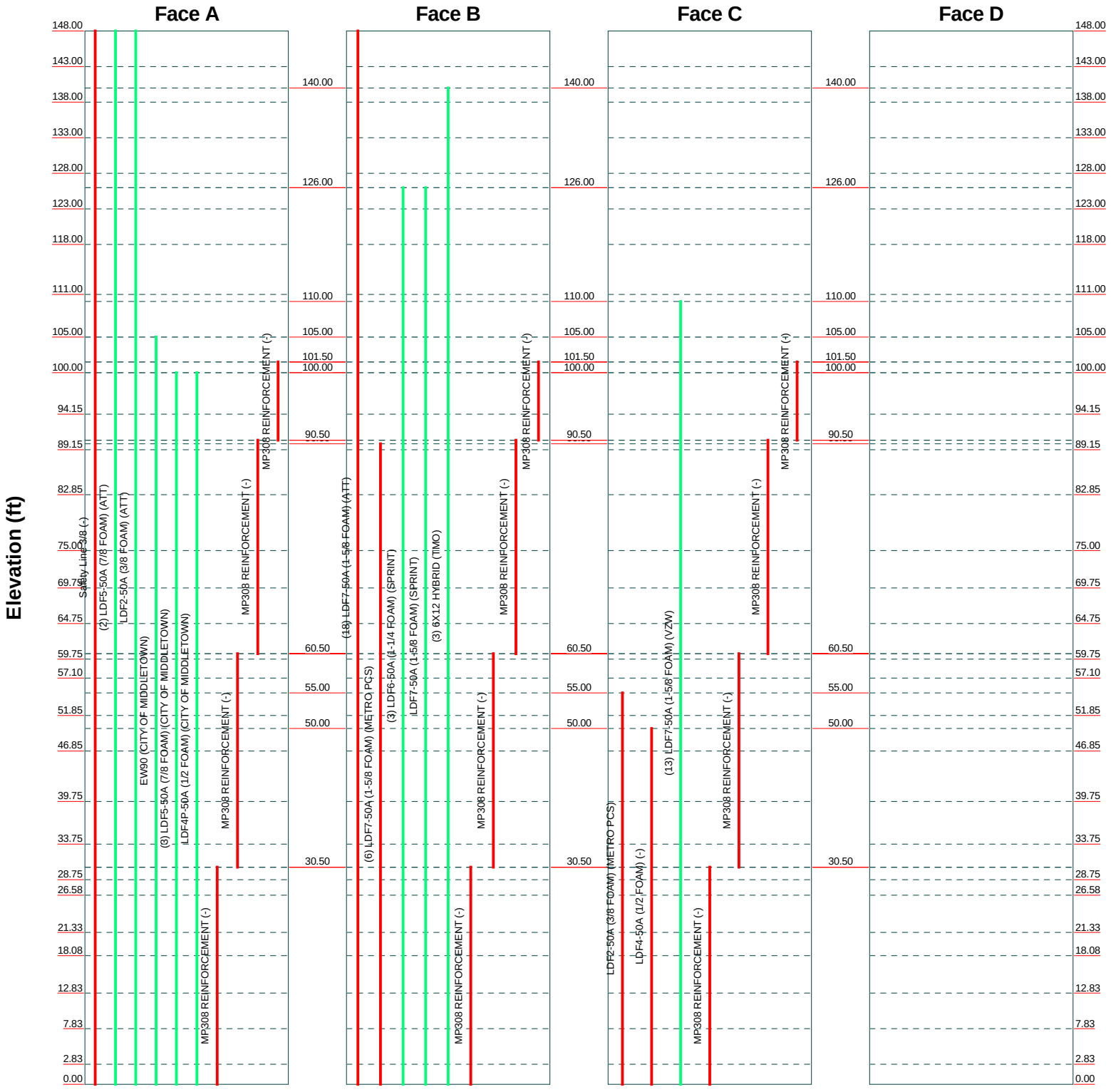
FAX:

Job: ***CT11056J***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak	App'd:	
Code: TIA-222-G	Date: 04/27/21	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart
0' - 148'

Round | Flat | App In Face | App Out Face | Truss Leg



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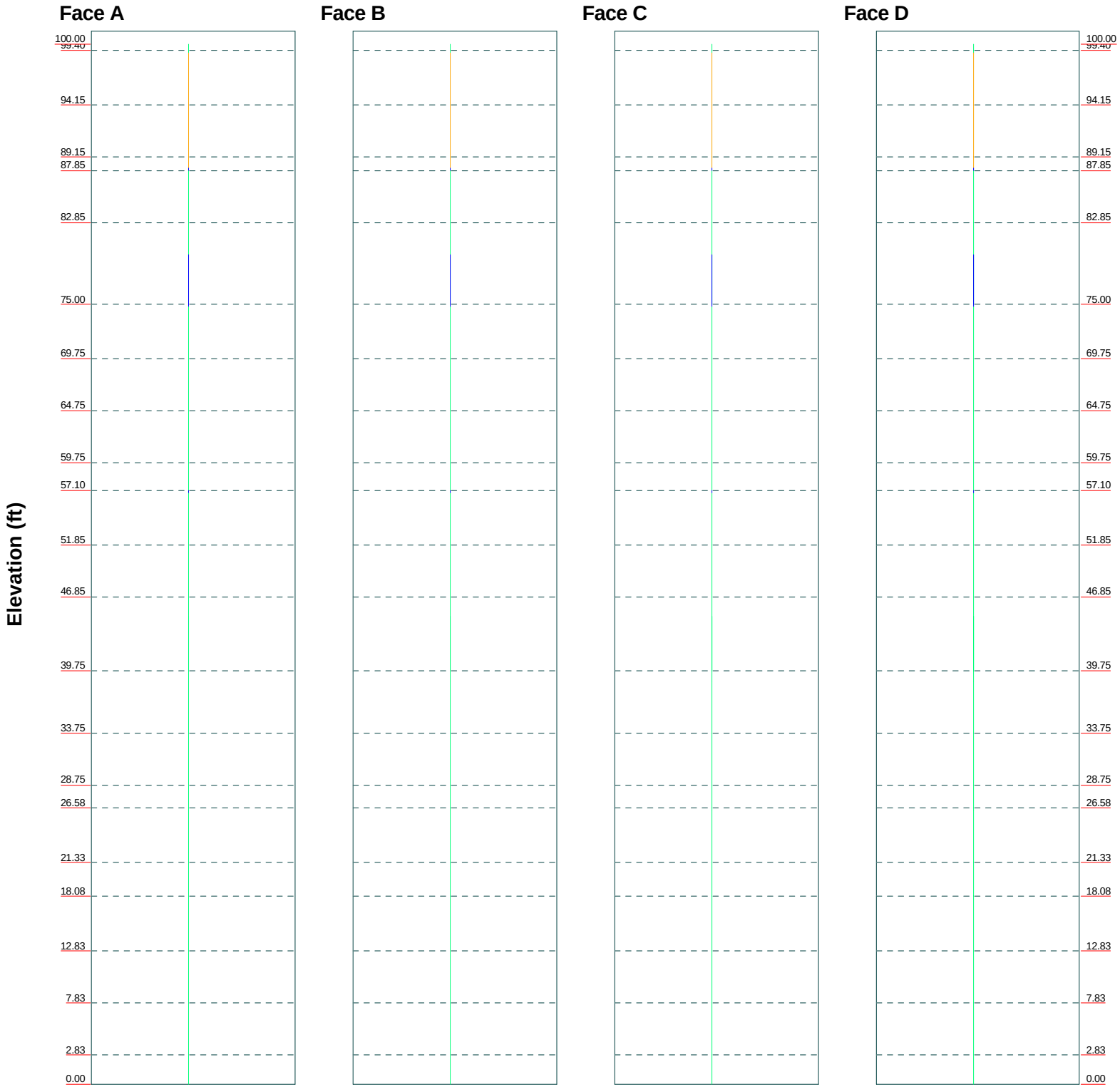
Job: ***CT11056J***			
Project: ***ANCHOR***			
Client: T-MOBILE	Drawn by: Arielle Novak	App'd:	
Code: TIA-222-G	Date: 04/27/21	Scale: NTS	
Path:		Dwg No. E-7	

Stress Distribution Chart
0' - 100'

> 100% | 90%-100% | 75%-90% | 50%-75% | < 50% Overstress



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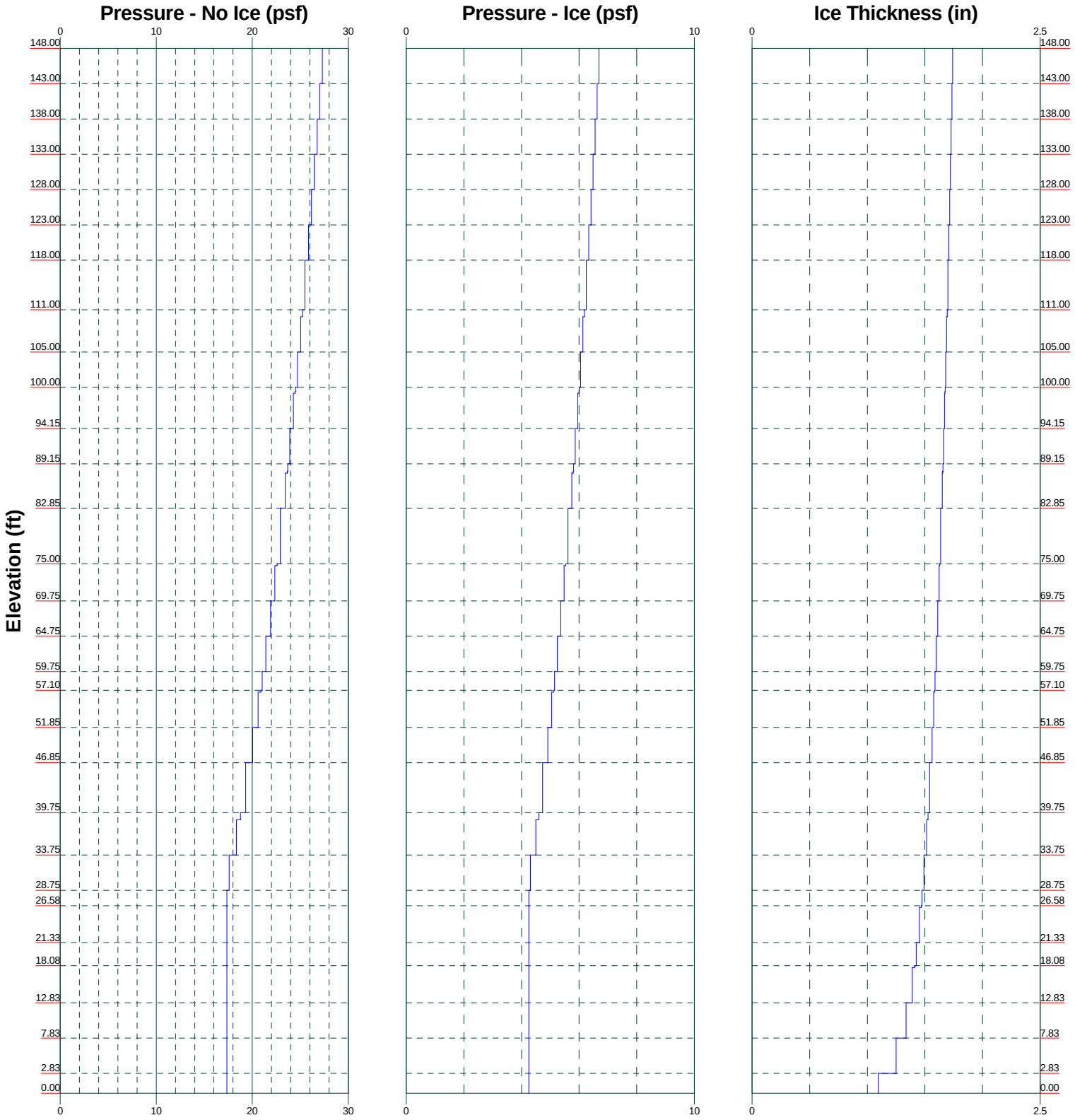
Code: TIA-222-G	Date: 04/27/21	Scale: NTS	
Path:		Dwg No. E-8	

Wind Pressures and Ice Thickness

TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure B



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Job: ***CT11056J***		
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Client: T-MOBILE	Drawn by: Arielle Novak	App'd:
Code: TIA-222-G	Date: 04/27/21	Scale: NTS
Path:		Dwg No. E-9

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Middlesex County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 101 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	148.00-143.00	5.00	0.00	18	24.0000	24.9001	0.2500	1.0000	A607-65 (65 ksi)
L2	143.00-138.00	5.00	0.00	18	24.9001	25.8003	0.2500	1.0000	A607-65 (65 ksi)
L3	138.00-133.00	5.00	0.00	18	25.8003	26.7004	0.2500	1.0000	A607-65 (65 ksi)
L4	133.00-128.00	5.00	0.00	18	26.7004	27.6005	0.2500	1.0000	A607-65 (65 ksi)
L5	128.00-123.00	5.00	0.00	18	27.6005	28.5007	0.2500	1.0000	A607-65 (65 ksi)
L6	123.00-118.00	5.00	0.00	18	28.5007	29.4008	0.2500	1.0000	A607-65 (65 ksi)
L7	118.00-111.00	7.00	4.00	18	29.4008	30.6610	0.2500	1.0000	A607-65 (65 ksi)
L8	111.00-110.00	5.00	0.00	18	29.4409	30.3412	0.2500	1.0000	A607-65 (65 ksi)
L9	110.00-105.00	5.00	0.00	18	30.3412	31.2414	0.2500	1.0000	A607-65 (65 ksi)
L10	105.00-100.00	5.00	0.00	18	31.2414	32.1417	0.2500	1.0000	A607-65 (65 ksi)
L11	100.00-99.40	0.61	0.00	18	32.1417	32.2506	0.2500	1.0000	A607-65 (65 ksi)
L12	99.40-99.15	0.25	0.00	18	32.2506	32.2956	0.2500	1.0000	A607-65 (65 ksi)
L13	99.15-94.15	5.00	0.00	18	32.2956	33.1959	0.2500	1.0000	A607-65 (65 ksi)
L14	94.15-89.15	5.00	0.00	18	33.1959	34.0962	0.2500	1.0000	A607-65 (65 ksi)
L15	89.15-88.10	1.04	0.00	18	34.0962	34.2838	0.2500	1.0000	A607-65 (65 ksi)
L16	88.10-87.85	0.25	0.00	18	34.2838	34.3288	0.4313	1.7250	A607-65 (65 ksi)
L17	87.85-82.85	5.00	0.00	18	34.3288	35.2290	0.4250	1.7000	A607-65 (65 ksi)
L18	82.85-75.00	7.85	4.75	18	35.2290	36.6430	0.4250	1.7000	A607-65 (65 ksi)
L19	75.00-74.75	5.00	0.00	18	35.2878	36.1879	0.4875	1.9500	A607-65 (65 ksi)
L20	74.75-69.75	5.00	0.00	18	36.1879	37.0881	0.4750	1.9000	A607-65 (65 ksi)
L21	69.75-64.75	5.00	0.00	18	37.0881	37.9882	0.4750	1.9000	A607-65 (65 ksi)
L22	64.75-59.75	5.00	0.00	18	37.9882	38.8884	0.4688	1.8750	A607-65 (65 ksi)
L23	59.75-57.10	2.65	0.00	18	38.8884	39.3649	0.4625	1.8500	A607-65 (65 ksi)
L24	57.10-56.85	0.25	0.00	18	39.3649	39.4099	0.5500	2.2000	A607-65 (65 ksi)
L25	56.85-51.85	5.00	0.00	18	39.4099	40.3101	0.5375	2.1500	A607-65 (65 ksi)
L26	51.85-46.85	5.00	0.00	18	40.3101	41.2102	0.5375	2.1500	A607-65 (65 ksi)
L27	46.85-39.75	7.10	5.25	18	41.2102	42.4890	0.5375	2.1500	A607-65 (65 ksi)
L28	39.75-38.75	6.25	0.00	18	40.9188	42.0440	0.6000	2.4000	A607-65 (65 ksi)
L29	38.75-33.75	5.00	0.00	18	42.0440	42.9441	0.5875	2.3500	A607-65 (65 ksi)
L30	33.75-28.75	5.00	0.00	18	42.9441	43.8443	0.5875	2.3500	A607-65 (65 ksi)
L31	28.75-26.58	2.17	0.00	18	43.8443	44.2344	0.5875	2.3500	A607-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L32	26.58-26.33	0.25	0.00	18	44.2344	44.2794	0.6250	2.5000	(65 ksi) A607-65 (65 ksi)
L33	26.33-21.33	5.00	0.00	18	44.2794	45.1795	0.6250	2.5000	A607-65 (65 ksi)
L34	21.33-18.08	3.25	0.00	18	45.1795	45.7646	0.6250	2.5000	A607-65 (65 ksi)
L35	18.08-17.83	0.25	0.00	18	45.7646	45.8096	0.6125	2.4500	A607-65 (65 ksi)
L36	17.83-12.83	5.00	0.00	18	45.8096	46.7097	0.6125	2.4500	A607-65 (65 ksi)
L37	12.83-7.83	5.00	0.00	18	46.7097	47.6099	0.6000	2.4000	A607-65 (65 ksi)
L38	7.83-2.83	5.00	0.00	18	47.6099	48.5100	0.6000	2.4000	A607-65 (65 ksi)
L39	2.83-0.00	2.83		18	48.5100	49.0200	0.6000	2.4000	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.3317	18.8456	1342.9976	8.4313	12.1920	110.1540	2687.7623	9.4246	3.7840	15.136
	25.2457	19.5599	1501.5586	8.7508	12.6493	118.7071	3005.0930	9.7818	3.9424	15.77
L2	25.2457	19.5599	1501.5586	8.7508	12.6493	118.7071	3005.0930	9.7818	3.9424	15.77
	26.1597	20.2741	1672.1332	9.0703	13.1065	127.5801	3346.4666	10.1390	4.1008	16.403
L3	26.1597	20.2741	1672.1332	9.0703	13.1065	127.5801	3346.4666	10.1390	4.1008	16.403
	27.0737	20.9884	1855.1599	9.3899	13.5638	136.7728	3712.7610	10.4962	4.2593	17.037
L4	27.0737	20.9884	1855.1599	9.3899	13.5638	136.7728	3712.7610	10.4962	4.2593	17.037
	27.9878	21.7027	2051.0779	9.7094	14.0211	146.2854	4104.8546	10.8534	4.4177	17.671
L5	27.9878	21.7027	2051.0779	9.7094	14.0211	146.2854	4104.8546	10.8534	4.4177	17.671
	28.9018	22.4169	2260.3251	10.0290	14.4783	156.1177	4523.6245	11.2106	4.5761	18.304
L6	28.9018	22.4169	2260.3251	10.0290	14.4783	156.1177	4523.6245	11.2106	4.5761	18.304
	29.8158	23.1312	2483.3407	10.3485	14.9356	166.2698	4969.9490	11.5678	4.7345	18.938
L7	29.8158	23.1312	2483.3407	10.3485	14.9356	166.2698	4969.9490	11.5678	4.7345	18.938
	31.0954	24.1311	2819.5285	10.7959	15.5758	181.0200	5642.7670	12.0679	4.9563	19.825
L8	30.5878	23.1630	2493.5982	10.3628	14.9560	166.7293	4990.4776	11.5837	4.7416	18.966
	30.7706	23.8773	2731.4984	10.6824	15.4133	177.2169	5466.5910	11.9409	4.9000	19.6
L9	30.7706	23.8773	2731.4984	10.6824	15.4133	177.2169	5466.5910	11.9409	4.9000	19.6
	31.6848	24.5917	2984.0683	11.0020	15.8706	188.0244	5972.0632	12.2982	5.0585	20.234
L10	31.6848	24.5917	2984.0683	11.0020	15.8706	188.0244	5972.0632	12.2982	5.0585	20.234
	32.5990	25.3060	3251.7463	11.3215	16.3280	199.1518	6507.7714	12.6554	5.2169	20.868
L11	32.5990	25.3060	3251.7463	11.3215	16.3280	199.1518	6507.7714	12.6554	5.2169	20.868
	32.7096	25.3925	3285.1811	11.3602	16.3833	200.5200	6574.6849	12.6987	5.2361	20.944
L12	32.7096	25.3925	3285.1811	11.3602	16.3833	200.5200	6574.6849	12.6987	5.2361	20.944
	32.7553	25.4282	3299.0637	11.3762	16.4062	201.0867	6602.4684	12.7165	5.2440	20.976
L13	32.7553	25.4282	3299.0637	11.3762	16.4062	201.0867	6602.4684	12.7165	5.2440	20.976
	33.6694	26.1426	3584.9917	11.6958	16.8635	212.5887	7174.7006	13.0738	5.4025	21.61
L14	33.6694	26.1426	3584.9917	11.6958	16.8635	212.5887	7174.7006	13.0738	5.4025	21.61
	34.5836	26.8569	3886.9808	12.0154	17.3208	224.4106	7779.0762	13.4310	5.5609	22.244
L15	34.5836	26.8569	3886.9808	12.0154	17.3208	224.4106	7779.0762	13.4310	5.5609	22.244
	34.7741	27.0058	3951.9780	12.0820	17.4162	226.9145	7909.1562	13.5055	5.5939	22.376
L16	34.7461	46.3369	6708.8248	12.0176	17.4162	385.2070	13426.4773	23.1729	5.2749	12.232
	34.7918	46.3985	6735.6228	12.0336	17.4390	386.2386	13480.1085	23.2037	5.2829	12.25
L17	34.7928	45.7345	6641.6775	12.0358	17.4390	380.8515	13292.0942	22.8716	5.2939	12.456
	35.7069	46.9489	7184.9294	12.3554	17.8964	401.4744	14379.3129	23.4789	5.4523	12.829

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L18	35.7069	46.9489	7184.9294	12.3554	17.8964	401.4744	14379.3129	23.4789	5.4523	12.829
	37.1427	48.8563	8096.6748	12.8574	18.6146	434.9626	16204.0034	24.4328	5.7012	13.415
L19	36.6253	53.8473	8238.8403	12.3541	17.9262	459.5983	16488.5215	26.9288	5.3526	10.98
	36.6710	55.2401	8894.8465	12.6736	18.3835	483.8506	17801.3971	27.6253	5.5111	11.305
L20	36.6729	53.8426	8675.8804	12.6781	18.3835	471.9396	17363.1767	26.9264	5.5331	11.649
	37.5869	55.1997	9348.5905	12.9976	18.8407	496.1903	18709.4821	27.6051	5.6915	11.982
L21	37.5869	55.1997	9348.5905	12.9976	18.8407	496.1903	18709.4821	27.6051	5.6915	11.982
	38.5010	56.5568	10055.2062	13.3172	19.2980	521.0487	20123.6432	28.2838	5.8499	12.316
L22	38.5019	55.8219	9927.8614	13.3194	19.2980	514.4499	19868.7860	27.9163	5.8609	12.503
	39.4160	57.1612	10659.7009	13.6390	19.7553	539.5870	21333.4281	28.5860	6.0194	12.841
L23	39.4169	56.4082	10522.7053	13.6412	19.7553	532.6524	21059.2566	28.2095	6.0304	13.039
	39.9008	57.1078	10919.0762	13.8104	19.9974	546.0254	21852.5200	28.5593	6.1142	13.22
L24	39.8873	67.7592	12897.4271	13.7793	19.9974	644.9559	25811.8249	33.8860	5.9602	10.837
	39.9330	67.8378	12942.3439	13.7953	20.0202	646.4629	25901.7177	33.9253	5.9681	10.851
L25	39.9350	66.3173	12660.4092	13.7997	20.0202	632.3804	25337.4774	33.1650	5.9901	11.144
	40.8490	67.8530	13560.4530	14.1193	20.4775	662.2116	27138.7493	33.9330	6.1486	11.439
L26	40.8490	67.8530	13560.4530	14.1193	20.4775	662.2116	27138.7493	33.9330	6.1486	11.439
	41.7631	69.3887	14502.1726	14.4388	20.9348	692.7304	29023.4275	34.7009	6.3070	11.734
L27	41.7631	69.3887	14502.1726	14.4388	20.9348	692.7304	29023.4275	34.7009	6.3070	11.734
	43.0615	71.5703	15913.4859	14.8928	21.5844	737.2675	31847.9111	35.7920	6.5321	12.153
L28	42.4172	76.7832	15769.5601	14.3132	20.7868	758.6345	31559.8703	38.3989	6.1457	10.243
	42.6000	78.9259	17126.9707	14.7126	21.3584	801.8864	34276.4775	39.4705	6.3437	10.573
L29	42.6020	77.3050	16785.3376	14.7171	21.3584	785.8911	33592.7619	38.6598	6.3657	10.835
	43.5160	78.9835	17902.6099	15.0366	21.8156	820.6328	35828.7766	39.4992	6.5242	11.105
L30	43.5160	78.9835	17902.6099	15.0366	21.8156	820.6328	35828.7766	39.4992	6.5242	11.105
	44.4300	80.6620	19068.3926	15.3561	22.2729	856.1260	38161.8758	40.3386	6.6826	11.375
L31	44.4300	80.6620	19068.3926	15.3561	22.2729	856.1260	38161.8758	40.3386	6.6826	11.375
	44.8261	81.3894	19588.9708	15.4946	22.4711	871.7421	39203.7172	40.7024	6.7512	11.491
L32	44.8203	86.5101	20785.6633	15.4813	22.4711	924.9970	41598.6769	43.2633	6.6852	10.696
	44.8660	86.5994	20850.0852	15.4973	22.4939	926.9207	41727.6055	43.3079	6.6932	10.709
L33	44.8660	86.5994	20850.0852	15.4973	22.4939	926.9207	41727.6055	43.3079	6.6932	10.709
	45.7801	88.3850	22166.6134	15.8169	22.9512	965.8154	44362.3942	44.2009	6.8516	10.963
L34	45.7801	88.3850	22166.6134	15.8169	22.9512	965.8154	44362.3942	44.2009	6.8516	10.963
	46.3742	89.5457	23051.3985	16.0246	23.2484	991.5257	46133.1286	44.7813	6.9546	11.127
L35	46.3761	87.7791	22609.1428	16.0290	23.2484	972.5026	45248.0353	43.8979	6.9766	11.39
	46.4218	87.8666	22676.8197	16.0450	23.2713	974.4553	45383.4781	43.9416	6.9845	11.403
L36	46.4218	87.8666	22676.8197	16.0450	23.2713	974.4553	45383.4781	43.9416	6.9845	11.403
	47.3358	89.6165	24058.8518	16.3645	23.7285	1013.9204	48149.3609	44.8167	7.1429	11.662
L37	47.3377	87.8114	23587.0324	16.3690	23.7285	994.0363	47205.1013	43.9140	7.1649	11.942
	48.2518	89.5256	24995.5337	16.6885	24.1858	1033.4794	50023.9571	44.7713	7.3233	12.206
L38	48.2518	89.5256	24995.5337	16.6885	24.1858	1033.4794	50023.9571	44.7713	7.3233	12.206
	49.1658	91.2398	26459.0217	17.0080	24.6431	1073.6900	52952.8588	45.6286	7.4818	12.47
L39	49.1658	91.2398	26459.0217	17.0080	24.6431	1073.6900	52952.8588	45.6286	7.4818	12.47
	49.6837	92.2110	27313.0361	17.1891	24.9022	1096.8139	54662.0113	46.1143	7.5715	12.619

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 148.00-143.00				1	1	1			
L2 143.00-138.00				1	1	1			
L3 138.00-133.00				1	1	1			
L4 133.00-128.00				1	1	1			
L5 128.00-123.00				1	1	1			
L6				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
123.00-118.00									
L7				1	1	1			
118.00-111.00									
L8				1	1	1			
111.00-110.00									
L9				1	1	1			
110.00-105.00									
L10				1	1	1			
105.00-100.00									
L11				1	1	1			
100.00-99.40									
L12				1	1	1			
99.40-99.15									
L13				1	1	1			
99.15-94.15									
L14				1	1	1			
94.15-89.15									
L15				1	1	1			
89.15-88.10									
L16				1	1	0.948136			
88.10-87.85									
L17				1	1	0.952237			
87.85-82.85									
L18				1	1	0.946486			
82.85-75.00									
L19				1	1	0.951021			
75.00-74.75									
L20				1	1	0.967893			
74.75-69.75									
L21				1	1	0.960454			
69.75-64.75									
L22				1	1	0.965918			
64.75-59.75									
L23				1	1	0.975099			
59.75-57.10									
L24				1	1	0.946238			
57.10-56.85									
L25				1	1	0.959184			
56.85-51.85									
L26				1	1	0.950823			
51.85-46.85									
L27				1	1	0.947817			
46.85-39.75									
L28				1	1	0.950352			
39.75-38.75									
L29				1	1	0.963225			
38.75-33.75									
L30				1	1	0.956463			
33.75-28.75									
L31				1	1	0.95362			
28.75-26.58									
L32				1	1	0.960957			
26.58-26.33									
L33				1	1	0.953665			
26.33-21.33									
L34				1	1	0.949081			
21.33-18.08									
L35				1	1	0.978981			
18.08-17.83									

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L36 17.83-12.83				1	1	0.97182			
L37 12.83-7.83				1	1	0.984774			
L38 7.83-2.83				1	1	0.978014			
L39 2.83-0.00				1	1	0.974296			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	Surface Ar (CaAa)	148.00 - 0.00	18	9	0.300 0.500	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (METRO PCS)	B	No	Surface Ar (CaAa)	90.00 - 0.00	6	6	0.000 0.100	1.9800		0.82
LDF2-50A (3/8 FOAM) (METRO PCS)	C	No	Surface Ar (CaAa)	55.00 - 0.00	1	1	0.100 0.120	0.4400		0.08
LDF4-50A (1/2 FOAM) (-)	C	No	Surface Ar (CaAa)	50.00 - 0.00	1	1	0.000 0.000	0.6300		0.15
Safety Line 3/8 (-) **	A	No	Surface Ar (CaAa)	148.00 - 0.00	1	1	0.000 0.010	0.3750		0.22
MP308 REINFORCEMENT (-)	A	No	Surface Af (CaAa)	30.50 - 0.00	1	1	-0.400 -0.250	7.9330	21.4720	0.00
MP308 REINFORCEMENT (-)	B	No	Surface Af (CaAa)	30.50 - 0.00	1	1	0.350 0.500	7.9330	21.4720	0.00
MP308 REINFORCEMENT (-)	C	No	Surface Af (CaAa)	30.50 - 0.00	1	1	-0.500 -0.350	7.9330	21.4720	0.00
MP308 REINFORCEMENT (-)	A	No	Surface Af (CaAa)	60.50 - 30.50	1	1	0.250 0.400	6.8900	18.9920	0.00
MP308 REINFORCEMENT (-)	B	No	Surface Af (CaAa)	60.50 - 30.50	1	1	-0.500 -0.350	6.8900	18.9920	0.00
MP308 REINFORCEMENT (-)	C	No	Surface Af (CaAa)	60.50 - 30.50	1	1	-0.500 -0.350	6.8900	18.9920	0.00
MP308 REINFORCEMENT (-)	A	No	Surface Af (CaAa)	90.50 - 60.50	1	1	-0.500 -0.350	5.3300	14.8400	0.00
MP308 REINFORCEMENT (-)	B	No	Surface Af (CaAa)	90.50 - 60.50	1	1	-0.500 -0.350	5.3300	14.8400	0.00
MP308 REINFORCEMENT (-)	C	No	Surface Af (CaAa)	90.50 - 60.50	1	1	-0.500 -0.350	5.3300	14.8400	0.00
MP308 REINFORCEMENT (-)	A	No	Surface Af (CaAa)	101.50 - 90.50	1	1	-0.500 -0.350	4.0600	11.2600	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
MP308 REINFORCEMENT (-)	B	No	Surface Af (CaAa)	101.50 - 90.50	1	1	-0.500 -0.350	4.0600	11.2600	0.00
MP308 REINFORCEMENT (-)	C	No	Surface Af (CaAa)	101.50 - 90.50	1	1	-0.500 -0.350	4.0600	11.2600	0.00
***										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***									
LDF5-50A (7/8 FOAM) (ATT)	A	No	No	Inside Pole	148.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.33 0.33 0.33
LDF2-50A (3/8 FOAM) (ATT)	A	No	No	Inside Pole	148.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.08 0.08 0.08
LDF6-50A (1-1/4 FOAM) (SPRINT)	B	No	No	Inside Pole	126.00 - 0.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.66 0.66 0.66
LDF7-50A (1-5/8 FOAM) (SPRINT)	B	No	No	Inside Pole	126.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Inside Pole	110.00 - 0.00	13	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
EW90 (CITY OF MIDDLETOWN)	A	No	No	Inside Pole	105.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.32 0.32 0.32
LDF5-50A (7/8 FOAM) (CITY OF MIDDLETOWN)	A	No	No	Inside Pole	100.00 - 0.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.33 0.33 0.33
LDF4P-50A (1/2 FOAM) (CITY OF MIDDLETOWN)	A	No	No	Inside Pole	100.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
***									
6X12 HYBRID (TMO)	B	No	No	Inside Pole	140.00 - 0.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
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Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	148.00-143.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.07
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L2	143.00-138.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.08
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L3	138.00-133.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L4	133.00-128.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L5	128.00-123.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L6	123.00-118.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.10
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L7	118.00-111.00	A	0.000	0.000	0.263	0.000	0.01
		B	0.000	0.000	12.474	0.000	0.14
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L8	111.00-110.00	A	0.000	0.000	0.037	0.000	0.00
		B	0.000	0.000	1.782	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L9	110.00-105.00	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	8.910	0.000	0.10
		C	0.000	0.000	0.000	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L10	105.00-100.00	A	0.000	0.000	1.202	0.000	0.01
		B	0.000	0.000	9.925	0.000	0.10
		C	0.000	0.000	1.015	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L11	100.00-99.40	A	0.000	0.000	0.432	0.000	0.00
		B	0.000	0.000	1.487	0.000	0.01
		C	0.000	0.000	0.409	0.000	0.01
		D	0.000	0.000	0.000	0.000	0.00
L12	99.40-99.15	A	0.000	0.000	0.179	0.000	0.00
		B	0.000	0.000	0.615	0.000	0.01
		C	0.000	0.000	0.169	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L13	99.15-94.15	A	0.000	0.000	3.571	0.000	0.01
		B	0.000	0.000	12.293	0.000	0.10
		C	0.000	0.000	3.383	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L14	94.15-89.15	A	0.000	0.000	3.858	0.000	0.01
		B	0.000	0.000	13.596	0.000	0.10
		C	0.000	0.000	3.670	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L15	89.15-88.10	A	0.000	0.000	0.965	0.000	0.00
		B	0.000	0.000	4.020	0.000	0.03
		C	0.000	0.000	0.926	0.000	0.01
		D	0.000	0.000	0.000	0.000	0.00
L16	88.10-87.85	A	0.000	0.000	0.231	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.965	0.000	0.01
		C	0.000	0.000	0.222	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L17	87.85-82.85	A	0.000	0.000	4.629	0.000	0.01
		B	0.000	0.000	19.292	0.000	0.12
		C	0.000	0.000	4.442	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L18	82.85-75.00	A	0.000	0.000	7.271	0.000	0.02
		B	0.000	0.000	30.299	0.000	0.20
		C	0.000	0.000	6.976	0.000	0.08
		D	0.000	0.000	0.000	0.000	0.00
L19	75.00-74.75	A	0.000	0.000	0.231	0.000	0.00
		B	0.000	0.000	0.965	0.000	0.01
		C	0.000	0.000	0.222	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L20	74.75-69.75	A	0.000	0.000	4.629	0.000	0.01
		B	0.000	0.000	19.292	0.000	0.12
		C	0.000	0.000	4.442	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L21	69.75-64.75	A	0.000	0.000	4.629	0.000	0.01
		B	0.000	0.000	19.292	0.000	0.12
		C	0.000	0.000	4.442	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L22	64.75-59.75	A	0.000	0.000	4.824	0.000	0.01
		B	0.000	0.000	19.487	0.000	0.12
		C	0.000	0.000	4.637	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L23	59.75-57.10	A	0.000	0.000	3.139	0.000	0.01
		B	0.000	0.000	10.901	0.000	0.07
		C	0.000	0.000	3.040	0.000	0.03
		D	0.000	0.000	0.000	0.000	0.00
L24	57.10-56.85	A	0.000	0.000	0.296	0.000	0.00
		B	0.000	0.000	1.030	0.000	0.01
		C	0.000	0.000	0.287	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L25	56.85-51.85	A	0.000	0.000	5.929	0.000	0.01
		B	0.000	0.000	20.592	0.000	0.12
		C	0.000	0.000	5.880	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L26	51.85-46.85	A	0.000	0.000	5.929	0.000	0.01
		B	0.000	0.000	20.592	0.000	0.12
		C	0.000	0.000	6.160	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L27	46.85-39.75	A	0.000	0.000	8.423	0.000	0.02
		B	0.000	0.000	29.253	0.000	0.18
		C	0.000	0.000	8.917	0.000	0.08
		D	0.000	0.000	0.000	0.000	0.00
L28	39.75-38.75	A	0.000	0.000	1.186	0.000	0.00
		B	0.000	0.000	4.118	0.000	0.02
		C	0.000	0.000	1.255	0.000	0.01
		D	0.000	0.000	0.000	0.000	0.00
L29	38.75-33.75	A	0.000	0.000	5.929	0.000	0.01
		B	0.000	0.000	20.592	0.000	0.12
		C	0.000	0.000	6.277	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L30	33.75-28.75	A	0.000	0.000	6.233	0.000	0.01
		B	0.000	0.000	20.896	0.000	0.12
		C	0.000	0.000	6.581	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L31	28.75-26.58	A	0.000	0.000	2.946	0.000	0.01
		B	0.000	0.000	9.301	0.000	0.05

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	3.097	0.000	0.02
		D	0.000	0.000	0.000	0.000	0.00
L32	26.58-26.33	A	0.000	0.000	0.340	0.000	0.00
		B	0.000	0.000	1.073	0.000	0.01
		C	0.000	0.000	0.357	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L33	26.33-21.33	A	0.000	0.000	6.798	0.000	0.01
		B	0.000	0.000	21.461	0.000	0.12
		C	0.000	0.000	7.146	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L34	21.33-18.08	A	0.000	0.000	4.419	0.000	0.01
		B	0.000	0.000	13.950	0.000	0.08
		C	0.000	0.000	4.645	0.000	0.04
		D	0.000	0.000	0.000	0.000	0.00
L35	18.08-17.83	A	0.000	0.000	0.340	0.000	0.00
		B	0.000	0.000	1.073	0.000	0.01
		C	0.000	0.000	0.357	0.000	0.00
		D	0.000	0.000	0.000	0.000	0.00
L36	17.83-12.83	A	0.000	0.000	6.798	0.000	0.01
		B	0.000	0.000	21.461	0.000	0.12
		C	0.000	0.000	7.146	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L37	12.83-7.83	A	0.000	0.000	6.798	0.000	0.01
		B	0.000	0.000	21.461	0.000	0.12
		C	0.000	0.000	7.146	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L38	7.83-2.83	A	0.000	0.000	6.798	0.000	0.01
		B	0.000	0.000	21.461	0.000	0.12
		C	0.000	0.000	7.146	0.000	0.05
		D	0.000	0.000	0.000	0.000	0.00
L39	2.83-0.00	A	0.000	0.000	3.852	0.000	0.01
		B	0.000	0.000	12.160	0.000	0.07
		C	0.000	0.000	4.049	0.000	0.03
		D	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	148.00-143.00	A	1.740	0.000	0.000	1.927	0.000	0.03
		B		0.000	0.000	13.312	0.000	0.34
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L2	143.00-138.00	A	1.734	0.000	0.000	1.921	0.000	0.03
		B		0.000	0.000	13.305	0.000	0.35
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L3	138.00-133.00	A	1.728	0.000	0.000	1.915	0.000	0.03
		B		0.000	0.000	13.297	0.000	0.35
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L4	133.00-128.00	A	1.721	0.000	0.000	1.909	0.000	0.03
		B		0.000	0.000	13.289	0.000	0.35
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L5	128.00-123.00	A	1.714	0.000	0.000	1.902	0.000	0.03
		B		0.000	0.000	13.280	0.000	0.36

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L6	123.00-118.00	A	1.707	0.000	0.000	1.895	0.000	0.03
		B		0.000	0.000	13.272	0.000	0.37
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L7	118.00-111.00	A	1.699	0.000	0.000	2.641	0.000	0.04
		B		0.000	0.000	18.565	0.000	0.51
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L8	111.00-110.00	A	1.693	0.000	0.000	0.377	0.000	0.01
		B		0.000	0.000	2.652	0.000	0.07
		C		0.000	0.000	0.000	0.000	0.00
		D		0.000	0.000	0.000	0.000	0.00
L9	110.00-105.00	A	1.688	0.000	0.000	1.876	0.000	0.03
		B		0.000	0.000	13.248	0.000	0.36
		C		0.000	0.000	0.000	0.000	0.05
		D		0.000	0.000	0.000	0.000	0.00
L10	105.00-100.00	A	1.680	0.000	0.000	3.238	0.000	0.04
		B		0.000	0.000	14.608	0.000	0.38
		C		0.000	0.000	1.371	0.000	0.07
		D		0.000	0.000	0.000	0.000	0.00
L11	100.00-99.40	A	1.675	0.000	0.000	0.778	0.000	0.01
		B		0.000	0.000	2.154	0.000	0.05
		C		0.000	0.000	0.553	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00
L12	99.40-99.15	A	1.675	0.000	0.000	0.321	0.000	0.00
		B		0.000	0.000	0.890	0.000	0.02
		C		0.000	0.000	0.228	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00
L13	99.15-94.15	A	1.670	0.000	0.000	6.423	0.000	0.09
		B		0.000	0.000	17.790	0.000	0.42
		C		0.000	0.000	4.565	0.000	0.11
		D		0.000	0.000	0.000	0.000	0.00
L14	94.15-89.15	A	1.661	0.000	0.000	6.827	0.000	0.09
		B		0.000	0.000	19.817	0.000	0.44
		C		0.000	0.000	4.978	0.000	0.11
		D		0.000	0.000	0.000	0.000	0.00
L15	89.15-88.10	A	1.656	0.000	0.000	1.655	0.000	0.02
		B		0.000	0.000	6.002	0.000	0.12
		C		0.000	0.000	1.271	0.000	0.03
		D		0.000	0.000	0.000	0.000	0.00
L16	88.10-87.85	A	1.655	0.000	0.000	0.397	0.000	0.01
		B		0.000	0.000	1.440	0.000	0.03
		C		0.000	0.000	0.305	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00
L17	87.85-82.85	A	1.650	0.000	0.000	7.928	0.000	0.10
		B		0.000	0.000	28.777	0.000	0.56
		C		0.000	0.000	6.091	0.000	0.12
		D		0.000	0.000	0.000	0.000	0.00
L18	82.85-75.00	A	1.637	0.000	0.000	12.412	0.000	0.16
		B		0.000	0.000	45.127	0.000	0.88
		C		0.000	0.000	9.547	0.000	0.19
		D		0.000	0.000	0.000	0.000	0.00
L19	75.00-74.75	A	1.628	0.000	0.000	0.395	0.000	0.00
		B		0.000	0.000	1.437	0.000	0.03
		C		0.000	0.000	0.304	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00
L20	74.75-69.75	A	1.622	0.000	0.000	7.874	0.000	0.10
		B		0.000	0.000	28.682	0.000	0.55
		C		0.000	0.000	6.064	0.000	0.12

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		D		0.000	0.000	0.000	0.000	0.00
L21	69.75-64.75	A	1.611	0.000	0.000	7.850	0.000	0.10
		B		0.000	0.000	28.641	0.000	0.55
		C		0.000	0.000	6.052	0.000	0.12
		D		0.000	0.000	0.000	0.000	0.00
L22	64.75-59.75	A	1.598	0.000	0.000	8.021	0.000	0.10
		B		0.000	0.000	28.793	0.000	0.55
		C		0.000	0.000	6.235	0.000	0.12
		D		0.000	0.000	0.000	0.000	0.00
L23	59.75-57.10	A	1.588	0.000	0.000	4.820	0.000	0.06
		B		0.000	0.000	15.809	0.000	0.30
		C		0.000	0.000	3.880	0.000	0.07
		D		0.000	0.000	0.000	0.000	0.00
L24	57.10-56.85	A	1.584	0.000	0.000	0.455	0.000	0.01
		B		0.000	0.000	1.492	0.000	0.03
		C		0.000	0.000	0.366	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00
L25	56.85-51.85	A	1.577	0.000	0.000	9.083	0.000	0.11
		B		0.000	0.000	29.823	0.000	0.56
		C		0.000	0.000	8.449	0.000	0.14
		D		0.000	0.000	0.000	0.000	0.00
L26	51.85-46.85	A	1.562	0.000	0.000	9.052	0.000	0.11
		B		0.000	0.000	29.770	0.000	0.55
		C		0.000	0.000	10.266	0.000	0.16
		D		0.000	0.000	0.000	0.000	0.00
L27	46.85-39.75	A	1.541	0.000	0.000	12.802	0.000	0.15
		B		0.000	0.000	42.190	0.000	0.78
		C		0.000	0.000	15.485	0.000	0.24
		D		0.000	0.000	0.000	0.000	0.00
L28	39.75-38.75	A	1.526	0.000	0.000	1.802	0.000	0.02
		B		0.000	0.000	5.940	0.000	0.11
		C		0.000	0.000	2.180	0.000	0.03
		D		0.000	0.000	0.000	0.000	0.00
L29	38.75-33.75	A	1.514	0.000	0.000	8.957	0.000	0.10
		B		0.000	0.000	29.604	0.000	0.54
		C		0.000	0.000	10.819	0.000	0.17
		D		0.000	0.000	0.000	0.000	0.00
L30	33.75-28.75	A	1.492	0.000	0.000	9.217	0.000	0.10
		B		0.000	0.000	29.830	0.000	0.54
		C		0.000	0.000	11.056	0.000	0.17
		D		0.000	0.000	0.000	0.000	0.00
L31	28.75-26.58	A	1.474	0.000	0.000	4.224	0.000	0.05
		B		0.000	0.000	13.146	0.000	0.23
		C		0.000	0.000	5.013	0.000	0.07
		D		0.000	0.000	0.000	0.000	0.00
L32	26.58-26.33	A	1.467	0.000	0.000	0.487	0.000	0.01
		B		0.000	0.000	1.515	0.000	0.03
		C		0.000	0.000	0.577	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00
L33	26.33-21.33	A	1.452	0.000	0.000	9.702	0.000	0.10
		B		0.000	0.000	30.255	0.000	0.53
		C		0.000	0.000	11.502	0.000	0.17
		D		0.000	0.000	0.000	0.000	0.00
L34	21.33-18.08	A	1.425	0.000	0.000	6.271	0.000	0.07
		B		0.000	0.000	19.604	0.000	0.34
		C		0.000	0.000	7.423	0.000	0.11
		D		0.000	0.000	0.000	0.000	0.00
L35	18.08-17.83	A	1.411	0.000	0.000	0.481	0.000	0.01
		B		0.000	0.000	1.506	0.000	0.03
		C		0.000	0.000	0.569	0.000	0.01
		D		0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L36	17.83-12.83	A	1.389	0.000	0.000	9.577	0.000	0.10
		B		0.000	0.000	30.036	0.000	0.52
		C		0.000	0.000	11.314	0.000	0.16
		D		0.000	0.000	0.000	0.000	0.00
L37	12.83-7.83	A	1.335	0.000	0.000	9.469	0.000	0.09
		B		0.000	0.000	29.847	0.000	0.51
		C		0.000	0.000	11.152	0.000	0.15
		D		0.000	0.000	0.000	0.000	0.00
L38	7.83-2.83	A	1.250	0.000	0.000	9.298	0.000	0.09
		B		0.000	0.000	29.548	0.000	0.49
		C		0.000	0.000	10.896	0.000	0.15
		D		0.000	0.000	0.000	0.000	0.00
L39	2.83-0.00	A	1.095	0.000	0.000	5.092	0.000	0.04
		B		0.000	0.000	16.434	0.000	0.26
		C		0.000	0.000	5.910	0.000	0.07
		D		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	148.00-143.00	6.2162	-5.7312	3.8553	-4.1360
L2	143.00-138.00	6.3007	-5.8100	3.9131	-4.2010
L3	138.00-133.00	6.3827	-5.8864	3.9695	-4.2643
L4	133.00-128.00	6.4621	-5.9605	4.0246	-4.3259
L5	128.00-123.00	6.5393	-6.0325	4.0784	-4.3858
L6	123.00-118.00	6.6142	-6.1023	4.1310	-4.4442
L7	118.00-111.00	6.7012	-6.1835	4.1928	-4.5123
L8	111.00-110.00	6.7186	-6.1997	4.2050	-4.5264
L9	110.00-105.00	6.7607	-6.2390	4.2374	-4.5595
L10	105.00-100.00	4.7799	-5.3821	3.1145	-4.1425
L11	100.00-99.40	1.7685	-4.0469	1.1549	-3.3731
L12	99.40-99.15	1.7699	-4.0519	1.1558	-3.3773
L13	99.15-94.15	1.7784	-4.0823	1.1611	-3.4025
L14	94.15-89.15	1.5222	-4.4885	0.9705	-3.7717
L15	89.15-88.10	0.9963	-6.0137	0.6036	-5.1014
L16	88.10-87.85	0.9975	-6.0279	0.6045	-5.1137
L17	87.85-82.85	1.0018	-6.0803	0.6076	-5.1589
L18	82.85-75.00	1.0120	-6.2072	0.6155	-5.2684
L19	75.00-74.75	1.0141	-6.2326	0.6162	-5.2905
L20	74.75-69.75	1.0182	-6.2836	0.6230	-5.3352
L21	69.75-64.75	1.0259	-6.3799	0.6301	-5.4185
L22	64.75-59.75	0.7110	-7.4583	0.4327	-6.2270
L23	59.75-57.10	-0.9510	-12.6113	-0.6654	-10.1989
L24	57.10-56.85	-0.9579	-12.6693	-0.6693	-10.2450
L25	56.85-51.85	-0.9041	-12.7162	-0.3710	-10.1026
L26	51.85-46.85	-0.7893	-12.8184	0.1140	-9.9723
L27	46.85-39.75	-0.7553	-13.0139	0.2924	-10.0648
L28	39.75-38.75	-0.7575	-13.0365	0.2923	-10.0840
L29	38.75-33.75	-0.7686	-13.1488	0.2896	-10.1760
L30	33.75-28.75	1.9846	-10.8444	2.2478	-8.6000
L31	28.75-26.58	6.8661	-6.5769	5.7933	-5.5857
L32	26.58-26.33	6.8889	-6.5980	5.8120	-5.6047
L33	26.33-21.33	6.9376	-6.6434	5.8520	-5.6457
L34	21.33-18.08	7.0136	-6.7143	5.9143	-5.7102
L35	18.08-17.83	7.0455	-6.7441	5.9404	-5.7377

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L36	17.83-12.83	7.0934	-6.7887	5.9793	-5.7795
L37	12.83-7.83	7.1838	-6.8729	6.0523	-5.8608
L38	7.83-2.83	7.2733	-6.9563	6.1234	-5.9485
L39	2.83-0.00	7.3428	-7.0211	6.1758	-6.0373

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	LDF7-50A (1-5/8 FOAM)	143.00 - 148.00	1.0000	1.0000
L1	5	Safety Line 3/8	143.00 - 148.00	1.0000	1.0000
L2	1	LDF7-50A (1-5/8 FOAM)	138.00 - 143.00	1.0000	1.0000
L2	5	Safety Line 3/8	138.00 - 143.00	1.0000	1.0000
L3	1	LDF7-50A (1-5/8 FOAM)	133.00 - 138.00	1.0000	1.0000
L3	5	Safety Line 3/8	133.00 - 138.00	1.0000	1.0000
L4	1	LDF7-50A (1-5/8 FOAM)	128.00 - 133.00	1.0000	1.0000
L4	5	Safety Line 3/8	128.00 - 133.00	1.0000	1.0000
L5	1	LDF7-50A (1-5/8 FOAM)	123.00 - 128.00	1.0000	1.0000
L5	5	Safety Line 3/8	123.00 - 128.00	1.0000	1.0000
L6	1	LDF7-50A (1-5/8 FOAM)	118.00 - 123.00	1.0000	1.0000
L6	5	Safety Line 3/8	118.00 - 123.00	1.0000	1.0000
L7	1	LDF7-50A (1-5/8 FOAM)	111.00 - 118.00	1.0000	1.0000
L7	5	Safety Line 3/8	111.00 - 118.00	1.0000	1.0000
L8	1	LDF7-50A (1-5/8 FOAM)	110.00 - 111.00	1.0000	1.0000
L8	5	Safety Line 3/8	110.00 - 111.00	1.0000	1.0000
L9	1	LDF7-50A (1-5/8 FOAM)	105.00 - 110.00	1.0000	1.0000
L9	5	Safety Line 3/8	105.00 - 110.00	1.0000	1.0000
L10	1	LDF7-50A (1-5/8 FOAM)	100.00 - 105.00	1.0000	1.0000
L10	5	Safety Line 3/8	100.00 - 105.00	1.0000	1.0000
L10	28	MP308 REINFORCEMENT	100.00 - 101.50	1.0000	1.0000
L10	29	MP308 REINFORCEMENT	100.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			101.50		
L10	30	MP308 REINFORCEMENT	100.00 - 101.50	1.0000	1.0000
L11	1	LDF7-50A (1-5/8 FOAM)	99.39 - 100.00	1.0000	1.0000
L11	5	Safety Line 3/8	99.39 - 100.00	1.0000	1.0000
L11	28	MP308 REINFORCEMENT	99.39 - 100.00	1.0000	1.0000
L11	29	MP308 REINFORCEMENT	99.39 - 100.00	1.0000	1.0000
L11	30	MP308 REINFORCEMENT	99.39 - 100.00	1.0000	1.0000
L12	1	LDF7-50A (1-5/8 FOAM)	99.14 - 99.39	1.0000	1.0000
L12	5	Safety Line 3/8	99.14 - 99.39	1.0000	1.0000
L12	28	MP308 REINFORCEMENT	99.14 - 99.39	1.0000	1.0000
L12	29	MP308 REINFORCEMENT	99.14 - 99.39	1.0000	1.0000
L12	30	MP308 REINFORCEMENT	99.14 - 99.39	1.0000	1.0000
L13	1	LDF7-50A (1-5/8 FOAM)	94.14 - 99.14	1.0000	1.0000
L13	5	Safety Line 3/8	94.14 - 99.14	1.0000	1.0000
L13	28	MP308 REINFORCEMENT	94.14 - 99.14	1.0000	1.0000
L13	29	MP308 REINFORCEMENT	94.14 - 99.14	1.0000	1.0000
L13	30	MP308 REINFORCEMENT	94.14 - 99.14	1.0000	1.0000
L14	1	LDF7-50A (1-5/8 FOAM)	89.14 - 94.14	1.0000	1.0000
L14	2	LDF7-50A (1-5/8 FOAM)	89.14 - 90.00	1.0000	1.0000
L14	5	Safety Line 3/8	89.14 - 94.14	1.0000	1.0000
L14	25	MP308 REINFORCEMENT	89.14 - 90.50	1.0000	1.0000
L14	26	MP308 REINFORCEMENT	89.14 - 90.50	1.0000	1.0000
L14	27	MP308 REINFORCEMENT	89.14 - 90.50	1.0000	1.0000
L14	28	MP308 REINFORCEMENT	90.50 - 94.14	1.0000	1.0000
L14	29	MP308 REINFORCEMENT	90.50 - 94.14	1.0000	1.0000
L14	30	MP308 REINFORCEMENT	90.50 - 94.14	1.0000	1.0000
L15	1	LDF7-50A (1-5/8 FOAM)	88.10 - 89.14	1.0000	1.0000
L15	2	LDF7-50A (1-5/8 FOAM)	88.10 - 89.14	1.0000	1.0000
L15	5	Safety Line 3/8	88.10 - 89.14	1.0000	1.0000
L15	25	MP308 REINFORCEMENT	88.10 - 89.14	1.0000	1.0000
L15	26	MP308 REINFORCEMENT	88.10 - 89.14	1.0000	1.0000
L15	27	MP308 REINFORCEMENT	88.10 - 89.14	1.0000	1.0000
L16	1	LDF7-50A (1-5/8 FOAM)	87.85 - 88.10	1.0000	1.0000
L16	2	LDF7-50A (1-5/8 FOAM)	87.85 - 88.10	1.0000	1.0000
L16	5	Safety Line 3/8	87.85 - 88.10	1.0000	1.0000
L16	25	MP308 REINFORCEMENT	87.85 - 88.10	1.0000	1.0000
L16	26	MP308 REINFORCEMENT	87.85 - 88.10	1.0000	1.0000
L16	27	MP308 REINFORCEMENT	87.85 - 88.10	1.0000	1.0000
L17	1	LDF7-50A (1-5/8 FOAM)	82.85 - 87.85	1.0000	1.0000
L17	2	LDF7-50A (1-5/8 FOAM)	82.85 - 87.85	1.0000	1.0000
L17	5	Safety Line 3/8	82.85 - 87.85	1.0000	1.0000
L17	25	MP308 REINFORCEMENT	82.85 - 87.85	1.0000	1.0000
L17	26	MP308 REINFORCEMENT	82.85 - 87.85	1.0000	1.0000
L17	27	MP308 REINFORCEMENT	82.85 - 87.85	1.0000	1.0000
L18	1	LDF7-50A (1-5/8 FOAM)	75.00 - 82.85	1.0000	1.0000
L18	2	LDF7-50A (1-5/8 FOAM)	75.00 - 82.85	1.0000	1.0000
L18	5	Safety Line 3/8	75.00 - 82.85	1.0000	1.0000
L18	25	MP308 REINFORCEMENT	75.00 - 82.85	1.0000	1.0000
L18	26	MP308 REINFORCEMENT	75.00 - 82.85	1.0000	1.0000
L18	27	MP308 REINFORCEMENT	75.00 - 82.85	1.0000	1.0000
L19	1	LDF7-50A (1-5/8 FOAM)	74.75 - 75.00	1.0000	1.0000
L19	2	LDF7-50A (1-5/8 FOAM)	74.75 - 75.00	1.0000	1.0000
L19	5	Safety Line 3/8	74.75 - 75.00	1.0000	1.0000
L19	25	MP308 REINFORCEMENT	74.75 - 75.00	1.0000	1.0000
L19	26	MP308 REINFORCEMENT	74.75 - 75.00	1.0000	1.0000
L19	27	MP308 REINFORCEMENT	74.75 - 75.00	1.0000	1.0000
L20	1	LDF7-50A (1-5/8 FOAM)	69.75 - 74.75	1.0000	1.0000
L20	2	LDF7-50A (1-5/8 FOAM)	69.75 - 74.75	1.0000	1.0000
L20	5	Safety Line 3/8	69.75 - 74.75	1.0000	1.0000
L20	25	MP308 REINFORCEMENT	69.75 - 74.75	1.0000	1.0000
L20	26	MP308 REINFORCEMENT	69.75 - 74.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L20	27	MP308 REINFORCEMENT	69.75 - 74.75	1.0000	1.0000
L21	1	LDF7-50A (1-5/8 FOAM)	64.75 - 69.75	1.0000	1.0000
L21	2	LDF7-50A (1-5/8 FOAM)	64.75 - 69.75	1.0000	1.0000
L21	5	Safety Line 3/8	64.75 - 69.75	1.0000	1.0000
L21	25	MP308 REINFORCEMENT	64.75 - 69.75	1.0000	1.0000
L21	26	MP308 REINFORCEMENT	64.75 - 69.75	1.0000	1.0000
L21	27	MP308 REINFORCEMENT	64.75 - 69.75	1.0000	1.0000
L22	1	LDF7-50A (1-5/8 FOAM)	59.75 - 64.75	1.0000	1.0000
L22	2	LDF7-50A (1-5/8 FOAM)	59.75 - 64.75	1.0000	1.0000
L22	5	Safety Line 3/8	59.75 - 64.75	1.0000	1.0000
L22	22	MP308 REINFORCEMENT	59.75 - 60.50	1.0000	1.0000
L22	23	MP308 REINFORCEMENT	59.75 - 60.50	1.0000	1.0000
L22	24	MP308 REINFORCEMENT	59.75 - 60.50	1.0000	1.0000
L22	25	MP308 REINFORCEMENT	60.50 - 64.75	1.0000	1.0000
L22	26	MP308 REINFORCEMENT	60.50 - 64.75	1.0000	1.0000
L22	27	MP308 REINFORCEMENT	60.50 - 64.75	1.0000	1.0000
L23	1	LDF7-50A (1-5/8 FOAM)	57.10 - 59.75	1.0000	1.0000
L23	2	LDF7-50A (1-5/8 FOAM)	57.10 - 59.75	1.0000	1.0000
L23	5	Safety Line 3/8	57.10 - 59.75	1.0000	1.0000
L23	22	MP308 REINFORCEMENT	57.10 - 59.75	1.0000	1.0000
L23	23	MP308 REINFORCEMENT	57.10 - 59.75	1.0000	1.0000
L23	24	MP308 REINFORCEMENT	57.10 - 59.75	1.0000	1.0000
L24	1	LDF7-50A (1-5/8 FOAM)	56.85 - 57.10	1.0000	1.0000
L24	2	LDF7-50A (1-5/8 FOAM)	56.85 - 57.10	1.0000	1.0000
L24	5	Safety Line 3/8	56.85 - 57.10	1.0000	1.0000
L24	22	MP308 REINFORCEMENT	56.85 - 57.10	1.0000	1.0000
L24	23	MP308 REINFORCEMENT	56.85 - 57.10	1.0000	1.0000
L24	24	MP308 REINFORCEMENT	56.85 - 57.10	1.0000	1.0000
L25	1	LDF7-50A (1-5/8 FOAM)	51.85 - 56.85	1.0000	1.0000
L25	2	LDF7-50A (1-5/8 FOAM)	51.85 - 56.85	1.0000	1.0000
L25	3	LDF2-50A (3/8 FOAM)	51.85 - 55.00	1.0000	1.0000
L25	5	Safety Line 3/8	51.85 - 56.85	1.0000	1.0000
L25	22	MP308 REINFORCEMENT	51.85 - 56.85	1.0000	1.0000
L25	23	MP308 REINFORCEMENT	51.85 - 56.85	1.0000	1.0000
L25	24	MP308 REINFORCEMENT	51.85 - 56.85	1.0000	1.0000
L26	1	LDF7-50A (1-5/8 FOAM)	46.85 - 51.85	1.0000	1.0000
L26	2	LDF7-50A (1-5/8 FOAM)	46.85 - 51.85	1.0000	1.0000
L26	3	LDF2-50A (3/8 FOAM)	46.85 - 51.85	1.0000	1.0000
L26	4	LDF4-50A (1/2 FOAM)	46.85 - 50.00	1.0000	1.0000
L26	5	Safety Line 3/8	46.85 - 51.85	1.0000	1.0000
L26	22	MP308 REINFORCEMENT	46.85 - 51.85	1.0000	1.0000
L26	23	MP308 REINFORCEMENT	46.85 - 51.85	1.0000	1.0000
L26	24	MP308 REINFORCEMENT	46.85 - 51.85	1.0000	1.0000
L27	1	LDF7-50A (1-5/8 FOAM)	39.75 - 46.85	1.0000	1.0000
L27	2	LDF7-50A (1-5/8 FOAM)	39.75 - 46.85	1.0000	1.0000
L27	3	LDF2-50A (3/8 FOAM)	39.75 - 46.85	1.0000	1.0000
L27	4	LDF4-50A (1/2 FOAM)	39.75 - 46.85	1.0000	1.0000
L27	5	Safety Line 3/8	39.75 - 46.85	1.0000	1.0000
L27	22	MP308 REINFORCEMENT	39.75 - 46.85	1.0000	1.0000
L27	23	MP308 REINFORCEMENT	39.75 - 46.85	1.0000	1.0000
L27	24	MP308 REINFORCEMENT	39.75 - 46.85	1.0000	1.0000
L28	1	LDF7-50A (1-5/8 FOAM)	38.75 - 39.75	1.0000	1.0000
L28	2	LDF7-50A (1-5/8 FOAM)	38.75 - 39.75	1.0000	1.0000
L28	3	LDF2-50A (3/8 FOAM)	38.75 - 39.75	1.0000	1.0000
L28	4	LDF4-50A (1/2 FOAM)	38.75 - 39.75	1.0000	1.0000
L28	5	Safety Line 3/8	38.75 - 39.75	1.0000	1.0000
L28	22	MP308 REINFORCEMENT	38.75 - 39.75	1.0000	1.0000
L28	23	MP308 REINFORCEMENT	38.75 - 39.75	1.0000	1.0000
L28	24	MP308 REINFORCEMENT	38.75 - 39.75	1.0000	1.0000
L29	1	LDF7-50A (1-5/8 FOAM)	33.75 - 38.75	1.0000	1.0000
L29	2	LDF7-50A (1-5/8 FOAM)	33.75 - 38.75	1.0000	1.0000
L29	3	LDF2-50A (3/8 FOAM)	33.75 - 38.75	1.0000	1.0000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
L29	4	LDF4-50A (1/2 FOAM)	33.75 - 38.75	1.0000	1.0000
L29	5	Safety Line 3/8	33.75 - 38.75	1.0000	1.0000
L29	22	MP308 REINFORCEMENT	33.75 - 38.75	1.0000	1.0000
L29	23	MP308 REINFORCEMENT	33.75 - 38.75	1.0000	1.0000
L29	24	MP308 REINFORCEMENT	33.75 - 38.75	1.0000	1.0000
L30	1	LDF7-50A (1-5/8 FOAM)	28.75 - 33.75	1.0000	1.0000
L30	2	LDF7-50A (1-5/8 FOAM)	28.75 - 33.75	1.0000	1.0000
L30	3	LDF2-50A (3/8 FOAM)	28.75 - 33.75	1.0000	1.0000
L30	4	LDF4-50A (1/2 FOAM)	28.75 - 33.75	1.0000	1.0000
L30	5	Safety Line 3/8	28.75 - 33.75	1.0000	1.0000
L30	19	MP308 REINFORCEMENT	28.75 - 30.50	1.0000	1.0000
L30	20	MP308 REINFORCEMENT	28.75 - 30.50	1.0000	1.0000
L30	21	MP308 REINFORCEMENT	28.75 - 30.50	1.0000	1.0000
L30	22	MP308 REINFORCEMENT	30.50 - 33.75	1.0000	1.0000
L30	23	MP308 REINFORCEMENT	30.50 - 33.75	1.0000	1.0000
L30	24	MP308 REINFORCEMENT	30.50 - 33.75	1.0000	1.0000
L31	1	LDF7-50A (1-5/8 FOAM)	26.58 - 28.75	1.0000	1.0000
L31	2	LDF7-50A (1-5/8 FOAM)	26.58 - 28.75	1.0000	1.0000
L31	3	LDF2-50A (3/8 FOAM)	26.58 - 28.75	1.0000	1.0000
L31	4	LDF4-50A (1/2 FOAM)	26.58 - 28.75	1.0000	1.0000
L31	5	Safety Line 3/8	26.58 - 28.75	1.0000	1.0000
L31	19	MP308 REINFORCEMENT	26.58 - 28.75	1.0000	1.0000
L31	20	MP308 REINFORCEMENT	26.58 - 28.75	1.0000	1.0000
L31	21	MP308 REINFORCEMENT	26.58 - 28.75	1.0000	1.0000
L32	1	LDF7-50A (1-5/8 FOAM)	26.33 - 26.58	1.0000	1.0000
L32	2	LDF7-50A (1-5/8 FOAM)	26.33 - 26.58	1.0000	1.0000
L32	3	LDF2-50A (3/8 FOAM)	26.33 - 26.58	1.0000	1.0000
L32	4	LDF4-50A (1/2 FOAM)	26.33 - 26.58	1.0000	1.0000
L32	5	Safety Line 3/8	26.33 - 26.58	1.0000	1.0000
L32	19	MP308 REINFORCEMENT	26.33 - 26.58	1.0000	1.0000
L32	20	MP308 REINFORCEMENT	26.33 - 26.58	1.0000	1.0000
L32	21	MP308 REINFORCEMENT	26.33 - 26.58	1.0000	1.0000
L33	1	LDF7-50A (1-5/8 FOAM)	21.33 - 26.33	1.0000	1.0000
L33	2	LDF7-50A (1-5/8 FOAM)	21.33 - 26.33	1.0000	1.0000
L33	3	LDF2-50A (3/8 FOAM)	21.33 - 26.33	1.0000	1.0000
L33	4	LDF4-50A (1/2 FOAM)	21.33 - 26.33	1.0000	1.0000
L33	5	Safety Line 3/8	21.33 - 26.33	1.0000	1.0000
L33	19	MP308 REINFORCEMENT	21.33 - 26.33	1.0000	1.0000
L33	20	MP308 REINFORCEMENT	21.33 - 26.33	1.0000	1.0000
L33	21	MP308 REINFORCEMENT	21.33 - 26.33	1.0000	1.0000
L34	1	LDF7-50A (1-5/8 FOAM)	18.08 - 21.33	1.0000	1.0000
L34	2	LDF7-50A (1-5/8 FOAM)	18.08 - 21.33	1.0000	1.0000
L34	3	LDF2-50A (3/8 FOAM)	18.08 - 21.33	1.0000	1.0000
L34	4	LDF4-50A (1/2 FOAM)	18.08 - 21.33	1.0000	1.0000
L34	5	Safety Line 3/8	18.08 - 21.33	1.0000	1.0000
L34	19	MP308 REINFORCEMENT	18.08 - 21.33	1.0000	1.0000
L34	20	MP308 REINFORCEMENT	18.08 - 21.33	1.0000	1.0000
L34	21	MP308 REINFORCEMENT	18.08 - 21.33	1.0000	1.0000
L35	1	LDF7-50A (1-5/8 FOAM)	17.83 - 18.08	1.0000	1.0000
L35	2	LDF7-50A (1-5/8 FOAM)	17.83 - 18.08	1.0000	1.0000
L35	3	LDF2-50A (3/8 FOAM)	17.83 - 18.08	1.0000	1.0000
L35	4	LDF4-50A (1/2 FOAM)	17.83 - 18.08	1.0000	1.0000
L35	5	Safety Line 3/8	17.83 - 18.08	1.0000	1.0000
L35	19	MP308 REINFORCEMENT	17.83 - 18.08	1.0000	1.0000
L35	20	MP308 REINFORCEMENT	17.83 - 18.08	1.0000	1.0000
L35	21	MP308 REINFORCEMENT	17.83 - 18.08	1.0000	1.0000
L36	1	LDF7-50A (1-5/8 FOAM)	12.83 - 17.83	1.0000	1.0000
L36	2	LDF7-50A (1-5/8 FOAM)	12.83 - 17.83	1.0000	1.0000
L36	3	LDF2-50A (3/8 FOAM)	12.83 - 17.83	1.0000	1.0000
L36	4	LDF4-50A (1/2 FOAM)	12.83 - 17.83	1.0000	1.0000
L36	5	Safety Line 3/8	12.83 - 17.83	1.0000	1.0000
L36	19	MP308 REINFORCEMENT	12.83 - 17.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L36	20	MP308 REINFORCEMENT	12.83 - 17.83	1.0000	1.0000
L36	21	MP308 REINFORCEMENT	12.83 - 17.83	1.0000	1.0000
L37	1	LDF7-50A (1-5/8 FOAM)	7.83 - 12.83	1.0000	1.0000
L37	2	LDF7-50A (1-5/8 FOAM)	7.83 - 12.83	1.0000	1.0000
L37	3	LDF2-50A (3/8 FOAM)	7.83 - 12.83	1.0000	1.0000
L37	4	LDF4-50A (1/2 FOAM)	7.83 - 12.83	1.0000	1.0000
L37	5	Safety Line 3/8	7.83 - 12.83	1.0000	1.0000
L37	19	MP308 REINFORCEMENT	7.83 - 12.83	1.0000	1.0000
L37	20	MP308 REINFORCEMENT	7.83 - 12.83	1.0000	1.0000
L37	21	MP308 REINFORCEMENT	7.83 - 12.83	1.0000	1.0000
L38	1	LDF7-50A (1-5/8 FOAM)	2.83 - 7.83	1.0000	1.0000
L38	2	LDF7-50A (1-5/8 FOAM)	2.83 - 7.83	1.0000	1.0000
L38	3	LDF2-50A (3/8 FOAM)	2.83 - 7.83	1.0000	1.0000
L38	4	LDF4-50A (1/2 FOAM)	2.83 - 7.83	1.0000	1.0000
L38	5	Safety Line 3/8	2.83 - 7.83	1.0000	1.0000
L38	19	MP308 REINFORCEMENT	2.83 - 7.83	1.0000	1.0000
L38	20	MP308 REINFORCEMENT	2.83 - 7.83	1.0000	1.0000
L38	21	MP308 REINFORCEMENT	2.83 - 7.83	1.0000	1.0000
L39	1	LDF7-50A (1-5/8 FOAM)	0.00 - 2.83	1.0000	1.0000
L39	2	LDF7-50A (1-5/8 FOAM)	0.00 - 2.83	1.0000	1.0000
L39	3	LDF2-50A (3/8 FOAM)	0.00 - 2.83	1.0000	1.0000
L39	4	LDF4-50A (1/2 FOAM)	0.00 - 2.83	1.0000	1.0000
L39	5	Safety Line 3/8	0.00 - 2.83	1.0000	1.0000
L39	19	MP308 REINFORCEMENT	0.00 - 2.83	1.0000	1.0000
L39	20	MP308 REINFORCEMENT	0.00 - 2.83	1.0000	1.0000
L39	21	MP308 REINFORCEMENT	0.00 - 2.83	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8x8'	C	None		0.0000	152.00	No Ice	0.50	0.50	0.03
						1/2" Ice	1.31	1.31	0.03
						1" Ice	2.14	2.14	0.05
***									
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	148.00	No Ice	5.75	4.25	0.06
(ATT)			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	148.00	No Ice	5.75	4.25	0.06
(ATT)			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	148.00	No Ice	5.75	4.25	0.06
(ATT)			0.00			1/2" Ice	6.18	5.01	0.10
			2.00			1" Ice	6.61	5.71	0.16
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00	0.0000	148.00	No Ice	9.22	6.25	0.07
(ATT)			0.00			1/2" Ice	9.98	6.96	0.14
			2.00			1" Ice	10.76	7.70	0.22
SBNHH-1D65A w/ Mount Pipe	C	From Leg	4.00	0.0000	148.00	No Ice	3.04	2.45	0.05
(ATT)			0.00			1/2" Ice	3.34	2.75	0.10
			2.00			1" Ice	3.65	3.05	0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
SBNHH-1D65C w/ Mount Pipe	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	5.56 6.07	4.00 4.97	0.08 0.17
(ATT)			2.00			1" Ice	6.59	5.48	0.26
(4) LGP21401 (ATT)	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.10 1.24	0.21 0.27	0.01 0.02
			1.00			1" Ice	1.38	0.35	0.03
(4) LGP21401 (ATT)	B	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.10 1.24	0.21 0.27	0.01 0.02
			1.00			1" Ice	1.38	0.35	0.03
(4) LGP21401 (ATT)	C	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.10 1.24	0.21 0.27	0.01 0.02
			1.00			1" Ice	1.38	0.35	0.03
RRUS 32 B2 (ATT)	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	2.73 2.95	1.67 1.86	0.05 0.07
			2.00			1" Ice	3.18	2.05	0.10
RRUS 32 B2 (ATT)	B	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	2.73 2.95	1.67 1.86	0.05 0.07
			2.00			1" Ice	3.18	2.05	0.10
RRUS 32 B2 (ATT)	C	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	2.73 2.95	1.67 1.86	0.05 0.07
			2.00			1" Ice	3.18	2.05	0.10
RRUS 11 (ATT)	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	2.78 2.99	1.19 1.33	0.05 0.07
			2.00			1" Ice	3.21	1.49	0.09
RRUS 11 (ATT)	B	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	2.78 2.99	1.19 1.33	0.05 0.07
			2.00			1" Ice	3.21	1.49	0.09
RRUS 11 (ATT)	C	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	2.78 2.99	1.19 1.33	0.05 0.07
			2.00			1" Ice	3.21	1.49	0.09
DC6-48-60-18-8F (ATT)	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.21 1.89	1.21 1.89	0.03 0.06
			0.00			1" Ice	2.11	2.11	0.08
SBNHH-1D65C w/ Mount Pipe	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	5.56 6.07	4.00 4.97	0.08 0.17
(ATT)			2.00			1" Ice	6.59	5.48	0.26
SBNHH-1D65C w/ Mount Pipe	B	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	5.56 6.07	4.00 4.97	0.08 0.17
(ATT)			2.00			1" Ice	6.59	5.48	0.26
SBNHH-1D65C w/ Mount Pipe	C	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	5.56 6.07	4.00 4.97	0.08 0.17
(ATT)			2.00			1" Ice	6.59	5.48	0.26
(2) 6' x 2" Mount Pipe (ATT)	A	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.43 1.93	1.43 1.93	0.02 0.03
			0.00			1" Ice	2.29	2.29	0.05
(2) 6' x 2" Mount Pipe (ATT)	B	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.43 1.93	1.43 1.93	0.02 0.03
			0.00			1" Ice	2.29	2.29	0.05
(2) 6' x 2" Mount Pipe (ATT)	C	From Leg	4.00 0.00	0.0000	148.00	No Ice 1/2" Ice	1.43 1.93	1.43 1.93	0.02 0.03
			0.00			1" Ice	2.29	2.29	0.05
Platform Mount [LP 1201-1] (ATT)	C	None		0.0000	148.00	No Ice 1/2" Ice	18.38 22.11	18.38 22.11	2.10 2.65
						1" Ice	25.87	25.87	3.26
***									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00	0.0000	126.00	No Ice 1/2" Ice	4.60 5.05	4.01 4.45	0.10 0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(Sprint)			4.00			1" Ice	5.50	4.89	0.23
APXVSPP18-C-A20 w/	B	From Leg	4.00	0.0000	126.00	No Ice	4.60	4.01	0.10
Mount Pipe			0.00			1/2" Ice	5.05	4.45	0.16
(Sprint)			4.00			1" Ice	5.50	4.89	0.23
APXVSPP18-C-A20 w/	C	From Leg	4.00	0.0000	126.00	No Ice	4.60	4.01	0.10
Mount Pipe			0.00			1/2" Ice	5.05	4.45	0.16
(Sprint)			4.00			1" Ice	5.50	4.89	0.23
(2) 1900 MHz RRH	A	From Leg	4.00	0.0000	126.00	No Ice	2.49	3.26	0.04
(Sprint)			0.00			1/2" Ice	2.69	3.48	0.07
			4.00			1" Ice	2.91	3.72	0.11
(2) 1900 MHz RRH	B	From Leg	4.00	0.0000	126.00	No Ice	2.49	3.26	0.04
(Sprint)			0.00			1/2" Ice	2.69	3.48	0.07
			4.00			1" Ice	2.91	3.72	0.11
(2) 1900 MHz RRH	C	From Leg	4.00	0.0000	126.00	No Ice	2.49	3.26	0.04
(Sprint)			0.00			1/2" Ice	2.69	3.48	0.07
			4.00			1" Ice	2.91	3.72	0.11
800 MHz RRH	A	From Leg	4.00	0.0000	126.00	No Ice	2.13	1.77	0.05
(Sprint)			0.00			1/2" Ice	2.32	1.95	0.07
			4.00			1" Ice	2.51	2.13	0.10
800 MHz RRH	B	From Leg	4.00	0.0000	126.00	No Ice	2.13	1.77	0.05
(Sprint)			0.00			1/2" Ice	2.32	1.95	0.07
			4.00			1" Ice	2.51	2.13	0.10
800 MHz RRH	C	From Leg	4.00	0.0000	126.00	No Ice	2.13	1.77	0.05
(Sprint)			0.00			1/2" Ice	2.32	1.95	0.07
			4.00			1" Ice	2.51	2.13	0.10
APXVTM14-ALU-I20 w/	A	From Leg	4.00	0.0000	126.00	No Ice	4.09	2.86	0.08
Mount Pipe			0.00			1/2" Ice	4.48	3.23	0.13
(Sprint)			4.00			1" Ice	4.88	3.61	0.19
APXVTM14-ALU-I20 w/	B	From Leg	4.00	0.0000	126.00	No Ice	4.09	2.86	0.08
Mount Pipe			0.00			1/2" Ice	4.48	3.23	0.13
(Sprint)			4.00			1" Ice	4.88	3.61	0.19
APXVTM14-ALU-I20 w/	C	From Leg	4.00	0.0000	126.00	No Ice	4.09	2.86	0.08
Mount Pipe			0.00			1/2" Ice	4.48	3.23	0.13
(Sprint)			4.00			1" Ice	4.88	3.61	0.19
RRH8x20-25/TD RRH	A	From Leg	4.00	0.0000	126.00	No Ice	3.70	1.29	0.07
(Sprint)			0.00			1/2" Ice	3.95	1.46	0.09
			4.00			1" Ice	4.20	1.63	0.11
RRH8x20-25/TD RRH	B	From Leg	4.00	0.0000	126.00	No Ice	3.70	1.29	0.07
(Sprint)			0.00			1/2" Ice	3.95	1.46	0.09
			4.00			1" Ice	4.20	1.63	0.11
RRH8x20-25/TD RRH	C	From Leg	4.00	0.0000	126.00	No Ice	3.70	1.29	0.07
(Sprint)			0.00			1/2" Ice	3.95	1.46	0.09
			4.00			1" Ice	4.20	1.63	0.11
Platform Mount [LP 1201-1]	C	None		0.0000	126.00	No Ice	26.39	26.39	2.36
(Sprint)						1/2" Ice	31.40	31.40	3.06
						1" Ice	36.20	36.20	3.00
***									
LNX-6514DS-T4M w/	A	From Leg	4.00	0.0000	110.00	No Ice	4.09	3.30	0.07
Mount Pipe			0.00			1/2" Ice	4.49	3.68	0.13
(VZW)			1.00			1" Ice	4.89	4.06	0.20
BXA-70063-6CF w/ Mount	B	From Leg	4.00	0.0000	110.00	No Ice	7.82	5.70	0.04
Pipe			0.00			1/2" Ice	8.37	6.85	0.10
(VZW)			1.00			1" Ice	8.89	7.71	0.17
BXA-70063-6CF w/ Mount	C	From Leg	4.00	0.0000	110.00	No Ice	7.82	5.70	0.04
Pipe			0.00			1/2" Ice	8.37	6.85	0.10
(VZW)			1.00			1" Ice	8.89	7.71	0.17
HBX-6517DS-VTM w/	A	From Leg	4.00	0.0000	110.00	No Ice	3.22	2.80	0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.00			1/2" Ice	3.74	3.31	0.09
(VZW)			0.00			1" Ice	4.26	3.83	0.14
HBX-6517DS-VTM w/	B	From Leg	4.00	0.0000	110.00	No Ice	3.22	2.80	0.04
Mount Pipe			0.00			1/2" Ice	3.74	3.31	0.09
(VZW)			0.00			1" Ice	4.26	3.83	0.14
HBX-6517DS-VTM w/	C	From Leg	4.00	0.0000	110.00	No Ice	3.22	2.80	0.04
Mount Pipe			0.00			1/2" Ice	3.74	3.31	0.09
(VZW)			0.00			1" Ice	4.26	3.83	0.14
LNX-6513DS-VTM w/	A	From Leg	4.00	0.0000	110.00	No Ice	2.84	2.29	0.06
Mount Pipe			0.00			1/2" Ice	3.12	2.57	0.11
(VZW)			0.00			1" Ice	3.41	2.85	0.17
LNX-6513DS-VTM w/	B	From Leg	4.00	0.0000	110.00	No Ice	2.84	2.29	0.06
Mount Pipe			0.00			1/2" Ice	3.12	2.57	0.11
(VZW)			0.00			1" Ice	3.41	2.85	0.17
LNX-6513DS-VTM w/	C	From Leg	4.00	0.0000	110.00	No Ice	2.84	2.29	0.06
Mount Pipe			0.00			1/2" Ice	3.12	2.57	0.11
(VZW)			0.00			1" Ice	3.41	2.85	0.17
HBX-6516DS-VTM w/	A	From Leg	4.00	0.0000	110.00	No Ice	2.22	1.94	0.03
Mount Pipe			0.00			1/2" Ice	2.58	2.29	0.06
(VZW)			0.00			1" Ice	2.96	2.66	0.09
HBX-6516DS-VTM w/	B	From Leg	4.00	0.0000	110.00	No Ice	2.22	1.94	0.03
Mount Pipe			0.00			1/2" Ice	2.58	2.29	0.06
(VZW)			0.00			1" Ice	2.96	2.66	0.09
HBX-6516DS-VTM w/	C	From Leg	4.00	0.0000	110.00	No Ice	2.22	1.94	0.03
Mount Pipe			0.00			1/2" Ice	2.58	2.29	0.06
(VZW)			0.00			1" Ice	2.96	2.66	0.09
(2) FD9R6004/2C-3L	A	From Leg	4.00	0.0000	110.00	No Ice	0.31	0.08	0.00
(VZW)			0.00			1/2" Ice	0.39	0.12	0.01
			1.00			1" Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	B	From Leg	4.00	0.0000	110.00	No Ice	0.31	0.08	0.00
(VZW)			0.00			1/2" Ice	0.39	0.12	0.01
			1.00			1" Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	C	From Leg	4.00	0.0000	110.00	No Ice	0.31	0.08	0.00
(VZW)			0.00			1/2" Ice	0.39	0.12	0.01
			1.00			1" Ice	0.47	0.17	0.01
RRH2x40-AWS	A	From Leg	4.00	0.0000	110.00	No Ice	2.16	1.42	0.04
(VZW)			0.00			1/2" Ice	2.36	1.59	0.06
			0.00			1" Ice	2.56	1.77	0.08
RRH2x40-AWS	B	From Leg	4.00	0.0000	110.00	No Ice	2.16	1.42	0.04
(VZW)			0.00			1/2" Ice	2.36	1.59	0.06
			0.00			1" Ice	2.56	1.77	0.08
RRH2x40-AWS	C	From Leg	4.00	0.0000	110.00	No Ice	2.16	1.42	0.04
(VZW)			0.00			1/2" Ice	2.36	1.59	0.06
			0.00			1" Ice	2.56	1.77	0.08
DB-T1-6Z-8AB-0Z	A	From Leg	4.00	0.0000	110.00	No Ice	4.80	2.00	0.04
(VZW)			0.00			1/2" Ice	5.07	2.19	0.08
			0.00			1" Ice	5.35	2.39	0.12
Platform Mount [LP 1201-1]	C	None		0.0000	110.00	No Ice	18.38	18.38	2.10
(VZW)						1/2" Ice	22.11	22.11	2.65
						1" Ice	25.87	25.87	3.26
***									
Pipe Mount [PM 601-1]	A	From Leg	0.50	0.0000	105.00	No Ice	1.32	1.32	0.07
			0.00			1/2" Ice	1.58	1.58	0.08
			0.00			1" Ice	1.84	1.84	0.09
***									
CC807-08	A	From Leg	6.00	0.0000	100.00	No Ice	2.86	2.86	0.02
			0.00			1/2" Ice	3.84	3.84	0.04

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral ft / Vert ft / ft*	*Azimuth Adjustment* °	*Placement* ft		*C_AA_A Front* ft^2	*C_AA_A Side* ft^2	*Weight* K
			5.00			1" Ice	4.82	4.82	0.07
CC807-08	B	From Leg	6.00	0.0000	100.00	No Ice	2.86	2.86	0.02
			0.00			1/2" Ice	3.84	3.84	0.04
			5.00			1" Ice	4.82	4.82	0.07
DS1F00F36U-D	C	From Leg	6.00	0.0000	100.00	No Ice	4.35	4.35	0.04
			0.00			1/2" Ice	5.83	5.83	0.07
			4.00			1" Ice	7.31	7.31	0.10
DS428E-83I-01-T	A	From Leg	3.00	0.0000	100.00	No Ice	0.40	0.46	0.01
			0.00			1/2" Ice	0.48	0.55	0.01
			0.00			1" Ice	0.56	0.64	0.02
Side Arm Mount [SO 602-3]	C	None		0.0000	100.00	No Ice	16.09	16.09	0.44
						1/2" Ice	19.86	19.86	0.66
						1" Ice	24.02	24.02	0.94
***									
742 213 w/ Mount Pipe	A	From Leg	0.50	0.0000	90.00	No Ice	3.54	2.98	0.05
			0.00			1/2" Ice	4.13	3.57	0.09
			0.00			1" Ice	4.74	4.17	0.14
742 213 w/ Mount Pipe	B	From Leg	0.50	0.0000	90.00	No Ice	3.54	2.98	0.05
			0.00			1/2" Ice	4.13	3.57	0.09
			0.00			1" Ice	4.74	4.17	0.14
742 213 w/ Mount Pipe	C	From Leg	0.50	0.0000	90.00	No Ice	3.54	2.98	0.05
			0.00			1/2" Ice	4.13	3.57	0.09
			0.00			1" Ice	4.74	4.17	0.14
***									
GPS	A	From Leg	1.00	0.0000	55.00	No Ice	0.26	0.26	0.00
			0.00			1/2" Ice	0.32	0.32	0.01
			0.00			1" Ice	0.39	0.39	0.01
Side Arm Mount [SO 701-1]	A	From Leg	0.50	0.0000	55.00	No Ice	0.85	1.67	0.07
			0.00			1/2" Ice	1.14	2.34	0.08
			0.00			1" Ice	1.43	3.01	0.09
***									
GPS	A	From Leg	1.00	0.0000	50.00	No Ice	0.26	0.26	0.00
			0.00			1/2" Ice	0.32	0.32	0.01
			0.00			1" Ice	0.39	0.39	0.01
Side Arm Mount [SO 701-1]	A	From Leg	0.50	0.0000	50.00	No Ice	0.85	1.67	0.07
			0.00			1/2" Ice	1.14	2.34	0.08
			0.00			1" Ice	1.43	3.01	0.09
***									
AIR32 B2A/B66A W/ MOUNT PIPE	A	From Leg	4.00	0.0000	140.00	No Ice	6.58	5.90	0.15
			0.00			1/2" Ice	6.97	6.56	0.21
(TMO)			0.00			1" Ice	7.37	7.24	0.28
AIR32 B2A/B66A W/ MOUNT PIPE	B	From Leg	4.00	0.0000	140.00	No Ice	6.58	5.90	0.15
			0.00			1/2" Ice	6.97	6.56	0.21
(TMO)			0.00			1" Ice	7.37	7.24	0.28
AIR32 B2A/B66A W/ MOUNT PIPE	C	From Leg	4.00	0.0000	140.00	No Ice	6.58	5.90	0.15
			0.00			1/2" Ice	6.97	6.56	0.21
(TMO)			0.00			1" Ice	7.37	7.24	0.28
APXVAALL24_43-U-NA20 W/ MP	A	From Leg	4.00	0.0000	140.00	No Ice	20.24	10.79	0.18
			0.00			1/2" Ice	20.89	12.21	0.32
(TMO)			0.00			1" Ice	21.55	13.49	0.46
APXVAALL24_43-U-NA20 W/ MP	B	From Leg	4.00	0.0000	140.00	No Ice	20.24	10.79	0.18
			0.00			1/2" Ice	20.89	12.21	0.32
(TMO)			0.00			1" Ice	21.55	13.49	0.46
APXVAALL24_43-U-NA20 W/ MP	C	From Leg	4.00	0.0000	140.00	No Ice	20.24	10.79	0.18
			0.00			1/2" Ice	20.89	12.21	0.32
(TMO)			0.00			1" Ice	21.55	13.49	0.46
AIR 6449 B41 W/ MOUNT	A	From Leg	4.00	0.0000	140.00	No Ice	5.95	3.36	0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PIPE			0.00			1/2" Ice	6.33	3.83	0.17
(TMO)			0.00			1" Ice	6.72	4.32	0.22
AIR 6449 B41 W/ MOUNT	B	From Leg	4.00	0.0000	140.00	No Ice	5.95	3.36	0.12
PIPE			0.00			1/2" Ice	6.33	3.83	0.17
(TMO)			0.00			1" Ice	6.72	4.32	0.22
AIR 6449 B41 W/ MOUNT	C	From Leg	4.00	0.0000	140.00	No Ice	5.95	3.36	0.12
PIPE			0.00			1/2" Ice	6.33	3.83	0.17
(TMO)			0.00			1" Ice	6.72	4.32	0.22
RADIO 4449 B71+B85	A	From Leg	4.00	0.0000	140.00	No Ice	1.63	1.00	0.07
(TMO)			0.00			1/2" Ice	1.79	1.13	0.09
			0.00			1" Ice	1.95	1.27	0.11
RADIO 4449 B71+B85	B	From Leg	4.00	0.0000	140.00	No Ice	1.63	1.00	0.07
(TMO)			0.00			1/2" Ice	1.79	1.13	0.09
			0.00			1" Ice	1.95	1.27	0.11
RADIO 4449 B71+B85	C	From Leg	4.00	0.0000	140.00	No Ice	1.63	1.00	0.07
(TMO)			0.00			1/2" Ice	1.79	1.13	0.09
			0.00			1" Ice	1.95	1.27	0.11
RADIO 4415 B25	A	From Leg	4.00	0.0000	140.00	No Ice	1.84	0.82	0.05
(TMO)			0.00			1/2" Ice	2.01	0.94	0.06
			0.00			1" Ice	2.19	1.07	0.08
RADIO 4415 B25	B	From Leg	4.00	0.0000	140.00	No Ice	1.84	0.82	0.05
(TMO)			0.00			1/2" Ice	2.01	0.94	0.06
			0.00			1" Ice	2.19	1.07	0.08
RADIO 4415 B25	C	From Leg	4.00	0.0000	140.00	No Ice	1.84	0.82	0.05
(TMO)			0.00			1/2" Ice	2.01	0.94	0.06
***			0.00			1" Ice	2.19	1.07	0.08
6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	140.00	No Ice	1.43	1.43	0.02
(TMO)			0.00			1/2" Ice	1.93	1.93	0.03
			0.00			1" Ice	2.29	2.29	0.05
6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	140.00	No Ice	1.43	1.43	0.02
(TMO)			0.00			1/2" Ice	1.93	1.93	0.03
			0.00			1" Ice	2.29	2.29	0.05
6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	140.00	No Ice	1.43	1.43	0.02
(TMO)			0.00			1/2" Ice	1.93	1.93	0.03
			0.00			1" Ice	2.29	2.29	0.05
Reinforced Platform Mount [LP 1201-1]	C	None		0.0000	140.00	No Ice	34.76	34.76	3.16
(TMO)						1/2" Ice	43.79	43.79	4.42
***						1" Ice	52.82	52.82	5.86

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
HP3-11	A	Paraboloid w/Shroud (HP)	From Leg	1.00	36.0000		105.00	3.17	No Ice	7.88	0.00
				0.00					1/2" Ice	8.30	0.09
				0.00					1" Ice	8.72	0.14

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	27.53					
Bracing Weight	0.00					
Total Member Self-Weight	27.53			-11575.09	-4924.34	
Total Weight	48.04			-11575.09	-4924.34	
Wind 0 deg - No Ice		-0.59	-19.56	-2168767.45	77227.98	6971.58
Wind 45 deg - No Ice		13.37	-13.51	-1485514.07	-1464978.09	-1765.66
Wind 90 deg - No Ice		19.94	0.60	72187.88	-2187968.60	-9395.87
Member Ice	10.87					
Total Weight Ice	96.98			-48450.30	-15998.93	
Wind 0 deg - Ice		-0.12	-8.11	-910204.14	1859.65	2684.20
Wind 45 deg - Ice		5.62	-5.66	-646410.79	-609945.32	-584.74
Wind 90 deg - Ice		8.08	0.13	-30126.09	-875244.73	-3490.13
Total Weight	48.04			-11575.09	-4924.34	
Wind 0 deg - Service		-0.18	-6.18	-688062.20	20988.23	2201.34
Wind 45 deg - Service		4.22	-4.26	-472319.13	-465976.47	-557.52
Wind 90 deg - Service		6.30	0.19	19538.53	-694266.88	-2966.83

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 45 deg - No Ice
5	0.9 Dead+1.6 Wind 45 deg - No Ice
6	1.2 Dead+1.6 Wind 90 deg - No Ice
7	0.9 Dead+1.6 Wind 90 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 45 deg - Service
14	Dead+Wind 90 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	148 - 143	Pole	Max Tension	1	0.00	0.02	-0.03
			Max. Compression	8	-11.42	-3237.18	8356.45
			Max. Mx	6	-4.13	-37977.57	-776.61
			Max. My	2	-4.13	1734.19	39171.10
			Max. Vy	6	6.09	-37977.57	-776.61
			Max. Vx	2	-6.06	1734.19	39171.10
			Max. Torque	6			4978.33
L2	143 - 138	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-26.65	-9993.95	15757.77

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Mx	6	-9.85	-85143.38	-1209.45
			Max. My	2	-9.86	2317.76	86207.45
			Max. Vy	6	13.09	-85143.38	-1209.45
			Max. Vx	2	-13.02	2317.76	86207.45
			Max. Torque	6			9195.56
L3	138 - 133	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-27.77	-10239.24	16733.34
			Max. Mx	6	-10.36	-151578.21	-4818.42
			Max. My	2	-10.37	6093.74	152374.95
			Max. Vy	6	13.49	-151578.21	-4818.42
			Max. Vx	2	-13.40	6093.74	152374.95
			Max. Torque	6			9195.16
L4	133 - 128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-28.91	-10475.64	17710.14
			Max. Mx	6	-10.89	-220008.97	-8439.13
			Max. My	2	-10.91	9881.70	220425.63
			Max. Vy	6	13.89	-220008.97	-8439.13
			Max. Vx	2	-13.78	9881.70	220425.63
			Max. Torque	6			9193.44
L5	128 - 123	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-37.34	-15448.08	23463.98
			Max. Mx	6	-15.26	-314474.91	-11205.22
			Max. My	2	-15.28	12826.86	314412.42
			Max. Vy	6	18.41	-314474.91	-11205.22
			Max. Vx	2	-18.28	12826.86	314412.42
			Max. Torque	6			12153.95
L6	123 - 118	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-38.54	-15714.95	24539.08
			Max. Mx	6	-15.89	-407405.17	-15248.95
			Max. My	2	-15.91	17050.25	406784.54
			Max. Vy	6	18.78	-407405.17	-15248.95
			Max. Vx	2	-18.63	17050.25	406784.54
			Max. Torque	6			12150.95
L7	118 - 111	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-39.27	-15864.31	25178.39
			Max. Mx	6	-16.27	-464047.35	-17678.29
			Max. My	2	-16.29	19587.86	463064.31
			Max. Vy	6	19.00	-464047.35	-17678.29
			Max. Vx	2	-18.85	19587.86	463064.31
			Max. Torque	6			12144.82
L8	111 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-41.16	-16105.97	26236.33
			Max. Mx	6	-17.28	-560089.54	-21731.85
			Max. My	2	-17.30	23821.77	558462.87
			Max. Vy	6	19.42	-560089.54	-21731.85
			Max. Vx	2	-19.26	23821.77	558462.87
			Max. Torque	6			12137.15
L9	110 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-50.36	-19409.48	32127.47
			Max. Mx	6	-21.18	-676148.78	-25425.88
			Max. My	2	-21.21	28326.61	674450.22
			Max. Vy	6	23.08	-676148.78	-25425.88
			Max. Vx	2	-22.92	28326.61	674450.22
			Max. Torque	6			14543.43
L10	105 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-51.92	-19396.01	33480.63
			Max. Mx	6	-22.04	-793562.99	-30385.17
			Max. My	2	-22.05	33455.37	792014.37
			Max. Vy	6	23.67	-793562.99	-30385.17
			Max. Vx	2	-23.63	33455.37	792014.37
			Max. Torque	6			14958.77

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L11	100 - 99.395	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-53.89	-20121.77	33950.41
			Max. Mx	6	-22.69	-810825.66	-30925.68
			Max. My	2	-22.71	33938.21	809159.82
			Max. Vy	6	24.90	-810825.66	-30925.68
			Max. Vx	2	-24.86	33938.21	809159.82
			Max. Torque	6			15335.62
L12	99.395 - 99.145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-53.96	-20130.82	34010.92
			Max. Mx	6	-22.74	-817051.11	-31176.22
			Max. My	2	-22.75	34190.85	815382.37
			Max. Vy	6	24.92	-817051.11	-31176.22
			Max. Vx	2	-24.88	34190.85	815382.37
			Max. Torque	6			15334.63
L13	99.145 - 94.145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-55.50	-20271.31	35155.51
			Max. Mx	6	-23.58	-942322.05	-36193.16
			Max. My	2	-23.59	39267.29	940593.66
			Max. Vy	6	25.21	-942322.05	-36193.16
			Max. Vx	2	-25.17	39267.29	940593.66
			Max. Torque	6			15333.16
L14	94.145 - 89.145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-57.71	-20659.78	36587.63
			Max. Mx	6	-24.62	-1069471.04	-41137.13
			Max. My	2	-24.63	44274.71	1067673.89
			Max. Vy	6	25.92	-1069471.04	-41137.13
			Max. Vx	2	-25.87	44274.71	1067673.89
			Max. Torque	6			15481.85
L15	89.145 - 88.103	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-58.08	-20675.35	36861.13
			Max. Mx	6	-24.81	-1096499.93	-42182.84
			Max. My	2	-24.82	45341.19	1094685.55
			Max. Vy	6	25.99	-1096499.93	-42182.84
			Max. Vx	2	-25.93	45341.19	1094685.55
			Max. Torque	6			15479.50
L16	88.103 - 87.853	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-58.18	-20681.17	36931.15
			Max. Mx	6	-24.88	-1102996.31	-42433.57
			Max. My	2	-24.90	45595.29	1101176.10
			Max. Vy	6	26.00	-1102996.31	-42433.57
			Max. Vx	2	-25.94	45595.29	1101176.10
			Max. Torque	6			15478.14
L17	87.853 - 82.853	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-60.27	-20740.58	38231.11
			Max. Mx	6	-26.09	-1234007.18	-47436.84
			Max. My	2	-26.10	50703.11	1231911.74
			Max. Vy	6	26.42	-1234007.18	-47436.84

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Vx	2	-26.30	50703.11	1231911.74
			Max. Torque	6			15477.29
L18	82.853 - 75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-61.58	-20769.21	39040.63
			Max. Mx	6	-26.85	-1316337.17	-50537.38
			Max. My	2	-26.86	53870.06	1313930.75
			Max. Vy	6	26.67	-1316337.17	-50537.38
			Max. Vx	2	-26.51	53870.06	1313930.75
			Max. Torque	6			15470.41
L19	75 - 74.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-65.08	-20812.43	40342.97
			Max. Mx	6	-29.06	-1450913.18	-55529.75
			Max. My	2	-29.08	58969.52	1447785.58
			Max. Vy	6	27.17	-1450913.18	-55529.75
			Max. Vx	2	-26.96	58969.52	1447785.58
			Max. Torque	6			15463.58
L20	74.75 - 69.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-67.35	-20842.08	41633.04
			Max. Mx	6	-30.45	-1587724.58	-60531.67
			Max. My	2	-30.47	64081.18	1583615.47
			Max. Vy	6	27.57	-1587724.58	-60531.67
			Max. Vx	2	-27.31	64081.18	1583615.47
			Max. Torque	6			15462.78
L21	69.75 - 64.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-69.64	-20858.54	42918.02
			Max. Mx	6	-31.87	-1726441.32	-65522.25
			Max. My	2	-31.89	69182.56	1721112.36
			Max. Vy	6	27.94	-1726441.32	-65522.25
			Max. Vx	2	-27.63	69182.56	1721112.36
			Max. Torque	6			15456.37
L22	64.75 - 59.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-71.96	-20857.02	44223.61
			Max. Mx	6	-33.31	-1866984.43	-70499.41
			Max. My	2	-33.33	74272.72	1860216.72
			Max. Vy	6	28.30	-1866984.43	-70499.41
			Max. Vx	2	-27.95	74272.72	1860216.72
			Max. Torque	6			15450.24
L23	59.75 - 57.103	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-73.21	-20841.90	45004.90
			Max. Mx	6	-34.08	-1942099.99	-73127.38
			Max. My	2	-34.10	76961.58	1934487.88
			Max. Vy	6	28.49	-1942099.99	-73127.38
			Max. Vx	2	-28.12	76961.58	1934487.88
			Max. Torque	6			15444.23
L24	57.103 - 56.853	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-73.34	-20842.85	45083.81
			Max. Mx	6	-34.18	-1949219.46	-73376.17

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. My	2	-34.20	77214.96	1941524.99
			Max. Vy	6	28.49	-1949219.46	-73376.17
			Max. Vx	2	-28.12	77214.96	1941524.99
			Max. Torque	6			15441.87
L25	56.853 - 51.853	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-76.04	-20606.17	46765.64
			Max. Mx	6	-35.88	-2092603.96	-78162.44
			Max. My	2	-35.90	82352.85	2083405.85
			Max. Vy	6	28.91	-2092603.96	-78162.44
			Max. Vx	2	-28.50	82352.85	2083405.85
			Max. Torque	6			15551.45
L26	51.853 - 46.853	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-78.77	-20393.17	48447.24
			Max. Mx	6	-37.62	-2238006.24	-82857.46
			Max. My	2	-37.64	87404.66	2227137.24
			Max. Vy	6	29.31	-2238006.24	-82857.46
			Max. Vx	2	-28.86	87404.66	2227137.24
			Max. Torque	6			15656.82
L27	46.853 - 39.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-79.74	-20397.12	48988.88
			Max. Mx	6	-38.23	-2292398.69	-84625.02
			Max. My	2	-38.25	89217.47	2280780.26
			Max. Vy	6	29.44	-2292398.69	-84625.02
			Max. Vx	2	-28.98	89217.47	2280780.26
			Max. Torque	6			15653.22
L28	39.75 - 38.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-85.09	-20407.70	50810.17
			Max. Mx	6	-41.91	-2477918.29	-90583.21
			Max. My	2	-41.93	95327.85	2463624.88
			Max. Vy	6	29.95	-2477918.29	-90583.21
			Max. Vx	2	-29.45	95327.85	2463624.88
			Max. Torque	6			15650.18
L29	38.75 - 33.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-87.89	-20408.10	52247.75
			Max. Mx	6	-43.78	-2628297.00	-95342.82
			Max. My	2	-43.80	100209.29	2611713.11
			Max. Vy	6	30.24	-2628297.00	-95342.82
			Max. Vx	2	-29.72	100209.29	2611713.11
			Max. Torque	6			15649.50
L30	33.75 - 28.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-90.70	-20479.10	53616.43
			Max. Mx	6	-45.67	-2780067.25	-100079.95
			Max. My	2	-45.68	105070.55	2761079.40
			Max. Vy	6	30.50	-2780067.25	-100079.95
			Max. Vx	2	-29.96	105070.55	2761079.40
			Max. Torque	6			15646.29

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L31	28.75 - 26.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-91.94	-20571.32	54161.41
			Max. Mx	6	-46.50	-2846253.84	-102125.38
			Max. My	2	-46.51	107170.53	2826192.53
			Max. Vy	6	30.62	-2846253.84	-102125.38
			Max. Vx	2	-30.07	107170.53	2826192.53
			Max. Torque	6			15643.50
L32	26.583 - 26.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-92.08	-20583.60	54227.64
			Max. Mx	6	-46.61	-2853905.22	-102362.05
			Max. My	2	-46.62	107412.94	2833719.04
			Max. Vy	6	30.62	-2853905.22	-102362.05
			Max. Vx	2	-30.07	107412.94	2833719.04
			Max. Torque	6			15642.62
L33	26.333 - 21.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-95.04	-20786.60	55466.74
			Max. Mx	6	-48.63	-3007627.06	-107061.30
			Max. My	2	-48.64	112240.57	2984896.12
			Max. Vy	6	30.89	-3007627.06	-107061.30
			Max. Vx	2	-30.33	112240.57	2984896.12
			Max. Torque	6			15642.36
L34	21.333 - 18.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-96.97	-20913.56	56262.34
			Max. Mx	6	-49.96	-3108248.38	-110102.58
			Max. My	2	-49.97	115366.29	3083819.59
			Max. Vy	6	31.06	-3108248.38	-110102.58
			Max. Vx	2	-30.49	115366.29	3083819.59
			Max. Torque	6			15640.35
L35	18.083 - 17.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-97.12	-20924.39	56325.68
			Max. Mx	6	-50.08	-3116011.09	-110337.19
			Max. My	2	-50.09	115606.98	3091450.46
			Max. Vy	6	31.06	-3116011.09	-110337.19
			Max. Vx	2	-30.48	115606.98	3091450.46
			Max. Torque	6			15639.38
L36	17.833 - 12.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-100.11	-21107.41	57523.10
			Max. Mx	6	-52.16	-3271923.87	-114991.51
			Max. My	2	-52.17	120393.57	3244690.64
			Max. Vy	6	31.33	-3271923.87	-114991.51
			Max. Vx	2	-30.73	120393.57	3244690.64
			Max. Torque	6			15639.21
L37	12.833 - 7.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-103.08	-21276.63	58686.76

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Mx	6	-54.28	-3429062.72	-119617.39
			Max. My	2	-54.28	125153.51	3399098.47
			Max. Vy	6	31.57	-3429062.72	-119617.39
			Max. Vx	2	-30.96	125153.51	3399098.47
			Max. Torque	6			15637.89
L38	7.833 - 2.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-106.03	-21414.73	59764.64
			Max. Mx	6	-56.42	-3587385.73	-124211.34
			Max. My	2	-56.42	129883.74	3554644.31
			Max. Vy	6	31.80	-3587385.73	-124211.34
			Max. Vx	2	-31.19	129883.74	3554644.31
			Max. Torque	6			15637.00
L39	2.833 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-107.65	-21481.80	60337.49
			Max. Mx	6	-57.64	-3677605.24	-126798.71
			Max. My	2	-57.64	132549.47	3643274.06
			Max. Vy	6	31.94	-3677605.24	-126798.71
			Max. Vx	2	-31.32	132549.47	3643274.06
			Max. Torque	6			15636.57

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	8	107.65	0.00	-0.00
	Max. H_x	3	43.24	0.94	31.29
	Max. H_z	3	43.24	0.94	31.29
	Max. M_x	2	3643274.00	0.94	31.29
	Max. M_z	6	3677605.16	-31.91	-0.96
	Max. Torsion	6	15636.49	-31.91	-0.96
	Min. Vert	3	43.24	0.94	31.29
	Min. H_x	7	43.24	-31.91	-0.96
	Min. H_z	7	43.24	-31.91	-0.96
	Min. M_x	7	-128675.25	-31.91	-0.96
	Min. M_z	2	-132551.11	0.94	31.29
	Min. Torsion	2	-11632.54	0.94	31.29

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	48.04	-0.00	0.00	-12191.33	-5273.42	0.71
1.2 Dead+1.6 Wind 0 deg - No Ice	57.65	-0.94	-31.29	-3643274.00	132551.11	11632.54
0.9 Dead+1.6 Wind 0 deg - No	43.24	-0.94	-31.29	-3591637.88	132246.02	11470.20

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Ice 1.2 Dead+1.6 Wind 45 deg - No Ice	57.65	21.40	-21.61	-2493707.71	-2462097.01	-2904.41
0.9 Dead+1.6 Wind 45 deg - No Ice	43.24	21.40	-21.61	-2457341.87	-2428196.16	-2874.96
1.2 Dead+1.6 Wind 90 deg - No Ice	57.65	31.91	0.96	126800.93	-3677605.16	-15636.49
0.9 Dead+1.6 Wind 90 deg - No Ice	43.24	31.91	0.96	128675.25	-3627782.38	-15429.83
1.2 Dead+1.0 Ice+1.0 Temp	107.65	-0.00	0.00	-60337.49	-21481.80	16.05
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	107.65	-0.12	-8.11	-1026965.04	-1113.49	3189.07
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	107.65	5.62	-5.66	-730825.87	-687525.08	-681.65
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	107.65	8.08	0.13	-39480.46	-985329.86	-4124.91
Dead+Wind 0 deg - Service	48.04	-0.18	-6.18	-723142.77	21828.18	2305.08
Dead+Wind 45 deg - Service	48.04	4.22	-4.26	-497899.75	-486351.25	-575.82
Dead+Wind 90 deg - Service	48.04	6.30	0.19	15349.82	-724549.88	-3097.99

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-48.04	0.00	0.00	48.04	-0.00	0.003%
2	-0.94	-57.65	-31.29	0.94	57.65	31.29	0.000%
3	-0.94	-43.24	-31.29	0.94	43.24	31.29	0.000%
4	21.40	-57.65	-21.61	-21.40	57.65	21.61	0.000%
5	21.40	-43.24	-21.61	-21.40	43.24	21.61	0.000%
6	31.91	-57.65	0.96	-31.91	57.65	-0.96	0.000%
7	31.91	-43.24	0.96	-31.91	43.24	-0.96	0.000%
8	0.00	-107.65	0.00	0.00	107.65	-0.00	0.000%
9	-0.12	-107.65	-8.11	0.12	107.65	8.11	0.000%
10	5.62	-107.65	-5.66	-5.62	107.65	5.66	0.000%
11	8.08	-107.65	0.13	-8.08	107.65	-0.13	0.000%
12	-0.18	-48.04	-6.18	0.18	48.04	6.18	0.001%
13	4.22	-48.04	-4.26	-4.22	48.04	4.26	0.001%
14	6.30	-48.04	0.19	-6.30	48.04	-0.19	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	10	0.00000001	0.00003083
2	Yes	20	0.00000001	0.00014389
3	Yes	20	0.00000001	0.00010558
4	Yes	23	0.00000001	0.00007090
5	Yes	22	0.00000001	0.00010688
6	Yes	21	0.00000001	0.00009870
7	Yes	21	0.00000001	0.00007052
8	Yes	17	0.00000001	0.00012484
9	Yes	21	0.00000001	0.00009328

10	Yes	21	0.00000001	0.00011274
11	Yes	21	0.00000001	0.00009197
12	Yes	17	0.00000001	0.00008802
13	Yes	17	0.00000001	0.00008265
14	Yes	17	0.00000001	0.00011737

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	19.674	12	1.2416	0.0184
L2	143 - 138	18.377	12	1.2354	0.0179
L3	138 - 133	17.089	12	1.2232	0.0172
L4	133 - 128	15.818	12	1.2019	0.0160
L5	128 - 123	14.574	12	1.1730	0.0149
L6	123 - 118	13.365	12	1.1360	0.0136
L7	118 - 111	12.198	12	1.0911	0.0123
L8	115 - 110	11.522	12	1.0611	0.0115
L9	110 - 105	10.426	12	1.0273	0.0108
L10	105 - 100	9.382	12	0.9644	0.0094
L11	100 - 99.395	8.408	12	0.8964	0.0081
L12	99.395 - 99.145	8.295	12	0.8879	0.0080
L13	99.145 - 94.145	8.248	12	0.8843	0.0079
L14	94.145 - 89.145	7.360	12	0.8109	0.0067
L15	89.145 - 88.103	6.551	12	0.7339	0.0055
L16	88.103 - 87.853	6.393	12	0.7175	0.0053
L17	87.853 - 82.853	6.355	12	0.7152	0.0053
L18	82.853 - 75	5.632	12	0.6670	0.0047
L19	79.75 - 74.75	5.208	12	0.6363	0.0043
L20	74.75 - 69.75	4.554	12	0.6113	0.0040
L21	69.75 - 64.75	3.939	12	0.5634	0.0035
L22	64.75 - 59.75	3.374	12	0.5150	0.0031
L23	59.75 - 57.103	2.861	12	0.4656	0.0027
L24	57.103 - 56.853	2.610	12	0.4391	0.0025
L25	56.853 - 51.853	2.587	12	0.4369	0.0024
L26	51.853 - 46.853	2.152	12	0.3934	0.0021
L27	46.853 - 39.75	1.763	14	0.3499	0.0018
L28	45 - 38.75	1.631	14	0.3338	0.0017
L29	38.75 - 33.75	1.211	14	0.3035	0.0015
L30	33.75 - 28.75	0.915	14	0.2621	0.0013
L31	28.75 - 26.583	0.662	14	0.2211	0.0010
L32	26.583 - 26.333	0.566	14	0.2034	0.0009
L33	26.333 - 21.333	0.555	14	0.2015	0.0009
L34	21.333 - 18.083	0.365	14	0.1633	0.0007
L35	18.083 - 17.833	0.262	14	0.1386	0.0006
L36	17.833 - 12.833	0.255	14	0.1367	0.0006
L37	12.833 - 7.833	0.132	14	0.0984	0.0004
L38	7.833 - 2.833	0.049	14	0.0597	0.0003
L39	2.833 - 0	0.006	14	0.0215	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.00	Lightning Rod 5/8x8'	12	19.674	1.2416	0.0260	32408
148.00	(2) 7770.00 w/ Mount Pipe	12	19.674	1.2416	0.0260	32408
140.00	AIR32 B2A/B66A W/ MOUNT PIPE	12	17.602	1.2291	0.0240	21085
126.00	APXVSPP18-C-A20 w/ Mount Pipe	12	14.086	1.1591	0.0191	8017
110.00	LNX-6514DS-T4M w/ Mount Pipe	12	10.426	1.0273	0.0142	5667
105.00	HP3-11	12	9.382	0.9644	0.0124	4375
100.00	CC807-08	12	8.408	0.8964	0.0107	4074
90.00	742 213 w/ Mount Pipe	12	6.684	0.7485	0.0076	3998
55.00	GPS	12	2.421	0.4210	0.0031	6450
50.00	GPS	12	2.003	0.3775	0.0027	6542

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	98.689	6	6.1592	0.0946
L2	143 - 138	92.261	6	6.1364	0.0924
L3	138 - 133	85.871	6	6.0854	0.0884
L4	133 - 128	79.556	6	5.9904	0.0822
L5	128 - 123	73.362	6	5.8553	0.0766
L6	123 - 118	67.328	6	5.6801	0.0699
L7	118 - 111	61.499	6	5.4637	0.0630
L8	115 - 110	58.116	6	5.3180	0.0591
L9	110 - 105	52.628	6	5.1524	0.0554
L10	105 - 100	47.398	6	4.8443	0.0480
L11	100 - 99.395	42.504	6	4.5089	0.0415
L12	99.395 - 99.145	41.936	6	4.4668	0.0407
L13	99.145 - 94.145	41.702	6	4.4492	0.0404
L14	94.145 - 89.145	37.236	6	4.0855	0.0341
L15	89.145 - 88.103	33.160	6	3.7023	0.0282
L16	88.103 - 87.853	32.362	6	3.6210	0.0271
L17	87.853 - 82.853	32.172	6	3.6093	0.0269
L18	82.853 - 75	28.520	6	3.3687	0.0237
L19	79.75 - 74.75	26.382	6	3.2157	0.0218
L20	74.75 - 69.75	23.078	6	3.0900	0.0204
L21	69.75 - 64.75	19.969	6	2.8500	0.0180
L22	64.75 - 59.75	17.113	6	2.6069	0.0157
L23	59.75 - 57.103	14.513	6	2.3584	0.0136
L24	57.103 - 56.853	13.243	6	2.2245	0.0125
L25	56.853 - 51.853	13.127	6	2.2138	0.0124
L26	51.853 - 46.853	10.924	6	1.9943	0.0107
L27	46.853 - 39.75	8.951	6	1.7746	0.0092
L28	45 - 38.75	8.278	6	1.6932	0.0086
L29	38.75 - 33.75	6.151	6	1.5403	0.0077
L30	33.75 - 28.75	4.648	6	1.3308	0.0064
L31	28.75 - 26.583	3.363	6	1.1225	0.0053
L32	26.583 - 26.333	2.874	6	1.0327	0.0048
L33	26.333 - 21.333	2.820	6	1.0230	0.0047
L34	21.333 - 18.083	1.851	6	0.8290	0.0037
L35	18.083 - 17.833	1.329	6	0.7038	0.0031
L36	17.833 - 12.833	1.293	6	0.6941	0.0031
L37	12.833 - 7.833	0.668	6	0.4995	0.0022
L38	7.833 - 2.833	0.248	6	0.3031	0.0013
L39	2.833 - 0	0.032	6	0.1090	0.0005

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
152.00	Lightning Rod 5/8x8'	6	98.689	6.1592	0.1333	7853
148.00	(2) 7770.00 w/ Mount Pipe	6	98.689	6.1592	0.1333	7853
140.00	AIR32 B2A/B66A W/ MOUNT PIPE	6	88.420	6.1106	0.1227	5026
126.00	APXVSPP18-C-A20 w/ Mount Pipe	6	70.927	5.7896	0.0978	1721
110.00	LNX-6514DS-T4M w/ Mount Pipe	6	52.628	5.1524	0.0725	1174
105.00	HP3-11	6	47.398	4.8443	0.0632	902
100.00	CC807-08	6	42.504	4.5089	0.0544	834
90.00	742 213 w/ Mount Pipe	6	33.828	3.7753	0.0385	810
55.00	GPS	6	12.284	2.1334	0.0158	1283
50.00	GPS	6	10.166	1.9140	0.0136	1299

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	148 - 143 (1)	TP24.9001x24x0.25	5.00	0.00	0.0	19.5599	-4.13	1453.20	0.003
L2	143 - 138 (2)	TP25.8003x24.9001x0.25	5.00	0.00	0.0	20.2741	-9.86	1498.19	0.007
L3	138 - 133 (3)	TP26.7004x25.8003x0.25	5.00	0.00	0.0	20.9884	-10.37	1536.89	0.007
L4	133 - 128 (4)	TP27.6005x26.7004x0.25	5.00	0.00	0.0	21.7027	-10.91	1574.63	0.007
L5	128 - 123 (5)	TP28.5007x27.6005x0.25	5.00	0.00	0.0	22.4169	-15.26	1611.42	0.009
L6	123 - 118 (6)	TP29.4008x28.5007x0.25	5.00	0.00	0.0	23.1312	-15.89	1647.25	0.010
L7	118 - 111 (7)	TP30.661x29.4008x0.25	7.00	0.00	0.0	23.5597	-16.27	1668.28	0.010
L8	111 - 110 (8)	TP30.3412x29.4409x0.25	5.00	0.00	0.0	23.8773	-17.28	1683.65	0.010
L9	110 - 105 (9)	TP31.2414x30.3412x0.25	5.00	0.00	0.0	24.5917	-21.18	1717.53	0.012
L10	105 - 100 (10)	TP32.1417x31.2414x0.25	5.00	0.00	0.0	25.3060	-22.04	1750.44	0.013
L11	100 - 99.395 (11)	TP32.2506x32.1417x0.25	0.61	0.00	0.0	25.3925	-22.69	1754.36	0.013
L12	99.395 - 99.145 (12)	TP32.2956x32.2506x0.25	0.25	0.00	0.0	25.4282	-22.74	1755.97	0.013
L13	99.145 - 94.145 (13)	TP33.1959x32.2956x0.25	5.00	0.00	0.0	26.1426	-23.58	1787.76	0.013
L14	94.145 - 89.145 (14)	TP34.0962x33.1959x0.25	5.00	0.00	0.0	26.8569	-24.62	1818.60	0.014
L15	89.145 - 88.103 (15)	TP34.2838x34.0962x0.25	1.04	0.00	0.0	27.0058	-24.81	1824.90	0.014
L16	88.103 - 87.853 (16)	TP34.3288x34.2838x0.4313	0.25	0.00	0.0	46.3985	-24.88	3447.18	0.007
L17	87.853 - 82.853 (17)	TP35.229x34.3288x0.425	5.00	0.00	0.0	46.9489	-26.09	3488.07	0.007
L18	82.853 - 75	TP36.643x35.229x0.425	7.85	0.00	0.0	47.7026	-26.85	3544.06	0.008

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L19	75 - 74.75 (19)	TP36.1879x35.2878x0.4875	5.00	0.00	0.0	55.2401	-29.06	4104.07	0.007
L20	74.75 - 69.75 (20)	TP37.0881x36.1879x0.475	5.00	0.00	0.0	55.1997	-30.45	4101.06	0.007
L21	69.75 - 64.75 (21)	TP37.9882x37.0881x0.475	5.00	0.00	0.0	56.5568	-31.87	4201.89	0.008
L22	64.75 - 59.75 (22)	TP38.8884x37.9882x0.4688	5.00	0.00	0.0	57.1612	-33.31	4246.79	0.008
L23	59.75 - 57.103 (23)	TP39.3649x38.8884x0.4625	2.65	0.00	0.0	57.1078	-34.08	4242.82	0.008
L24	57.103 - 56.853 (24)	TP39.4099x39.3649x0.55	0.25	0.00	0.0	67.8378	-34.18	5040.01	0.007
L25	56.853 - 51.853 (25)	TP40.3101x39.4099x0.5375	5.00	0.00	0.0	67.8530	-35.88	5041.14	0.007
L26	51.853 - 46.853 (26)	TP41.2102x40.3101x0.5375	5.00	0.00	0.0	69.3887	-37.62	5155.23	0.007
L27	46.853 - 39.75 (27)	TP42.489x41.2102x0.5375	7.10	0.00	0.0	69.9578	-38.23	5197.52	0.007
L28	39.75 - 38.75 (28)	TP42.044x40.9188x0.6	6.25	0.00	0.0	78.9259	-41.91	5863.80	0.007
L29	38.75 - 33.75 (29)	TP42.9441x42.044x0.5875	5.00	0.00	0.0	78.9835	-43.78	5868.08	0.007
L30	33.75 - 28.75 (30)	TP43.8443x42.9441x0.5875	5.00	0.00	0.0	80.6620	-45.67	5992.78	0.008
L31	28.75 - 26.583 (31)	TP44.2344x43.8443x0.5875	2.17	0.00	0.0	81.3894	-46.50	6046.83	0.008
L32	26.583 - 26.333 (32)	TP44.2794x44.2344x0.625	0.25	0.00	0.0	86.5994	-46.61	6433.90	0.007
L33	26.333 - 21.333 (33)	TP45.1795x44.2794x0.625	5.00	0.00	0.0	88.3850	-48.63	6566.56	0.007
L34	21.333 - 18.083 (34)	TP45.7646x45.1795x0.625	3.25	0.00	0.0	89.5457	-49.96	6652.80	0.008
L35	18.083 - 17.833 (35)	TP45.8096x45.7646x0.6125	0.25	0.00	0.0	87.8665	-50.08	6528.05	0.008
L36	17.833 - 12.833 (36)	TP46.7097x45.8096x0.6125	5.00	0.00	0.0	89.6165	-52.16	6658.06	0.008
L37	12.833 - 7.833 (37)	TP47.6099x46.7097x0.6	5.00	0.00	0.0	89.5256	-54.28	6651.30	0.008
L38	7.833 - 2.833 (38)	TP48.51x47.6099x0.6	5.00	0.00	0.0	91.2398	-56.42	6778.66	0.008
L39	2.833 - 0 (39)	TP49.02x48.51x0.6	2.83	0.00	0.0	92.2110	-57.64	6850.82	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} lb-ft	ϕM_{nx} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} lb-ft	ϕM_{ny} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	148 - 143 (1)	TP24.9001x24x0.25	39209.50	734945.83	0.053	0.00	734945.83	0.000
L2	143 - 138 (2)	TP25.8003x24.9001x0.25	86238.33	785643.33	0.110	0.00	785643.33	0.000
L3	138 - 133 (3)	TP26.7004x25.8003x0.25	152496.67	834608.33	0.183	0.00	834608.33	0.000
L4	133 - 128 (4)	TP27.6005x26.7004x0.25	220646.67	884475.00	0.249	0.00	884475.00	0.000
L5	128 - 123 (5)	TP28.5007x27.6005x0.25	314674.17	935200.00	0.336	0.00	935200.00	0.000
L6	123 - 118 (6)	TP29.4008x28.5007x0.25	407690.83	986716.67	0.413	0.00	986716.67	0.000
L7	118 - 111 (7)	TP30.661x29.4008x0.25	464384.17	1017991.67	0.456	0.00	1017991.67	0.000
L8	111 - 110 (8)	TP30.3412x29.4409x0.25	560510.83	1041333.33	0.538	0.00	1041333.33	0.000
L9	110 - 105 (9)	TP31.2414x30.3412x0.25	676626.67	1094325.00	0.618	0.00	1094325.00	0.000

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		*lb-ft*	*lb-ft*		*lb-ft*	*lb-ft*	
L10	105 - 100 (10)	TP32.1417x31.2414x0.25	794144.17	1147958.33	0.692	0.00	1147958.33	0.000
L11	100 - 99.395 (11)	TP32.2506x32.1417x0.25	811415.00	1154491.67	0.703	0.00	1154491.67	0.000
L12	99.395 - 99.145 (12)	TP32.2956x32.2506x0.25	817645.83	1157191.67	0.707	0.00	1157191.67	0.000
L13	99.145 - 94.145 (13)	TP33.1959x32.2956x0.25	943016.67	1211491.67	0.778	0.00	1211491.67	0.000
L14	94.145 - 89.145 (14)	TP34.0962x33.1959x0.25	1070258.33	1266316.67	0.845	0.00	1266316.67	0.000
L15	89.145 - 88.103 (15)	TP34.2838x34.0962x0.25	1097308.33	1277800.00	0.859	0.00	1277800.00	0.000
L16	88.103 - 87.853 (16)	TP34.3288x34.2838x0.4313	1103808.33	2391300.00	0.462	0.00	2391300.00	0.000
L17	87.853 - 82.853 (17)	TP35.229x34.3288x0.425	1234916.67	2485625.00	0.497	0.00	2485625.00	0.000
L18	82.853 - 75 (18)	TP36.643x35.229x0.425	1317308.33	2566558.33	0.513	0.00	2566558.33	0.000
L19	75 - 74.75 (19)	TP36.1879x35.2878x0.4875	1451975.00	2995641.67	0.485	0.00	2995641.67	0.000
L20	74.75 - 69.75 (20)	TP37.0881x36.1879x0.475	1588875.00	3072041.67	0.517	0.00	3072041.67	0.000
L21	69.75 - 64.75 (21)	TP37.9882x37.0881x0.475	1727683.33	3225941.67	0.536	0.00	3225941.67	0.000
L22	64.75 - 59.75 (22)	TP38.8884x37.9882x0.4688	1868316.67	3340716.67	0.559	0.00	3340716.67	0.000
L23	59.75 - 57.103 (23)	TP39.3649x38.8884x0.4625	1943475.00	3380583.33	0.575	0.00	3380583.33	0.000
L24	57.103 - 56.853 (24)	TP39.4099x39.3649x0.55	1950600.00	4002416.67	0.487	0.00	4002416.67	0.000
L25	56.853 - 51.853 (25)	TP40.3101x39.4099x0.5375	2094066.67	4099916.67	0.511	0.00	4099916.67	0.000
L26	51.853 - 46.853 (26)	TP41.2102x40.3101x0.5375	2239541.67	4288866.67	0.522	0.00	4288866.67	0.000
L27	46.853 - 39.75 (27)	TP42.489x41.2102x0.5375	2293958.33	4359975.00	0.526	0.00	4359975.00	0.000
L28	39.75 - 38.75 (28)	TP42.044x40.9188x0.6	2479575.00	4964675.00	0.499	0.00	4964675.00	0.000
L29	38.75 - 33.75 (29)	TP42.9441x42.044x0.5875	2630025.00	5080741.67	0.518	0.00	5080741.67	0.000
L30	33.75 - 28.75 (30)	TP43.8443x42.9441x0.5875	2781866.67	5300491.67	0.525	0.00	5300491.67	0.000
L31	28.75 - 26.583 (31)	TP44.2344x43.8443x0.5875	2848083.33	5397175.00	0.528	0.00	5397175.00	0.000
L32	26.583 - 26.333 (32)	TP44.2794x44.2344x0.625	2855741.67	5738800.00	0.498	0.00	5738800.00	0.000
L33	26.333 - 21.333 (33)	TP45.1795x44.2794x0.625	3009533.33	5979608.00	0.503	0.00	5979608.00	0.000
L34	21.333 - 18.083 (34)	TP45.7646x45.1795x0.625	3110200.00	6138783.33	0.507	0.00	6138783.33	0.000
L35	18.083 - 17.833 (35)	TP45.8096x45.7646x0.6125	3117966.67	6033100.00	0.517	0.00	6033100.00	0.000
L36	17.833 - 12.833 (36)	TP46.7097x45.8096x0.6125	3273941.67	6277433.33	0.522	0.00	6277433.33	0.000
L37	12.833 - 7.833 (37)	TP47.6099x46.7097x0.6	3431150.00	6398533.33	0.536	0.00	6398533.33	0.000
L38	7.833 - 2.833 (38)	TP48.51x47.6099x0.6	3589533.33	6647483.33	0.540	0.00	6647483.33	0.000
L39	2.833 - 0 (39)	TP49.02x48.51x0.6	3679791.67	6790650.00	0.542	0.00	6790650.00	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	148 - 143 (1)	TP24.9001x24x0.25	6.07	726.60	0.008	1794.03	1473933.33	0.001
L2	143 - 138 (2)	TP25.8003x24.9001x0.25	13.05	749.09	0.017	6011.32	1575525.00	0.004
L3	138 - 133 (3)	TP26.7004x25.8003x0.25	13.42	768.45	0.017	6010.27	1673633.33	0.004
L4	133 - 128 (4)	TP27.6005x26.7004x0.25	13.80	787.32	0.018	6008.47	1773558.33	0.003
L5	128 - 123 (5)	TP28.5007x27.6005x0.25	18.42	805.71	0.023	12152.00	1875183.33	0.006
L6	123 - 118 (6)	TP29.4008x28.5007x0.25	18.80	823.62	0.023	12146.17	1978408.33	0.006
L7	118 - 111 (7)	TP30.661x29.4008x0.25	19.02	834.14	0.023	12142.00	2041066.67	0.006
L8	111 - 110 (8)	TP30.3412x29.4409x0.25	19.44	841.83	0.023	12137.17	2087833.33	0.006
L9	110 - 105 (9)	TP31.2414x30.3412x0.25	23.10	858.76	0.027	14535.17	2194000.00	0.007
L10	105 - 100 (10)	TP32.1417x31.2414x0.25	23.69	875.22	0.027	14949.75	2301441.67	0.006
L11	100 - 99.395 (11)	TP32.2506x32.1417x0.25	24.92	877.18	0.028	15335.67	2314525.00	0.007
L12	99.395 - 99.145 (12)	TP32.2956x32.2506x0.25	24.94	877.99	0.028	15334.67	2319933.33	0.007
L13	99.145 - 94.145 (13)	TP33.1959x32.2956x0.25	25.24	893.88	0.028	15323.67	2428725.00	0.006
L14	94.145 - 89.145 (14)	TP34.0962x33.1959x0.25	25.94	909.30	0.029	15481.83	2538558.33	0.006
L15	89.145 - 88.103 (15)	TP34.2838x34.0962x0.25	26.01	912.45	0.029	15479.50	2561566.67	0.006
L16	88.103 - 87.853 (16)	TP34.3288x34.2838x0.4313	26.02	1723.59	0.015	15478.17	4797608.33	0.003
L17	87.853 - 82.853 (17)	TP35.229x34.3288x0.425	26.44	1744.03	0.015	15471.83	4986475.00	0.003
L18	82.853 - 75 (18)	TP36.643x35.229x0.425	26.69	1772.03	0.015	15467.58	5148691.67	0.003
L19	75 - 74.75 (19)	TP36.1879x35.2878x0.4875	27.19	2052.03	0.013	15463.58	6010908.00	0.003
L20	74.75 - 69.75 (20)	TP37.0881x36.1879x0.475	27.59	2050.53	0.013	15457.67	6163583.33	0.003
L21	69.75 - 64.75 (21)	TP37.9882x37.0881x0.475	27.96	2100.94	0.013	15451.42	6472066.67	0.002
L22	64.75 - 59.75 (22)	TP38.8884x37.9882x0.4688	28.32	2123.40	0.013	15445.58	6701883.33	0.002
L23	59.75 - 57.103 (23)	TP39.3649x38.8884x0.4625	28.51	2121.41	0.013	15442.75	6781533.33	0.002
L24	57.103 - 56.853 (24)	TP39.4099x39.3649x0.55	28.51	2520.00	0.011	15441.83	8031641.33	0.002
L25	56.853 - 51.853 (25)	TP40.3101x39.4099x0.5375	28.93	2520.57	0.011	15548.67	8226524.67	0.002
L26	51.853 - 46.853 (26)	TP41.2102x40.3101x0.5375	29.33	2577.62	0.011	15654.33	8605250.00	0.002
L27	46.853 - 39.75 (27)	TP42.489x41.2102x0.5375	29.46	2598.76	0.011	15653.25	8747833.33	0.002
L28	39.75 - 38.75 (28)	TP42.044x40.9188x0.6	29.96	2931.90	0.010	15650.17	9963083.33	0.002
L29	38.75 - 33.75 (29)	TP42.9441x42.044x0.5875	30.25	2934.04	0.010	15646.92	10195083.33	0.002
L30	33.75 - 28.75 (30)	TP43.8443x42.9441x0.5875	30.52	2996.39	0.010	15644.00	10635583.33	0.001
L31	28.75 - 26.583 (31)	TP44.2344x43.8443x0.5875	30.63	3023.41	0.010	15643.00	10829416.67	0.001
L32	26.583 - 26.333 (32)	TP44.2794x44.2344x0.625	30.63	3216.95	0.010	15642.58	11516333.33	0.001
L33	26.333 - 21.333 (33)	TP45.1795x44.2794x0.625	30.91	3283.28	0.009	15640.75	11999082.67	0.001
L34	21.333 - 18.083 (34)	TP45.7646x45.1795x0.625	31.08	3326.40	0.009	15639.58	12318166.67	0.001

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L35	18.083 - 17.833 (35)	TP45.8096x45.7646x0.6125	31.08	3264.02	0.010	15639.42	12105500.00	0.001
L36	17.833 - 12.833 (36)	TP46.7097x45.8096x0.6125	31.34	3329.03	0.009	15638.08	12595333.33	0.001
L37	12.833 - 7.833 (37)	TP47.6099x46.7097x0.6	31.58	3325.65	0.009	15637.17	12837249.33	0.001
L38	7.833 - 2.833 (38)	TP48.51x47.6099x0.6	31.81	3389.33	0.009	15636.58	13336249.33	0.001
L39	2.833 - 0 (39)	TP49.02x48.51x0.6	31.95	3425.41	0.009	15636.50	13623249.33	0.001

CCIpole

Site BU: _____

Work Order: _____

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	148	37	4	18	24	30.661	0.25	Auto	A607-65
2	115	40	4.75	18	29.44	36.643	0.25	Auto	A607-65
3	79.75	40	5.25	18	35.29	42.489	0.3125	Auto	A607-65
4	45	45	0	18	40.92	49.02	0.375	Auto	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	18.083	channel	MP3-05 (1.1875in)	2					E		E											
2	18.083	26.583	channel	MP3-08 (1.1875in)	1						E												
3	0	26.583	channel	MP3-08 (1.1875in)	2												E						E
4	26.583	57.103	channel	MP3-06 (1.1875in)	3						E						E						E
5	57.103	88.103	channel	MP3-05 (1.1875in)	3						E						E						E
6	88.103	99.395	channel	MP3-03 (1.1875in)	3						E						E						E
7																							
8																							
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
2	7.93	2.8	10.32	0.95	47.000	44.000	24.000	9.370	1.1875	A572-65
3	7.93	2.8	10.32	0.95	47.000	44.000	24.000	9.370	1.1875	A572-65
4	6.89	2.61	8.47	0.93	41.000	41.000	24.000	7.670	1.1875	A572-65
5	5.33	2.09	5.65	0.79	29.000	29.000	18.000	5.025	1.1875	A572-65
6	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	148 - 143	5		18	24.000	24.900	0.25	A607-65	1.000
2	143 - 138	5		18	24.900	25.800	0.25	A607-65	1.000
3	138 - 133	5		18	25.800	26.700	0.25	A607-65	1.000
4	133 - 128	5		18	26.700	27.601	0.25	A607-65	1.000
5	128 - 123	5		18	27.601	28.501	0.25	A607-65	1.000
6	123 - 118	5		18	28.501	29.401	0.25	A607-65	1.000
7	118 - 115	7	4	18	29.401	30.661	0.25	A607-65	1.000
8	115 - 110	5		18	29.441	30.341	0.25	A607-65	1.000
9	110 - 105	5		18	30.341	31.241	0.25	A607-65	1.000
10	105 - 100	5		18	31.241	32.142	0.25	A607-65	1.000
11	100 - 99.395	0.605		18	32.142	32.251	0.25	A607-65	1.000
12	99.395 - 99.145	0.25		18	32.251	32.296	0.25	A607-65	1.000
13	99.145 - 94.145	5		18	32.296	33.196	0.25	A607-65	1.000
14	94.145 - 89.145	5		18	33.196	34.096	0.25	A607-65	1.000
15	89.145 - 88.103	1.042		18	34.096	34.284	0.25	A607-65	1.000
16	88.103 - 87.853	0.25		18	34.284	34.329	0.43125	A607-65	0.948
17	87.853 - 82.853	5		18	34.329	35.229	0.425	A607-65	0.952
18	82.853 - 79.75	7.853	4.75	18	35.229	36.643	0.425	A607-65	0.946
19	79.75 - 74.75	5		18	35.288	36.188	0.4875	A607-65	0.951
20	74.75 - 69.75	5		18	36.188	37.088	0.475	A607-65	0.968
21	69.75 - 64.75	5		18	37.088	37.988	0.475	A607-65	0.960
22	64.75 - 59.75	5		18	37.988	38.888	0.46875	A607-65	0.966
23	59.75 - 57.103	2.647		18	38.888	39.365	0.4625	A607-65	0.975
24	57.103 - 56.853	0.25		18	39.365	39.410	0.55	A607-65	0.946
25	56.853 - 51.853	5		18	39.410	40.310	0.5375	A607-65	0.959
26	51.853 - 46.853	5		18	40.310	41.210	0.5375	A607-65	0.951
27	46.853 - 45	7.103	5.25	18	41.210	42.489	0.5375	A607-65	0.948
28	45 - 38.75	6.25		18	40.919	42.044	0.6	A607-65	0.950
29	38.75 - 33.75	5		18	42.044	42.944	0.5875	A607-65	0.963
30	33.75 - 28.75	5		18	42.944	43.844	0.5875	A607-65	0.956
31	28.75 - 26.583	2.167		18	43.844	44.234	0.5875	A607-65	0.954
32	26.583 - 26.333	0.25		18	44.234	44.279	0.625	A607-65	0.961
33	26.333 - 21.333	5		18	44.279	45.180	0.625	A607-65	0.954
34	21.333 - 18.083	3.25		18	45.180	45.765	0.625	A607-65	0.949
35	18.083 - 17.833	0.25		18	45.765	45.810	0.6125	A607-65	0.979
36	17.833 - 12.833	5		18	45.810	46.710	0.6125	A607-65	0.972
37	12.833 - 7.833	5		18	46.710	47.610	0.6	A607-65	0.985
38	7.833 - 2.833	5		18	47.610	48.510	0.6	A607-65	0.978
39	2.833 - 0	2.833		18	48.510	49.020	0.6	A607-65	0.974

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	148 - 143	-4.13	39.2095	6.07
2	143 - 138	-9.86	86.23833	13.05
3	138 - 133	-10.37	152.49667	13.42
4	133 - 128	-10.91	220.64667	13.8
5	128 - 123	-15.26	314.67417	18.42
6	123 - 118	-15.89	407.69083	18.8
7	118 - 115	-16.27	464.38417	19.02
8	115 - 110	-17.28	560.51083	19.44
9	110 - 105	-21.18	676.62667	23.1
10	105 - 100	-22.04	794.14417	23.69
11	100 - 99.395	-22.69	811.415	24.92
12	99.395 - 99.145	-22.74	817.64583	24.94
13	99.145 - 94.145	-23.58	943.01667	25.24
14	94.145 - 89.145	-24.62	1070.25833	25.94
15	89.145 - 88.103	-24.81	1097.30833	26.01
16	88.103 - 87.853	-24.88	1103.80833	26.02
17	87.853 - 82.853	-26.09	1234.91667	26.44
18	82.853 - 79.75	-26.85	1317.30833	26.69
19	79.75 - 74.75	-29.06	1451.975	27.19
20	74.75 - 69.75	-30.45	1588.875	27.59
21	69.75 - 64.75	-31.87	1727.68333	27.96
22	64.75 - 59.75	-33.31	1868.31667	28.32
23	59.75 - 57.103	-34.08	1943.475	28.51
24	57.103 - 56.853	-34.18	1950.6	28.51
25	56.853 - 51.853	-35.88	2094.06667	28.93
26	51.853 - 46.853	-37.62	2239.54167	29.33
27	46.853 - 45	-38.23	2293.95833	29.46
28	45 - 38.75	-41.91	2479.575	29.96
29	38.75 - 33.75	-43.78	2630.025	30.25
30	33.75 - 28.75	-45.67	2781.86667	30.52
31	28.75 - 26.583	-46.5	2848.08333	30.63
32	26.583 - 26.333	-46.61	2855.74167	30.63
33	26.333 - 21.333	-48.63	3009.53333	30.91
34	21.333 - 18.083	-49.96	3110.2	31.08
35	18.083 - 17.833	-50.08	3117.96667	31.08
36	17.833 - 12.833	-52.16	3273.94167	31.34
37	12.833 - 7.833	-54.28	3431.15	31.58
38	7.833 - 2.833	-56.42	3589.53333	31.81
39	2.833 - 0	-57.64	3679.79167	31.95

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
148 - 143	Pole	TP24.9x24x0.25	Pole	4.9%	Pass
143 - 138	Pole	TP25.8x24.9x0.25	Pole	10.0%	Pass
138 - 133	Pole	TP26.7x25.8x0.25	Pole	17.0%	Pass
133 - 128	Pole	TP27.601x26.7x0.25	Pole	23.4%	Pass
128 - 123	Pole	TP28.501x27.601x0.25	Pole	31.6%	Pass
123 - 118	Pole	TP29.401x28.501x0.25	Pole	39.0%	Pass
118 - 115	Pole	TP30.661x29.401x0.25	Pole	43.1%	Pass
115 - 110	Pole	TP30.341x29.441x0.25	Pole	51.0%	Pass
110 - 105	Pole	TP31.241x30.341x0.25	Pole	58.6%	Pass
105 - 100	Pole	TP32.142x31.241x0.25	Pole	65.7%	Pass
100 - 99.4	Pole	TP32.251x32.142x0.25	Pole	66.7%	Pass
99.4 - 99.15	Pole	TP32.296x32.251x0.25	Pole	67.1%	Pass
99.15 - 94.15	Pole	TP33.196x32.296x0.25	Pole	74.0%	Pass
94.15 - 89.15	Pole	TP34.096x33.196x0.25	Pole	80.4%	Pass
89.15 - 88.1	Pole	TP34.284x34.096x0.25	Pole	81.7%	Pass
88.1 - 87.85	Pole + Reinf.	TP34.329x34.284x0.4313	Reinf. 5 Tension Rupture	64.3%	Pass
87.85 - 82.85	Pole + Reinf.	TP35.229x34.329x0.425	Reinf. 5 Tension Rupture	69.1%	Pass
82.85 - 79.75	Pole + Reinf.	TP36.643x35.229x0.425	Reinf. 5 Tension Rupture	71.8%	Pass
79.75 - 74.75	Pole + Reinf.	TP36.188x35.288x0.4875	Reinf. 5 Tension Rupture	67.8%	Pass
74.75 - 69.75	Pole + Reinf.	TP37.088x36.188x0.475	Reinf. 5 Tension Rupture	71.2%	Pass
69.75 - 64.75	Pole + Reinf.	TP37.988x37.088x0.475	Reinf. 5 Tension Rupture	74.4%	Pass
64.75 - 59.75	Pole + Reinf.	TP38.888x37.988x0.4688	Reinf. 5 Tension Rupture	77.3%	Pass
59.75 - 57.1	Pole + Reinf.	TP39.365x38.888x0.4625	Reinf. 5 Tension Rupture	78.7%	Pass
57.1 - 56.85	Pole + Reinf.	TP39.41x39.365x0.55	Reinf. 4 Tension Rupture	66.3%	Pass
56.85 - 51.85	Pole + Reinf.	TP40.31x39.41x0.5375	Reinf. 4 Tension Rupture	68.7%	Pass
51.85 - 46.85	Pole + Reinf.	TP41.21x40.31x0.5375	Reinf. 4 Tension Rupture	70.9%	Pass
46.85 - 45	Pole + Reinf.	TP42.489x41.21x0.5375	Reinf. 4 Tension Rupture	71.7%	Pass
45 - 38.75	Pole + Reinf.	TP42.044x40.919x0.6	Reinf. 4 Tension Rupture	68.1%	Pass
38.75 - 33.75	Pole + Reinf.	TP42.944x42.044x0.5875	Reinf. 4 Tension Rupture	69.7%	Pass
33.75 - 28.75	Pole + Reinf.	TP43.844x42.944x0.5875	Reinf. 4 Tension Rupture	71.2%	Pass
28.75 - 26.58	Pole + Reinf.	TP44.234x43.844x0.5875	Reinf. 4 Tension Rupture	71.8%	Pass
26.58 - 26.33	Pole + Reinf.	TP44.279x44.234x0.625	Reinf. 3 Bolt Shear	70.1%	Pass
26.33 - 21.33	Pole + Reinf.	TP45.18x44.279x0.625	Reinf. 3 Tension Rupture	67.7%	Pass
21.33 - 18.08	Pole + Reinf.	TP45.765x45.18x0.625	Reinf. 3 Tension Rupture	68.5%	Pass
18.08 - 17.83	Pole + Reinf.	TP45.81x45.765x0.6125	Reinf. 1 Tension Rupture	70.5%	Pass
17.83 - 12.83	Pole + Reinf.	TP46.71x45.81x0.6125	Reinf. 1 Tension Rupture	71.7%	Pass
12.83 - 7.83	Pole + Reinf.	TP47.61x46.71x0.6	Reinf. 1 Tension Rupture	72.8%	Pass
7.83 - 2.83	Pole + Reinf.	TP48.51x47.61x0.6	Reinf. 1 Tension Rupture	73.8%	Pass
2.83 - 0	Pole + Reinf.	TP49.02x48.51x0.6	Reinf. 1 Tension Rupture	74.3%	Pass
				Summary	
			Pole	81.7%	Pass
			Reinforcement	78.7%	Pass
			Overall	81.7%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*						
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6
148 - 143	1501	n/a	1501	19.56	n/a	19.56	4.9%						
143 - 138	1672	n/a	1672	20.27	n/a	20.27	10.0%						
138 - 133	1855	n/a	1855	20.99	n/a	20.99	17.0%						
133 - 128	2050	n/a	2050	21.70	n/a	21.70	23.4%						
128 - 123	2260	n/a	2260	22.42	n/a	22.42	31.6%						
123 - 118	2482	n/a	2482	23.13	n/a	23.13	39.0%						
118 - 115	2623	n/a	2623	23.56	n/a	23.56	43.1%						
115 - 110	2731	n/a	2731	23.88	n/a	23.88	51.0%						
110 - 105	2983	n/a	2983	24.59	n/a	24.59	58.6%						
105 - 100	3251	n/a	3251	25.31	n/a	25.31	65.7%						
100 - 99.4	3284	n/a	3284	25.39	n/a	25.39	66.7%						
99.4 - 99.15	3298	n/a	3298	25.43	n/a	25.43	67.1%						
99.15 - 94.15	3584	n/a	3584	26.14	n/a	26.14	74.0%						
94.15 - 89.15	3886	n/a	3886	26.86	n/a	26.86	80.4%						
89.15 - 88.1	3951	n/a	3951	27.00	n/a	27.00	81.7%						
88.1 - 87.85	3966	2743	6709	27.04	16.95	43.99	47.6%					64.3%	
87.85 - 82.85	4289	2882	7170	27.75	16.95	44.70	51.7%					69.1%	
82.85 - 79.75	4498	2969	7467	28.20	16.95	45.15	54.2%					71.8%	
79.75 - 74.75	5784	3033	8817	35.58	16.95	52.53	47.5%					67.8%	
74.75 - 69.75	6230	3179	9409	36.48	16.95	53.43	50.3%					71.2%	
69.75 - 64.75	6699	3328	10027	37.37	16.95	54.32	53.0%					74.4%	
64.75 - 59.75	7191	3481	10672	38.26	16.95	55.21	55.5%					77.3%	
59.75 - 57.1	7461	3563	11024	38.73	16.95	55.68	56.9%					78.7%	
57.1 - 56.85	7487	5435	12922	38.78	25.41	64.19	48.7%				66.3%		
56.85 - 51.85	8016	5674	13690	39.67	25.41	65.08	50.9%				68.7%		
51.85 - 46.85	8569	5918	14487	40.56	25.41	65.97	53.0%				70.9%		
46.85 - 45	8781	6009	14790	40.89	25.41	66.30	53.8%				71.7%		
45 - 38.75	10876	6148	17024	49.59	25.41	75.00	48.3%				68.1%		
38.75 - 33.75	11596	6402	17998	50.67	25.41	76.08	49.8%				69.7%		
33.75 - 28.75	12347	6660	19008	51.74	25.41	77.15	51.3%				71.2%		
28.75 - 26.58	12683	6774	19457	52.20	25.41	77.61	51.9%				71.8%		
26.58 - 26.33	12722	8296	21017	52.26	30.96	83.22	48.2%		70.1%	70.1%			
26.33 - 21.33	13520	8620	22141	53.33	30.96	84.29	49.5%		67.7%	67.7%			
21.33 - 18.08	14057	8835	22892	54.02	30.96	84.98	50.3%		68.5%	68.5%			
18.08 - 17.83	14099	8698	22797	54.08	31.94	86.02	50.9%	70.5%		67.3%			
17.83 - 12.83	14954	9029	23982	55.15	31.94	87.09	52.1%	71.7%		68.4%			
12.83 - 7.83	15842	9366	25208	56.22	31.94	88.16	53.3%	72.8%		69.5%			
7.83 - 2.83	16765	9710	26475	57.29	31.94	89.23	54.4%	73.8%		70.5%			
2.83 - 0	17304	9907	27211	57.90	31.94	89.84	55.1%	74.3%		71.0%			

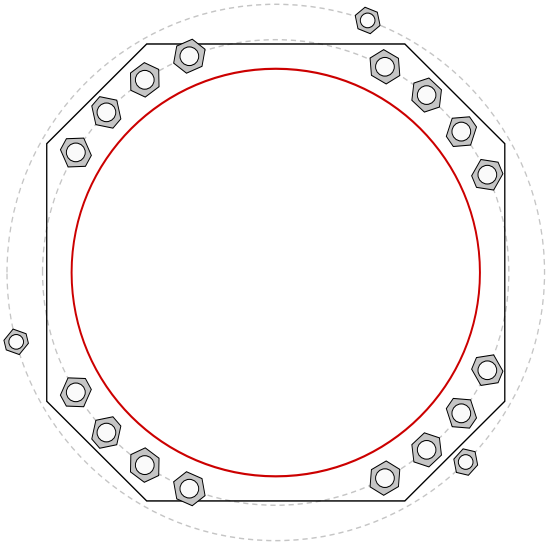
Note: Section capacity checked in 5 degree increments.
Rating per TIA-222-H Section 15.5.

Monopole Base Plate Connection

Site Info	
BU #	
Site Name	CT11056J
Order #	

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	No
l_{ar} (in)	0
Eta Factor, η	0.5

Applied Loads	
Moment (kip-ft)	3679.79
Axial Force (kips)	57.64
Shear Force (kips)	31.95



Connection Properties

Anchor Rod Data

GROUP 1: (16) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 56" BC

Anchor Spacing: 6.053 in

GROUP 2: (3) 1-3/4" ø bolts (A722-150 N; Fy=127.7 ksi, Fu=125 ksi) on 64.52" BC

pos. (deg): 70, 195, 315

Base Plate Data

55" OD x 3" Plate (A572-55; Fy=55 ksi, Fu=70 ksi)

Stiffener Data

N/A

Pole Data

49.02" x 0.6" 18-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:		
Pu_c = 185.85	ϕPn_t = 260	**Stress Rating**
Vu = 1.8	ϕVn = n/a	**72.9%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_c = 125.4	ϕPn_t = 190	**Stress Rating**
Vu = 1.05	ϕVn = n/a	**67.1%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	41.51	(Flexural)
Allowable Stress (ksi):	49.5	
Stress Rating:	**83.9%**	**Pass**

Pier and Pad Foundation

BU # :	
Site Name:	CT11056J
App. Number:	

TIA-222 Revision:	G
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	57.64	kips
Base Shear, Vu_comp:	31.95	kips
Moment, M_u:	3679.79	ft-kips
Tower Height, **H**:	148	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	7	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	11	
Pier Rebar Quantity, **mc**:	28	
Pier Tie/Spiral Size, **St**:	5	
Pier Tie/Spiral Quantity, **mt**:	16	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	8	ft
Pad Width, **W**:	22	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Bottom), **Sp**:	11	
Pad Rebar Quantity (Bottom), **mp**:	22	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	125	pcf
Ultimate Gross Bearing, Qult:	12.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	34	degrees
SPT Blow Count, N_{blows}:	25	
Base Friction, μ:		
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	7	ft

<--Toggle between Gross and Net

Foundation Analysis Checks				
	Capacity	**Demand**	**Rating**	**Check**
Lateral (Sliding) (kips)	311.04	31.95	**10.3%**	**Pass**
Bearing Pressure (ksf)	9.00	3.32	**36.9%**	**Pass**
*Overturning (kip*ft)*	5752.85	3959.35	**68.8%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	6748.17	3855.52	**57.1%**	**Pass**
Pier Compression (kip)	23390.64	106.15	**0.5%**	**Pass**
*Pad Flexure (kip*ft)*	4533.68	1675.32	**37.0%**	**Pass**
Pad Shear - 1-way (kips)	669.89	295.70	**44.1%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.000	**0.0%**	**Pass**

Soil Rating:	**68.8%**
Structural Rating:	**57.1%**

Exhibit E

Mount Analysis

CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
781.713.4725

Mount Analysis Report

Site Address	290 Preston Avenue Middletown, CT 06457
Site Name	ATT Middletown
Site ID	CT11056J
Project Name	Anchor
Design Codes	2015 International Building Code ASCE 7-10 TIA-222-G Standards 2018 CT State Building Code

	Stress Ratio	Overall Result
Existing Mount with Modifications	**85%**	**PASS**

Client:

T - Mobile

NORTHEAST, LLC
15 Commerce Way, Suite B
Norton, MA 02766

Date: 4/27/2021

Scope of Work:

Centerline Communications was authorized by T-Mobile Northeast LLC to perform an analysis of the existing antenna mounts to determine their capacity to support the proposed T-Mobile equipment listed in this report. These mounts were analyzed using RISA 3D v17.0.4.

Final Appurtenances Configuration:

Elevation (ft)	Position [1]	Azimuth (degrees)	Quantity	Appurtenance	Sector
140	**MP1**	**40**	**1**	**AIR32 KRD901146-1_B66A_B2A Antenna**	Sector 1
140	**MP2**	**40**	**1**	**APXVAALL24_43-U-NA20 Antenna**	
140	**MP4**	**40**	**1**	**AIR6449 B41 Antenna**	
140	**MP2**	**40**	**1**	**4449 B71 + B85 RRH**	
140	**MP2**	**40**	**1**	**4415 B25 RRH**	
140	**MP5**	**205**	**1**	**AIR32 KRD901146-1_B66A_B2A Antenna**	Sector 2
140	**MP6**	**205**	**1**	**APXVAALL24_43-U-NA20 Antenna**	
140	**MP8**	**205**	**1**	**AIR6449 B41 Antenna**	
140	**MP6**	**205**	**1**	**4449 B71 + B85 RRH**	
140	**MP6**	**205**	**1**	**4415 B25 RRH**	
140	**MP9**	**280**	**1**	**AIR32 KRD901146-1_B66A_B2A Antenna**	Sector 3
140	**MP10**	**280**	**1**	**APXVAALL24_43-U-NA20 Antenna**	
140	**MP12**	**280**	**1**	**AIR6449 B41 Antenna**	
140	**MP10**	**280**	**1**	**4449 B71 + B85 RRH**	
140	**MP10**	**280**	**1**	**4415 B25 RRH**	

Notes:

1. MP represent Mount Pipe.
2. Existing Appurtenance
3. **Proposed Appurtenance**

Design Criteria:

Design Codes:

2015 International Building Code
ASCE 7-10
TIA-222-G Standards
2018 CT State Building Code

Ultimate Wind Speed	130 mph
Nominal Wind Speed	101 mph
Wind Speed with Ice	50 mph
Ice Thickness	0.75 in.
Exposure Category	B
Topographic Category	1
Structure Class	II
Site Soil Class (Assumed)	D-Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.18 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.063 g
Short Period Site Coefficient, F_a	1.6
Long Period Site Coefficient, F_v	2.4

***Refer to calculations for additional design criteria.**

Conclusion:

The results of the analysis concluded that the existing T-Mobile mounts *are adequate* to support the proposed T-Mobile equipment loading upon completion of the following modifications. Centerline recommends the following:

- Swap Beta Position 4 and Beta Position 2 mount pipes to accommodate APXVAALL24_43-U-NA20 antenna in Beta Sector.
- Install (1) Site Pro 1 HRK14-HD handrail kit at 42" above top of platform grating.
- Install (1) Site Pro 1 PRK-SFS-L reinforcement kit on proposed handrail. Install reinforcement kit ring mount 60" above top of platform grating.

	Stress Ratio	Overall Result
Existing Mount with Modifications	**85%**	**PASS**

Reference Documents:

- T-Mobile RFDS CT11056J_Anchor_7_draft, dated 02/23/2021
- Structural Analysis by B+T GRP, dated 08/23/2019
- Mount Analysis by Destek Engineering, dated 06/06/2019
- Construction Drawings by ProTerra Design Group, LLC, dated 06/11/2019

Assumptions and Limitations:

- The calculations performed by Centerline Communications are limited to the structural members in these calculations only.
- Structural calculations in this report do not check the adequacy of the supporting structure, other mounts, or coax mounting attachments.
- The calculation assumes all structural members to be in good condition i.e. no damage, rust, or other defects.

Photos:

Existing Alpha Sector

Existing Beta Sector

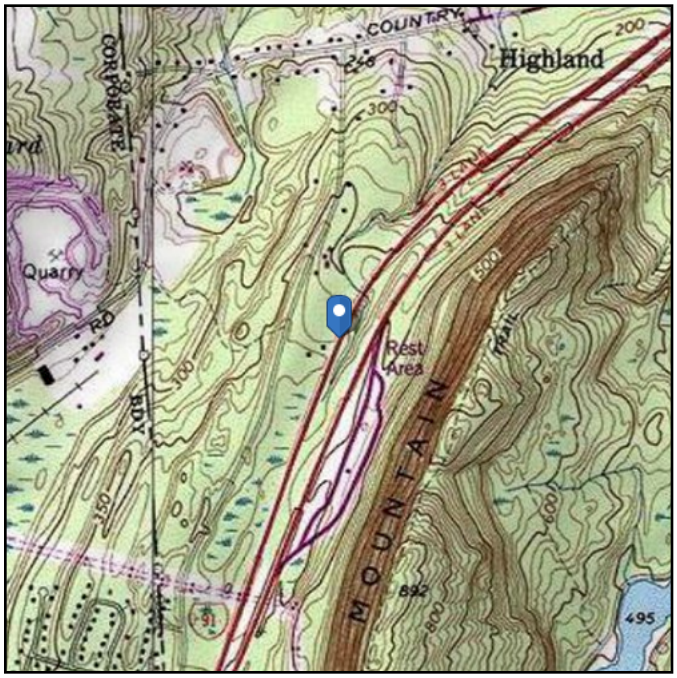
Existing Gamma Sector

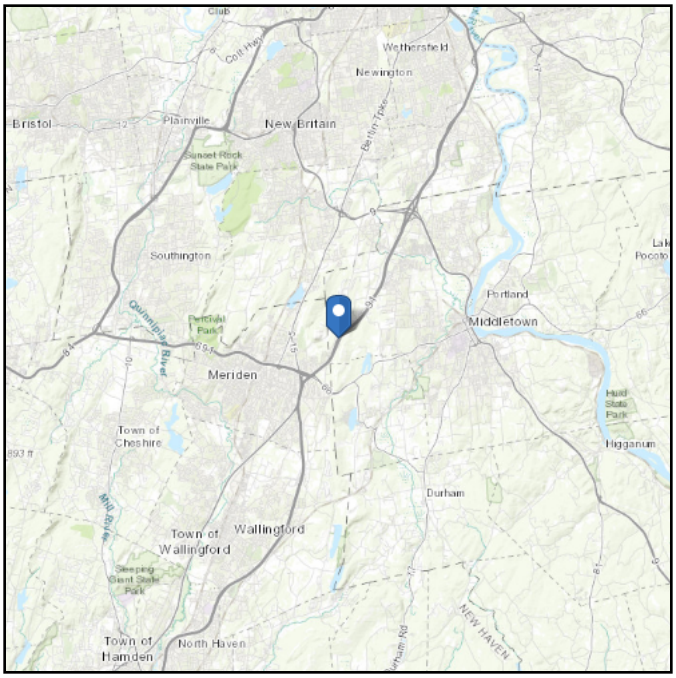
Design Calculations

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	370.31 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.5573
Soil Class:	D - Stiff Soil	**Longitude:**	-72.7429





Wind

Results:

Wind Speed:	124 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	93 Vmph
100-year MRI	101 Vmph

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

Date Accessed: Wed Apr 14 2021

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

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

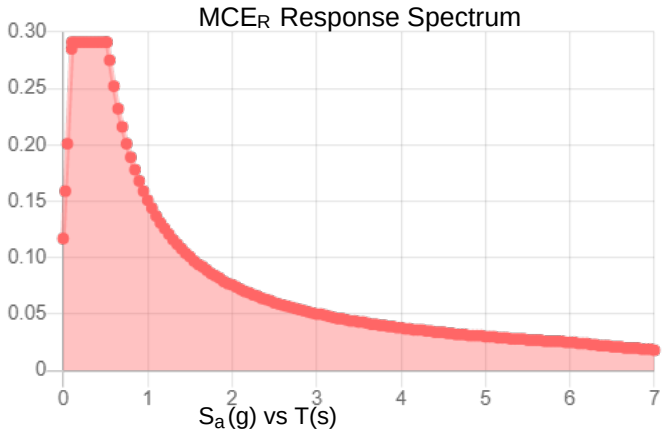
Seismic

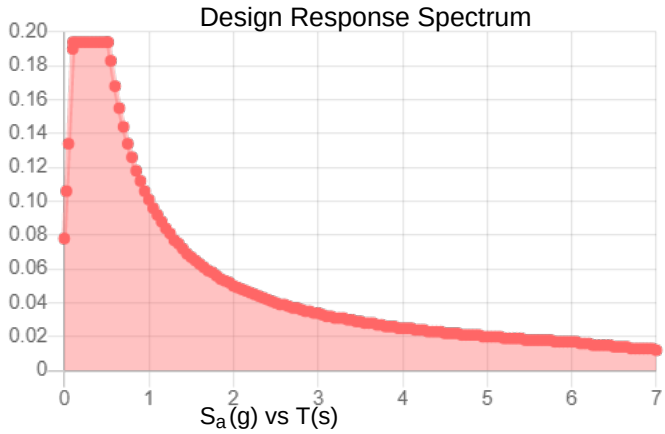
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.182	S_{DS} :	0.194
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.291	PGA_M :	0.149
S_{M1} :	0.151	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Wed Apr 14 2021

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Wed Apr 14 2021

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

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

CENTERLINE COMMUNICATIONS
750 West Center Street, Suite 301
West Bridgewater, MA 02379
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Site Details	
Site Name	ATT Middletown
Carrier	T-Mobile
City, State	Middletown, CT
Project	Anchor

Mount Details		
Mount Type	3-Sided Platform	
Mount Height, z	140	ft
Number of Sectors	3	
Tower Type	Monopole	
Tower Height, h	148	ft

Topographic Factors		
Topographic Category	1	
Feature	Flat	
Crest Height, H	N/A	ft
Distance from Crest, x	N/A	ft
Slope (H/L)	N/A	
Topographic Factor, K_{zt}	1.00	

Seismic Factors		
Importance Factor, I_E	1	
Short Period Spectral Acceleration, S_s	0.18	g
1 Second Period Spectral Acceleration, S_1	0.063	g
Long-Period Transition Period, T_L	6	
Design Category	B	
Short Period Site Coefficient, F_a	1.60	
Long-Period Site Coefficient, F_v	2.4	

Site Parameters		
Ultimate Wind Speed, V_{ULT}	130	mph
Nominal Wind Speed, V	101	mph
Wind Speed with Ice, V_i	50	mph
Design Ice Thickness, t_i	0.75	in
Structural Class	II	
Exposure Category	B	
Site Soil Class	D-Stiff Soil (Assumed)	

Code	
Building Code	2015 IBC
TIA Code	TIA-222-G
ASCE Code	7-10

Site Constants		
Importance Factor, I (Wind no Ice)	1.00	
Importance Factor, I (Ice Thickness)	1.00	
Importance Factor, I (wind with Ice)	1.00	
Wind Direction Prob. Factor, K_d	0.95	
Velocity Pressure Coefficient, K_z	1.09	
Gust Effect Factor, G_h	1.00	
Design Ice Thickness, t_{iz}	1.73	in
Velocity Pressure, q_z	26.99	psf
Velocity Pressure with Ice, q_{zi}	6.61	psf
Shielding Factor, K_a	1.00	
Flat Velocity Pressure (Ca =2.0)	53.98	psf
Round Velocity Pressure (Ca = 1.2)	32.39	psf
Round Velocity Pressure with Ice (Ca = 1.2)	7.94	psf
Engineer Initials	**AP**	

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Members Forces							
Member Label	**Shape**	**Type**	**w, lbs/ft**	**q_z, psf**	**w_i, lbs/ft**	**q_{zi}, psf**	**V_s, lbs/ft**
Pipe_2.0	PIPE_2.0	Beam	3.47	32.39	8.70	7.94	0.44
LL3x3x4x0	LL3x3x4x0	Beam	9.80	53.98	16.38	7.94	1.25
L3x3x4	L3X3X4	Beam	4.90	53.98	12.65	7.94	0.63
HSS3x3x3	HSS3X3X3	Beam	6.92	53.98	12.65	7.94	0.89
Handrail	PIPE_2.5	Beam	5.48	32.39	8.70	7.94	0.70
PRK-SFS-L	L2.5x2.5x3	Beam	3.07	53.98	11.16	7.94	0.39
Handrail Corner Angle	L2.5x2.5x4	Beam	4.05	53.98	11.16	7.94	0.52
Handrail Pipe Brace	PIPE_2.0	Beam	3.47	32.39	8.70	7.94	0.44

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Sector 1							
		Wind Force				Dimensions	Weights
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	H/W/D, in	$Wt./Wt._{ice}$, lbs.
AIR32 KRD901146-1_B66A_B2A Antenna	140	6.51	4.71	175.71	127.19	56.6\12.9\8.7	132.2\181.75
APXVAALL24_43-U-NA20 Antenna	140	20.24	8.89	546.36	239.91	95.9\24\8.7	153.3\427.17
AIR6449 B41 Antenna	140	5.68	2.49	153.37	67.23	33.1\20.6\8.6	104\154.09
4449 B71 + B85 RRH	140	1.97	1.59	53.09	42.82	17.91\13.18\10.63	91.09\81.24
4415 B25 RRH	140	1.86	0.81	50.11	21.95	16.54\13.47\5.9	49.6\60.25

*Dish force coefficient is calculated per Annex C.2 of TIA-222-G, if available.

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Sector 1 Continue…								
		Wind Force with Ice				Wind Force V = 30 mph		Seismic Force
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	0° Force lbs.	90° Force lbs.	Vs, lbs
AIR32 KRD901146-1_B66A_B2A Antenna	140	4.96	3.83	75.85	56.49	15.50	11.22	16.92
APXVAALL24_43-U-NA20 Antenna	140	13.74	6.93	224.77	104.66	48.20	21.17	19.62
AIR6449 B41 Antenna	140	4.28	2.18	65.88	30.90	13.53	5.93	13.31
4449 B71 + B85 RRH	140	1.73	1.46	24.45	20.18	4.68	3.78	11.66
4415 B25 RRH	140	1.65	0.91	23.18	11.40	4.42	1.94	6.35

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Sector 2							
		Wind Force				Dimensions	Weights
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	H/W/D, in	Wt./$Wt._{ice}$, lbs.
AIR32 KRD901146-1_B66A_B2A Antenna	140	6.51	4.71	172.46	130.44	56.6\12.9\8.7	132.2\181.75
APXVAALL24_43-U-NA20 Antenna	140	20.24	8.89	525.84	260.44	95.9\24\8.7	153.3\427.17
AIR6449 B41 Antenna	140	5.68	2.49	147.60	73.00	33.1\20.6\8.6	104\154.09
4449 B71 + B85 RRH	140	1.97	1.59	52.41	43.51	17.91\13.18\10.63	91.09\81.24
4415 B25 RRH	140	1.86	0.82	48.24	24.07	16.54\13.47\5.9	49.6\60.25

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Sector 2 Continue…								
		Wind Force with Ice				Wind Force V = 30 mph		Seismic Force
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	0° Force lbs.	90° Force lbs.	Vs, lbs
AIR32 KRD901146-1_B66A_B2A Antenna	140	4.96	3.83	74.55	57.78	15.22	11.51	16.92
APXVAALL24_43-U-NA20 Antenna	140	13.74	6.93	216.73	112.71	46.39	22.98	19.62
AIR6449 B41 Antenna	140	4.28	2.18	63.54	33.25	13.02	6.44	13.31
4449 B71 + B85 RRH	140	1.73	1.46	24.17	20.47	4.62	3.84	11.66
4415 B25 RRH	140	1.65	0.91	22.39	12.25	4.26	2.12	6.35

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Sector 3							
		Wind Force				Dimensions	Weights
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	H/W/D, in	$Wt./Wt._{ice}$, lbs.
AIR32 KRD901146-1_B66A_B2A Antenna	140	6.51	4.71	139.32	163.58	56.6\12.9\8.7	132.2\181.75
APXVAALL24_43-U-NA20 Antenna	140	20.24	8.89	316.52	469.75	95.9\24\8.7	153.3\427.17
AIR6449 B41 Antenna	140	5.68	2.49	88.76	131.83	33.1\20.6\8.6	104\154.09
4449 B71 + B85 RRH	140	1.97	1.59	45.39	50.53	17.91\13.18\10.63	91.09\81.24
4415 B25 RRH	140	1.86	0.82	29.17	43.13	16.54\13.47\5.9	49.6\60.25

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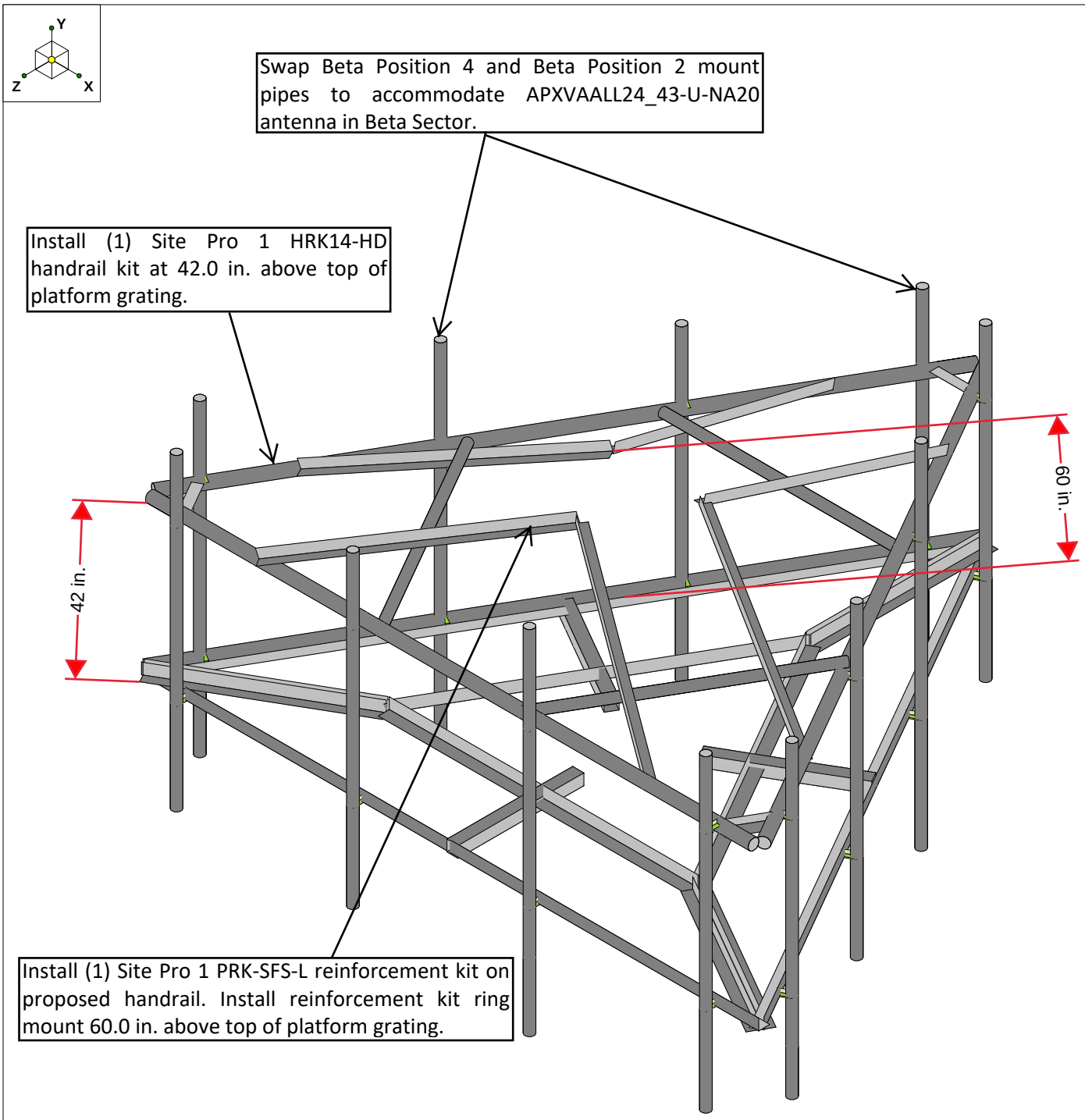
Sector 3 Continue…								
		Wind Force with Ice				Wind Force V = 30 mph		Seismic Force
Appurtenances	Rad. Ht., ft	Front EPA ft^2	Side EPA ft^2	0° Force lbs.	90° Force lbs.	0° Force lbs.	90° Force lbs.	Vs, lbs
AIR32 KRD901146-1_B66A_B2A Antenna	140	4.96	3.83	61.33	71.01	12.29	14.43	16.92
APXVAALL24_43-U-NA20 Antenna	140	13.74	6.93	134.69	194.74	27.93	41.44	19.62
AIR6449 B41 Antenna	140	4.28	2.18	39.65	57.14	7.83	11.63	13.31
4449 B71 + B85 RRH	140	1.73	1.46	21.25	23.39	4.00	4.46	11.66
4415 B25 RRH	140	1.65	0.91	14.39	20.25	2.57	3.81	6.35

Existing Mount with Modifications Results



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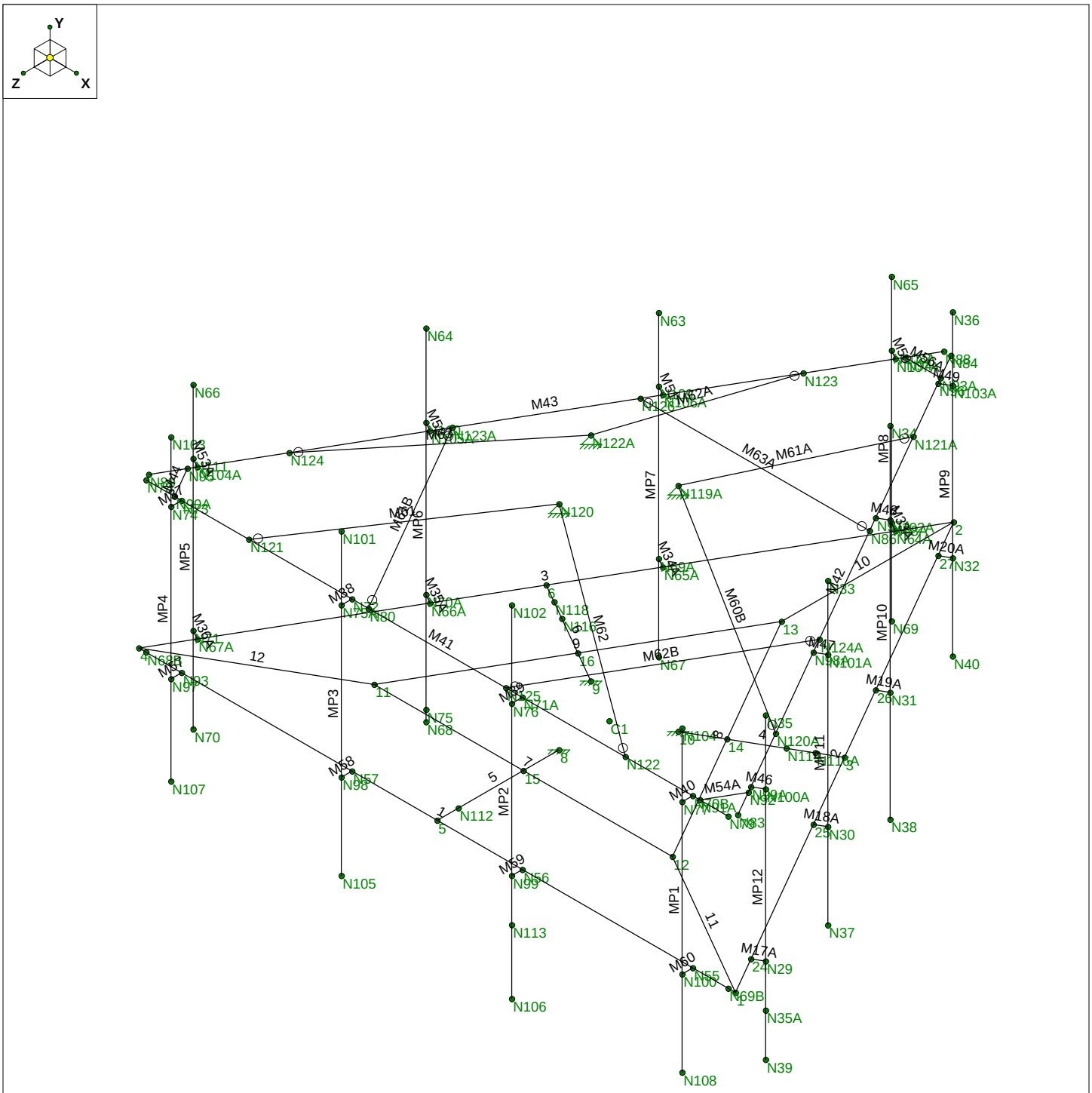

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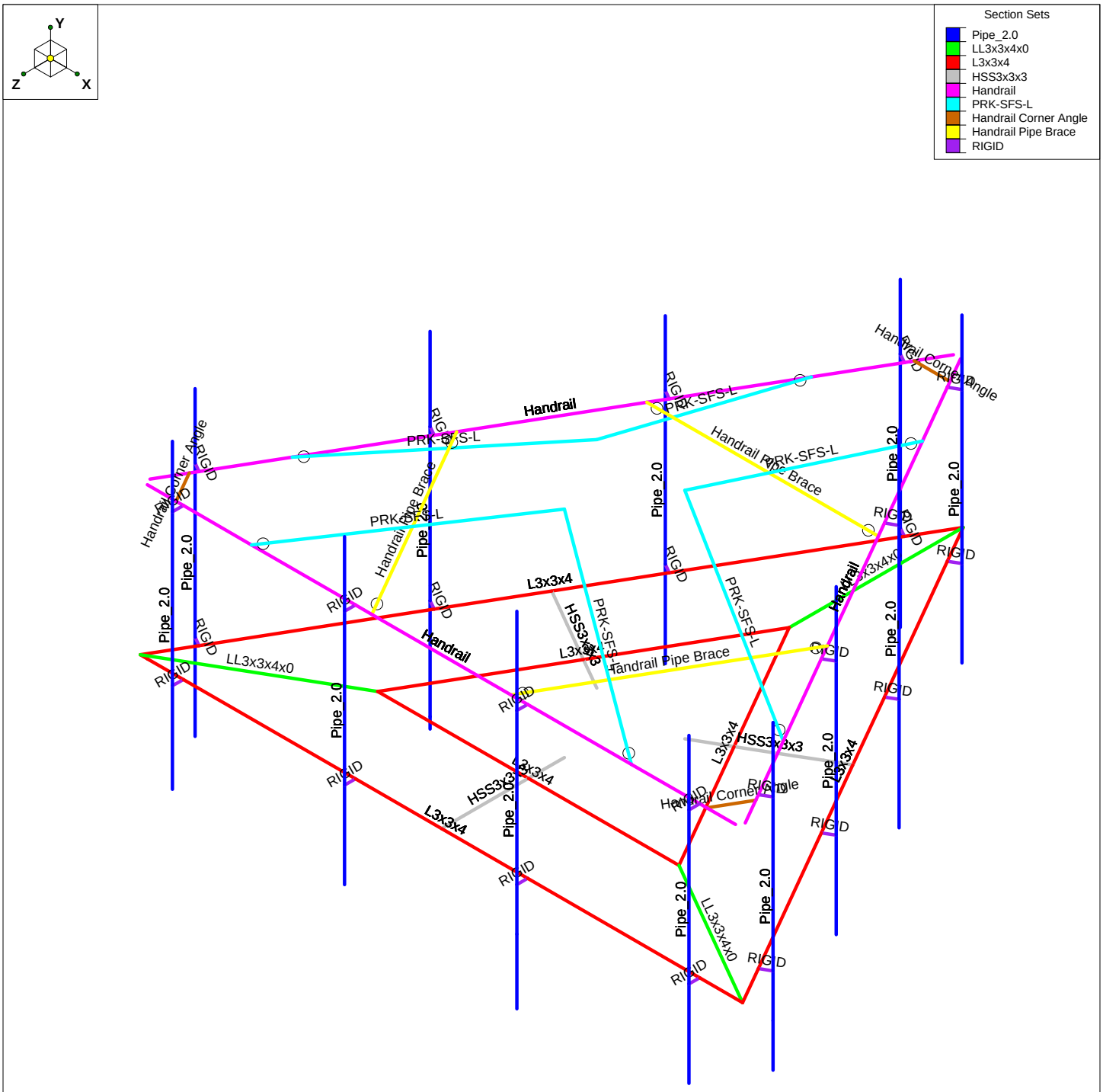

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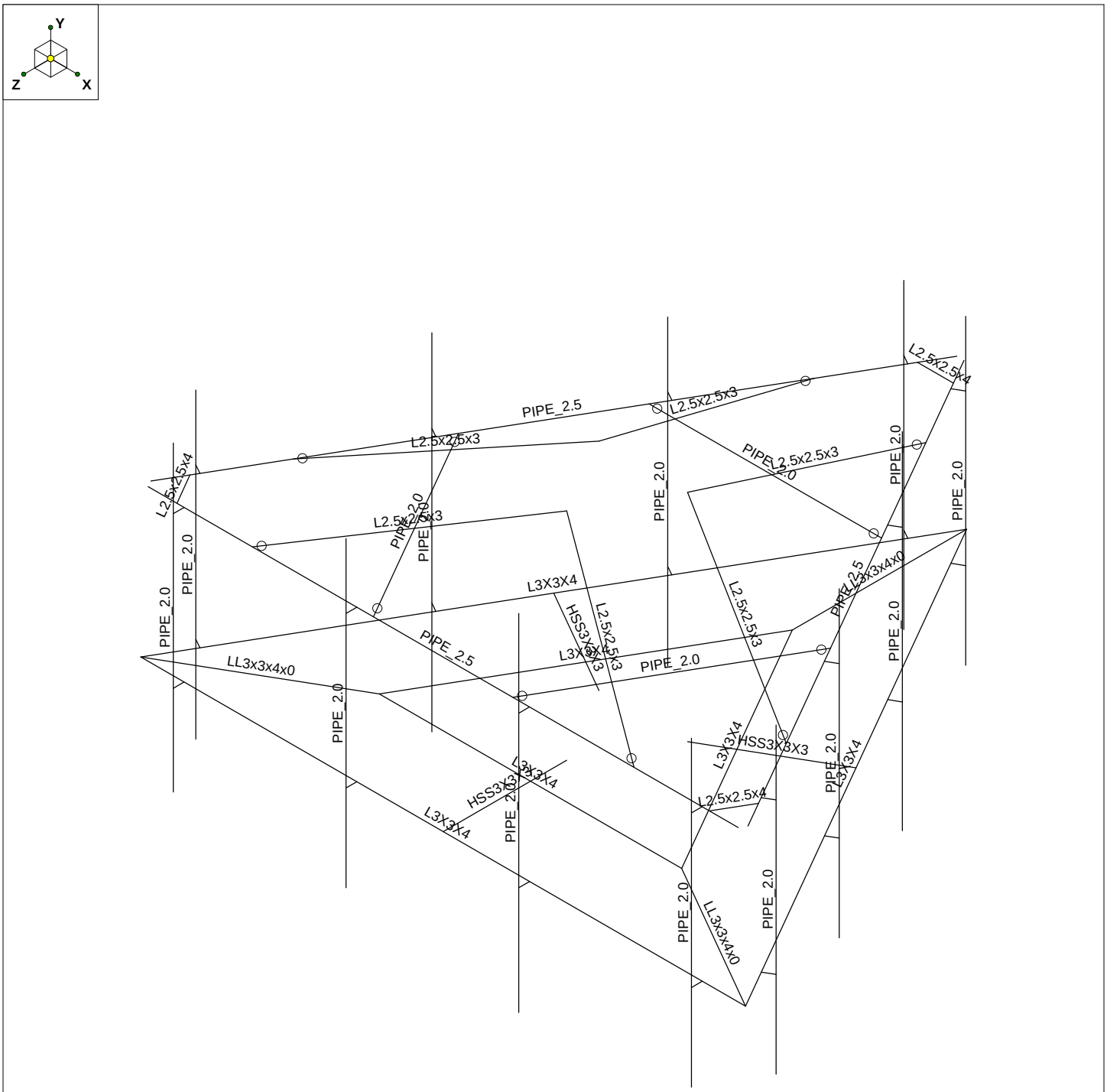

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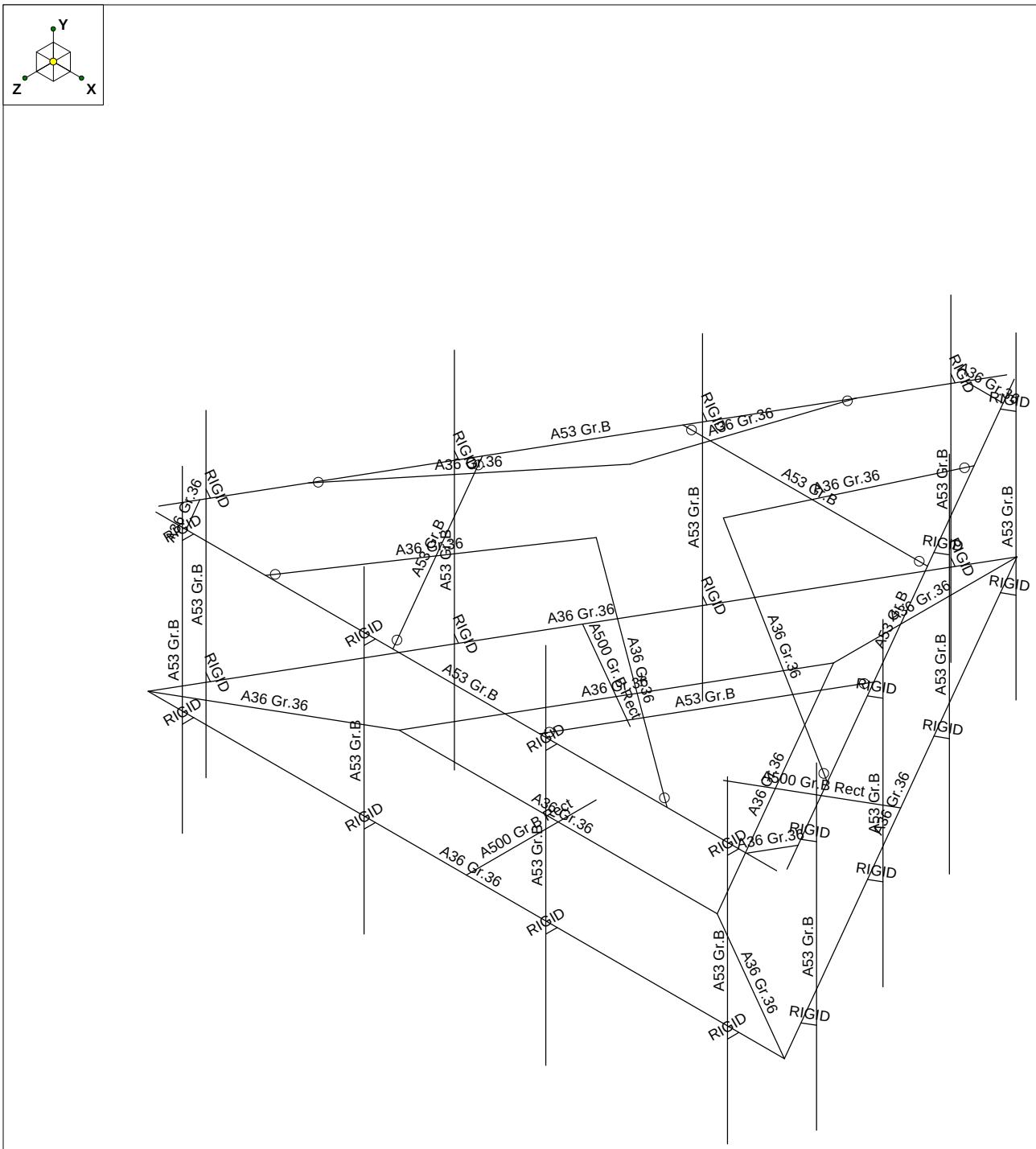

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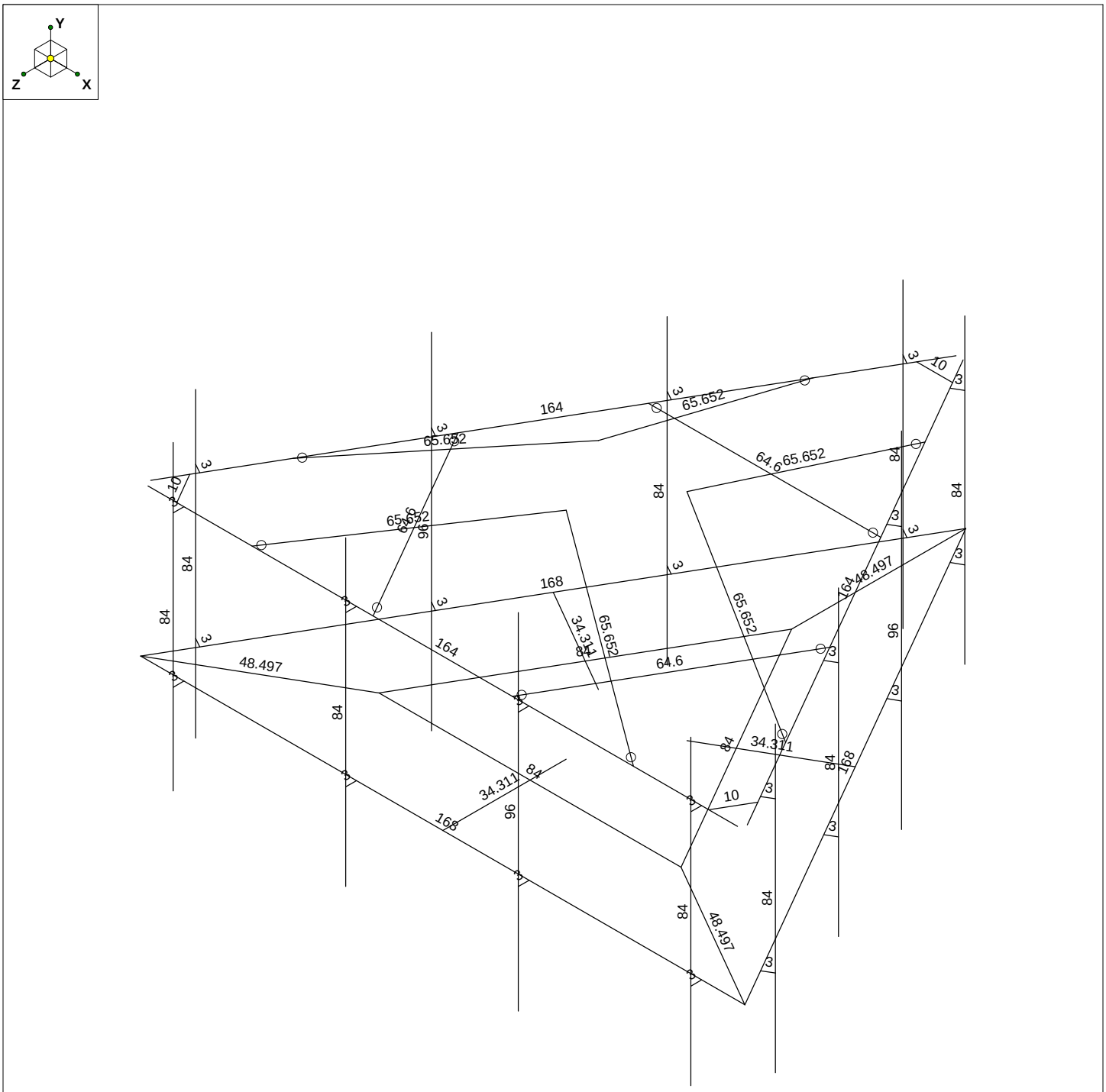

Member Length (in) Displayed

Centerline Communcation...	CT11056J_MA	Member Length
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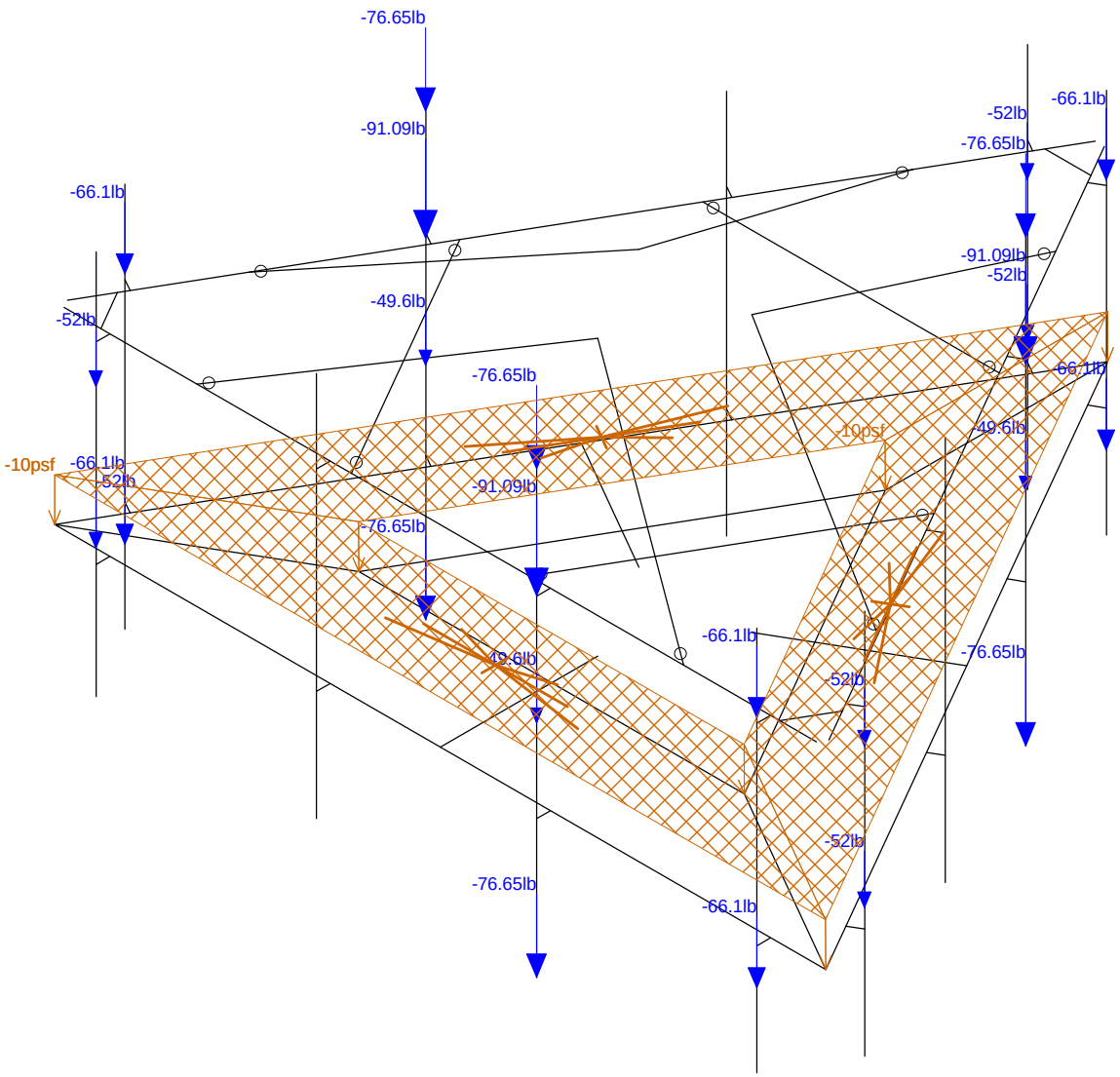

Loads: BLC 1, Dead Load

Centerline Communcation...	CT11056J_MA	Dead Load
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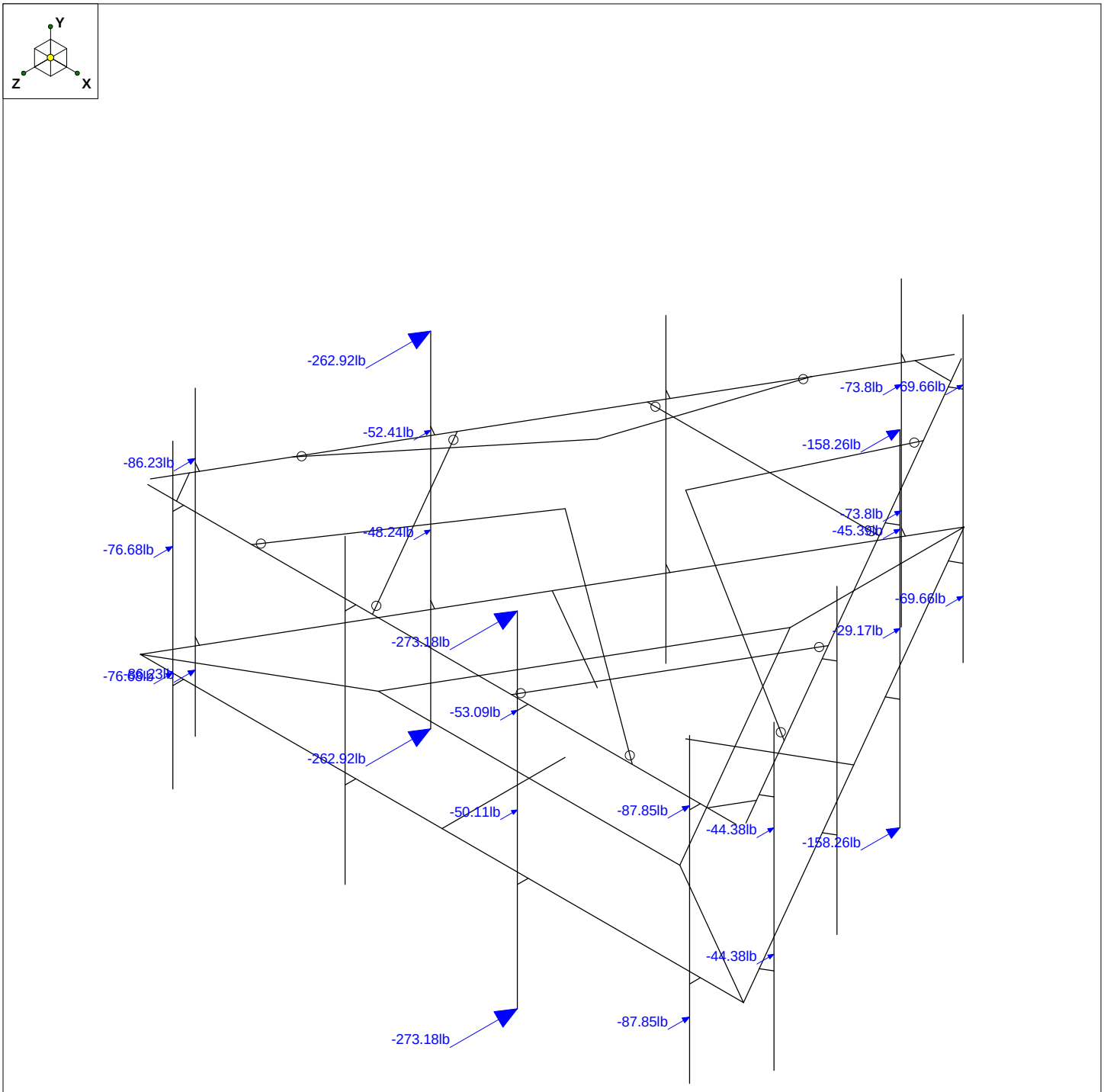

Loads: BLC 2, Wind 0

Centerline Communcation...	CT11056J_MA	Wind 0
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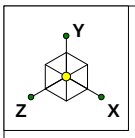

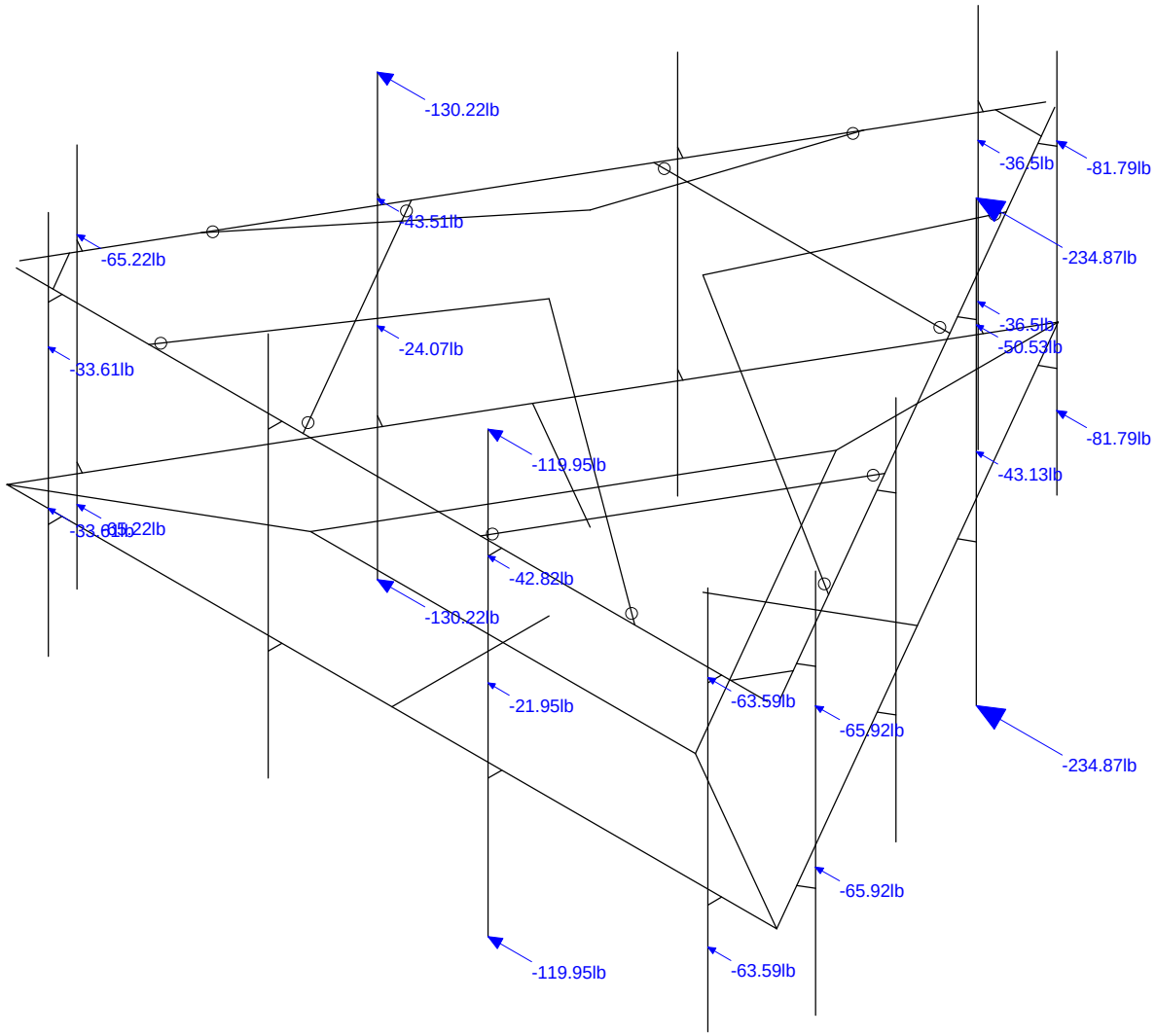

Loads: BLC 5, Wind 90

Centerline Communcation...	CT11056J_MA	Wind 90
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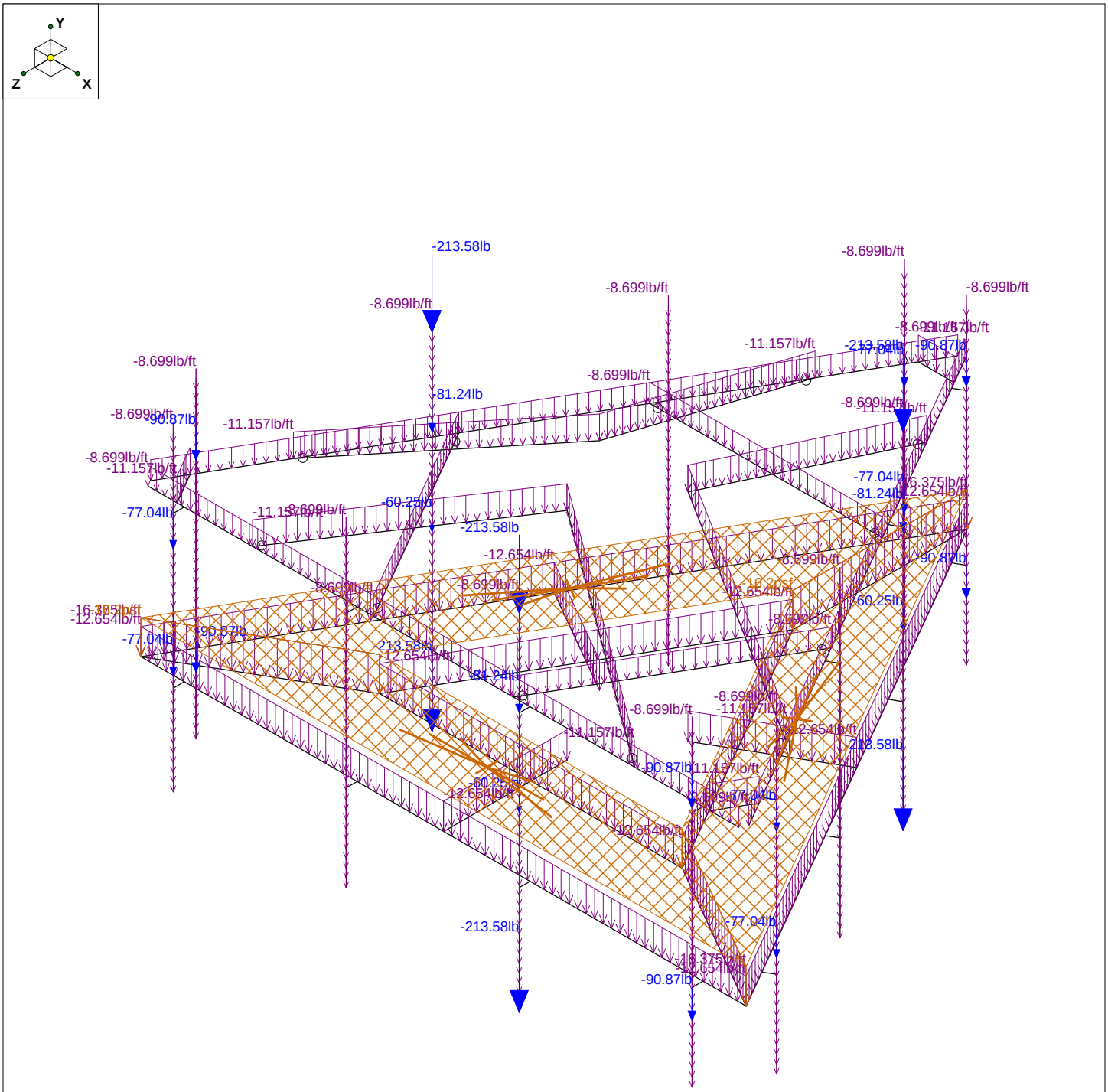
		CT11056J_MA.r3d



Loads: BLC 9, Ice Weight

Centerline Communcation...	CT11056J_MA	Ice Weight
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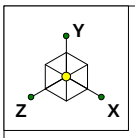

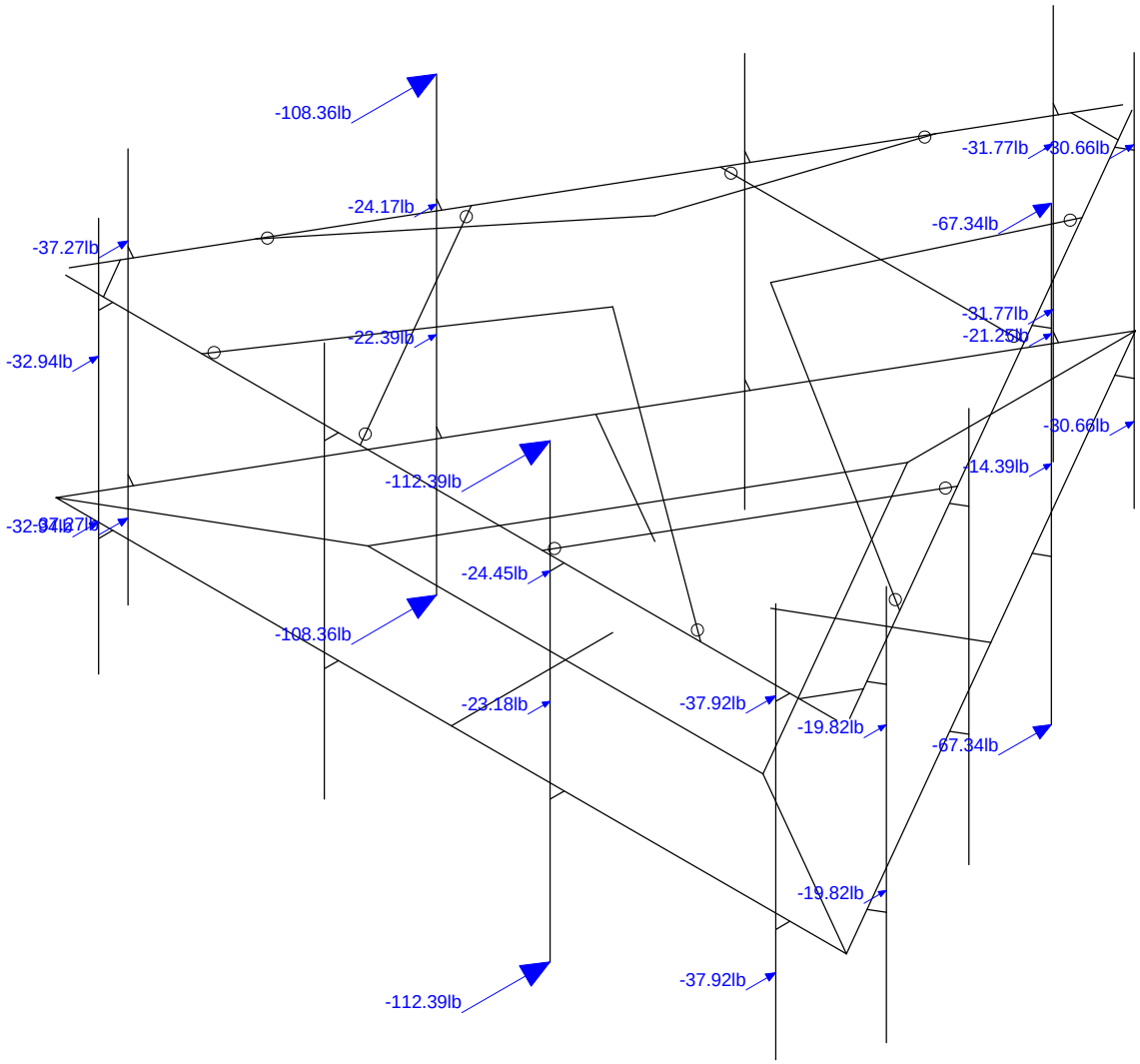

Loads: BLC 10, Ice + Wind 0

Centerline Communcation...	CT11056J_MA	Ice + Wind 0
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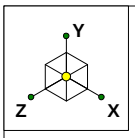
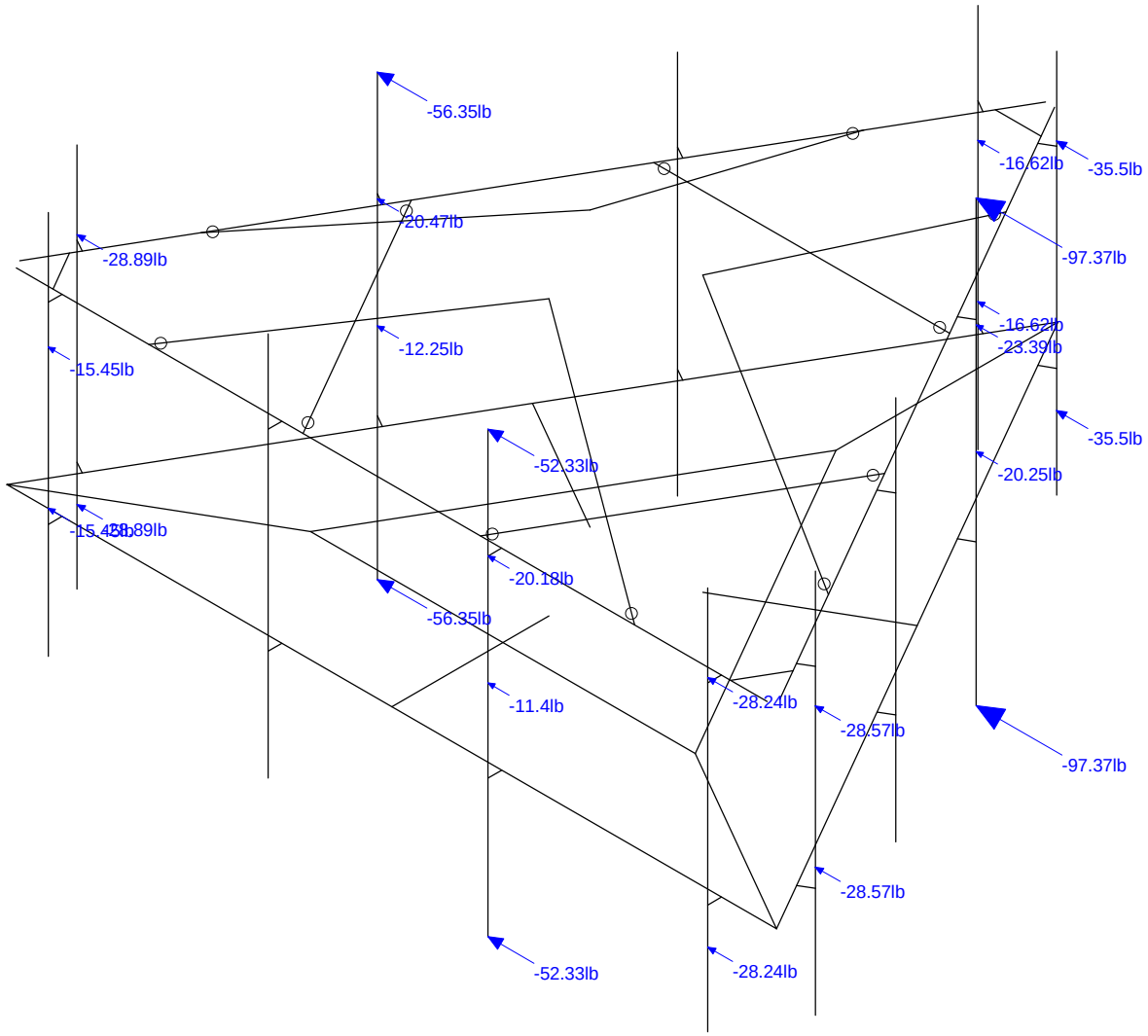
		CT11056J_MA.r3d





Loads: BLC 13, Ice + Wind 90

Centerline Communcation...	CT11056J_MA	Ice + Wind 90
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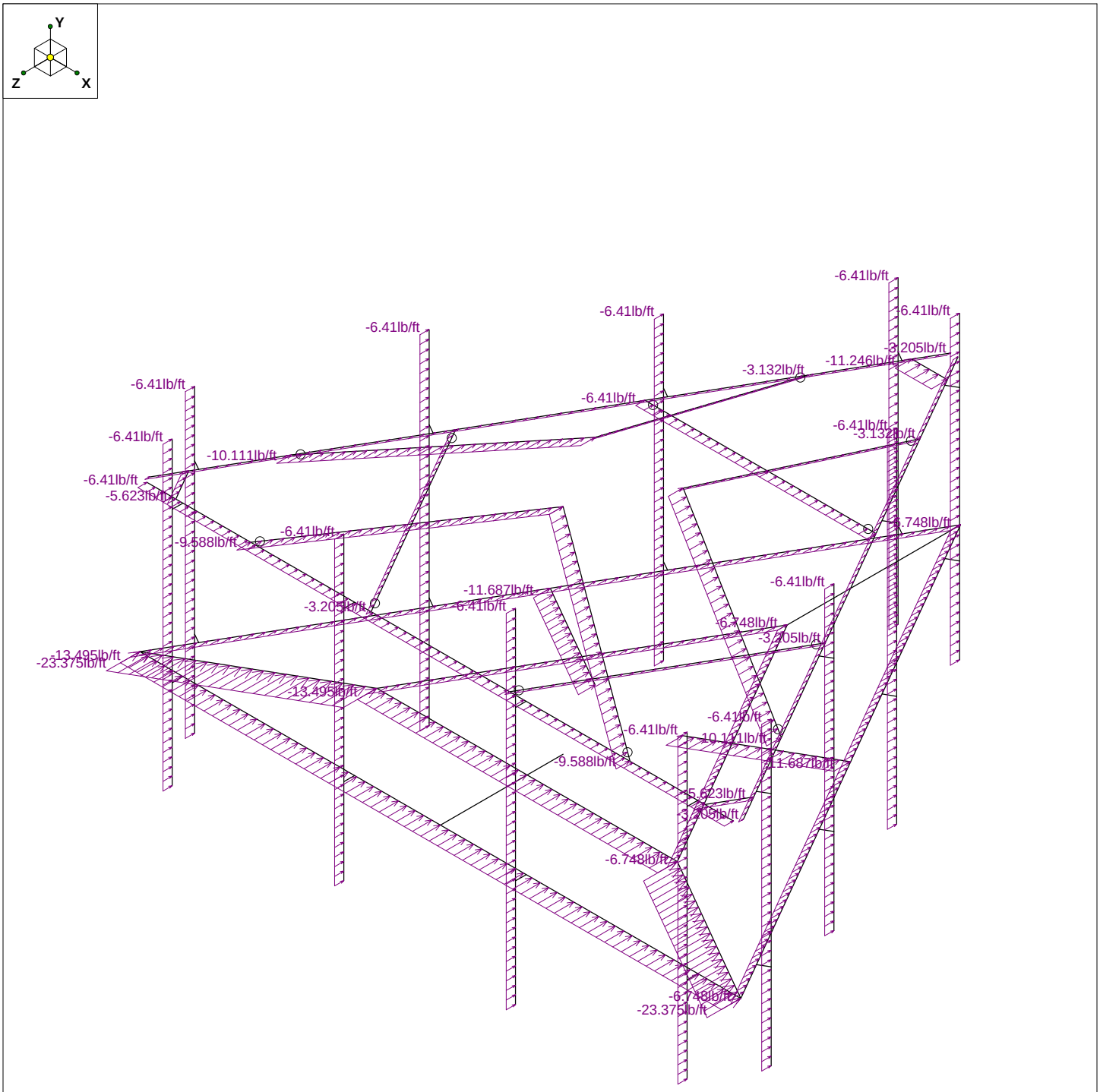

Loads: BLC 17, Distri. Wind Z

Centerline Communcation...	CT11056J_MA	Distr. Wind 0
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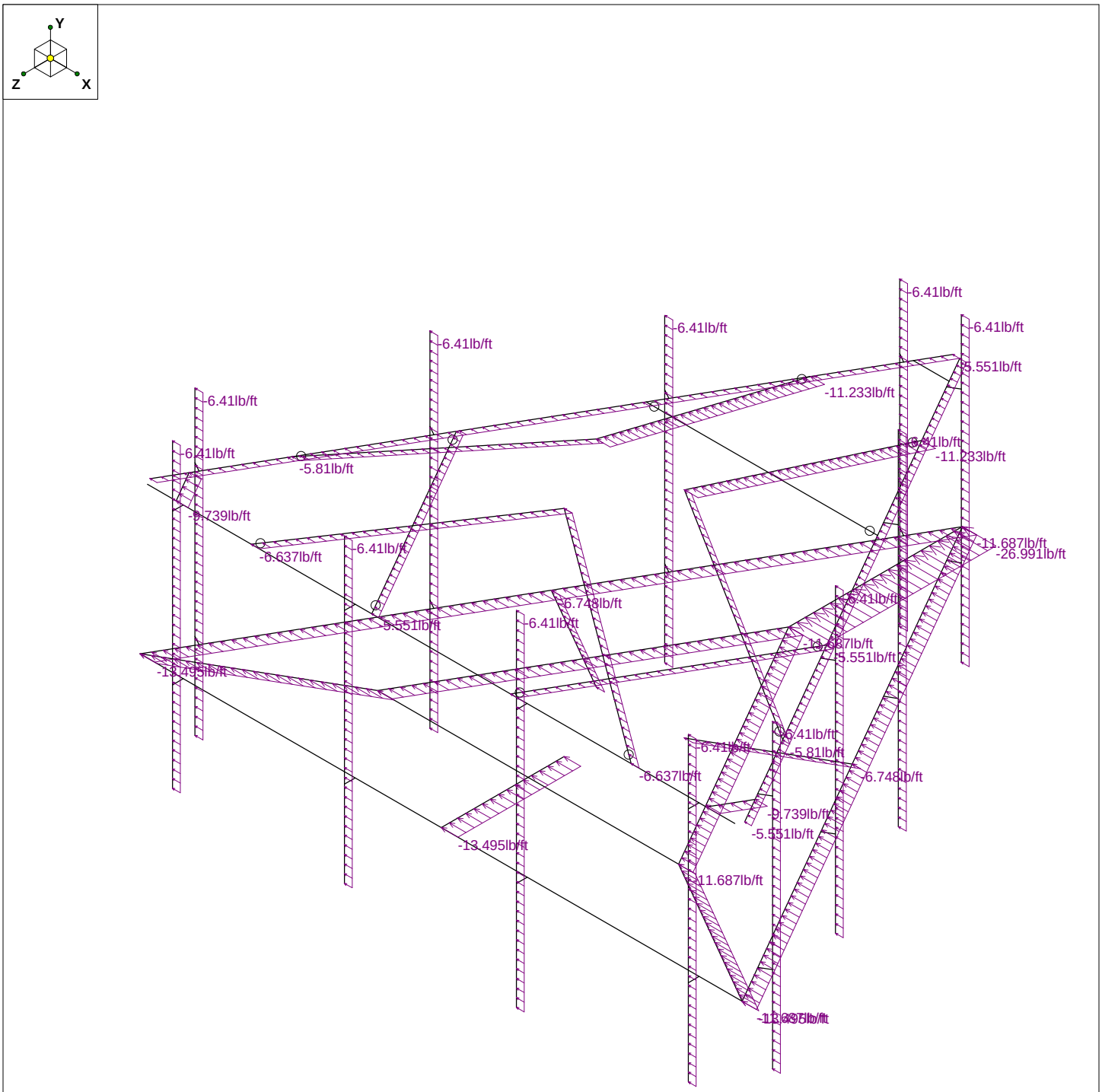
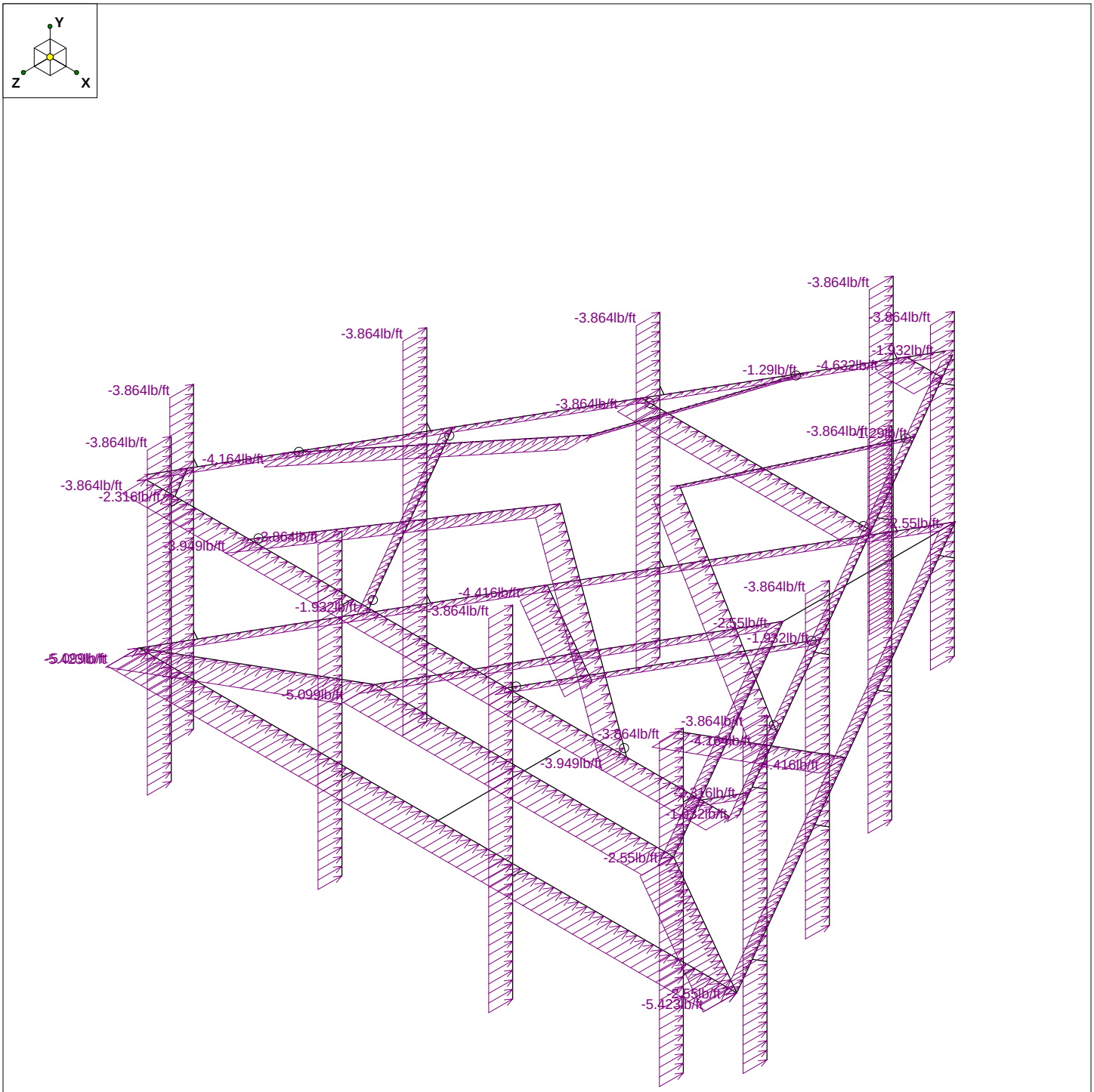


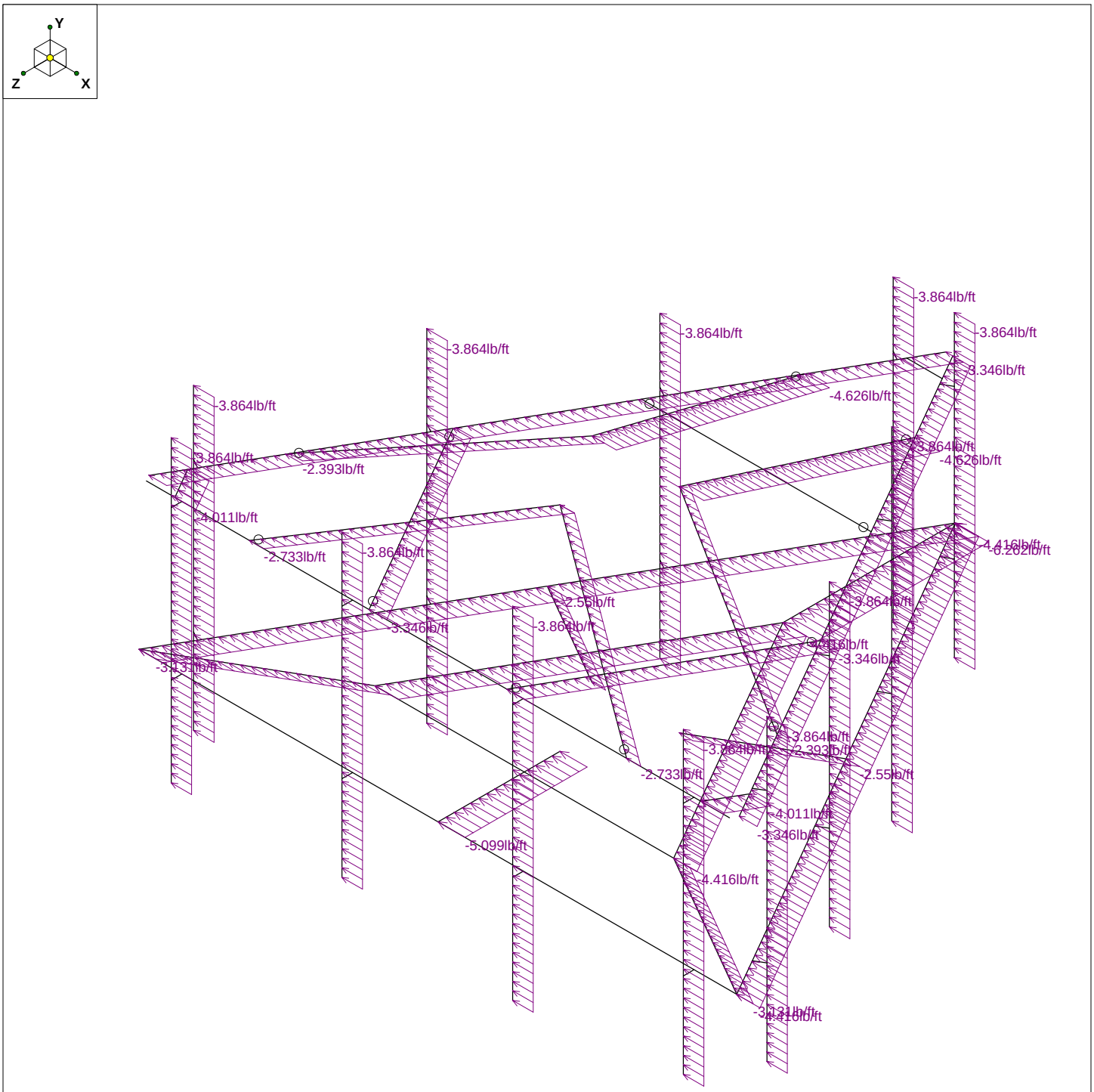
Loads: BLC 18, Distri. Wind X

Centerline Communcation...	CT11056J_MA	Distr. Wind 90
AP		Apr 22, 2021 at 10:38 AM
		CT11056J_MA.r3d



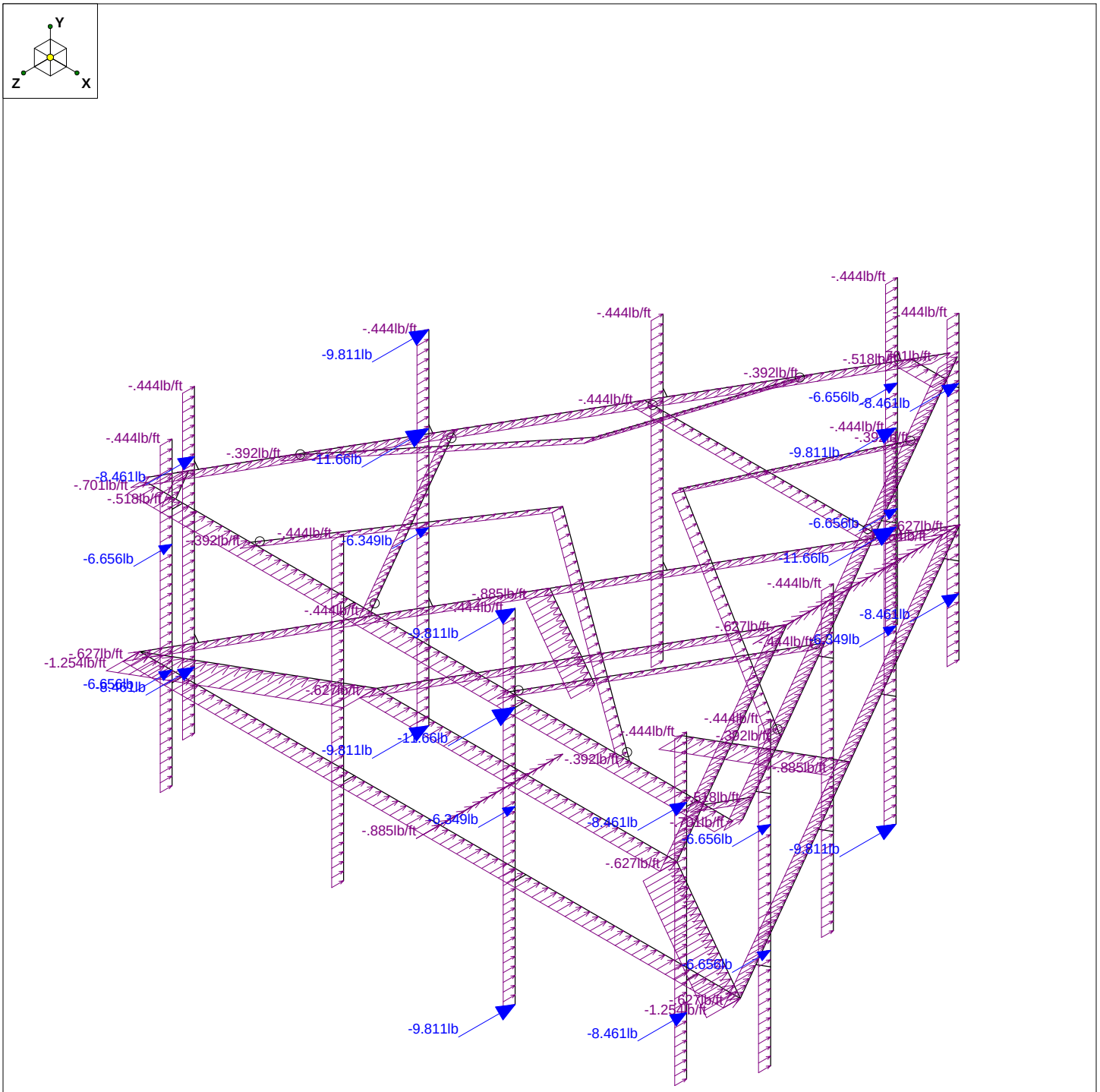
Loads: BLC 19, Distri. Ice + Wind Z

Centerline Communcation...	CT11056J_MA	Distr. Ice + Wind 0
AP		Apr 22, 2021 at 10:38 AM
		CT11056J_MA.r3d



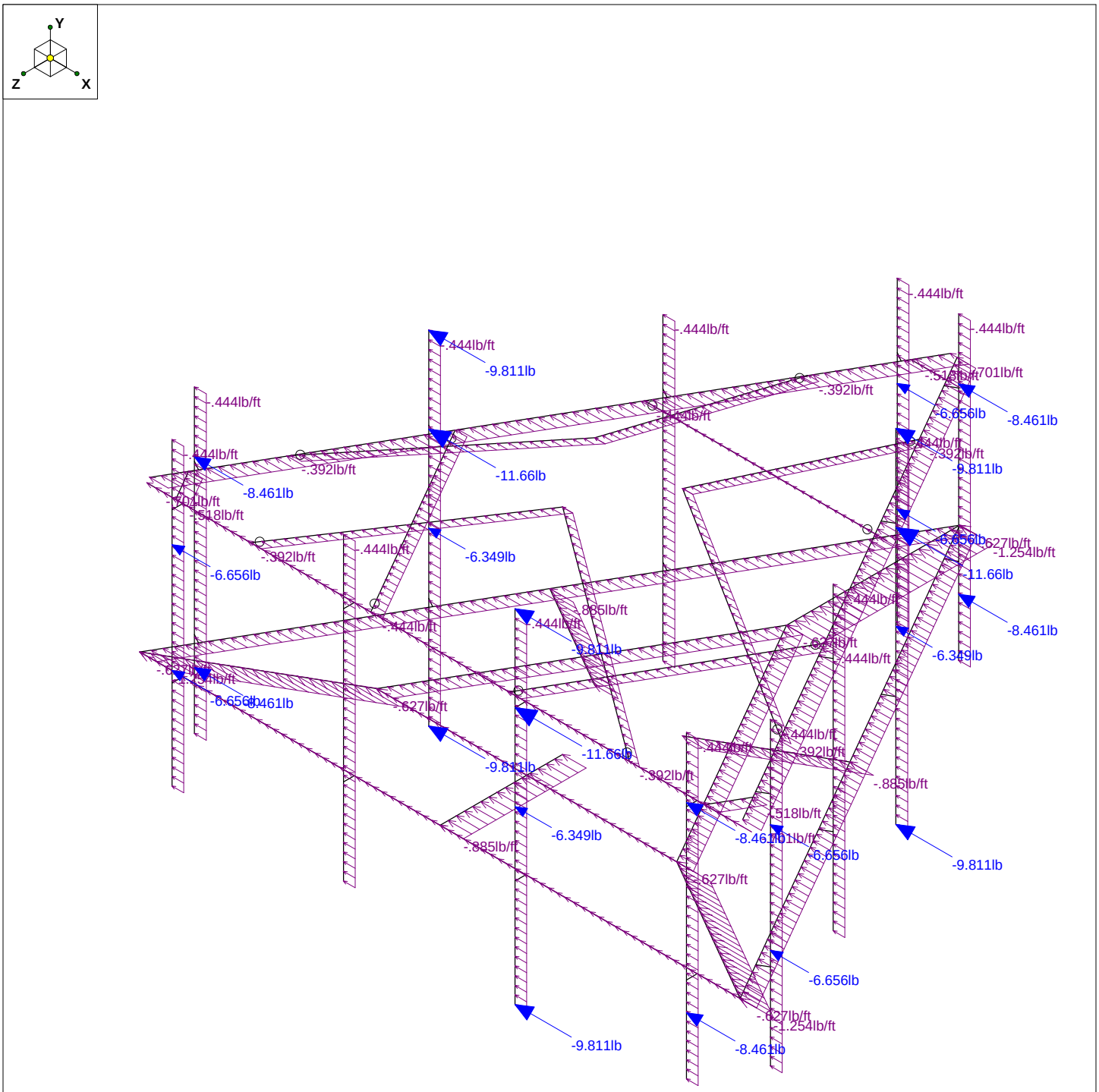
Loads: BLC 20, Distrr. Ice + Wind X

Centerline Communcation...	CT11056J_MA	Distr. Ice + Wind 90
AP		Apr 22, 2021 at 10:38 AM
		CT11056J_MA.r3d



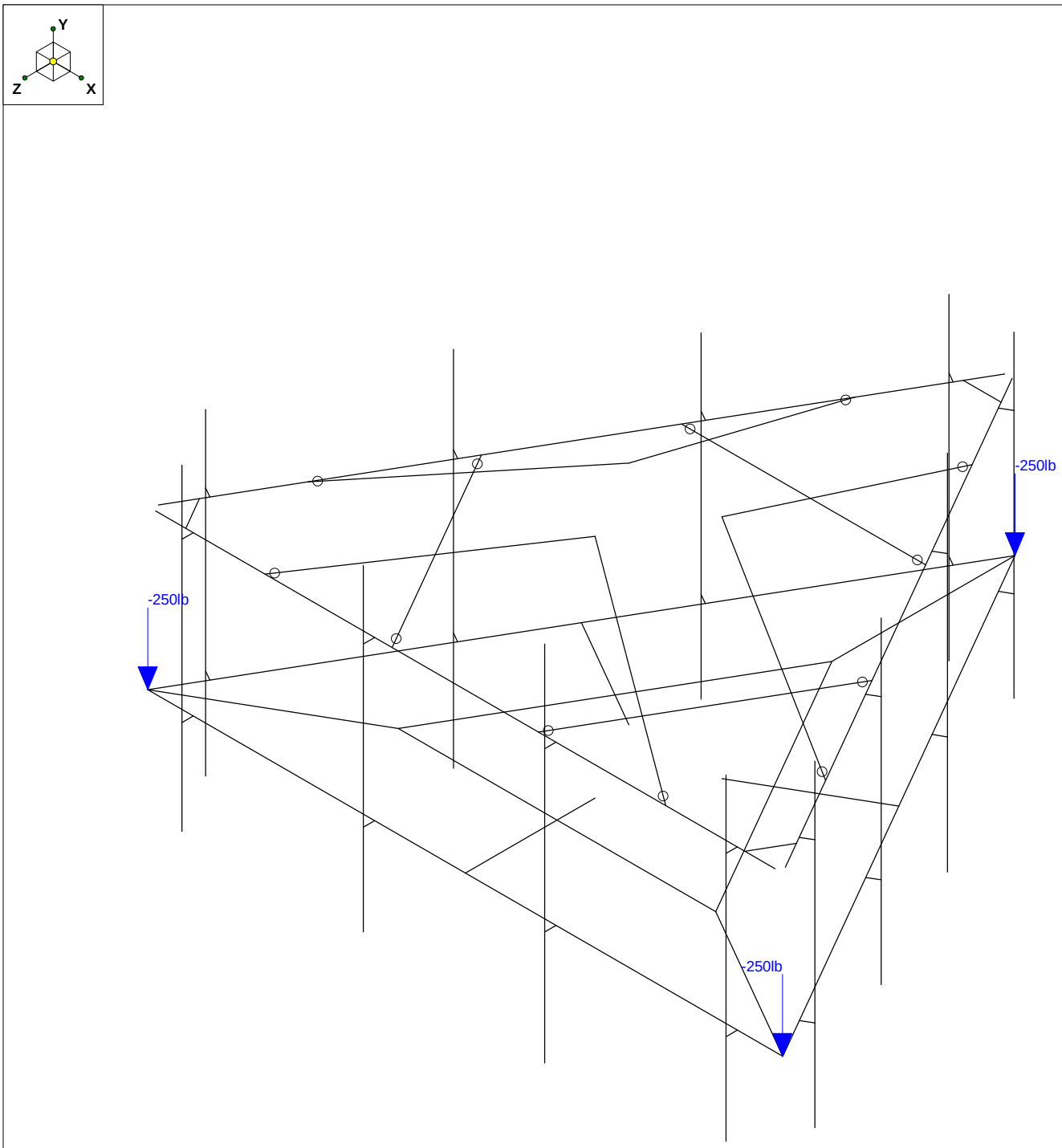
Loads: BLC 21, Seismic Load Z

Centerline Communcation...	CT11056J_MA	Seismic Z
AP		Apr 22, 2021 at 10:39 AM
		CT11056J_MA.r3d



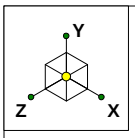
Loads: BLC 22, Seismic Load X

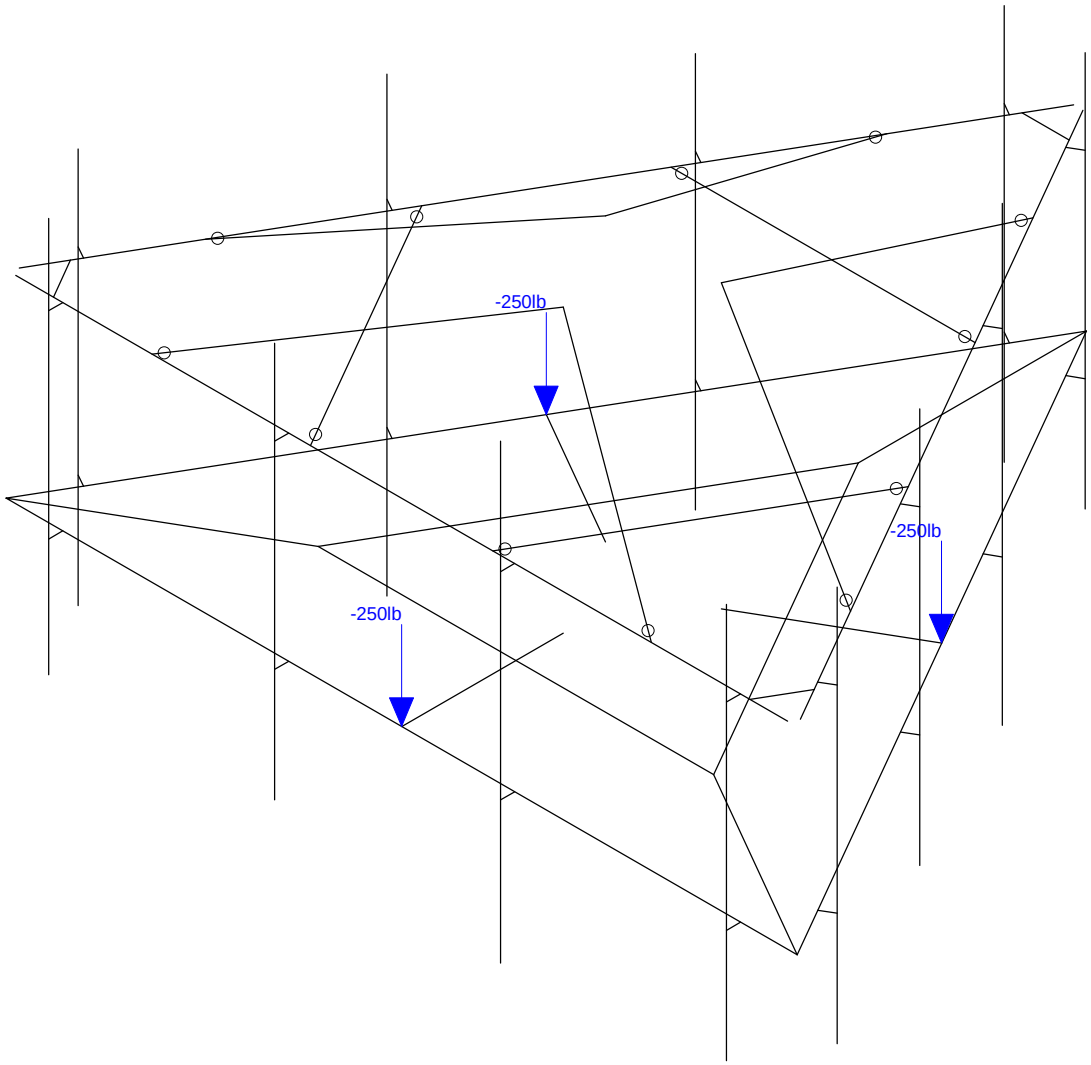
Centerline Communcation...	CT11056J_MA	Seismic X
AP		Apr 22, 2021 at 10:39 AM
		CT11056J_MA.r3d



Loads: BLC 23, Live Load 1

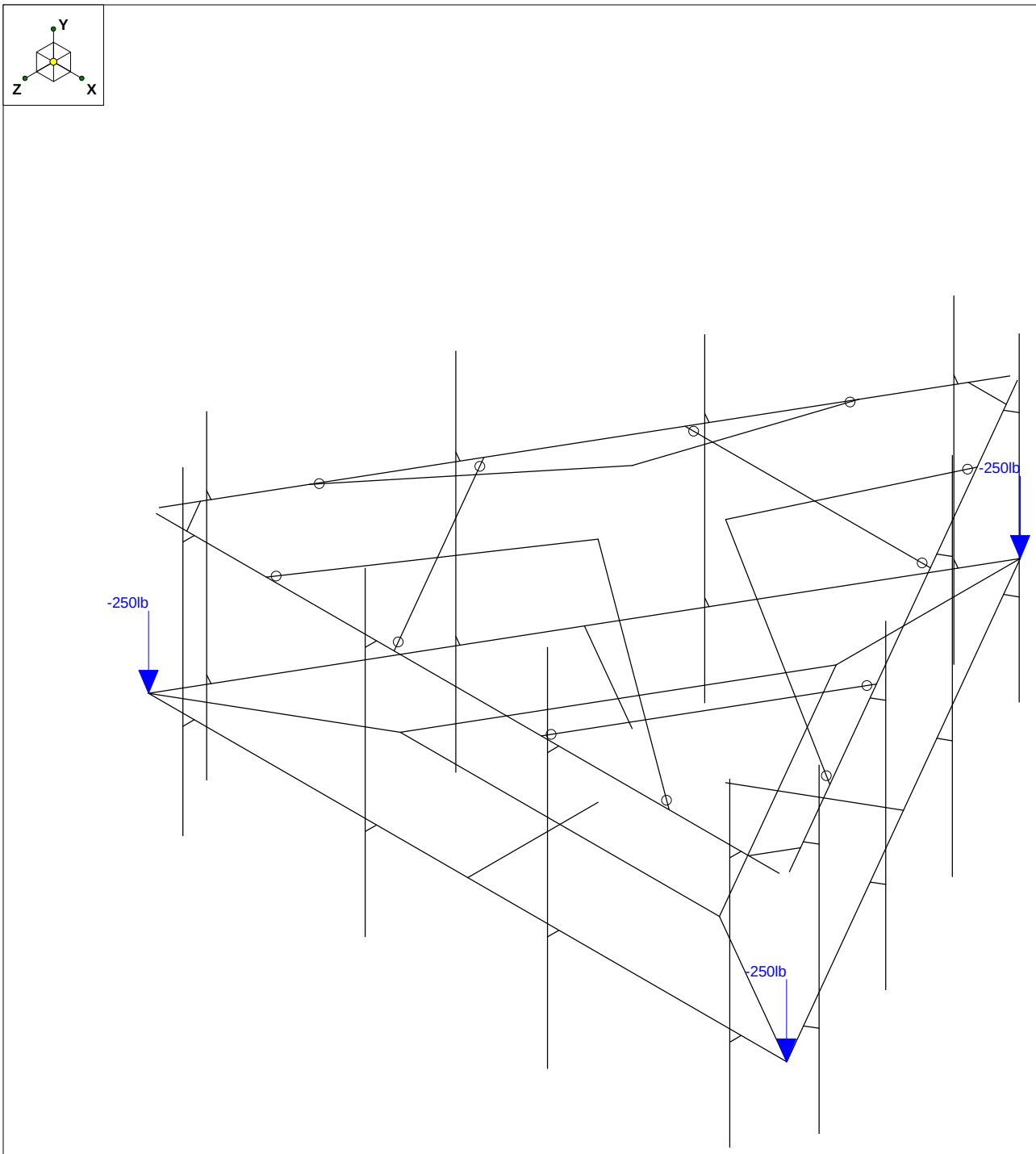
Centerline Communcation...	CT11056J_MA	Live Load 1
AP		Apr 22, 2021 at 10:39 AM
		CT11056J_MA.r3d





Loads: BLC 24, Live Load 2

Centerline Communcation...	CT11056J_MA	Live Load 2
AP		Apr 22, 2021 at 10:39 AM
		CT11056J_MA.r3d



Loads: BLC 25, Live Load 3

Centerline Communcation...	CT11056J_MA	Live Load 3
AP		Apr 22, 2021 at 10:40 AM
		CT11056J_MA.r3d

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[lb/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	490	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	490	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	490	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	490	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	490	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Pipe_2.0	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	LL3x3x4x0	LL3x3x4x0	Beam	Double Angle (3/4 Gap)	A36 Gr.36	Typical	2.88	4.5	2.46	.063
3	L3x3x4	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
4	HSS3x3x3	HSS3X3X3	Beam	SquareTube	A500 Gr.B R...	Typical	1.89	2.46	2.46	4.03
5	Handrail	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	PRK-SFS-L	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
7	Handrail Corner A...	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
8	Handrail Pipe Brace	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	1	84.	-0.	48.497422	0	
2	2	0.	-0.	-96.994845	0	
3	3	42.	-0.	-24.248711	0	
4	4	-84.	-0.	48.497422	0	
5	5	0.	-0.	48.497422	0	
6	6	-42.	-0.	-24.248711	0	
7	C1	0	0	0	0	
8	8	0.	-0.	14.186534	0	
9	9	-12.285899	-0.	-7.093267	0	
10	10	12.285899	-0.	-7.093267	0	
11	11	-41.999999	-0.	24.248711	0	
12	12	42.000001	-0.	24.248711	0	
13	13	0.000001	-0.	-48.497423	0	
14	14	21.000001	-0.	-12.124356	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
15	15	0.000001	-0.	24.248711	0	
16	16	-21.	-0.	-12.124355	0	
17	24	78.	-0.	38.105118	0	
18	25	54.	-0.	-3.464102	0	
19	26	30.	-0.	-45.033321	0	
20	27	6.	-0.	-86.602541	0	
21	N29	80.598077	-0.	36.605118	0	
22	N30	56.598077	-0.	-4.964102	0	
23	N31	32.598077	-0.	-46.533321	0	
24	N32	8.598077	-0.	-88.102541	0	
25	N33	56.598077	60	-4.964102	0	
26	N34	32.598077	65	-46.533321	0	
27	N35	80.598077	60	36.605118	0	
28	N36	8.598077	60	-88.102541	0	
29	N37	56.598077	-24	-4.964102	0	
30	N38	32.598077	-31	-46.533321	0	
31	N39	80.598077	-24	36.605118	0	
32	N40	8.598077	-24	-88.102541	0	
33	N35A	80.598077	-12	36.605118	0	
34	N55	72.	-0.	48.497422	0	
35	N56	24.	-0.	48.497423	0	
36	N57	-24.	-0.	48.497423	0	
37	N63	-32.598077	60	-46.533321	0	
38	N64	-56.598077	65	-4.964102	0	
39	N65	-8.598076	60	-88.102541	0	
40	N66	-80.598077	60	36.605117	0	
41	N67	-32.598077	-24	-46.533321	0	
42	N68	-56.598077	-31	-4.964102	0	
43	N69	-8.598076	-24	-88.102541	0	
44	N70	-80.598077	-24	36.605117	0	
45	N75	-56.598077	-28	-4.964102	0	
46	N93	-72.000001	-0.	48.497423	0	
47	N97	-72.	-0.	51.497424	0	
48	N98	-24.	-0.	51.497423	0	
49	N99	24.	-0.	51.497423	0	
50	N100	72.000001	-0.	51.497423	0	
51	N101	-24.	60	51.497423	0	
52	N102	24.	66	51.497423	0	
53	N103	-72.	59	51.497424	0	
54	N104	72.000001	60	51.497423	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
55	N105	-24.	-24	51.497423	0	
56	N106	24.	-30	51.497423	0	
57	N107	-72.	-25	51.497424	0	
58	N108	72.000001	-24	51.497423	0	
59	N113	24.	-12	51.497423	0	
60	N64A	-6	-0.	-86.602541	0	
61	N65A	-30	-0.	-45.033321	0	
62	N66A	-54	-0.	-3.464102	0	
63	N67A	-78	-0.	38.105118	0	
64	N68A	-8.598077	-0.	-88.102541	0	
65	N69A	-32.598077	-0.	-46.533321	0	
66	N70A	-56.598077	-0.	-4.964102	0	
67	N71	-80.598077	-0.	36.605118	0	
68	N68B	-82.	-0.	48.497422	0	
69	N69B	82.	-0.	48.497422	0	
70	N70B	72.	42	48.497422	0	
71	N71A	24.	42	48.497423	0	
72	N72	-24.	42	48.497423	0	
73	N73	-72.000001	42	48.497423	0	
74	N74	-72.	42	51.497424	0	
75	N75A	-24.	42	51.497423	0	
76	N76	24.	42	51.497423	0	
77	N77	72.000001	42	51.497423	0	
78	N78	-82.	42	48.497422	0	
79	N79	82.	42	48.497422	0	
80	N80	-19.4	42	48.497422	0	
81	N83	83.	42	46.765372	0	
82	N84	1.	42	-95.262795	0	
83	N86	32.3	42	-41.049604	0	
84	N88	-1	42	-95.262794	0	
85	N89	-83	42	46.765372	0	
86	N90A	-74.	42	48.497422	0	
87	N91A	74.	42	48.497422	0	
88	N92	79.	42	39.837168	0	
89	N93A	5.	42	-88.334591	0	
90	N94	-5	42	-88.334591	0	
91	N95	-79	42	39.837169	0	
92	N96	6.	42	-86.60254	0	
93	N97A	30.	42	-45.033321	0	
94	N98A	54.	42	-3.464102	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
95	N99A	78.000001	42	38.105118	0	
96	N100A	80.598077	42	36.605117	0	
97	N101A	56.598077	42	-4.964102	0	
98	N102A	32.598077	42	-46.533321	0	
99	N103A	8.598076	42	-88.102541	0	
100	N104A	-78	42	38.105118	0	
101	N105A	-54	42	-3.464102	0	
102	N106A	-30	42	-45.033321	0	
103	N107A	-6	42	-86.602541	0	
104	N108A	-8.598077	42	-88.102541	0	
105	N109	-32.598077	42	-46.533321	0	
106	N110	-56.598077	42	-4.964102	0	
107	N111	-80.598077	42	36.605118	0	
108	N112	0.	-0.	42.497422	0	
109	N114	31.607695	-0.	-18.248711	0	
110	N116	-31.607695	-0.	-18.248711	0	
111	N116A	36.803847	-0.	-21.248711	0	
112	N118	-36.803848	-0.	-21.248711	0	
113	N120	0.	60	14.186534	0	
114	N121	-53.	42	48.497422	0	
115	N122	53.	42	48.497422	0	
116	N119A	12.285899	60	-7.093267	0	
117	N120A	68.5	42	21.650635	0	
118	N121A	15.5	42	-70.148058	0	
119	N122A	-12.285899	60	-7.093267	0	
120	N123	-15.5	42	-70.148057	0	
121	N124	-68.5	42	21.650635	0	
122	N123A	-51.7	42	-7.447818	0	
123	N125	19.4	42	48.497422	0	
124	N124A	51.7	42	-7.447819	0	
125	N126	-32.3	42	-41.049604	0	

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	8	max	1390.743	5	1466.43	16	904.323	9	-305.51	15	674.635	4	172.453	6
2		min	-129.089	15	203.041	15	-945.475	8	-3089.307	16	-229.909	15	-18.418	9
3	9	max	1474.961	6	1451.01	22	2206.462	2	1466.061	22	1372.757	2	-330.47	11
4		min	-784.843	9	219.273	11	-2357.405	14	68.147	10	-1708.189	14	-2655.167	22
5	10	max	1508.428	11	1467.25	20	2002.307	10	1624.986	21	1030.56	8	2624.267	20

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
6		min	-633.46	8	322.37	9	-1735.534	8	241.25	9	-1404.847	11	583.91	9
7	N120	max	301.837	11	2271.974	22	-87.796	9	0	78	0	78	0	78
8		min	-244.763	8	106.734	9	-4140.648	22	0	1	0	1	0	1
9	N119A	max	-141.186	13	2207.623	16	2183.091	16	0	78	0	78	0	78
10		min	-3361.237	16	160.236	13	-28.96	15	0	1	0	1	0	1
11	N122A	max	3630.92	19	2235.09	19	1993.518	16	0	78	0	78	0	78
12		min	835.155	15	395.623	15	-64.4	15	0	1	0	1	0	1
13	Totals:	max	5952.156	12	10585.781	16	7099.867	2						
14		min	-.003	2	3066.602	15	-7099.862	15						

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	8	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	10	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N120	Reaction	Reaction	Reaction			
5	N119A	Reaction	Reaction	Reaction			
6	N122A	Reaction	Reaction	Reaction			

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	MP9	Pipe_2.0	84			Lbyy						Lateral
2	MP10	Pipe_2.0	96			Lbyy						Lateral
3	MP11	Pipe_2.0	84			Lbyy						Lateral
4	MP12	Pipe_2.0	84			Lbyy						Lateral
5	MP5	Pipe_2.0	84			Lbyy						Lateral
6	MP6	Pipe_2.0	96			Lbyy						Lateral
7	MP7	Pipe_2.0	84			Lbyy						Lateral
8	MP8	Pipe_2.0	84			Lbyy						Lateral
9	MP1	Pipe_2.0	84			Lbyy						Lateral
10	MP2	Pipe_2.0	96			Lbyy						Lateral
11	MP3	Pipe_2.0	84			Lbyy						Lateral
12	MP4	Pipe_2.0	84			Lbyy						Lateral
13	10	LL3x3x4x0	48.497			Lbyy						Lateral
14	11	LL3x3x4x0	48.497			Lbyy						Lateral
15	12	LL3x3x4x0	48.497			Lbyy						Lateral
16	1	L3x3x4	168			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
17	2	L3x3x4	168			Lbyy						Lateral
18	3	L3x3x4	168			Lbyy						Lateral
19	7	L3x3x4	84			Lbyy						Lateral
20	8	L3x3x4	84			Lbyy						Lateral
21	9	L3x3x4	84			Lbyy						Lateral
22	4	HSS3x3x3	34.311			Lbyy						Lateral
23	5	HSS3x3x3	34.311			Lbyy						Lateral
24	6	HSS3x3x3	34.311			Lbyy						Lateral
25	M41	Handrail	164			Lbyy						Lateral
26	M42	Handrail	164			Lbyy						Lateral
27	M43	Handrail	164			Lbyy						Lateral
28	M44	Handrail Co...	10			Lbyy						Lateral
29	M54A	Handrail Co...	10			Lbyy						Lateral
30	M56A	Handrail Co...	10			Lbyy						Lateral
31	M61	PRK-SFS-L	65.652			Lbyy						Lateral
32	M62	PRK-SFS-L	65.652			Lbyy						Lateral
33	M60B	PRK-SFS-L	65.652			Lbyy						Lateral
34	M61A	PRK-SFS-L	65.652			Lbyy						Lateral
35	M62A	PRK-SFS-L	65.652			Lbyy						Lateral
36	M63	PRK-SFS-L	65.652			Lbyy						Lateral
37	M61B	Handrail Pip...	64.6			Lbyy						Lateral
38	M62B	Handrail Pip...	64.6			Lbyy						Lateral
39	M63A	Handrail Pip...	64.6			Lbyy						Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M17A	24	N29			RIGID	None	None	RIGID	Typical
2	M18A	25	N30			RIGID	None	None	RIGID	Typical
3	M19A	26	N31			RIGID	None	None	RIGID	Typical
4	M20A	27	N32			RIGID	None	None	RIGID	Typical
5	M57	N93	N97			RIGID	None	None	RIGID	Typical
6	M58	N57	N98			RIGID	None	None	RIGID	Typical
7	M59	N56	N99			RIGID	None	None	RIGID	Typical
8	M60	N55	N100			RIGID	None	None	RIGID	Typical
9	MP9	N36	N40			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
10	MP10	N34	N38			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
11	MP11	N33	N37			Pipe 2.0	Beam	Pipe	A53 Gr.B	Typical
12	MP12	N35	N39			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
13	MP5	N66	N70			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
14	MP6	N64	N68			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
15	MP7	N63	N67			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
16	MP8	N65	N69			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
17	MP1	N104	N108			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
18	MP2	N102	N106			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
19	MP3	N101	N105			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
20	MP4	N103	N107			Pipe_2.0	Beam	Pipe	A53 Gr.B	Typical
21	10	2	13		180	LL3x3x4x0	Beam	Double Angle (...	A36 Gr.36	Typical
22	11	1	12		180	LL3x3x4x0	Beam	Double Angle (...	A36 Gr.36	Typical
23	12	4	11		180	LL3x3x4x0	Beam	Double Angle (...	A36 Gr.36	Typical
24	1	4	1		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
25	2	1	2		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
26	3	2	4		270	L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
27	7	11	12			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
28	8	12	13			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
29	9	13	11			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
30	4	3	10			HSS3x3x3	Beam	SquareTube	A500 Gr.B...	Typical
31	5	5	8			HSS3x3x3	Beam	SquareTube	A500 Gr.B...	Typical
32	6	6	9			HSS3x3x3	Beam	SquareTube	A500 Gr.B...	Typical
33	M33A	N64A	N68A			RIGID	None	None	RIGID	Typical
34	M34A	N65A	N69A			RIGID	None	None	RIGID	Typical
35	M35A	N66A	N70A			RIGID	None	None	RIGID	Typical
36	M36A	N67A	N71			RIGID	None	None	RIGID	Typical
37	M37	N73	N74			RIGID	None	None	RIGID	Typical
38	M38	N72	N75A			RIGID	None	None	RIGID	Typical
39	M39	N71A	N76			RIGID	None	None	RIGID	Typical
40	M40	N70B	N77			RIGID	None	None	RIGID	Typical
41	M41	N78	N79			Handrail	Beam	Pipe	A53 Gr.B	Typical
42	M42	N83	N84			Handrail	Beam	Pipe	A53 Gr.B	Typical
43	M43	N88	N89			Handrail	Beam	Pipe	A53 Gr.B	Typical
44	M44	N90A	N95		90	Handrail Corn...	Beam	Single Angle	A36 Gr.36	Typical
45	M46	N99A	N100A			RIGID	None	None	RIGID	Typical
46	M47	N98A	N101A			RIGID	None	None	RIGID	Typical
47	M48	N97A	N102A			RIGID	None	None	RIGID	Typical
48	M49	N96	N103A			RIGID	None	None	RIGID	Typical
49	M50	N107A	N108A			RIGID	None	None	RIGID	Typical
50	M51	N106A	N109			RIGID	None	None	RIGID	Typical
51	M52	N105A	N110			RIGID	None	None	RIGID	Typical
52	M53A	N104A	N111			RIGID	None	None	RIGID	Typical
53	M54A	N92	N91A		90	Handrail Corn...	Beam	Single Angle	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
54	M56A	N94	N93A		90	Handrail Corn...	Beam	Single Angle	A36 Gr.36	Typical
55	M61	N121	N120			PRK-SFS-L	Beam	Single Angle	A36 Gr.36	Typical
56	M62	N122	N120			PRK-SFS-L	Beam	Single Angle	A36 Gr.36	Typical
57	M60B	N120A	N119A			PRK-SFS-L	Beam	Single Angle	A36 Gr.36	Typical
58	M61A	N121A	N119A			PRK-SFS-L	Beam	Single Angle	A36 Gr.36	Typical
59	M62A	N123	N122A			PRK-SFS-L	Beam	Single Angle	A36 Gr.36	Typical
60	M63	N124	N122A			PRK-SFS-L	Beam	Single Angle	A36 Gr.36	Typical
61	M61B	N80	N123A			Handrail Pipe ...	Beam	Pipe	A53 Gr.B	Typical
62	M62B	N124A	N125			Handrail Pipe ...	Beam	Pipe	A53 Gr.B	Typical
63	M63A	N126	N86			Handrail Pipe ...	Beam	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M17A						Yes	** NA **			None
2	M18A						Yes	** NA **			None
3	M19A						Yes	** NA **			None
4	M20A						Yes	** NA **			None
5	M57						Yes	** NA **			None
6	M58						Yes	** NA **			None
7	M59						Yes	** NA **			None
8	M60						Yes	** NA **			None
9	MP9						Yes				None
10	MP10						Yes				None
11	MP11						Yes				None
12	MP12						Yes				None
13	MP5						Yes				None
14	MP6						Yes				None
15	MP7						Yes				None
16	MP8						Yes				None
17	MP1						Yes				None
18	MP2						Yes				None
19	MP3						Yes				None
20	MP4						Yes				None
21	10						Yes				None
22	11						Yes				None
23	12						Yes				None
24	1						Yes	Default			None
25	2						Yes				None
26	3						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
27	7						Yes				None
28	8						Yes				None
29	9						Yes				None
30	4						Yes				None
31	5						Yes				None
32	6						Yes				None
33	M33A						Yes	** NA **			None
34	M34A						Yes	** NA **			None
35	M35A						Yes	** NA **			None
36	M36A						Yes	** NA **			None
37	M37						Yes	** NA **			None
38	M38						Yes	** NA **			None
39	M39						Yes	** NA **			None
40	M40						Yes	** NA **			None
41	M41						Yes				None
42	M42						Yes				None
43	M43						Yes				None
44	M44						Yes	Default			None
45	M46						Yes	** NA **			None
46	M47						Yes	** NA **			None
47	M48						Yes	** NA **			None
48	M49						Yes	** NA **			None
49	M50						Yes	** NA **			None
50	M51						Yes	** NA **			None
51	M52						Yes	** NA **			None
52	M53A						Yes	** NA **			None
53	M54A						Yes	Default			None
54	M56A						Yes	Default			None
55	M61	BenPIN					Yes	Default			None
56	M62	BenPIN					Yes	Default			None
57	M60B	BenPIN					Yes	Default			None
58	M61A	BenPIN					Yes	Default			None
59	M62A	BenPIN					Yes	Default			None
60	M63	BenPIN					Yes	Default			None
61	M61B	BenPIN	BenPIN				Yes				None
62	M62B	BenPIN	BenPIN				Yes				None
63	M63A	BenPIN	BenPIN				Yes				None

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead Load	DL		-1			24		3	
2	Wind 0	WLZ					48			
3	Wind 30	None					48			
4	Wind 60	None					48			
5	Wind 90	WLX					48			
6	Wind 120	None					48			
7	Wind 150	None					48			
8	Wind 180	WLZ					48			
9	Ice Weight	DL					24	63	3	
10	Ice + Wind 0	WLZ					48			
11	Ice + Wind 30	None					48			
12	Ice + Wind 60	None					48			
13	Ice + Wind 90	WLX					48			
14	Ice + Wind 120	None					48			
15	Ice + Wind 150	None					48			
16	Ice + Wind 180	WLZ					48			
17	Distri. Wind Z	WLZ						63		
18	Distri. Wind X	WLX						63		
19	Distri. Ice + Wind Z	WLZ						63		
20	Distrr. Ice + Wind X	WLX						63		
21	Seismic Load Z	ELZ					24	63		
22	Seismic Load X	ELX					24	63		
23	Live Load 1	LL					3			
24	Live Load 2	LL					3			
25	Live Load 3	LL					3			
26	BLC 1 Transient Area...	None						32		
27	BLC 9 Transient Area...	None						32		

Load Combinations

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4																		
2	1.2D + 1.6W 0°	Yes	Y		1	1.2	2	1.6	17	1.6	18													
3	1.2D + 1.6W 30°	Yes	Y		1	1.2	3	1.6	17	1.3...	18	.8												
4	1.2D + 1.6W 60°	Yes	Y		1	1.2	4	1.6	17	.8	18	1.3...												
5	1.2D + 1.6W 90°	Yes	Y		1	1.2	5	1.6	17		18	1.6												
6	1.2D + 1.6W 120°	Yes	Y		1	1.2	6	1.6	17	-.8	18	1.3...												
7	1.2D + 1.6W 150°	Yes	Y		1	1.2	7	1.6	17	-1....	18	.8												
8	1.2D + 1.6W 180°	Yes	Y		1	1.2	8	1.6	17	-1.6	18													

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
9	0.9D + 1.6W 0°	Yes	Y		1	.9	2	1.6	17	1.6	18													
10	0.9D + 1.6W 30°	Yes	Y		1	.9	3	1.6	17	1.3...	18	.8												
11	0.9D + 1.6W 60°	Yes	Y		1	.9	4	1.6	17	.8	18	1.3...												
12	0.9D + 1.6W 90°	Yes	Y		1	.9	5	1.6	17		18	1.6												
13	0.9D + 1.6W 120°	Yes	Y		1	.9	6	1.6	17	-.8	18	1.3...												
14	0.9D + 1.6W 150°	Yes	Y		1	.9	7	1.6	17	-1....	18	.8												
15	0.9D + 1.6W 180°	Yes	Y		1	.9	8	1.6	17	-1.6	18													
16	1.2D + 1.0Di + 1.0Wi 0°	Yes	Y		1	1.2	9	1	10	1	19	1	20											
17	1.2D + 1.0Di + 1.0Wi 3...	Yes	Y		1	1.2	9	1	11	1	19	.866	20	.5										
18	1.2D + 1.0Di + 1.0Wi 6...	Yes	Y		1	1.2	9	1	12	1	19	.5	20	.866										
19	1.2D + 1.0Di + 1.0Wi 9...	Yes	Y		1	1.2	9	1	13	1	19		20	1										
20	1.2D + 1.0Di + 1.0Wi 1...	Yes	Y		1	1.2	9	1	14	1	19	-.5	20	.866										
21	1.2D + 1.0Di + 1.0Wi 1...	Yes	Y		1	1.2	9	1	15	1	19	-.866	20	.5										
22	1.2D + 1.0Di + 1.0Wi 1...	Yes	Y		1	1.2	9	1	16	1	19	-1	20											
23	1.2D + 1.0Eh 0°	Yes	Y		1	1.2	21	1	22															
24	1.2D + 1.0Eh 30°	Yes	Y		1	1.2	21	.866	22	.5														
25	1.2D + 1.0Eh 60°	Yes	Y		1	1.2	21	.5	22	.866														
26	1.2D + 1.0Eh 90°	Yes	Y		1	1.2	21		22	1														
27	1.2D + 1.0Eh 120°	Yes	Y		1	1.2	21	-.5	22	.866														
28	1.2D + 1.0Eh 150°	Yes	Y		1	1.2	21	-.866	22	.5														
29	1.2D + 1.0Eh 180°	Yes	Y		1	1.2	21	-1	22															
30	0.9D + 1.0Eh 0°	Yes	Y		1	.9	21	1	22															
31	0.9D + 1.0Eh 30°	Yes	Y		1	.9	21	.866	22	.5														
32	0.9D + 1.0Eh 60°	Yes	Y		1	.9	21	.5	22	.866														
33	0.9D + 1.0Eh 90°	Yes	Y		1	.9	21		22	1														
34	0.9D + 1.0Eh 120°	Yes	Y		1	.9	21	-.5	22	.866														
35	0.9D + 1.0Eh 150°	Yes	Y		1	.9	21	-.866	22	.5														
36	0.9D + 1.0Eh 180°	Yes	Y		1	.9	21	-1	22															
37	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	2	.316	17	.316	18											
38	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	3	.316	17	.273	18	.158										
39	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	4	.316	17	.158	18	.273										
40	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	5	.316	17		18	.316										
41	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	6	.316	17	-.158	18	.273										
42	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	7	.316	17	-.273	18	.158										
43	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	23	1.5	8	.316	17	-.316	18											
44	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	2	.316	17	.316	18											
45	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	3	.316	17	.273	18	.158										
46	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	4	.316	17	.158	18	.273										
47	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	5	.316	17		18	.316										
48	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	6	.316	17	-.158	18	.273										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
49	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	7	.316	17	-.273	18	.158										
50	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	24	1.5	8	.316	17	-.316	18											
51	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	2	.316	17	.316	18											
52	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	3	.316	17	.273	18	.158										
53	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	4	.316	17	.158	18	.273										
54	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	5	.316	17		18	.316										
55	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	6	.316	17	-.158	18	.273										
56	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	7	.316	17	-.273	18	.158										
57	1.0D +1.5Lv + 1.0W (6...	Yes	Y		1	1	25	1.5	8	.316	17	-.316	18											
58	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	2	.088	17	.088	18											
59	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	3	.088	17	.076	18	.044										
60	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	4	.088	17	.044	18	.076										
61	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	5	.088	17		18	.088										
62	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	6	.088	17	-.044	18	.076										
63	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	7	.088	17	-.076	18	.044										
64	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	23	1	8	.088	17	-.088	18											
65	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	2	.088	17	.088	18											
66	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	3	.088	17	.076	18	.044										
67	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	4	.088	17	.044	18	.076										
68	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	5	.088	17		18	.088										
69	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	6	.088	17	-.044	18	.076										
70	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	7	.088	17	-.076	18	.044										
71	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	24	1	8	.088	17	-.088	18											
72	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	2	.088	17	.088	18											
73	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	3	.088	17	.076	18	.044										
74	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	4	.088	17	.044	18	.076										
75	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	5	.088	17		18	.088										
76	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	6	.088	17	-.044	18	.076										
77	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	7	.088	17	-.076	18	.044										
78	1.2D + 1.0Lv + 1.0W (...	Yes	Y		1	1.2	25	1	8	.088	17	-.088	18											

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
1	1	L3X3X4	.845	84	8	.126	84	y	8	3944....	46656	1688....	2855....	...	H2-1
2	M41	PIPE_2.5	.711	134.958	22	.156	155....		16	12179...	50715	3596....	3596....	...	H1-1a
3	M43	PIPE_2.5	.708	134.958	19	.152	155....		22	12179...	50715	3596....	3596....	...	H1-1a
4	M42	PIPE_2.5	.700	134.958	16	.155	155....		19	12179...	50715	3596....	3596....	...	H1-1a
5	M56A	L2.5x2.5...	.691	0	17	.060	0	z	5	37692...	38556	1113....	2537....	...	H2-1
6	M44	L2.5x2.5...	.689	0	21	.055	0	z	8	37692...	38556	1113....	2537....	...	H2-1

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
7	3	L3X3X4	.654	84	4	.096	84	z	20	3944....	46656	1688....	2905....	...	H2-1
8	M54A	L2.5x2.5...	.650	0	22	.068	0	z	2	37692...	38556	1113....	2537....	...	H2-1
9	MP2	PIPE_2.0	.637	66	2	.134	66		8	14916...	32130	1871....	1871....	...	H1-1b
10	MP6	PIPE_2.0	.623	65	8	.118	65		3	14916...	32130	1871....	1871....	...	H1-1b
11	MP10	PIPE_2.0	.558	65	5	.074	23		16	14916...	32130	1871....	1871....	...	H1-1b
12	6	HSS3X3...	.494	34.311	22	.140	34.3...	z	14	73627...	78246	6796.5	6796.5	...	H1-1b
13	4	HSS3X3...	.487	34.311	22	.126	34.3...	z	10	73627...	78246	6796.5	6796.5	...	H1-1b
14	5	HSS3X3...	.484	34.311	18	.094	34.3...	z	5	73627...	78246	6796.5	6796.5	...	H1-1b
15	2	L3X3X4	.446	84	16	.097	84	z	20	3944....	46656	1688....	2784....	...	H2-1
16	9	L3X3X4	.337	42	22	.026	42	y	16	15778...	46656	1688....	3319....	...	H2-1
17	8	L3X3X4	.331	42	22	.026	42	y	21	15778...	46656	1688....	3326....	...	H2-1
18	7	L3X3X4	.328	42	18	.026	42	y	16	15778...	46656	1688....	3325....	...	H2-1
19	MP12	PIPE_2.0	.230	18.375	16	.079	59.5		16	17855...	32130	1871....	1871....	...	H1-1b
20	MP8	PIPE_2.0	.227	18.375	20	.080	18.3...		16	17855...	32130	1871....	1871....	...	H1-1b
21	MP4	PIPE_2.0	.223	17.5	22	.080	17.5		21	17855...	32130	1871....	1871....	...	H1-1b
22	MP7	PIPE_2.0	.211	18.375	2	.081	59.5		16	17855...	32130	1871....	1871....	...	H1-1b
23	M62	L2.5x2.5...	.195	65.652	22	.016	65.6...	z	2	10971...	29192...	872.5...	1614....	...	H2-1
24	MP1	PIPE_2.0	.195	18.375	21	.093	18.3...		22	17855...	32130	1871....	1871....	...	H1-1b
25	M63	L2.5x2.5...	.192	65.652	18	.012	65.6...	y	22	10971...	29192...	872.5...	1614....	...	H2-1
26	MP5	PIPE_2.0	.191	18.375	17	.090	18.3...		18	17855...	32130	1871....	1871....	...	H1-1b
27	M62A	L2.5x2.5...	.189	32.142	16	.014	65.6...	y	22	10971...	29192...	872.5...	1869....	...	H2-1
28	M60B	L2.5x2.5...	.187	32.142	16	.014	65.6...	y	20	10971...	29192...	872.5...	1673....	...	H2-1
29	M61	L2.5x2.5...	.186	32.142	16	.015	65.6...	y	16	10971...	29192...	872.5...	1664....	...	H2-1
30	M61A	L2.5x2.5...	.185	28.723	16	.015	65.6...	z	6	10971...	29192...	872.5...	1615....	...	H2-1
31	MP3	PIPE_2.0	.175	18.375	20	.080	59.5		21	17855...	32130	1871....	1871....	...	H1-1b
32	MP9	PIPE_2.0	.161	18.375	22	.085	18.3...		16	17855...	32130	1871....	1871....	...	H1-1b
33	MP11	PIPE_2.0	.159	18.375	22	.071	18.3...		16	17855...	32130	1871....	1871....	...	H1-1b
34	11	LL3x3x4...	.141	9.598	17	.010	48.4...	y	19	78414...	93312	6480	3069....	...	H1-1b
35	12	LL3x3x4...	.140	7.073	16	.009	48.4...	y	19	78414...	93312	6480	3069....	...	H1-1b
36	10	LL3x3x4...	.137	0	6	.013	48.4...	z	5	78414...	93312	6480	3069....	...	H1-1b
37	M63A	PIPE_2.0	.042	32.3	22	.041	64.6		13	22699...	32130	1871....	1871....	...	H1-1b
38	M62B	PIPE_2.0	.042	32.3	17	.064	0		8	22699...	32130	1871....	1871....	...	H1-1b
39	M61B	PIPE_2.0	.040	32.3	16	.053	64.6		3	22699...	32130	1871....	1871....	...	H1-1b

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11056J

ATT Middletown
290 Preston Avenue
Middletown, Connecticut 06457

April 29, 2021

EBI Project Number: 6221002086

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**20.63%**

April 29, 2021

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

Emissions Analysis for Site: CT11056J - ATT Middletown

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **290 Preston Avenue** in **Middletown, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 290 Preston Avenue in Middletown, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

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

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

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

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

5) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

8) 1 NR channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) The antennas used in this modeling are the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector A, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector B, the Ericsson AIR 32 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

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

13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.35 dBd / 15.85 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts	Total TX Power (W):	360 Watts
ERP (W):	12,841.53	ERP (W):	12,841.53	ERP (W):	12,841.53
Antenna A1 MPE %:	**2.57%**	Antenna B1 MPE %:	**2.57%**	Antenna C1 MPE %:	**2.57%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	7	Channel Count:	7	Channel Count:	7
Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts	Total TX Power (W):	320 Watts
ERP (W):	8,360.85	ERP (W):	8,360.85	ERP (W):	8,360.85
Antenna A2 MPE %:	**2.82%**	Antenna B2 MPE %:	**2.82%**	Antenna C2 MPE %:	**2.82%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	17.3 dBd / 17.3 dBd	Gain:	17.3 dBd / 17.3 dBd	Gain:	17.3 dBd / 17.3 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	12,888.76	ERP (W):	12,888.76	ERP (W):	12,888.76
Antenna A3 MPE %:	**2.58%**	Antenna B3 MPE %:	**2.58%**	Antenna C3 MPE %:	**2.58%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	7.97%
Metro PCS	1.72%
Sprint	4%
Nextel	0.46%
Verizon	3.84%
AT&T	2.64%
Site Total MPE % :	20.63%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	7.97%
T-Mobile Sector B Total:	7.97%
T-Mobile Sector C Total:	7.97%
Site Total MPE % :	20.63%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	140.0	8.24	1900 MHz GSM	1000	0.82%
T-Mobile 1900 MHz LTE	2	2056.61	140.0	8.24	1900 MHz LTE	1000	0.82%
T-Mobile 2100 MHz LTE	2	2307.55	140.0	9.24	2100 MHz LTE	1000	0.92%
T-Mobile 600 MHz LTE	2	591.73	140.0	2.37	600 MHz LTE	400	0.59%
T-Mobile 600 MHz NR	1	1577.94	140.0	3.16	600 MHz NR	400	0.79%
T-Mobile 700 MHz LTE	2	695.22	140.0	2.78	700 MHz LTE	467	0.60%
T-Mobile 1900 MHz LTE	2	2104.51	140.0	8.43	1900 MHz LTE	1000	0.84%
T-Mobile 2500 MHz LTE	1	6444.38	140.0	12.90	2500 MHz LTE	1000	1.29%
T-Mobile 2500 MHz NR	1	6444.38	140.0	12.90	2500 MHz NR	1000	1.29%
						Total:	**7.97%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	7.97%
Sector B:	7.97%
Sector C:	7.97%
T-Mobile Maximum MPE % (Sector A):	7.97%
Site Total:	20.63%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **20.63%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Exhibit G

Mailing Receipts/Proof of Notice

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

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DANBURY ,CT 06810

UPS Access Point™
THE UPS STORE
42 LAKE AVENUE EXT
DANBURY ,CT 06811

UPS Access Point™
CVS STORE # 1109
7 DURANT AVE
BETHEL ,CT 06801

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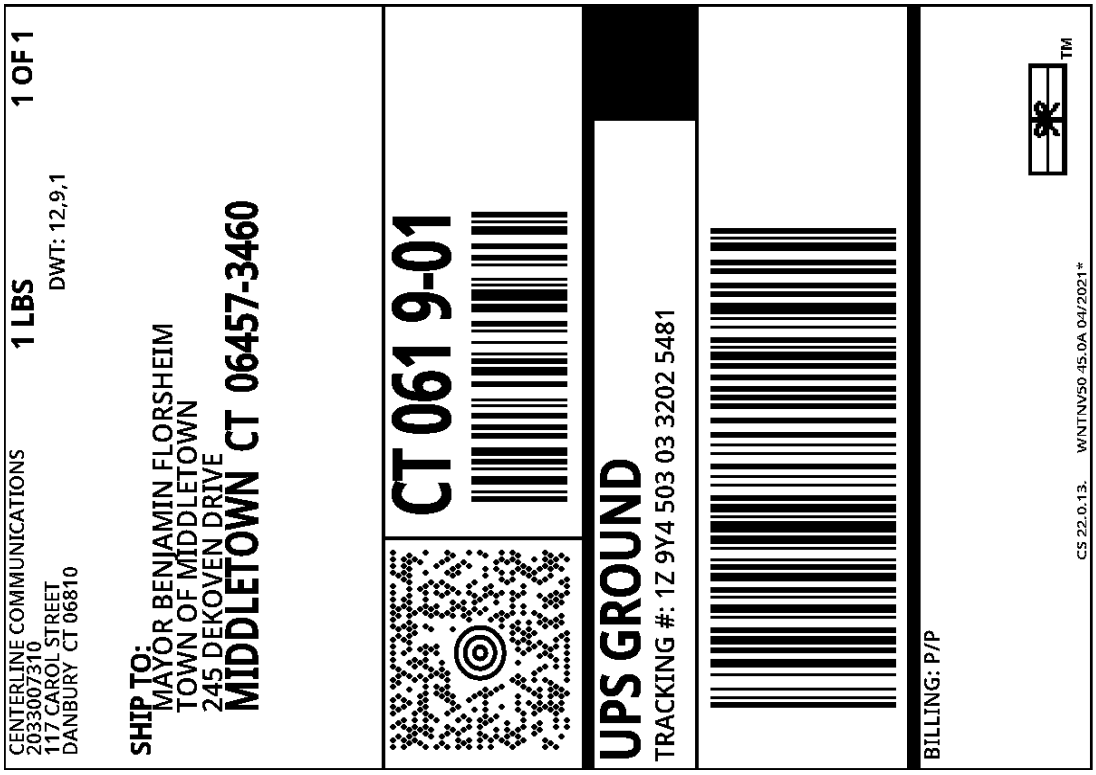

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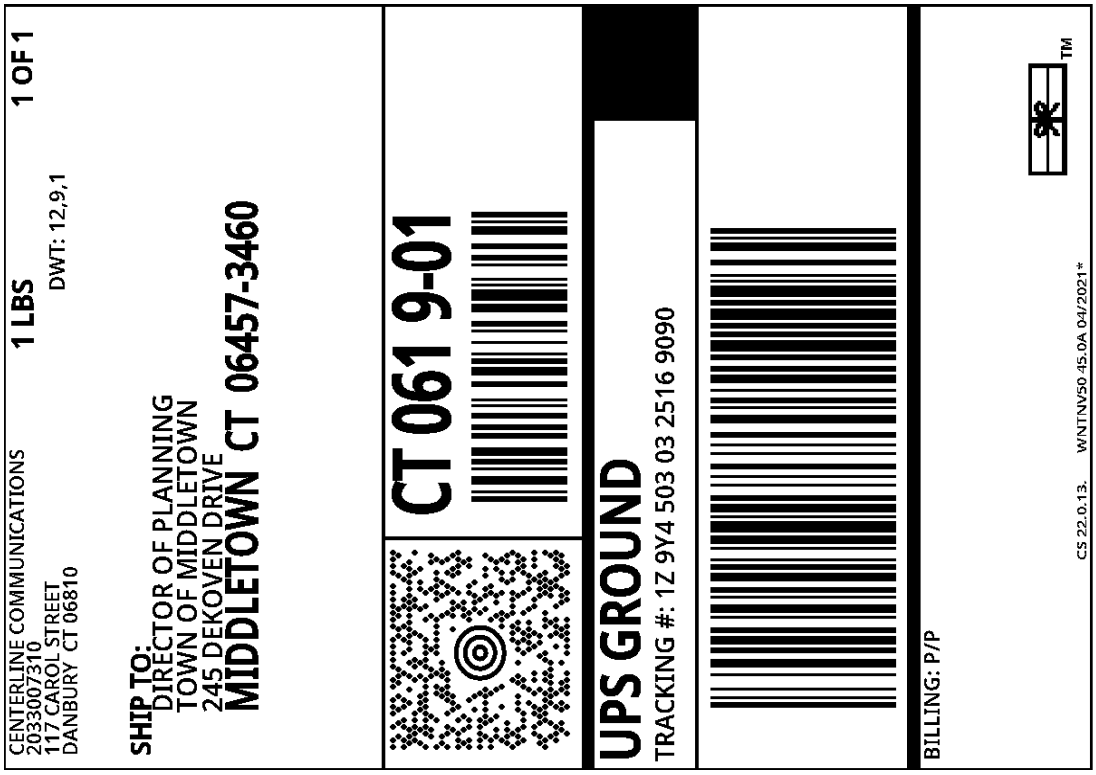

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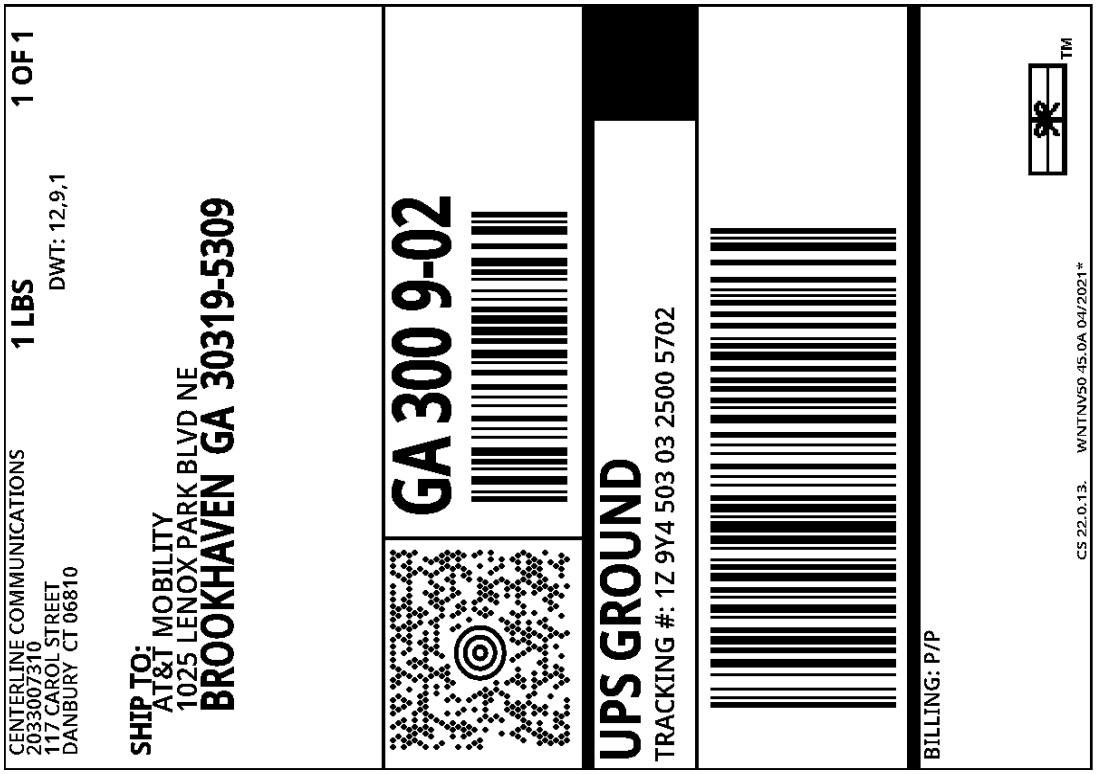

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