July 7, 2022

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

Re: Exempt Modification Application – AT&T Site 13759895
AT&T Mobility Telecommunications Facility @ 4 Beaver Road, Branford, CT

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction and Antenna Mount Modification Drawings:

- Remove twelve (12) antennas and six (6) TMAs;
- Install three (3) sector frames with mount modifications, three (3) Y cables and twelve (12) antennas;
- Ground work includes removing three (3) RRHs and twelve (12) diplexers; and installing one (1) IDLE cable, fifteen (15) upconverters and four (4) rectifiers.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2), and as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of AT&T's intent to modify a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; Joyce Tipping, as Property Owner; the Honorable James Cosgrove, as First Selectman of the Town of Branford, and Town Planner Harry Smith.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an 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 modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

For the foregoing reasons, AT&T respectfully requests that the Council approve this Exempt Modification request for this tower located at 4 Beaver Road, Branford, CT.

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

Sincerely,

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures:
Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Property Card and GIS
Exhibit 3 – Construction and Mount Modification Drawings
Exhibit 4 – Structural Analysis Report
Exhibit 5 – Antenna Mount Analysis Report (failing)
Exhibit 6 – EME Study Report
Exhibit 7 – Four (4) Notice Confirmations

cc:
American Tower Corporation - Tower Operator/Owner
Joyce Tipping - Property Owner
James Cosgrove - First Selectman of the Town of Branford
Harry Smith – Branford own Planner

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CORPORATION

LETTER OF AUTHORIZATION

CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

I, Margaret Robinson, Vice President, US Tower Legal Division on behalf of American Tower*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

ATC Asset #	Site Name	Project Number	Site Address
283420	STONEYBROOK RD CT	13682835	23 Stonybrook Road, Stratford, Connecticut
243036	WEST HAVEN & RT 162 CT	13682841	668 Jones Hill Road, West Haven, Connecticut
302479	Rkhl - Rocky Hill	13683394	699 West Street, Rocky Hill, Connecticut
302537	Middletown CT 3	13747862	47 Inwood Road, Rocky Hill, Connecticut
302535	Milford CT 2	13748383	185 Research Drive, Milford, Connecticut
302473	E H F R - Prestige Park	13748397	310 Prestige Park Road, East Hartford, Connecticut
302505	Wshn - West Haven	13748405	204 Burwell Street, West Haven, Connecticut
302489	Enfd - Enfield	13753208	77 Town Farm Road, Enfield, Connecticut
302524	Beacon Falls	13753210	664 Rimmon Hill Road, Seymour, Connecticut
310968	WSPT-WESTPORT REBUILD CT	13753216	180A Bayberry Lane, Westport, Connecticut
302526	Naugatuck (telephone Pole)	13753218	585 South Main St. (soc. Club), Naugatuck, Connecticut
310972	WATERFORD REBUILD CT	13753547	15 Miner Lane, Waterford, Connecticut
302538	Parsonage Hill Aka Wallin	13753549	922 Northrop Road, Wallingford, Connecticut
370624	Mankes Silo	13754283	1338 Highland Ave, Cheshire, Connecticut

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88017	SHELTON-TRUMBULL	13755484	14 OXFORD DRIVE/BOOTH HILL RD, Shelton, Connecticut
414240	Byram Park CT	13755490	48 RITCH AVENUE WEST, Greenwich, Connecticut
283423	NAUGATUCK CT	13755758	880 Andrew Mountain Road, Naugatuck, Connecticut
302480	Woodbridge CT 1	13756843	77 Pease Road, Woodbridge, Connecticut
411183	WATERFORD CT	13756866	53 Dayton Rd. Waterford, Connecticut
302540	Madison CT 6	13757740	8 Old 79, Madison, Connecticut
411259	CT Collinsville CAC 802816 CT	13757764	650 Albany Turnpike, Collinsville, Connecticut
411256	CANTON CT	13757774	14 CANTON SPRINGS ROAD, Canton, Connecticut
302493	Nrwc - Norwich	13757776	225 Rogers Road, Norwich, Connecticut
302476	Wtbr - Waterbury	13757794	352 Garden Circle, Waterbury, Connecticut
302475	Sttn - Southington	13757796	80 Shuttle Meadow Road, Southington, Connecticut
302494	Hddm - Haddam	13757798	139 Morris Hubbard Rd, Higganum, Connecticut
283419	PINE ORCHARD BRANFORD CT	13757800	123 Pine Orchard Road, Brrandford, Connecticut
302482	North Havent CT 1	13757802	15 Dewight Street, North Haven, Connecticut
302485	Mdfd - Middlefield	13757806	134 Kikapoo Road, Middlefield, Connecticut
302500	Brst - Bristol	13757810	790 Willis Street, Bristol, Connecticut
302467	Bilkays Express	13757812	90 North Plains Industrial Rd. Wallingford, Connecticut
302536	Cherry Hill-branford	13759895	4 Beaver Road, Brandford, Connecticut
302482	North Havent CT 1	14050356	15 Dewight Street, North Haven, Connecticut
311305	GLFD-GUILFORD REBUILD CT	14050358	10 Tanner Marsh Road, Guilford, Connecticut
411261	CROMWELLSW CT	14089799	99 Christian Hill Road, Cromwell, Connecticut
302481	Hrfr - South	14090117	289 Mountain Street, Hartford, Connecticut

Signature: _____

Margaret Robinson, Vice President
US Tower Legal Division

See attached Notary Block

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LETTER OF AUTHORIZATION
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 30th day of June, 2022.

NOTARY SEAL

MELISSA ANN METZLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires March 14, 2025

Notary Public
My Commission Expires: March 14, 2025

Town of Branford, Connecticut - Assessment Parcel Map

Parcel: B07-000-006-00043 Address: 4-8 BEAVER RD

Approximate Scale: 1 inch : 100 feet

Grand List Date June 2021

Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/	Bldg #	1	Sec #	1	PID	601	Account	008882

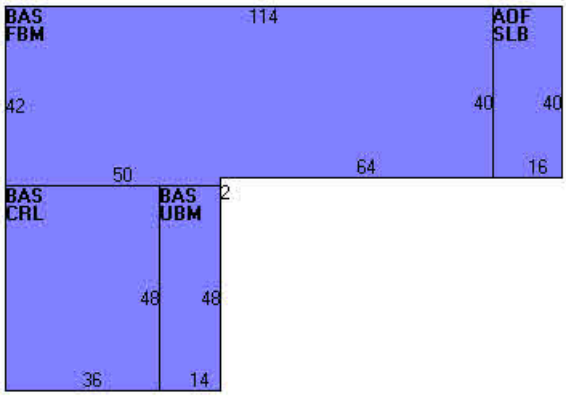
Property Information

Property Location	4-8 BEAVER RD
Owner	TIPPING JOYCE N ET ALS (CO TRUSTEES)
Co-Owner	C/O JOYCE TIPPING
Mailing Address	36 GOODSELL POINT RD BRANFORD CT 06405
Land Use	0400 MFRG MDL96
Land Class	I
Zoning Code	BL
Census Tract	

Neighborhood	350
Acreage	1.28
Utilities	Public Water,Public Sewer
Lot Setting/Desc	Industrial Level,Rolling
Book / Page	1149/0822

Photo

Sketch



Primary Construction Details

Year Built	1950
Building Desc.	MFRG MDL96
Building Style	Lt. Industrial
Building Grade	C -
Stories	1
Occupancy	4.00
Exterior Walls	Concr/Cinder
Exterior Walls 2	Vinyl Siding
Roof Style	Flat
Roof Cover	T&G/Rubber
Interior Walls	Minim/Masonry
Interior Walls 2	NA
Interior Floors 1	Minimum/Plywd
Interior Floors 2	Concr-Finished

Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	Ind/Comm
Building Condition	F
Sprinkler %	NA
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEILING ONLY
Rooms / Prtns	AVERAGE
Wall Height	14.00
First Floor Use	NA
Foundation	NA

Report Created On 7/6/2022

Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/	Bldg #	1	Sec #	1	PID	601	Account	008882

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	293700	205700
Extras	0	0
Improvements		
Outbuildings	6270	4510
Land	467610	327360
Total	767580	537570

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office	640	640
First Floor	7060	7060
Crawl Space	1728	0
Slab	640	0
Basement, Unfinished	5332	0
Total Area	15400	7700

Outbuilding and Extra Features

Type	Description
PAVING-ASPHALT	8000 S.F.
PAVING-CONC	225 S.F.
SHED FRAME	80 S.F.
FENCE-8' CHAIN	140 L.F.

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
TIPPING JOYCE N ET ALS (CO TRUSTEES)	1149/0822	2013-12-26	0
TIPPING JOYCE N ET ALS (CO TRSTES)	1127/0558	2013-03-05	0
TIPPING JOYCE N ET ALS (CO TRSTES)	1012/0883	2008-05-22	0
TIPPING LEROY G REV TRST + VERA	0554/0406	1993-08-10	0
TIPPING LEROY G + VERA R	0147/0186		0

Report Created On 7/6/2022

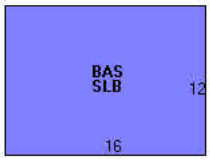
Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/00[illegible]	Bldg #	2	Sec #	1	PID	601	Account	008882

Photo

Sketch



Primary Construction Details

Year Built	1997
Building Desc.	Ind/Comm
Building Style	Warehouse
Building Grade	B
Stories	1
Occupancy	1.00
Exterior Walls	Pre-cast Concr
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Concrete Tile
Interior Walls	Minim/Masonry
Interior Walls 2	NA
Interior Floors 1	Concr-Finished
Interior Floors 2	NA

Heating Fuel	Electric
Heating Type	Hot Air-no Duc
AC Type	Heat Pump
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	MFRG MDL96
Building Condition	A
Sprinkler %	NA
Heat / AC	HEAT/AC PKGS
Frame Type	LT STEEL
Baths / Plumbing	NONE
Ceiling / Wall	CEILING ONLY
Rooms / Prtns	AVERAGE
Wall Height	10.00
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	192	192
Slab	192	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	384	192

Report Created On 7/6/2022

Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/00343	Bldg #	3	Sec #	1	PID	601	Account	008882

Photo

Sketch

Primary Construction Details

Year Built	1997
Building Desc.	Ind/Comm
Building Style	Warehouse
Building Grade	B
Stories	1
Occupancy	1.00
Exterior Walls	Precast Panel
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	T&G/Rubber
Interior Walls	Minim/Masonry
Interior Walls 2	NA
Interior Floors 1	Concr-Finished
Interior Floors 2	NA

Heating Fuel	Electric
Heating Type	Hot Air-no Duc
AC Type	Heat Pump
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	MFRG MDL96
Building Condition	A
Sprinkler %	NA
Heat / AC	HEAT/AC PKGS
Frame Type	LT STEEL
Baths / Plumbing	NONE
Ceiling / Wall	CEILING ONLY
Rooms / Prtns	AVERAGE
Wall Height	9.00
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	112	112
Slab	112	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	224	112

Report Created On 7/6/2022

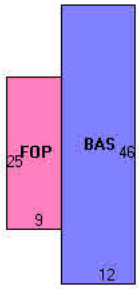
Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/00[illegible]	Bldg #	4	Sec #	1	PID	601	Account	008882

Photo

Sketch



Primary Construction Details

Year Built	1974
Building Desc.	Residential
Building Style	Mobile Home
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Pre-finsh Metl
Exterior Walls 2	NA
Roof Style	Flat
Roof Cover	Metal/Tin
Interior Walls	Drywall
Interior Walls 2	Plywood Panel
Interior Floors 1	Carpet
Interior Floors 2	NA

Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bedrooms	1 Bedroom
Full Bathrooms	1
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	3
Bath Style	Average
Kitchen Style	Average
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	MFRG MDL01
Building Condition	VP
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	552	552
Porch, Open	225	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	777	552

Report Created On 7/6/2022

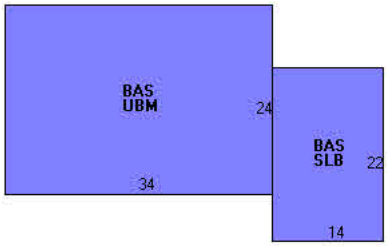
Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/00343	Bldg #	5	Sec #	1	PID	601	Account	008882

Photo

Sketch



Primary Construction Details

Year Built	1960
Building Desc.	Residential
Building Style	Ranch
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Vinyl Siding
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asphalt
Interior Walls	Drywall
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	NA

Heating Fuel	Gas
Heating Type	Hot Water
AC Type	None
Bedrooms	3 Bedrooms
Full Bathrooms	1
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	6
Bath Style	Average
Kitchen Style	Average
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	MFRG MDL01
Building Condition	A
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	1124	1124
Slab	308	0
Basement, Unfinished	816	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	2248	1124

Report Created On 7/6/2022

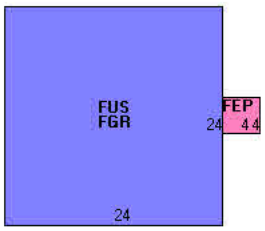
Town of Branford, CT

Property Listing Report

Map Block Lot	B07/000/006/00[illegible]	Bldg #	6	Sec #	1	PID	601	Account	008882

Photo

Sketch



Primary Construction Details

Year Built	1953
Building Desc.	Residential
Building Style	Old Style
Building Grade	C -
Stories	2
Occupancy	1.00
Exterior Walls	Pre-Fab Wood
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asphalt
Interior Walls	Drywall
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	NA

Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Bedrooms	1 Bedroom
Full Bathrooms	1
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	3
Bath Style	Average
Kitchen Style	Average
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	MFRG MDL01
Building Condition	F
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Porch, Enclosed	16	0
Garage	576	0
Upper Story, Finished	576	576

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	1168	576

Report Created On 7/6/2022

Radio Frequency Exposure Analysis Report

June 27, 2022

American Tower on behalf of AT&T
Centerline Communications Project Number: 950035-006

AT&T Site Name: Cherry Hill-Branford
Site Number: CTL02175
FA#: 10035093
USID: 61194

Site Address: 4 Beaver Road, Branford, CT 06405

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	14.72506 µW/cm^2
Cumulative General Population % MPE (Ground Level):	1.47312%

June 27, 2022

American Tower Corporation
Attn: John Luca, Associate Project Manager
3500 Regency Parkway
Cary, NC 27518

RF Exposure Analysis for Site: **Cherry Hill-Branford**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **4 Beaver Road, Branford, CT 06405** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

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, 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.

Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the Ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.

Maximum Calculated Cumulative Power Density (Location: approximately 238' SE of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
AT&T A 1	CCI TPA65R-BU8D	700	13.05	113.00	4.00	30.00	2422.04	0.00048	466.67	0.00010
AT&T A 1	CCI TPA65R-BU8D	1900	14.95	113.00	2.00	30.00	1875.65	0.00028	1000.00	0.00003
AT&T A 1	CCI TPA65R-BU8D	1900	14.95	113.00	2.00	30.00	1875.65	0.00028	1000.00	0.00003
AT&T A 1	CCI TPA65R-BU8D	2300	14.45	113.00	4.00	18.00	2006.01	0.00034	1000.00	0.00003
AT&T A 2	Ericsson AIR6449	3700	23.45	115.00	1.00	108.40	23989.95	0.00599	1000.00	0.00060
AT&T A 3	Ericsson AIR6419	3450	23.45	111.00	1.00	108.40	23989.95	0.00558	1000.00	0.00056
AT&T A 4	CCI DMP65R-BU8D	700	12.25	113.00	2.00	30.00	1007.28	0.00024	466.67	0.00005
AT&T A 4	CCI DMP65R-BU8D	850	12.55	113.00	2.00	30.00	1079.32	0.00035	566.67	0.00006
AT&T A 4	CCI DMP65R-BU8D	2100	15.35	113.00	2.00	30.00	2056.61	0.00031	1000.00	0.00003
AT&T A 4	CCI DMP65R-BU8D	2100	15.35	113.00	2.00	30.00	2056.61	0.00031	1000.00	0.00003
AT&T B 5	CCI TPA65R-BU8D	700	13.05	113.00	4.00	30.00	2422.04	0.00005	466.67	0.00001
AT&T B 5	CCI TPA65R-BU8D	1900	14.95	113.00	2.00	30.00	1875.65	0.00002	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU8D	1900	14.95	113.00	2.00	30.00	1875.65	0.00002	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU8D	2300	14.45	113.00	4.00	18.00	2006.01	0.00001	1000.00	0.00000
AT&T B 6	Ericsson AIR6449	3700	23.45	113.00	1.00	108.40	23989.95	0.00058	1000.00	0.00006
AT&T B 7	Ericsson AIR6419	3450	23.45	113.00	1.00	108.40	23989.95	0.00044	1000.00	0.00004
AT&T B 8	CCI DMP65R-BU8D	700	12.25	115.00	2.00	30.00	1007.28	0.00002	466.67	0.00000
AT&T B 8	CCI DMP65R-BU8D	850	12.55	111.00	2.00	30.00	1079.32	0.00001	566.67	0.00000
AT&T B 8	CCI DMP65R-BU8D	2100	15.35	113.00	2.00	30.00	2056.61	0.00001	1000.00	0.00000
AT&T B 8	CCI DMP65R-BU8D	2100	15.35	113.00	2.00	30.00	2056.61	0.00001	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU8D	700	13.05	113.00	4.00	30.00	2422.04	0.00000	466.67	0.00000
AT&T C 9	CCI TPA65R-BU8D	1900	14.95	113.00	2.00	30.00	1875.65	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU8D	1900	14.95	113.00	2.00	30.00	1875.65	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU8D	2300	14.45	113.00	4.00	18.00	2006.01	0.00000	1000.00	0.00000
AT&T C 10	Ericsson AIR6449	3700	23.45	113.00	1.00	108.40	23989.95	0.00001	1000.00	0.00000
AT&T C 11	Ericsson AIR6419	3450	23.45	113.00	1.00	108.40	23989.95	0.00001	1000.00	0.00000
AT&T C 12	CCI DMP65R-BU8D	700	12.25	115.00	2.00	30.00	1007.28	0.00000	466.67	0.00000
AT&T C 12	CCI DMP65R-BU8D	850	12.55	111.00	2.00	30.00	1079.32	0.00000	566.67	0.00000
AT&T C 12	CCI DMP65R-BU8D	2100	15.35	113.00	2.00	30.00	2056.61	0.00000	1000.00	0.00000
AT&T C 12	CCI DMP65R-BU8D	2100	15.35	113.00	2.00	30.00	2056.61	0.00000	1000.00	0.00000
Unknown A 13	GENERIC PANEL 6FT	850	12.62	127.10	4.00	40.00	2924.96	0.00082	566.67	0.00015
Unknown A 14	GENERIC PANEL 6FT	1900	15.84	127.10	4.00	40.00	6139.32	0.00090	1000.00	0.00009
Unknown A 15	GENERIC PANEL 6FT	2100	16.39	127.10	4.00	40.00	6968.19	0.00059	1000.00	0.00006
Unknown A 16	GENERIC PANEL 6FT	700	12.33	127.10	4.00	40.00	2736.02	0.00084	466.67	0.00018

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Unknown A 17	GENERIC PANEL 6FT	850	12.62	127.10	4.00	40.00	2924.96	0.00082	566.67	0.00015
Unknown B 18	GENERIC PANEL 6FT	850	12.62	127.10	4.00	40.00	2924.96	0.00001	566.67	0.00000
Unknown B 19	GENERIC PANEL 6FT	1900	15.84	127.10	4.00	40.00	6139.32	0.00001	1000.00	0.00000
Unknown B 20	GENERIC PANEL 6FT	2100	16.39	127.10	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Unknown B 21	GENERIC PANEL 6FT	700	12.33	127.10	4.00	40.00	2736.02	0.00001	466.67	0.00000
Unknown B 22	GENERIC PANEL 6FT	850	12.62	127.10	4.00	40.00	2924.96	0.00001	566.67	0.00000
Unknown C 23	GENERIC PANEL 6FT	850	12.62	127.10	4.00	40.00	2924.96	0.00000	566.67	0.00000
Unknown C 24	GENERIC PANEL 6FT	1900	15.84	127.10	4.00	40.00	6139.32	0.00000	1000.00	0.00000
Unknown C 25	GENERIC PANEL 6FT	2100	16.39	127.10	4.00	40.00	6968.19	0.00000	1000.00	0.00000
Unknown C 26	GENERIC PANEL 6FT	700	12.33	127.10	4.00	40.00	2736.02	0.00000	466.67	0.00000
Unknown C 27	GENERIC PANEL 6FT	850	12.62	127.10	4.00	40.00	2924.96	0.00000	566.67	0.00000
Unknown A 28	GENERIC PANEL 6FT	1900	15.84	101.60	2.00	60.00	4604.49	0.00108	1000.00	0.00011
Unknown A 29	GENERIC PANEL 6FT	600	12.33	101.60	2.00	60.00	2052.02	0.00101	400.00	0.00025
Unknown A 30	GENERIC PANEL 6FT	700	12.33	101.60	2.00	60.00	2052.02	0.00101	466.67	0.00022
Unknown A 30	GENERIC PANEL 6FT	2100	16.39	101.60	2.00	60.00	5226.14	0.00071	1000.00	0.00007
Unknown B 31	GENERIC PANEL 6FT	1900	15.84	101.60	2.00	60.00	4604.49	0.00001	1000.00	0.00000
Unknown B 32	GENERIC PANEL 6FT	600	12.33	101.60	2.00	60.00	2052.02	0.00002	400.00	0.00000
Unknown B 33	GENERIC PANEL 6FT	700	12.33	101.60	2.00	60.00	2052.02	0.00002	466.67	0.00000
Unknown B 33	GENERIC PANEL 6FT	2100	16.39	101.60	2.00	60.00	5226.14	0.00000	1000.00	0.00000
Unknown C 34	GENERIC PANEL 6FT	1900	15.84	101.60	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Unknown C 35	GENERIC PANEL 6FT	600	12.33	101.60	2.00	60.00	2052.02	0.00000	400.00	0.00000
Unknown C 36	GENERIC PANEL 6FT	700	12.33	101.60	2.00	60.00	2052.02	0.00000	466.67	0.00000
Unknown C 36	GENERIC PANEL 6FT	2100	16.39	101.60	2.00	60.00	5226.14	0.00000	1000.00	0.00000
							Cumulative Power Density:	**14.72506 µW/cm²**	**Cumulative % MPE:**	**1.47312%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at Ground that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

Michelle Stone

Michelle Stone
RF EME Technical Writer II
Centerline Communications, LLC

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**125 ft Self Support Tower**
ATC Site Name	:	**Cherry Hill-branford,CT**
ATC Site Number	:	**302536**
Engineering Number	:	**13759895_C3_03**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**MRCTB056493**
Carrier Site Number	:	**CTL02175**
Site Location	:	**4 Beaver Road** **Branford, CT 06405-3403** **41.2802, -72.8417**
County	:	**New Haven**
Date	:	**March 16, 2022**
Max Usage	:	**89%**
Result	:	**Pass**

Prepared By:

Zachary S. Blackford
Structural Engineer

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
16 Mar 2022 03:40:45 cosign

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 125 ft Self Support tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Rohn Eng. File # 30329PM, dated November 22, 1993
Foundation Drawing	Rohn Eng. File # 30329PM, dated November 11, 1993
Geotechnical Report	French & Parrello Job # 93N019C, dated June 4, 1993

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	121 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	Ss = 0.20, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
130.0	12	Decibel DB844H90E-XY	Sector Frame	(12) 7/8" Coax	SPRINT NEXTEL
113.0	1	Raycap DC6-48-60-18-8F ("Squid")	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (4) 0.78" (19.7mm) 8 AWG 6 (12) 7/8" Coax	AT&T MOBILITY
	1	Raycap DC6-48-60-0-8F			
	1	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 32 (50.8 lbs)			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 8843 B2, B66A			
	1	Commscope WCS-IMFQ-AMT			
	3	Ericsson RRUS 4478 B14			
100.0	3	RFS APXV18-206517S-C	Leg	(6) 1 5/8" Coax	METRO PCS INC
96.2	1	Generic 8' Omni	Side Arm	(1) 7/8" Coax	UNKNOWN

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
113.0	3	Powerwave Allgon 7770.00	-	(2) 2" conduit (1) 0.39" (10mm) Fiber Trunk (2) 0.74" (18.7mm) 8 AWG 7 (1) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	6	Kathrein Scala 80010964			
	6	Powerwave Allgon LGP21401			
	3	Andrew SBNHH-1D65A (33.5 lbs)			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
113.0	3	Ericsson AIR 6419 B77G	Sector Frame	(2) 0.78" (19.7mm) 8 AWG 6	AT&T MOBILITY
	3	Ericsson AIR 6449 B77D/ C-Band			
	3	CCI DMP65R-BU8D			
	6	CCI TPA65R-BU8D			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing AT&T MOBILITY lines.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	76%	Pass
Diagonals	89%	Pass
Horizontals	9%	Pass
Anchor Bolts	64%	Pass
Leg Bolts	74%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	154.8	209.0	147.0	70%
Download (kips)	169.1	228.3	163.4	72%
Shear (Kips)	18.3	24.7	18.2	74%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
113.0	CCI DMP65R-BU8D	AT&T MOBILITY	0.338	0.006	0.349
	CCI TPA65R-BU8D				
	Ericsson AIR 6419 B77G				
	Ericsson AIR 6449 B77D/ C-Band				

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

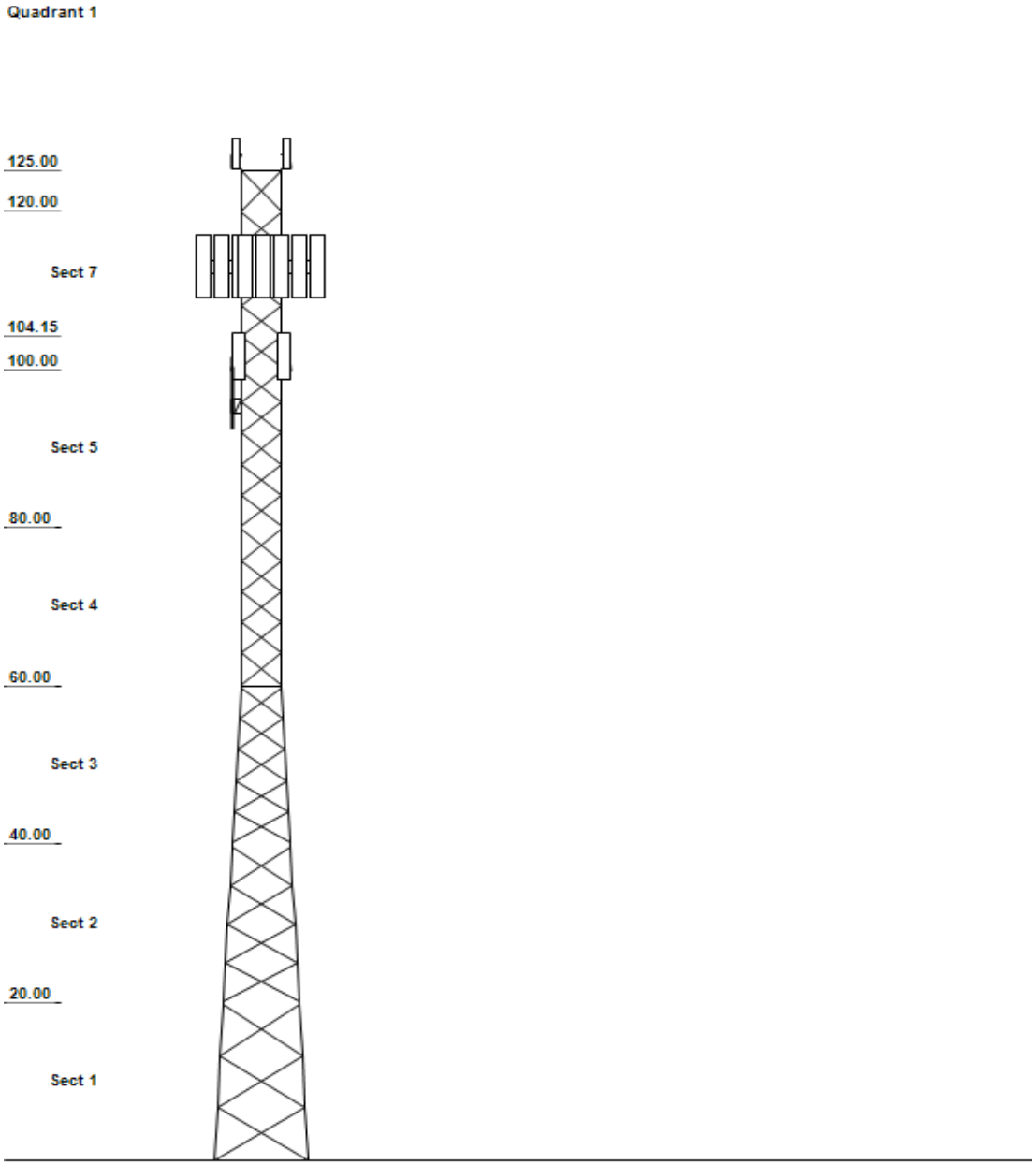
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset:	302536, Cherry Hill-branford	Height :	125 ft
Client	AT&T MOBILITY	Base Width :	10.75 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle



SITE PARAMETERS

Nominal Wind : 121 mph wind with no ice — Exposure : B — Site Class : D

Ice Wind: 50 mph wind with 1" radial — Topo Method: Method 1 — Risk Cat : II

Service Wind : 60 mph Serviceability — Topo Feature : — S_s : 0.201 — S_1 : 0.053

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	PSP 50 ksi ROHN 5 EH	SAE 36 ksi 1.75X1.75X0.125	
2	PSP 50 ksi ROHN 5 EH	SAE 36 ksi 1.5X1.5X0.1875	
3	PX 50 ksi 4" DIA PIPE	SAE 36 ksi 1.5X1.5X0.1875	SAE 36 ksi 1.5X1.5X0.125
4	PX 50 ksi 4" DIA PIPE	SAE 36 ksi 2X2X0.25	
5	PX 50 ksi 3" DIA PIPE	SAE 36 ksi 1.5X1.5X0.1875	
6 - 7	PST 50 ksi 2-1/2" DIA	SAE 36 ksi 1.5X1.5X0.1875	
8	PST 50 ksi 2-1/2" DIA	SAE 36 ksi 1.5X1.5X0.125	SAE 36 ksi 1.5X1.5X0.125

REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 8	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
127.10	PANEL	12	Decibel DB844H90E-XY
126.00	Sector Frame	3	Generic Flat Light Sector Fram
118.00	BOB/SSB	1	Raycap DC6-48-60-18-8F ("Squid
117.80	BOB/SSB	1	Raycap DC6-48-60-0-8F
117.70	BOB/SSB	1	Raycap DC6-48-60-18-8F
113.00	Filter	1	Commscope WCS-IMFQ-AMT
113.00	PANEL	3	Ericsson AIR 6449 B77D/ C-Band
113.00	PANEL	3	CCI DMP65R-BU8D
113.00	PANEL	3	Ericsson AIR 6419 B77G
113.00	PANEL	6	CCI TPA65R-BU8D
113.00	RRU/RRH	3	Ericsson RRUS 32 (50.8 lbs)
113.00	RRU/RRH	3	Ericsson RRUS 4478 B14
113.00	RRU/RRH	3	Ericsson RRUS 8843 B2, B66A
113.00	RRU/RRH	3	Ericsson RRUS 4449 B5, B12
113.00	Sector Frame	3	Flat Light Sector Frame with F
101.60	PANEL	3	RFS APXV18-206517S-C
96.20	OMNI	1	Generic 8' Omni
91.00	T-Arm	1	Side Arm

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description
0.00	127.00	12	7/8" Coax
10.00	125.00	1	Wave Guide
10.00	118.00	6	0.78" (19.7mm) 8 AWG 6
10.00	118.00	2	0.39" (10mm) Fiber Trunk
10.00	113.00	1	Wave Guide
0.00	113.00	12	7/8" Coax
10.00	106.00	6	1 5/8" Coax
10.00	100.00	1	Wave Guide

JOB INFORMATION

Asset:	302536, Cherry Hill-branford	Height :	125 ft
Client	AT&T MOBILITY	Base Width :	10.75 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description
0.00	96.00	1	7/8" Coax

GLOBAL BASE FOUNDATION DESIGN LOADS

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL+WL	1460.46	19.62	18.25
DL+WL+IL	455.93	44.41	6.02

INDIVIDUAL BASE FOUNDATION DESIGN LOADS

Vertical (kip)	Uplift (kip)	Horizontal (kip)
163.41	147.01	12.12

ANALYSIS PARAMETERS

Location:	New Haven County, CT	**Height:**	125 ft
Type and Shape:	Self Support, Triangle	**Base Elevation:**	0.00 ft
Manufacturer:	Rohn	**Bottom Face Width:**	10.75 ft
Kd	0.85	**Top Face Width:**	4.56 ft
Ke:	1.00	**Anchor Bolt Detail Type:**	c

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed Without Ice:**	121 mph
Risk Category:	II	**Design Wind Speed with Ice:**	50 mph
Topographic Factor Procedure:	Method 1	**Operational Windspeed:**	60 mph
Topographic Category:	Flat	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	90 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	1.11
T_L (sec):	6	**P:**	1.3	**$C_{s:}$**	0.030
$S_{s:}$	0.201	**$S_{1:}$**	0.053	**$C_{s,}$ Max:**	0.030
$F_{a:}$	1.600	**$F_{v:}$**	2.400	**$C_{s,}$ Min:**	0.030
$S_{ds:}$	0.214	**S_{d1}:**	0.085		

LOAD CASES

1.2D + 1.0W Normal Pattern 2	121 mph wind with no ice
1.2D + 1.0W Normal Pattern 1	121 mph wind with no ice
1.2D + 1.0W Normal Pattern 3	121 mph wind with no ice
1.2D + 1.0W 60° Pattern 2	121 mph wind with no ice
1.2D + 1.0W 60° Pattern 1	121 mph wind with no ice
1.2D + 1.0W 60° Pattern 3	121 mph wind with no ice
1.2D + 1.0W 90° Pattern 1	121 mph wind with no ice
1.2D + 1.0W 90° Pattern 2	121 mph wind with no ice
1.2D + 1.0W 90° Pattern 3	121 mph wind with no ice
0.9D + 1.0W Normal	121 mph wind with no ice
0.9D + 1.0W 60°	121 mph wind with no ice
0.9D + 1.0W 90°	121 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 60°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 90°	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 60°	Seismic
1.2D + 1.0Ev + 1.0Eh 90°	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 60°	Seismic (Reduced DL)
0.9D - 1.0Ev + 1.0Eh 90°	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 60°	60 mph Wind with No Ice
1.0D + 1.0W Service 90°	60 mph Wind with No Ice

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
127.1	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.80	0.73	0.0	0.00	33.61	724	202
126.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	33.52	769	1440
118.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	32.90	33	38
117.8	Raycap DC6-48-60-0-8F	1	33	1.4	1.9	11.0	11.0	0.80	1.00	0.0	0.00	32.89	30	39
117.7	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.00	32.88	28	24
113.0	Commscope WCS-IMFQ-AMT	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.00	32.50	22	35
113.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	32.50	54	259
113.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.00	32.50	61	216
113.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	32.50	65	256
113.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.00	32.50	89	183
113.0	Ericsson AIR 6419 B77G	3	66	3.8	2.4	16.1	7.9	0.80	0.65	0.0	0.00	32.50	164	238
113.0	Ericsson AIR 6449 B77D/ C-Band	3	82	4.0	2.5	15.9	10.6	0.80	0.70	0.0	0.00	32.50	187	294
113.0	Flat Light Sector Frame with F	3	400	13.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	32.50	566	1440
113.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	32.50	746	345
113.0	CCI TPA65R-BU8D	6	83	18.1	8.0	21.0	7.8	0.80	0.63	0.0	0.00	32.50	1511	594
101.6	RFS APXV18-206517S-C	3	26	5.2	6.0	6.8	3.2	1.00	0.68	0.0	0.00	31.52	282	95
96.2	Generic 8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.00	31.04	63	30
91.0	Side Arm	1	150	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	30.55	78	180
	Totals	54	4,923	373.9									5,473	5,907

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
127.1	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.80	0.73	0.0	0.00	33.61	724	202
126.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	33.52	769	1440
118.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	32.90	33	38
117.8	Raycap DC6-48-60-0-8F	1	33	1.4	1.9	11.0	11.0	0.80	1.00	0.0	0.00	32.89	30	39
117.7	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.00	32.88	28	24
113.0	Commscope WCS-IMFQ-AMT	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.00	32.50	22	35
113.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	32.50	54	259
113.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.00	32.50	61	216
113.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	32.50	65	256
113.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.00	32.50	89	183
113.0	Ericsson AIR 6419 B77G	3	66	3.8	2.4	16.1	7.9	0.80	0.65	0.0	0.00	32.50	164	238
113.0	Ericsson AIR 6449 B77D/ C-Band	3	82	4.0	2.5	15.9	10.6	0.80	0.70	0.0	0.00	32.50	187	294
113.0	Flat Light Sector Frame with F	3	400	13.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	32.50	566	1440
113.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	32.50	746	345
113.0	CCI TPA65R-BU8D	6	83	18.1	8.0	21.0	7.8	0.80	0.63	0.0	0.00	32.50	1511	594
101.6	RFS APXV18-206517S-C	3	26	5.2	6.0	6.8	3.2	1.00	0.68	0.0	0.00	31.52	282	95
96.2	Generic 8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.00	31.04	63	30
91.0	Side Arm	1	150	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	30.55	78	180
	Totals	54	4,923	373.9									5,473	5,907

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
127.1	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.80	0.73	0.0	0.00	33.61	724	202
126.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	33.52	769	1440
118.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	32.90	33	38
117.8	Raycap DC6-48-60-0-8F	1	33	1.4	1.9	11.0	11.0	0.80	1.00	0.0	0.00	32.89	30	39
117.7	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.00	32.88	28	24
113.0	Commscope WCS-IMFQ-AMT	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.00	32.50	22	35
113.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	32.50	54	259
113.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.00	32.50	61	216
113.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	32.50	65	256
113.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.00	32.50	89	183

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
113.0	Ericsson AIR 6419 B77G	3	66	3.8	2.4	16.1	7.9	0.80	0.65	0.0	0.00	32.50	164	238
113.0	Ericsson AIR 6449 B77D/ C-Band	3	82	4.0	2.5	15.9	10.6	0.80	0.70	0.0	0.00	32.50	187	294
113.0	Flat Light Sector Frame with F	3	400	13.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	32.50	566	1440
113.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	32.50	746	345
113.0	CCI TPA65R-BU8D	6	83	18.1	8.0	21.0	7.8	0.80	0.63	0.0	0.00	32.50	1511	594
101.6	RFS APXV18-206517S-C	3	26	5.2	6.0	6.8	3.2	1.00	0.68	0.0	0.00	31.52	282	95
96.2	Generic 8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.00	31.04	63	30
91.0	Side Arm	1	150	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	30.55	78	180
	Totals	54	4,923	373.9									5,473	5,907

TOWER LOADING

Discrete Appurtenance Properties 0.9D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
127.1	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.80	0.73	0.0	0.00	33.61	724	151
126.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	33.52	769	1080
118.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	32.90	33	29
117.8	Raycap DC6-48-60-0-8F	1	33	1.4	1.9	11.0	11.0	0.80	1.00	0.0	0.00	32.89	30	30
117.7	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.00	32.88	28	18
113.0	Commscope WCS-IMFQ-AMT	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.00	32.50	22	27
113.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	32.50	54	194
113.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.00	32.50	61	162
113.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	32.50	65	192
113.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.00	32.50	89	137
113.0	Ericsson AIR 6419 B77G	3	66	3.8	2.4	16.1	7.9	0.80	0.65	0.0	0.00	32.50	164	178
113.0	Ericsson AIR 6449 B77D/ C-Band	3	82	4.0	2.5	15.9	10.6	0.80	0.70	0.0	0.00	32.50	187	220
113.0	Flat Light Sector Frame with F	3	400	13.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	32.50	566	1080
113.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	32.50	746	258
113.0	CCI TPA65R-BU8D	6	83	18.1	8.0	21.0	7.8	0.80	0.63	0.0	0.00	32.50	1511	446
101.6	RFS APXV18-206517S-C	3	26	5.2	6.0	6.8	3.2	1.00	0.68	0.0	0.00	31.52	282	71
96.2	Generic 8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.00	31.04	63	22
91.0	Side Arm	1	150	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	30.55	78	135
	Totals	54	4,923	373.9									5,473	4,430

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
127.1	Decibel DB844H90E-XY	12	80	3.6	4.0	6.5	8.0	0.80	0.73	0.0	0.00	5.74	123	996
126.0	Generic Flat Light Sector Fram	3	597	27.8	0.0	0.0	0.0	0.75	0.67	0.0	0.00	5.72	204	2031
118.0	Raycap DC6-48-60-18-8F ("Squid	1	72	1.9	2.0	11.0	11.0	0.80	1.00	0.0	0.00	5.62	7	78
117.8	Raycap DC6-48-60-0-8F	1	71	1.8	1.9	11.0	11.0	0.80	1.00	0.0	0.00	5.62	7	77
117.7	Raycap DC6-48-60-18-8F	1	54	1.7	2.0	9.7	9.7	0.80	1.00	0.0	0.00	5.61	6	58
113.0	Commscope WCS-IMFQ-AMT	1	51	1.4	0.9	10.6	6.9	0.80	1.00	0.0	0.00	5.55	5	57
113.0	Ericsson RRUS 8843 B2, B66A	3	112	2.2	1.2	13.2	10.9	0.80	0.50	0.0	0.00	5.55	12	379
113.0	Ericsson RRUS 4478 B14	3	96	2.4	1.4	13.4	7.7	0.80	0.50	0.0	0.00	5.55	14	323
113.0	Ericsson RRUS 4449 B5, B12	3	113	2.6	1.5	13.2	9.4	0.80	0.50	0.0	0.00	5.55	15	381
113.0	Ericsson RRUS 32 (50.8 lbs)	3	97	3.4	2.2	12.1	6.7	0.80	0.50	0.0	0.00	5.55	19	322
113.0	Ericsson AIR 6419 B77G	3	129	4.7	2.4	16.1	7.9	0.80	0.65	0.0	0.00	5.55	34	427
113.0	Ericsson AIR 6449 B77D/ C-Band	3	157	4.9	2.5	15.9	10.6	0.80	0.70	0.0	0.00	5.55	39	520
113.0	Flat Light Sector Frame with F	3	595	21.0	0.0	0.0	0.0	0.75	0.67	0.0	0.00	5.55	150	2026
113.0	CCI DMP65R-BU8D	3	316	20.3	8.0	20.7	7.7	0.80	0.63	0.0	0.00	5.55	144	1006
113.0	CCI TPA65R-BU8D	6	306	20.5	8.0	21.0	7.8	0.80	0.63	0.0	0.00	5.55	292	1936
101.6	RFS APXV18-206517S-C	3	86	6.7	6.0	6.8	3.2	1.00	0.68	0.0	0.00	5.38	62	274
96.2	Generic 8' Omni	1	64	4.1	8.0	3.0	3.0	1.00	1.00	0.0	0.00	5.30	19	69
91.0	Side Arm	1	196	4.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.22	18	226
	Totals	54	10,202	469.0									1171	11,187

TOWER LOADING

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert E_{cc} (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
127.1	Decibel DB844H90E-XY	12	14	3.6	4.0	6.5	8.0	0.80	0.73	0.0	0.00	8.26	178	168
126.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	8.24	189	1200
118.0	Raycap DC6-48-60-18-8F ("Squid	1	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	8.09	8	32
117.8	Raycap DC6-48-60-0-8F	1	33	1.4	1.9	11.0	11.0	0.80	1.00	0.0	0.00	8.09	7	33
117.7	Raycap DC6-48-60-18-8F	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.00	8.08	7	20
113.0	Commscope WCS-IMFQ-AMT	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.00	7.99	5	30
113.0	Ericsson RRUS 8843 B2, B66A	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.00	7.99	13	216
113.0	Ericsson RRUS 4478 B14	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.00	7.99	15	180
113.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	7.99	16	213
113.0	Ericsson RRUS 32 (50.8 lbs)	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.00	7.99	22	152
113.0	Ericsson AIR 6419 B77G	3	66	3.8	2.4	16.1	7.9	0.80	0.65	0.0	0.00	7.99	40	198
113.0	Ericsson AIR 6449 B77D/ C-Band	3	82	4.0	2.5	15.9	10.6	0.80	0.70	0.0	0.00	7.99	46	245
113.0	Flat Light Sector Frame with F	3	400	13.6	0.0	0.0	0.0	0.75	0.67	0.0	0.00	7.99	139	1200
113.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	7.99	184	287
113.0	CCI TPA65R-BU8D	6	83	18.1	8.0	21.0	7.8	0.80	0.63	0.0	0.00	7.99	372	495
101.6	RFS APXV18-206517S-C	3	26	5.2	6.0	6.8	3.2	1.00	0.68	0.0	0.00	7.75	69	79
96.2	Generic 8' Omni	1	25	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.00	7.63	16	25
91.0	Side Arm	1	150	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.51	19	150
	Totals	54	4,923	373.9									1,346	4,923

TOWER LOADING

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K_a Override
10.0	125.0	Wave Guide	1	1.50	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
10.0	118.0	0.78" (19.7mm) 8 AWG 6	2	0.78	0.59	50	2	Block	0.00	N	1.00	1.00	0.01
10.0	118.0	0.78" (19.7mm) 8 AWG 6	4	0.78	0.59	50	2	Block	0.00	N	1.00	1.00	0.01
10.0	118.0	0.39" (10mm) Fiber Trunk	2	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.01
10.0	113.0	Wave Guide	1	1.50	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
10.0	106.0	1 5/8" Coax	6	1.98	0.82	100	3	Individual	0.00	N	1.00	1.00	0.00
10.0	100.0	Wave Guide	1	1.50	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	127.0	7/8" Coax	12	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	113.0	7/8" Coax	12	1.09	0.33	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	96.0	7/8" Coax	1	1.09	0.33	100	3	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal Pattern 1 Gust Response Factor (Gh): 0.85
121 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	1.00	1.00	0.0	3.55	9.32	0.00	244	0	263	124	387
7	112	32.42	5.776	7.595	0.00	0.175	2.68	1.00	1.00	0.0	10.11	27.11	0.00	1009	0	747	634	1381
6	102	31.57	1.448	1.988	0.00	0.171	2.70	1.00	1.00	0.0	2.58	6.96	0.00	307	0	187	275	461
5	90	30.45	7.213	11.667	0.00	0.191	2.62	1.00	1.00	0.0	13.90	36.48	0.00	1965	0	944	1351	2295
4	70	28.34	9.525	15.000	0.00	0.243	2.46	1.00	1.00	0.0	18.19	44.75	0.00	2614	0	1078	1264	2342
3	50	25.74	8.727	15.027	0.00	0.195	2.61	1.00	1.00	0.0	17.35	45.32	0.00	2386	0	992	1148	2139
2	30	22.25	8.703	18.364	0.00	0.165	2.72	1.00	1.00	0.0	18.66	50.70	0.00	2810	0	959	992	1951
1	10	22.23	9.898	18.364	0.00	0.138	2.81	1.00	1.00	0.0	19.00	53.49	0.00	2382	0	1011	804	1815
														13,716	0			12,771

1.2D + 1.0W Normal Pattern 2 Gust Response Factor (Gh): 0.85
121 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	1.00	1.00	0.0	3.55	9.32	0.00	244	0	263	124	387
7	112	32.42	5.776	7.595	0.00	0.175	2.68	1.00	1.00	0.0	10.11	27.11	0.00	1009	0	747	634	1381
6	102	31.57	1.448	1.988	0.00	0.171	2.70	1.00	1.00	0.0	2.58	6.96	0.00	307	0	187	275	461
5	90	30.45	7.213	11.667	0.00	0.191	2.62	1.00	1.00	0.0	13.90	36.48	0.00	1965	0	944	1351	2295
4	70	28.34	9.525	15.000	0.00	0.243	2.46	1.00	1.00	0.0	18.19	44.75	0.00	2614	0	1078	1264	2342
3	50	25.74	8.727	15.027	0.00	0.195	2.61	1.00	1.00	0.0	17.35	45.32	0.00	2386	0	992	1148	2139
2	30	22.25	8.703	18.364	0.00	0.165	2.72	1.00	1.00	0.0	18.66	50.70	0.00	2810	0	959	992	1951
1	10	22.23	9.898	18.364	0.00	0.138	2.81	1.00	1.00	0.0	19.19	54.00	0.00	2382	0	1020	804	1825
														13,716	0			12,781

1.2D + 1.0W Normal Pattern 3 Gust Response Factor (Gh): 0.85
121 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	1.00	1.00	0.0	3.55	9.32	0.00	244	0	263	124	387
7	112	32.42	5.776	7.595	0.00	0.175	2.68	1.00	1.00	0.0	10.11	27.11	0.00	1009	0	747	634	1381
6	102	31.57	1.448	1.988	0.00	0.171	2.70	1.00	1.00	0.0	2.58	6.96	0.00	307	0	187	275	461
5	90	30.45	7.213	11.667	0.00	0.191	2.62	1.00	1.00	0.0	13.90	36.48	0.00	1965	0	944	1351	2295
4	70	28.34	9.525	15.000	0.00	0.243	2.46	1.00	1.00	0.0	18.19	44.75	0.00	2614	0	1078	1264	2342
3	50	25.74	8.727	15.027	0.00	0.195	2.61	1.00	1.00	0.0	17.35	45.32	0.00	2386	0	992	1148	2139
2	30	22.25	8.703	18.364	0.00	0.165	2.72	1.00	1.00	0.0	18.66	50.70	0.00	2810	0	959	992	1951
1	10	22.23	9.898	18.364	0.00	0.138	2.81	1.00	1.00	0.0	19.19	54.00	0.00	2382	0	1020	804	1825
														13,716	0			12,781

1.2D + 1.0W 60° Pattern 1 Gust Response Factor (Gh): 0.85
121 mph wind with no ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.80	1.00	0.0	3.11	8.18	0.00	244	0	231	124	355
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.80	1.00	0.0	8.95	24.01	0.00	1009	0	662	634	1295
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.80	1.00	0.0	2.29	6.18	0.00	307	0	166	275	440
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.80	1.00	0.0	12.46	32.70	0.00	1965	0	846	1351	2197
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.80	1.00	0.0	16.29	40.06	0.00	2614	0	965	1264	2229
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.80	1.00	0.0	15.60	40.76	0.00	2386	0	892	1148	2040
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.80	1.00	0.0	16.92	45.97	0.00	2810	0	869	992	1861
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.80	1.00	0.0	17.21	48.43	0.00	2382	0	915	804	1720

SECTION FORCES

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
														13,716	0			12,137

1.2D + 1.0W 60° Pattern 2 — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.80	1.00	0.0	3.11	8.18	0.00	244	0	231	124	355
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.80	1.00	0.0	8.95	24.01	0.00	1009	0	662	634	1295
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.80	1.00	0.0	2.29	6.18	0.00	307	0	166	275	440
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.80	1.00	0.0	12.46	32.70	0.00	1965	0	846	1351	2197
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.80	1.00	0.0	16.29	40.06	0.00	2614	0	965	1264	2229
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.80	1.00	0.0	15.60	40.76	0.00	2386	0	892	1148	2040
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.80	1.00	0.0	16.92	45.97	0.00	2810	0	869	992	1861
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.80	1.00	0.0	17.21	48.43	0.00	2382	0	915	804	1720
														13,716	0			12,137

1.2D + 1.0W 60° Pattern 3 — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.80	1.00	0.0	3.11	8.18	0.00	244	0	231	124	355
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.80	1.00	0.0	8.95	24.01	0.00	1009	0	662	634	1295
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.80	1.00	0.0	2.29	6.18	0.00	307	0	166	275	440
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.80	1.00	0.0	12.46	32.70	0.00	1965	0	846	1351	2197
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.80	1.00	0.0	16.29	40.06	0.00	2614	0	965	1264	2229
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.80	1.00	0.0	15.60	40.76	0.00	2386	0	892	1148	2040
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.80	1.00	0.0	16.92	45.97	0.00	2810	0	869	992	1861
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.80	1.00	0.0	17.21	48.43	0.00	2382	0	915	804	1720
														13,716	0			12,137

1.2D + 1.0W 90° Pattern 1 — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.85	1.00	0.0	3.22	8.46	0.00	244	0	239	124	363
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.85	1.00	0.0	9.24	24.78	0.00	1009	0	683	634	1317
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.85	1.00	0.0	2.36	6.37	0.00	307	0	171	275	446
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.85	1.00	0.0	12.82	33.64	0.00	1965	0	871	1351	2222
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.85	1.00	0.0	16.76	41.23	0.00	2614	0	993	1264	2257
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.85	1.00	0.0	16.04	41.90	0.00	2386	0	917	1148	2065
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.85	1.00	0.0	17.35	47.16	0.00	2810	0	892	992	1884
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.85	1.00	0.0	17.70	49.82	0.00	2382	0	941	804	1746
														13,716	0			12,298

1.2D + 1.0W 90° Pattern 2 — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.85	1.00	0.0	3.22	8.46	0.00	244	0	239	124	363
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.85	1.00	0.0	9.24	24.78	0.00	1009	0	683	634	1317
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.85	1.00	0.0	2.36	6.37	0.00	307	0	171	275	446
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.85	1.00	0.0	12.82	33.64	0.00	1965	0	871	1351	2222
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.85	1.00	0.0	16.76	41.23	0.00	2614	0	993	1264	2257
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.85	1.00	0.0	16.04	41.90	0.00	2386	0	917	1148	2065
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.85	1.00	0.0	17.35	47.16	0.00	2810	0	892	992	1884

SECTION FORCES

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.85	1.00	0.0	17.70	49.82	0.00	2382	0	941	804	1746
														13,716	0			12,298

1.2D + 1.0W 90° Pattern 3 — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.85	1.00	0.0	3.22	8.46	0.00	244	0	239	124	363
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.85	1.00	0.0	9.24	24.78	0.00	1009	0	683	634	1317
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.85	1.00	0.0	2.36	6.37	0.00	307	0	171	275	446
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.85	1.00	0.0	12.82	33.64	0.00	1965	0	871	1351	2222
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.85	1.00	0.0	16.76	41.23	0.00	2614	0	993	1264	2257
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.85	1.00	0.0	16.04	41.90	0.00	2386	0	917	1148	2065
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.85	1.00	0.0	17.35	47.16	0.00	2810	0	892	992	1884
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.85	1.00	0.0	17.70	49.82	0.00	2382	0	941	804	1746
														13,716	0			12,298

0.9D + 1.0W Normal — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	1.00	1.00	0.0	3.55	9.32	0.00	183	0	263	124	387
7	112	32.42	5.776	7.595	0.00	0.175	2.68	1.00	1.00	0.0	10.11	27.11	0.00	757	0	747	634	1381
6	102	31.57	1.448	1.988	0.00	0.171	2.70	1.00	1.00	0.0	2.58	6.96	0.00	230	0	187	275	461
5	90	30.45	7.213	11.667	0.00	0.191	2.62	1.00	1.00	0.0	13.90	36.48	0.00	1474	0	944	1351	2295
4	70	28.34	9.525	15.000	0.00	0.243	2.46	1.00	1.00	0.0	18.19	44.75	0.00	1960	0	1078	1264	2342
3	50	25.74	8.727	15.027	0.00	0.195	2.61	1.00	1.00	0.0	17.35	45.32	0.00	1789	0	992	1148	2139
2	30	22.25	8.703	18.364	0.00	0.165	2.72	1.00	1.00	0.0	18.66	50.70	0.00	2107	0	959	992	1951
1	10	22.23	9.898	18.364	0.00	0.138	2.81	1.00	1.00	0.0	19.19	54.00	0.00	1786	0	1020	804	1825
														10,287	0			12,781

0.9D + 1.0W 60° — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.80	1.00	0.0	3.11	8.18	0.00	183	0	231	124	355
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.80	1.00	0.0	8.95	24.01	0.00	757	0	662	634	1295
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.80	1.00	0.0	2.29	6.18	0.00	230	0	166	275	440
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.80	1.00	0.0	12.46	32.70	0.00	1474	0	846	1351	2197
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.80	1.00	0.0	16.29	40.06	0.00	1960	0	965	1264	2229
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.80	1.00	0.0	15.60	40.76	0.00	1789	0	892	1148	2040
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.80	1.00	0.0	16.92	45.97	0.00	2107	0	869	992	1861
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.80	1.00	0.0	17.21	48.43	0.00	1786	0	915	804	1720
														10,287	0			12,137

0.9D + 1.0W 90° — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	33.25	2.173	2.396	0.00	0.190	2.63	0.85	1.00	0.0	3.22	8.46	0.00	183	0	239	124	363
7	112	32.42	5.776	7.595	0.00	0.175	2.68	0.85	1.00	0.0	9.24	24.78	0.00	757	0	683	634	1317
6	102	31.57	1.448	1.988	0.00	0.171	2.70	0.85	1.00	0.0	2.36	6.37	0.00	230	0	171	275	446
5	90	30.45	7.213	11.667	0.00	0.191	2.62	0.85	1.00	0.0	12.82	33.64	0.00	1474	0	871	1351	2222
4	70	28.34	9.525	15.000	0.00	0.243	2.46	0.85	1.00	0.0	16.76	41.23	0.00	1960	0	993	1264	2257
3	50	25.74	8.727	15.027	0.00	0.195	2.61	0.85	1.00	0.0	16.04	41.90	0.00	1789	0	917	1148	2065

SECTION FORCES

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
2	30	22.25	8.703	18.364	0.00	0.165	2.72	0.85	1.00	0.0	17.35	47.16	0.00	2107	0	892	992	1884
1	10	22.23	9.898	18.364	0.00	0.138	2.81	0.85	1.00	0.0	17.70	49.82	0.00	1786	0	941	804	1746
														10,287	0			12,298

1.2D + 1.0Di + 1.0Wi Normal — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph wind with 1" radial ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	5.68	2.173	7.736	5.34	0.397	2.07	1.00	1.00	1.1	7.08	14.66	5.34	732	488	71	64	135
7	112	5.54	5.776	22.628	15.03	0.358	2.15	1.00	1.00	1.1	19.78	42.60	15.03	3046	2037	200	343	544
6	102	5.39	1.448	5.788	3.80	0.347	2.18	1.00	1.00	1.1	5.01	10.91	3.80	1001	695	50	140	190
5	90	5.20	7.213	30.206	18.54	0.366	2.14	1.00	1.00	1.1	26.00	55.54	18.54	5449	3484	245	664	909
4	70	4.84	9.525	33.130	18.13	0.408	2.05	1.00	1.00	1.1	30.71	62.93	18.13	6224	3610	259	571	830
3	50	4.40	8.727	34.835	19.81	0.348	2.18	1.00	1.00	1.0	30.16	65.64	19.81	5815	3429	245	559	804
2	30	3.80	8.703	37.078	18.71	0.273	2.37	1.00	1.00	1.0	30.62	72.55	18.71	6074	3265	234	522	756
1	10	3.80	9.898	34.735	16.37	0.216	2.55	1.00	1.00	0.9	29.95	76.23	16.37	4882	2500	246	445	691
														33,223	19,507			4,860

1.2D + 1.0Di + 1.0Wi 60° — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph wind with 1" radial ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	5.68	2.173	7.736	5.34	0.397	2.07	0.80	1.00	1.1	6.65	13.77	5.34	732	488	66	64	131
7	112	5.54	5.776	22.628	15.03	0.358	2.15	0.80	1.00	1.1	18.63	40.11	15.03	3046	2037	189	343	532
6	102	5.39	1.448	5.788	3.80	0.347	2.18	0.80	1.00	1.1	4.72	10.28	3.80	1001	695	47	140	187
5	90	5.20	7.213	30.206	18.54	0.366	2.14	0.80	1.00	1.1	24.56	52.46	18.54	5449	3484	232	664	896
4	70	4.84	9.525	33.130	18.13	0.408	2.05	0.80	1.00	1.1	28.81	59.03	18.13	6224	3610	243	571	814
3	50	4.40	8.727	34.835	19.81	0.348	2.18	0.80	1.00	1.0	28.41	61.84	19.81	5815	3429	231	559	790
2	30	3.80	8.703	37.078	18.71	0.273	2.37	0.80	1.00	1.0	28.88	68.42	18.71	6074	3265	221	522	743
1	10	3.80	9.898	34.735	16.37	0.216	2.55	0.80	1.00	0.9	27.97	71.19	16.37	4882	2500	230	445	675
														33,223	19,507			4,767

1.2D + 1.0Di + 1.0Wi 90° — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00
50 mph wind with 1" radial ice — Wind Importance Factor (Iw): 1.00 — Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	5.68	2.173	7.736	5.34	0.397	2.07	0.85	1.00	1.1	6.76	13.99	5.34	732	488	68	64	132
7	112	5.54	5.776	22.628	15.03	0.358	2.15	0.85	1.00	1.1	18.92	40.74	15.03	3046	2037	192	343	535
6	102	5.39	1.448	5.788	3.80	0.347	2.18	0.85	1.00	1.1	4.79	10.44	3.80	1001	695	48	140	188
5	90	5.20	7.213	30.206	18.54	0.366	2.14	0.85	1.00	1.1	24.92	53.23	18.54	5449	3484	235	664	899
4	70	4.84	9.525	33.130	18.13	0.408	2.05	0.85	1.00	1.1	29.29	60.01	18.13	6224	3610	247	571	818
3	50	4.40	8.727	34.835	19.81	0.348	2.18	0.85	1.00	1.0	28.85	62.79	19.81	5815	3429	235	559	794
2	30	3.80	8.703	37.078	18.71	0.273	2.37	0.85	1.00	1.0	29.31	69.45	18.71	6074	3265	224	522	746
1	10	3.80	9.898	34.735	16.37	0.216	2.55	0.85	1.00	0.9	28.47	72.45	16.37	4882	2500	234	445	679
														33,223	19,507			4,790

1.0D + 1.0W Service Normal — Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	8.18	2.173	2.396	0.00	0.190	2.63	1.00	1.00	0.0	3.55	9.32	0.00	203	0	65	30	95
7	112	7.97	5.776	7.595	0.00	0.175	2.68	1.00	1.00	0.0	10.11	27.11	0.00	841	0	184	156	339
6	102	7.76	1.448	1.988	0.00	0.171	2.70	1.00	1.00	0.0	2.58	6.96	0.00	255	0	46	68	113
5	90	7.49	7.213	11.667	0.00	0.191	2.62	1.00	1.00	0.0	13.90	36.48	0.00	1638	0	232	332	564
4	70	6.97	9.525	15.000	0.00	0.243	2.46	1.00	1.00	0.0	18.27	44.94	0.00	2178	0	266	311	577

SECTION FORCES

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
3	50	6.33	8.727	15.027	0.00	0.195	2.61	1.00	1.00	0.0	17.35	45.32	0.00	1988	0	244	282	526
2	30	5.47	8.703	18.364	0.00	0.165	2.72	1.00	1.00	0.0	19.16	52.06	0.00	2341	0	242	244	486
1	10	5.47	9.898	18.364	0.00	0.138	2.81	1.00	1.00	0.0	20.30	57.14	0.00	1985	0	265	198	463
														11,430	0			3,165

1.0D + 1.0W Service 60° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	8.18	2.173	2.396	0.00	0.190	2.63	0.80	1.00	0.0	3.11	8.18	0.00	203	0	57	30	87
7	112	7.97	5.776	7.595	0.00	0.175	2.68	0.80	1.00	0.0	8.95	24.01	0.00	841	0	163	156	318
6	102	7.76	1.448	1.988	0.00	0.171	2.70	0.80	1.00	0.0	2.29	6.18	0.00	255	0	41	68	108
5	90	7.49	7.213	11.667	0.00	0.191	2.62	0.80	1.00	0.0	12.46	32.70	0.00	1638	0	208	332	540
4	70	6.97	9.525	15.000	0.00	0.243	2.46	0.80	1.00	0.0	16.37	40.26	0.00	2178	0	238	311	549
3	50	6.33	8.727	15.027	0.00	0.195	2.61	0.80	1.00	0.0	15.60	40.76	0.00	1988	0	219	282	502
2	30	5.47	8.703	18.364	0.00	0.165	2.72	0.80	1.00	0.0	17.42	47.33	0.00	2341	0	220	244	464
1	10	5.47	9.898	18.364	0.00	0.138	2.81	0.80	1.00	0.0	18.32	51.56	0.00	1985	0	240	198	437
														11,430	0			3,006

1.0D + 1.0W Service 90° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
8	122	8.18	2.173	2.396	0.00	0.190	2.63	0.85	1.00	0.0	3.22	8.46	0.00	203	0	59	30	89
7	112	7.97	5.776	7.595	0.00	0.175	2.68	0.85	1.00	0.0	9.24	24.78	0.00	841	0	168	156	324
6	102	7.76	1.448	1.988	0.00	0.171	2.70	0.85	1.00	0.0	2.36	6.37	0.00	255	0	42	68	110
5	90	7.49	7.213	11.667	0.00	0.191	2.62	0.85	1.00	0.0	12.82	33.64	0.00	1638	0	214	332	546
4	70	6.97	9.525	15.000	0.00	0.243	2.46	0.85	1.00	0.0	16.84	41.43	0.00	2178	0	245	311	556
3	50	6.33	8.727	15.027	0.00	0.195	2.61	0.85	1.00	0.0	16.04	41.90	0.00	1988	0	225	282	508
2	30	5.47	8.703	18.364	0.00	0.165	2.72	0.85	1.00	0.0	17.85	48.51	0.00	2341	0	226	244	469
1	10	5.47	9.898	18.364	0.00	0.138	2.81	0.85	1.00	0.0	18.82	52.96	0.00	1985	0	246	198	444
														11,430	0			3,046

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.21
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.08
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_S:	0.03
Lower Limit C_S:	0.03
Period based on Rayleigh Method (sec):	1.11
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.30
Total Unfactored Dead Load:	16.35 k
Seismic Base Shear (E):	0.64 k

SEISMIC

Load Case: 0.9D - 1.0Ev + 1.0Eh Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
8	122.50	203	107,854	0.023	15	174
7	112.08	841	396,995	0.084	54	721
6	102.08	255	106,763	0.023	14	219
5	90.00	1,638	580,661	0.123	78	1,404
4	70.00	2,178	556,424	0.118	75	1,867
3	50.00	1,988	327,441	0.069	44	1,704
2	30.00	2,341	197,995	0.042	27	2,007
1	10.00	1,985	40,032	0.008	5	1,701
Decibel DB844H90E-XY	125.00	168	91,444	0.019	12	144
Generic Flat Light Sector Frame	125.00	1,200	653,175	0.138	88	1,029
Raycap DC6-48-60-18-8F ("Squid")	118.00	32	16,055	0.003	2	27
Raycap DC6-48-60-0-8F	117.80	33	16,524	0.004	2	28
Raycap DC6-48-60-18-8F	117.70	20	10,064	0.002	1	17
Commscope WCS-IMFQ-AMT	113.00	30	14,076	0.003	2	25
Ericsson RRUS 8843 B2, B66A	113.00	216	103,066	0.022	14	185
Ericsson RRUS 4478 B14	113.00	180	85,745	0.018	12	154
Ericsson RRUS 4449 B5, B12	113.00	213	101,634	0.022	14	183
Ericsson RRUS 32 (50.8 lbs)	113.00	152	72,719	0.015	10	131
Ericsson AIR 6419 B77G	113.00	198	94,620	0.020	13	170
Ericsson AIR 6449 B77D/ C-Band	113.00	245	116,808	0.025	16	210
Flat Light Sector Frame with Face Horizontal Reinforcement	113.00	1,200	572,588	0.121	77	1,029
CCI DMP65R-BU8D	113.00	287	136,992	0.029	18	246
CCI TPA65R-BU8D	113.00	495	236,193	0.050	32	424
RFS APXV18-206517S-C	101.60	79	32,895	0.007	4	68
Generic 8' Omni	96.20	25	9,669	0.002	1	21
Side Arm	91.00	150	53,959	0.011	7	129
Totals		16,353	4,732,392	1.000	638	14,016

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
8	122.50	203	107,854	0.023	15	253
7	112.08	841	396,995	0.084	54	1,045
6	102.08	255	106,763	0.023	14	318
5	90.00	1,638	580,661	0.123	78	2,035
4	70.00	2,178	556,424	0.118	75	2,707
3	50.00	1,988	327,441	0.069	44	2,471
2	30.00	2,341	197,995	0.042	27	2,910
1	10.00	1,985	40,032	0.008	5	2,467
Decibel DB844H90E-XY	125.00	168	91,444	0.019	12	209
Generic Flat Light Sector Frame	125.00	1,200	653,175	0.138	88	1,491
Raycap DC6-48-60-18-8F ("Squid")	118.00	32	16,055	0.003	2	40
Raycap DC6-48-60-0-8F	117.80	33	16,524	0.004	2	41
Raycap DC6-48-60-18-8F	117.70	20	10,064	0.002	1	25
Commscope WCS-IMFQ-AMT	113.00	30	14,076	0.003	2	37
Ericsson RRUS 8843 B2, B66A	113.00	216	103,066	0.022	14	268
Ericsson RRUS 4478 B14	113.00	180	85,745	0.018	12	223
Ericsson RRUS 4449 B5, B12	113.00	213	101,634	0.022	14	265
Ericsson RRUS 32 (50.8 lbs)	113.00	152	72,719	0.015	10	189
Ericsson AIR 6419 B77G	113.00	198	94,620	0.020	13	246
Ericsson AIR 6449 B77D/ C-Band	113.00	245	116,808	0.025	16	304
Flat Light Sector Frame with Face Horizontal Reinforcement	113.00	1,200	572,588	0.121	77	1,491
CCI DMP65R-BU8D	113.00	287	136,992	0.029	18	357
CCI TPA65R-BU8D	113.00	495	236,193	0.050	32	615
RFS APXV18-206517S-C	101.60	79	32,895	0.007	4	98
Generic 8' Omni	96.20	25	9,669	0.002	1	31
Side Arm	91.00	150	53,959	0.011	7	186
Totals		16,353	4,732,392	1.000	638	20,324

FORCE/STRESS SUMMARY

Section 1 – Base 0.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PSP - ROHN 5 EH	-161.54	1.2D + 1.0W N Pattern 1	6.594	100	100	100	43.01	50.0	240.17	0.00	0.00	0	0	67	Member X
D SAE - 1.75X1.75X0.125	-1.75	1.2D + 1.0W N Pattern 1	12.317	48	48	48	204.46	36.0	2.88	8.84	6.96	1	1	60	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PSP - ROHN 5 EH	146.30	1.2D + 1.0W 60° Pattern 1	50.0	65	274.95	0.00	0.00		0	0	53	Member
D SAE - 1.75X1.75X0.125	1.60	0.9D + 1.0W 90°	36.0	58	11.41	8.84	4.13	3.81	1	1	42	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	138.49	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	147.51	0.9D + 1.0W 60°	227.15	42	4	1" A354-BC
Bot Compression	163.71	1.2D + 1.0W N Pattern 2	264.10	64	0	

Section 2 – Base 20.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PSP - ROHN 5 EH	-151.56	1.2D + 1.0W N Pattern 1	4.883	100	100	100	31.85	50.0	255.30	0.00	0.00	0	0	59	Member X
D SAE - 1.5X1.5X0.1875	-1.44	1.2D + 1.0W 90° Pattern	9.784	50	50	50	200.34	36.0	3.78	8.84	10.44	1	1	38	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PSP - ROHN 5 EH	137.60	1.2D + 1.0W 60° Pattern 1	50.0	65	274.95	0.00	0.00		0	0	50	Member
D SAE - 1.5X1.5X0.1875	1.34	1.2D + 1.0W 90° Pattern 1	36.0	58	13.85	8.84	6.20	4.69	1	1	28	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	129.48	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	138.49	0.9D + 1.0W 60°	218.07	64	4	1 A325

Section 3 – Base 40.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PX - 4" DIA PIPE	-141.01	1.2D + 1.0W N Pattern 1	3.907	100	100	100	31.68	50.0	184.41	0.00	0.00	0	0	76	Member X
H SAE - 1.5X1.5X0.125	-0.27	1.2D + 1.0W N Pattern 1	4.677	100	100	100	189.62	36.0	2.87	8.84	6.96	1	1	9	Member Z
D SAE - 1.5X1.5X0.1875	-1.46	1.2D + 1.0W 90° Pattern	6.268	50	50	50	128.35	36.0	9.21	8.84	10.44	1	1	16	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PX - 4" DIA PIPE	129.59	0.9D + 1.0W 60°	50.0	65	198.45	0.00	0.00		0	0	65	Member
H SAE - 1.5X1.5X0.125	0.20	1.2D + 1.0W 60° Pattern 1	36.0	58	9.45	8.84	4.13	3.13	1	1	6	Blk Shear
D SAE - 1.5X1.5X0.1875	1.38	0.9D + 1.0W 90°	36.0	58	13.85	8.84	6.20	4.69	1	1	29	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	123.08	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	129.48	0.9D + 1.0W 60°	218.07	59	4	1 A325

Section 4 – Base 60.0 (ft) and Height 20.00 (ft)

FORCE/STRESS SUMMARY

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PX - 4" DIA PIPE	-126.16	1.2D + 1.0W N Pattern 1	3.9	100	100	100	31.62	50.0	184.46	0.00	0.00	0	0	68	Member X
D SAE - 2X2X0.25	-5.68	1.2D + 1.0W N Pattern 1	6.09	50	50	50	100.09	36.0	23.18	8.84	13.92	1	1	64	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PX - 4" DIA PIPE	122.59	1.2D + 1.0W 60° Pattern 1	50.0	65	198.45	0.00	0.00		0	0	61	Member
D SAE - 2X2X0.25	5.28	1.2D + 1.0W 60° Pattern 1	36.0	58	26.08	8.84	8.26	8.97	1	1	63	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	68.77	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	123.08	0.9D + 1.0W 60°	166.22	74	4	0.875" A325

Section 5 – Base 80.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PX - 3" DIA PIPE	-71.18	1.2D + 1.0W N Pattern 1	3.9	100	100	100	41.05	50.0	120.14	0.00	0.00	0	0	59	Member X
D SAE - 1.5X1.5X0.1875	-4.27	1.2D + 1.0W 90° Pattern	6.084	50	50	50	124.58	36.0	9.77	8.84	10.44	1	1	48	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PX - 3" DIA PIPE	68.50	1.2D + 1.0W 60° Pattern 1	50.0	65	135.90	0.00	0.00		0	0	50	Member
D SAE - 1.5X1.5X0.1875	4.20	1.2D + 1.0W 90° Pattern 1	36.0	58	13.85	8.84	6.20	4.69	1	1	89	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	25.99	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	68.77	0.9D + 1.0W 60°	166.22	41	4	0.875" A325

Section 6 – Base 100.0 (ft) and Height 4.15 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-26.97	1.2D + 1.0W N Pattern 1	3.9	100	100	100	49.42	50.0	64.14	0.00	0.00	0	0	42	Member X
D SAE - 1.5X1.5X0.1875	-3.25	1.2D + 1.0W 90° Pattern	6.031	50	50	50	123.49	36.0	9.93	8.84	10.44	1	1	36	Bolt Shear

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	25.62	1.2D + 1.0W 60° Pattern 1	50.0	65	76.68	0.00	0.00		0	0	33	Member
D SAE - 1.5X1.5X0.1875	3.23	1.2D + 1.0W 90° Pattern 1	36.0	58	13.85	8.84	6.20	4.69	1	1	68	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	18.91	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	25.99	0.9D + 1.0W 60°	120.41	22	4	0.75" A325

Section 7 – Base 104.2 (ft) and Height 15.85 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-20.15	1.2D + 1.0W N Pattern 1	3.9	100	100	100	49.42	50.0	64.14	0.00	0.00	0	0	31	Member X
D SAE - 1.5X1.5X0.1875	-2.97	1.2D + 1.0W 90° Pattern	6.024	50	50	50	123.37	36.0	9.95	8.84	10.44	1	1	33	Bolt Shear

FORCE/STRESS SUMMARY

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	15.80	0.9D + 1.0W 60°	50.0	65	76.68	0.00	0.00		0	0	20	Member
D SAE - 1.5X1.5X0.1875	2.97	1.2D + 1.0W 90° Pattern 1	36.0	58	13.85	8.84	6.20	4.69	1	1	63	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Top Tension	1.94	0.9D + 1.0W 60°	0.00	0	0	
Bot Tension	18.91	0.9D + 1.0W 60°	0.00	0	0	

Section 8 – Base 120.0 (ft) and Height 5.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-1.67	1.2D + 1.0W N Pattern 1	5	100	100	100	63.36	50.0	57.18	0.00	0.00	0	0	2	Member X
H SAE - 1.5X1.5X0.125	-0.20	1.2D + 1.0W 60° Pattern	4.563	100	100	100	184.97	36.0	3.01	8.84	6.96	1	1	6	Member Z
D SAE - 1.5X1.5X0.125	-0.98	1.2D + 1.0W N Pattern 1	6.769	50	50	50	137.21	36.0	5.47	8.84	6.96	1	1	17	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	0.44	1.2D + 1.0W 60° Pattern 1	50.0	65	76.68	0.00	0.00		0	0	0	Member
H SAE - 1.5X1.5X0.125	0.21	1.2D + 1.0W N Pattern 1	36.0	58	9.45	8.84	4.13	3.13	1	1	6	Blk Shear
D SAE - 1.5X1.5X0.125	0.95	1.2D + 1.0W 60° Pattern 1	36.0	58	9.45	8.84	4.13	3.13	1	1	30	Blk Shear

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Bot Tension	1.94	0.9D + 1.0W 60°	81.36	2	4	5/8 A325

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
1.2D + 1.0W Normal Pattern 1	6.21	0.00	0	1	0.00	163.40	-12.12
	6.21	0.00	120	1a	4.57	-71.89	-3.06
	6.21	0.00	240	1b	-4.57	-71.89	-3.06
1.2D + 1.0W Normal Pattern 2	6.21	0.00	0	1	0.00	163.41	-12.12
	6.21	0.00	120	1a	4.57	-71.90	-3.07
	6.21	0.00	240	1b	-4.57	-71.90	-3.07
1.2D + 1.0W Normal Pattern 3	6.21	0.00	0	1	0.00	163.41	-12.12
	6.21	0.00	120	1a	4.57	-71.90	-3.07
	6.21	0.00	240	1b	-4.57	-71.90	-3.07
1.2D + 1.0W 60° Pattern 1	6.21	0.00	0	1	-0.31	82.74	-6.08
	6.21	0.00	120	1a	-5.41	82.66	2.78
	6.21	0.00	240	1b	-9.53	-145.78	-5.51
1.2D + 1.0W 60° Pattern 2	6.21	0.00	0	1	-0.31	82.74	-6.08
	6.21	0.00	120	1a	-5.41	82.66	2.78
	6.21	0.00	240	1b	-9.53	-145.78	-5.51
1.2D + 1.0W 60° Pattern 3	6.21	0.00	0	1	-0.31	82.74	-6.08
	6.21	0.00	120	1a	-5.41	82.66	2.78
	6.21	0.00	240	1b	-9.53	-145.78	-5.51
1.2D + 1.0W 90° Pattern 1	6.21	0.00	0	1	-0.39	6.60	-0.40
	6.21	0.00	120	1a	-9.00	139.38	5.01
	6.21	0.00	240	1b	-8.38	-126.35	-4.61
1.2D + 1.0W 90° Pattern 2	6.21	0.00	0	1	-0.39	6.60	-0.40
	6.21	0.00	120	1a	-9.00	139.38	5.01
	6.21	0.00	240	1b	-8.38	-126.35	-4.61
1.2D + 1.0W 90° Pattern 3	6.21	0.00	0	1	-0.39	6.60	-0.40
	6.21	0.00	120	1a	-9.00	139.38	5.01
	6.21	0.00	240	1b	-8.38	-126.35	-4.61
0.9D + 1.0W Normal	6.21	0.00	0	1	0.00	161.36	-12.01
	6.21	0.00	120	1a	4.65	-73.32	-3.12
	6.21	0.00	240	1b	-4.65	-73.32	-3.12
0.9D + 1.0W 60°	6.21	0.00	0	1	-0.32	80.90	-5.97
	6.21	0.00	120	1a	-5.32	80.83	2.72
	6.21	0.00	240	1b	-9.61	-147.01	-5.56
0.9D + 1.0W 90°	6.21	0.00	0	1	-0.40	4.95	-0.30
	6.21	0.00	120	1a	-8.91	137.41	4.95
	6.21	0.00	240	1b	-8.46	-127.64	-4.66
1.2D + 1.0Di + 1.0Wi Normal	6.21	0.00	0	1	0.00	63.78	-4.00
	6.21	0.00	120	1a	1.42	-9.68	-1.01
	6.21	0.00	240	1b	-1.42	-9.68	-1.01
1.2D + 1.0Di + 1.0Wi 60°	6.21	0.00	0	1	-0.16	39.00	-2.07
	6.21	0.00	120	1a	-1.87	38.90	0.90
	6.21	0.00	240	1b	-3.11	-33.49	-1.80
1.2D + 1.0Di + 1.0Wi 90°	6.21	0.00	0	1	-0.19	14.87	-0.19
	6.21	0.00	120	1a	-3.04	56.76	1.65
	6.21	0.00	240	1b	-2.73	-27.22	-1.47
1.2D + 1.0Ev + 1.0Eh Normal	6.21	0.00	0	1	0.00	13.20	-0.86
	6.21	0.00	120	1a	-0.19	3.36	0.13
	6.21	0.00	240	1b	0.19	3.36	0.13
1.2D + 1.0Ev + 1.0Eh 60°	6.21	0.00	0	1	0.01	9.92	-0.65
	6.21	0.00	120	1a	-0.56	9.92	0.34
	6.21	0.00	240	1b	0.02	0.08	0.01
1.2D + 1.0Ev + 1.0Eh 90°	6.21	0.00	0	1	0.02	6.64	-0.44
	6.21	0.00	120	1a	-0.69	12.32	0.41
	6.21	0.00	240	1b	0.07	0.96	0.03
0.9D - 1.0Ev + 1.0Eh Normal	6.21	0.00	0	1	0.00	11.12	-0.72
	6.21	0.00	120	1a	-0.08	1.31	0.06
	6.21	0.00	240	1b	0.08	1.31	0.06
0.9D - 1.0Ev + 1.0Eh 60°	6.21	0.00	0	1	0.01	7.85	-0.51
	6.21	0.00	120	1a	-0.44	7.85	0.27
	6.21	0.00	240	1b	-0.10	-1.96	-0.06
0.9D - 1.0Ev + 1.0Eh 90°	6.21	0.00	0	1	0.01	4.58	-0.30
	6.21	0.00	120	1a	-0.57	10.24	0.34
	6.21	0.00	240	1b	-0.05	-1.09	-0.04
1.0D + 1.0W Service Normal	6.21	0.00	0	1	0.00	43.71	-3.23
	6.21	0.00	120	1a	0.90	-13.68	-0.62
	6.21	0.00	240	1b	-0.90	-13.68	-0.62
1.0D + 1.0W Service 60°	6.21	0.00	0	1	-0.09	24.05	-1.75
	6.21	0.00	120	1a	-1.55	23.98	0.80

DETAILED REACTIONS

*(-) Uplift and (+) Down

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*Fx (kip)	*Fy (kip)	*Fz (kip)
	6.21	0.00	240	1b	-2.11	-31.68	-1.22
1.0D + 1.0W Service 90°	6.21	0.00	0	1	-0.10	5.49	-0.35
	6.21	0.00	120	1a	-2.43	37.80	1.35
	6.21	0.00	240	1b	-1.83	-26.94	-1.00

Max Uplift:	147.01 (kip)	Moment Ice:	455.93 (kip-ft)	Moment:	1460.46 (kip-ft)
Max Down:	163.41 (kip)	Total Down Ice:	44.41 (kip)	Total Down:	19.62 (kip)
Max Shear:	12.12 (kip)	Total Shear Ice:	6.02 (kip)	Total Shear:	18.25(kip)

1.2D + 1.0W Normal Pattern 3

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	91.95	0.9078	0.0000	1.2824	1.2824
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	95.85	0.9962	0.0293	1.3034	1.3037
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	100.25	1.0995	0.0285	1.4733	1.4733
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	111.95	1.3864	0.0294	1.4315	1.4318
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	115.85	1.4829	0.0294	1.4258	1.4258
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	119.75	1.5813	0.0294	1.4745	1.4745
1.2D + 1.0W Normal Pattern 2 121 mph wind with no ice	125.00	1.7136	0.0295	1.4326	1.4329
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	91.95	0.9078	0.0000	1.2824	1.2824
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	95.85	0.9962	0.0293	1.3034	1.3037
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	100.25	1.0995	0.0285	1.4733	1.4733
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	111.95	1.3864	0.0294	1.4315	1.4318
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	115.85	1.4829	0.0294	1.4258	1.4258
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	119.75	1.5813	0.0294	1.4745	1.4745
1.2D + 1.0W Normal Pattern 3 121 mph wind with no ice	125.00	1.7136	0.0295	1.4326	1.4329
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	91.95	0.9078	0.0000	1.2824	1.2824
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	95.85	0.9962	0.0293	1.3034	1.3037
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	100.25	1.0995	0.0285	1.4733	1.4733
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	111.95	1.3864	0.0294	1.4315	1.4318
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	115.85	1.4829	0.0294	1.4258	1.4258
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	119.75	1.5813	0.0294	1.4745	1.4745
1.2D + 1.0W Normal Pattern 1 121 mph wind with no ice	125.00	1.7136	0.0295	1.4326	1.4329
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	91.95	0.8852	-0.0312	1.2505	1.2509
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	95.85	0.9725	0.0312	1.2730	1.2734
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	100.25	1.0737	0.0323	1.4355	1.4355
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	111.95	1.3527	0.0318	1.3988	1.3988
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	115.85	1.4483	0.0319	1.3936	1.3936
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	119.75	1.5436	0.0322	1.4392	1.4392
1.2D + 1.0W 60° Pattern 3 121 mph wind with no ice	125.00	1.6732	0.0320	1.3990	1.399
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	91.95	0.8852	-0.0312	1.2505	1.2509
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	95.85	0.9725	0.0312	1.2730	1.2734
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	100.25	1.0737	0.0323	1.4355	1.4355
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	111.95	1.3527	0.0318	1.3988	1.3988
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	115.85	1.4483	0.0319	1.3936	1.3936
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	119.75	1.5436	0.0322	1.4392	1.4392
1.2D + 1.0W 60° Pattern 2 121 mph wind with no ice	125.00	1.6732	0.0320	1.3990	1.399
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	91.95	0.8852	-0.0312	1.2505	1.2509
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	95.85	0.9725	0.0312	1.2730	1.2734
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	100.25	1.0737	0.0323	1.4355	1.4355
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	111.95	1.3527	0.0318	1.3988	1.3988
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	115.85	1.4483	0.0319	1.3936	1.3936
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	119.75	1.5436	0.0322	1.4392	1.4392
1.2D + 1.0W 60° Pattern 1 121 mph wind with no ice	125.00	1.6732	0.0320	1.3990	1.399
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	91.95	0.8904	-0.0346	1.2560	1.2565
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	95.85	0.9774	-0.0346	1.2846	1.285
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	100.25	1.079	-0.0347	1.4294	1.4296
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	111.95	1.3606	-0.0349	1.4059	1.4062
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	115.85	1.4556	-0.0349	1.3998	1.3999
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	119.75	1.5519	-0.0351	1.4461	1.4462
1.2D + 1.0W 90° Pattern 1 121 mph wind with no ice	125.00	1.6818	-0.0350	1.4071	1.4075
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	91.95	0.8904	-0.0346	1.2560	1.2565
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	95.85	0.9774	-0.0346	1.2846	1.285
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	100.25	1.079	-0.0347	1.4294	1.4296
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	111.95	1.3606	-0.0349	1.4059	1.4062
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	115.85	1.4556	-0.0349	1.3998	1.3999
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	119.75	1.5519	-0.0351	1.4461	1.4462
1.2D + 1.0W 90° Pattern 2 121 mph wind with no ice	125.00	1.6818	-0.0350	1.4071	1.4075
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	91.95	0.8904	-0.0346	1.2560	1.2565
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	95.85	0.9774	-0.0346	1.2846	1.285
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	100.25	1.079	-0.0347	1.4294	1.4296
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	111.95	1.3606	-0.0349	1.4059	1.4062
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	115.85	1.4556	-0.0349	1.3998	1.3999
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	119.75	1.5519	-0.0351	1.4461	1.4462
1.2D + 1.0W 90° Pattern 3 121 mph wind with no ice	125.00	1.6818	-0.0350	1.4071	1.4075
0.9D + 1.0W Normal 121 mph wind with no ice	91.95	0.9041	0.0000	1.2763	1.2763

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D + 1.0W Normal 121 mph wind with no ice	95.85	0.9921	0.0292	1.2972	1.2975
0.9D + 1.0W Normal 121 mph wind with no ice	100.25	1.0949	0.0284	1.4658	1.4658
0.9D + 1.0W Normal 121 mph wind with no ice	111.95	1.3804	0.0293	1.4244	1.4247
0.9D + 1.0W Normal 121 mph wind with no ice	115.85	1.4765	0.0293	1.4189	1.4189
0.9D + 1.0W Normal 121 mph wind with no ice	119.75	1.5744	0.0293	1.4670	1.467
0.9D + 1.0W Normal 121 mph wind with no ice	125.00	1.7061	0.0294	1.4254	1.4257
0.9D + 1.0W 60° 121 mph wind with no ice	91.95	0.8817	-0.0311	1.2448	1.2451
0.9D + 1.0W 60° 121 mph wind with no ice	95.85	0.9686	0.0311	1.2671	1.2675
0.9D + 1.0W 60° 121 mph wind with no ice	100.25	1.0693	0.0322	1.4288	1.4288
0.9D + 1.0W 60° 121 mph wind with no ice	111.95	1.3471	0.0317	1.3919	1.3919
0.9D + 1.0W 60° 121 mph wind with no ice	115.85	1.4422	0.0318	1.3869	1.3869
0.9D + 1.0W 60° 121 mph wind with no ice	119.75	1.537	0.0320	1.4325	1.4325
0.9D + 1.0W 60° 121 mph wind with no ice	125.00	1.6659	0.0319	1.3921	1.3924
0.9D + 1.0W 90° 121 mph wind with no ice	91.95	0.8869	-0.0344	1.2503	1.2508
0.9D + 1.0W 90° 121 mph wind with no ice	95.85	0.9736	-0.0344	1.2787	1.2792
0.9D + 1.0W 90° 121 mph wind with no ice	100.25	1.0748	-0.0346	1.4226	1.4227
0.9D + 1.0W 90° 121 mph wind with no ice	111.95	1.355	-0.0347	1.3992	1.3996
0.9D + 1.0W 90° 121 mph wind with no ice	115.85	1.4495	-0.0348	1.3933	1.3934
0.9D + 1.0W 90° 121 mph wind with no ice	119.75	1.5455	-0.0349	1.4390	1.4392
0.9D + 1.0W 90° 121 mph wind with no ice	125.00	1.6747	-0.0349	1.4005	1.4009
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	91.95	0.2739	0.0000	0.3788	0.3788
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	95.85	0.3004	0.0087	0.3848	0.3849
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	100.25	0.3308	0.0086	0.4320	0.432
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	111.95	0.4147	0.0084	0.4196	0.4197
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	115.85	0.4431	0.0083	0.4175	0.4176
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	119.75	0.4718	0.0083	0.4320	0.432
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	125.00	0.5106	0.0082	0.4202	0.4203
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	91.95	0.2705	-0.0089	0.3732	0.3733
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	95.85	0.2969	0.0089	0.3794	0.3795
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	100.25	0.3269	0.0089	0.4230	0.423
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	111.95	0.4094	0.0086	0.4152	0.4152
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	115.85	0.4378	0.0085	0.4123	0.4123
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	119.75	0.4659	0.0085	0.4237	0.4238
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	125.00	0.5042	0.0084	0.4159	0.4159
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	91.95	0.2714	-0.0105	0.3738	0.3739
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	95.85	0.2975	-0.0104	0.3819	0.382
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	100.25	0.3276	-0.0104	0.4225	0.4225
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	111.95	0.4105	-0.0102	0.4158	0.4159
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	115.85	0.4388	-0.0101	0.4132	0.4132
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	119.75	0.467	-0.0101	0.4266	0.4266
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	125.00	0.5054	-0.0100	0.4166	0.4166
1.2D + 1.0Ev + 1.0Eh Normal Seismic	91.95	0.0419	0.0000	0.0621	0.0621
1.2D + 1.0Ev + 1.0Eh Normal Seismic	95.85	0.0461	0.0008	0.0635	0.0635
1.2D + 1.0Ev + 1.0Eh Normal Seismic	100.25	0.0512	0.0008	0.0730	0.073
1.2D + 1.0Ev + 1.0Eh Normal Seismic	111.95	0.0654	0.0007	0.0717	0.0717
1.2D + 1.0Ev + 1.0Eh Normal Seismic	115.85	0.0702	0.0007	0.0723	0.0723
1.2D + 1.0Ev + 1.0Eh Normal Seismic	119.75	0.0752	0.0006	0.0755	0.0755
1.2D + 1.0Ev + 1.0Eh Normal Seismic	125.00	0.0818	0.0006	0.0726	0.0726
1.2D + 1.0Ev + 1.0Eh 60° Seismic	91.95	0.0418	-0.0009	0.0619	0.0619
1.2D + 1.0Ev + 1.0Eh 60° Seismic	95.85	0.0461	0.0008	0.0634	0.0634
1.2D + 1.0Ev + 1.0Eh 60° Seismic	100.25	0.0511	0.0008	0.0715	0.0715
1.2D + 1.0Ev + 1.0Eh 60° Seismic	111.95	0.0653	0.0007	0.0719	0.0719
1.2D + 1.0Ev + 1.0Eh 60° Seismic	115.85	0.0702	0.0007	0.0720	0.072
1.2D + 1.0Ev + 1.0Eh 60° Seismic	119.75	0.0752	0.0007	0.0746	0.0746
1.2D + 1.0Ev + 1.0Eh 60° Seismic	125.00	0.0818	0.0007	0.0728	0.0728
1.2D + 1.0Ev + 1.0Eh 90° Seismic	91.95	0.0417	-0.0010	0.0619	0.0619
1.2D + 1.0Ev + 1.0Eh 90° Seismic	95.85	0.0461	-0.0010	0.0637	0.0637
1.2D + 1.0Ev + 1.0Eh 90° Seismic	100.25	0.0512	-0.0009	0.0720	0.072
1.2D + 1.0Ev + 1.0Eh 90° Seismic	111.95	0.0654	-0.0008	0.0718	0.0719
1.2D + 1.0Ev + 1.0Eh 90° Seismic	115.85	0.0702	-0.0008	0.0723	0.0723
1.2D + 1.0Ev + 1.0Eh 90° Seismic	119.75	0.0752	-0.0007	0.0752	0.0752
1.2D + 1.0Ev + 1.0Eh 90° Seismic	125.00	0.0818	-0.0007	0.0728	0.0728
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	91.95	0.0416	0.0000	0.0617	0.0617
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	95.85	0.0459	0.0008	0.0632	0.0632
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	100.25	0.0509	0.0008	0.0724	0.0724
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	111.95	0.065	0.0007	0.0713	0.0713
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	115.85	0.0699	0.0007	0.0718	0.0718
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	119.75	0.0748	0.0006	0.0749	0.0749

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
0.9D - 1.0Ev + 1.0Eh Normal Seismic (Reduced DL)	125.00	0.0814	0.0006	0.0720	0.072
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	91.95	0.0416	-0.0008	0.0616	0.0616
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	95.85	0.0458	0.0008	0.0631	0.0631
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	100.25	0.0509	0.0008	0.0713	0.0713
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	111.95	0.065	0.0007	0.0714	0.0714
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	115.85	0.0698	0.0007	0.0716	0.0716
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	119.75	0.0748	0.0007	0.0743	0.0743
0.9D - 1.0Ev + 1.0Eh 60° Seismic (Reduced DL)	125.00	0.0814	0.0007	0.0720	0.072
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	91.95	0.0415	-0.0010	0.0616	0.0616
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	95.85	0.0459	-0.0009	0.0634	0.0634
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	100.25	0.0509	-0.0009	0.0714	0.0714
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	111.95	0.065	-0.0008	0.0714	0.0714
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	115.85	0.0699	-0.0008	0.0719	0.0719
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	119.75	0.0748	-0.0007	0.0746	0.0746
0.9D - 1.0Ev + 1.0Eh 90° Seismic (Reduced DL)	125.00	0.0814	-0.0007	0.0720	0.072
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	91.95	0.2213	0.0000	0.3124	0.3124
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	95.85	0.2428	0.0061	0.3176	0.3177
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	100.25	0.2681	0.0059	0.3590	0.359
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	111.95	0.3377	0.0056	0.3490	0.3491
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	115.85	0.3613	0.0055	0.3473	0.3473
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	119.75	0.3852	0.0055	0.3597	0.3597
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	125.00	0.4175	0.0054	0.3495	0.3495
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	91.95	0.2154	-0.0061	0.3040	0.3041
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	95.85	0.2364	0.0060	0.3095	0.3096
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	100.25	0.261	0.0060	0.3488	0.3488
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	111.95	0.3291	0.0056	0.3407	0.3407
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	115.85	0.3521	0.0055	0.3389	0.3389
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	119.75	0.3754	0.0055	0.3493	0.3493
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	125.00	0.4068	0.0055	0.3411	0.3411
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	91.95	0.2165	-0.0070	0.3052	0.3053
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	95.85	0.2375	-0.0069	0.3121	0.3122
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	100.25	0.2622	-0.0068	0.3475	0.3476
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	111.95	0.3308	-0.0064	0.3422	0.3422
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	115.85	0.3537	-0.0063	0.3402	0.3402
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	119.75	0.3773	-0.0062	0.3518	0.3519
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	125.00	0.4088	-0.0062	0.3426	0.3426

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

telamon
Tower Engineering PLLC

Antenna Mount Analysis Report

ATC Site Name	:	**Cherry Hill-Branford**
ATC Asset Number	:	**302536**
Engineering Number	:	**13759895_C8_04**
Mount Elevation	:	**113 ft**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB056493**
Carrier Site Number	:	**CTL02175**
Site Location	:	**4 Beaver Road** **Branford, CT 06405-3403** **41.28015, -72.84173333**
County	:	**New Haven**
Date	:	**March 24, 2022**
Max Usage	:	**66%**
Result	:	**Contingent Pass*** ***See conclusion for requirements**

Prepared By:
Anudeep Meruva
Telamon Tower Engineering, PLLC

Reviewed By:
William Holt, P.E.
Telamon Tower Engineering, PLLC

Digitally signed by William Holt
Date: 2022.03.25 10:34:13 -04'00'

STATE OF CONNECTICUT
WILLIAM HOLT
PEN.35568
LICENSED PROFESSIONAL ENGINEER

William Holt, PE
Director of Engineering
License No. 35568 Expires: 01/31/2023

Table of Contents

Introduction

The proposed equipment is to be mounted to the proposed (3) Site Pro 1 VFA12-H10-2120 Sector Frames. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

Supporting Documents

Structural Data	Site Photos, dated October 03, 2021 Site Pro 1 Assembly Drawings, Part #VFA12-H10-2120, Rev A, dated July 02, 2018 Site Pro 1 Part #SCX7-U, dated October 07, 2010
Previous Analyses	Tower SA by Tower Engineering Professionals for ATC, Eng. Number: OAA744361_C3_02, dated March 14, 2019
Loading Data	ATC Application, Project #13759895, dated March 18, 2022 AT&T RFDS, RFDS ID:4821354, Version 3.00, dated February 24, 2022

Analysis

Codes	TIA-222-H
Basic Wind Speed	121 mph, V_{ult} (3-Second Gust)
Basic Wind Speed w/ Ice	50 mph (3-Second Gust) w/ 1" Radial Ice (Escalating)
Exposure Category	B
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Risk Category	II
Maintenance Live Load	L_M: 500 lb
Spectral Response	S_s: 0.20; S_1: 0.05; Site Class: D

Conclusion

Due to customer antenna spacing/separation requirements, the existing mount cannot support the equipment as described in this report and must be replaced with the mount listed below. Based on the analysis results, the proposed mount meets the requirements, per the applicable codes listed above, and can support the equipment as described in this report. Analysis is based on new Site Pro 1 VFA12-H10-2120 Sector Frame Mount.

- **Replace existing Sector Frames with new (3) Site Pro 1 VFA12-H10-2120 (ANT.16962) Sector frame at 113 ft elevation.**
- **Install (4) Site Pro 1 P2120 Mount Pipes at each sector (12 total). Connect to face horizontal members using Site Pro 1 SCX2 crossover plate kits (24 total) included in the VFA12-H10-2120 kit.**
- **Install (2) Site Pro 1 P272 Mount Pipes at each sector (6 total). Connect to standoff horizontal members using Site Pro 1 SCX7-U (ANT.16985) crossover plate kits (12 total).**
- **Install (1) stiff arm provided in the standard proposed sector frame kit, at each proposed sector frame mount (3 total). Connect to adjacent tower leg with (1) Site Pro 1 X-SPTB tie back plate provided with the kit in each sector (3 total).**
- **All mount pipes are to be installed as shown in following sketches.**
- **Install existing and proposed antennas such that they are vertically centered on the mounts. Install existing and proposed RRH's at the standoff horizontal member.**

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

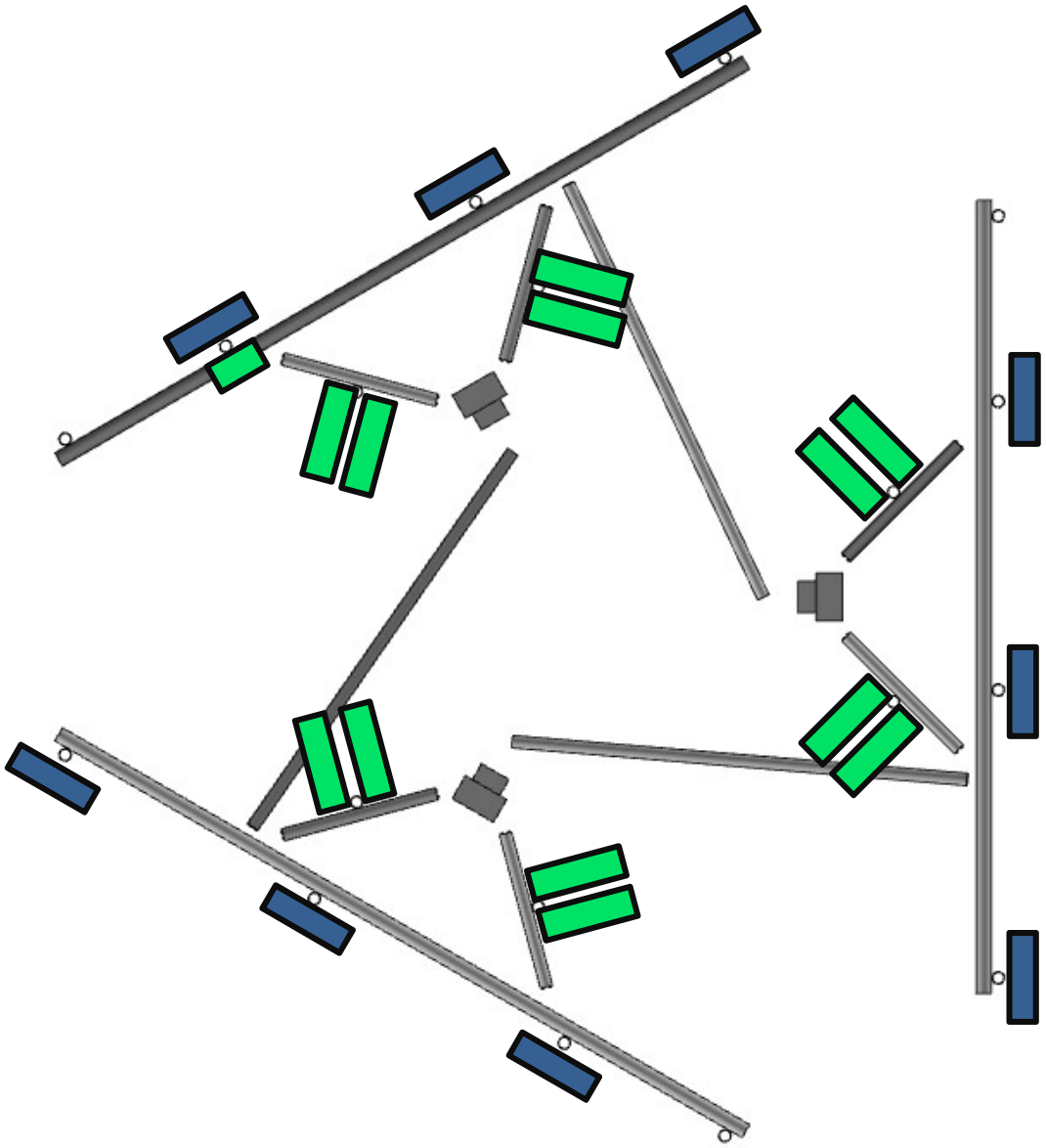
Antenna Loading

Elevation (ft)		Antennas	
Mount	**Rad.**	**#**	**Name**
113.0	113.0	3	CCI TPA65R-BU8D
		3	CCI DMP65R-BU8D
		3	Ericsson AIR 6449 B77D / C-Band
		3	Ericsson AIR 6419 B77G
		3	Ericsson RRUS 32
		3	Ericsson RRUS 4449 B5, B12
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 8843 B2, B66A
		1	Commscope WCS-IMFQ-AMT
		2	Raycap DC6-48-60-18-8F
		1	Raycap DC6-48-60-0-8F

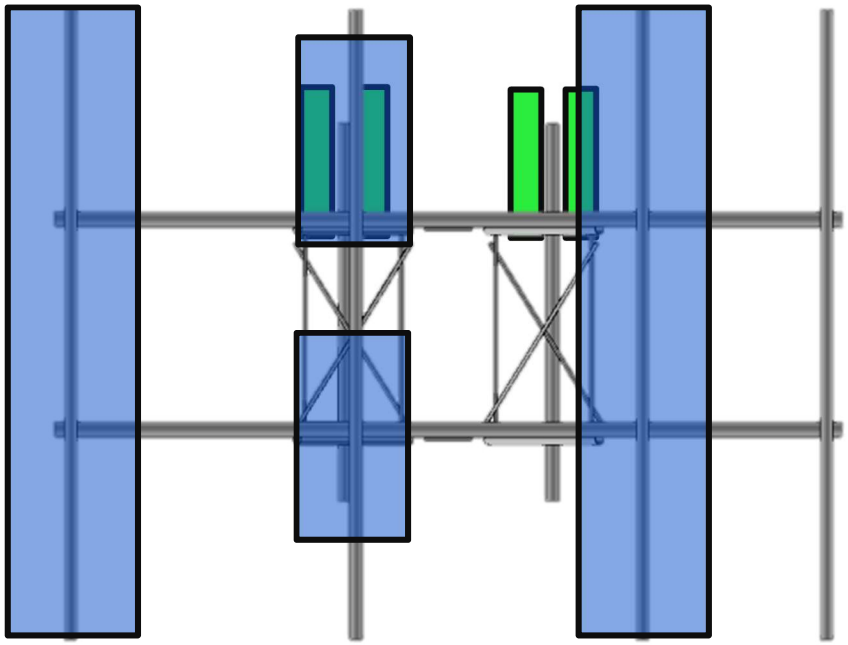
Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Mount Pipes	66%	Pass
Face Horizontals	44%	Pass
Stand-Off Horizontals	39%	Pass
Bracing Members	37%	Pass
Stiff Arms	12%	Pass

Equipment Layout Plan View



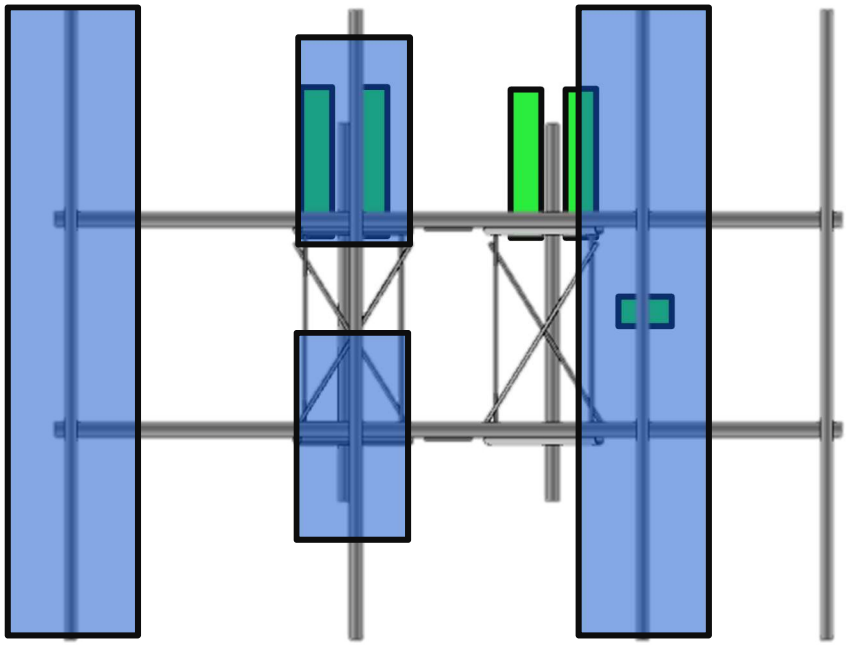
Equipment Layout Front Elevation View at Alpha & Beta Sector



P4 P3 P2 P1

Total #	Equipment	Mount Pipe Position
3	CCI TPA65R-BU8D	P2
3	CCI DMP65R-BU8D	P4
3	Ericsson AIR 6449 B77D / C-Band	P3
3	Ericsson AIR 6419 B77G	P3
3	Ericsson RRUS 32	Stand-off
3	Ericsson RRUS 4449 B5, B12	Stand-off
3	Ericsson RRUS 4478 B14	Stand-off
3	Ericsson RRUS 8843 B2, B66A	Stand-off
1	Commscope WCS-IMFQ-AMT	P2 (Gamma)
2	Raycap DC6-48-60-18-8F	Tower Leg
1	Raycap DC6-48-60-0-8F	Tower Leg

Equipment Layout Front Elevation View at Gamma Sector



Standard Conditions

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, Telamon Tower Engineering, PLLC should be notified immediately to revise results.

This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.
7. Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

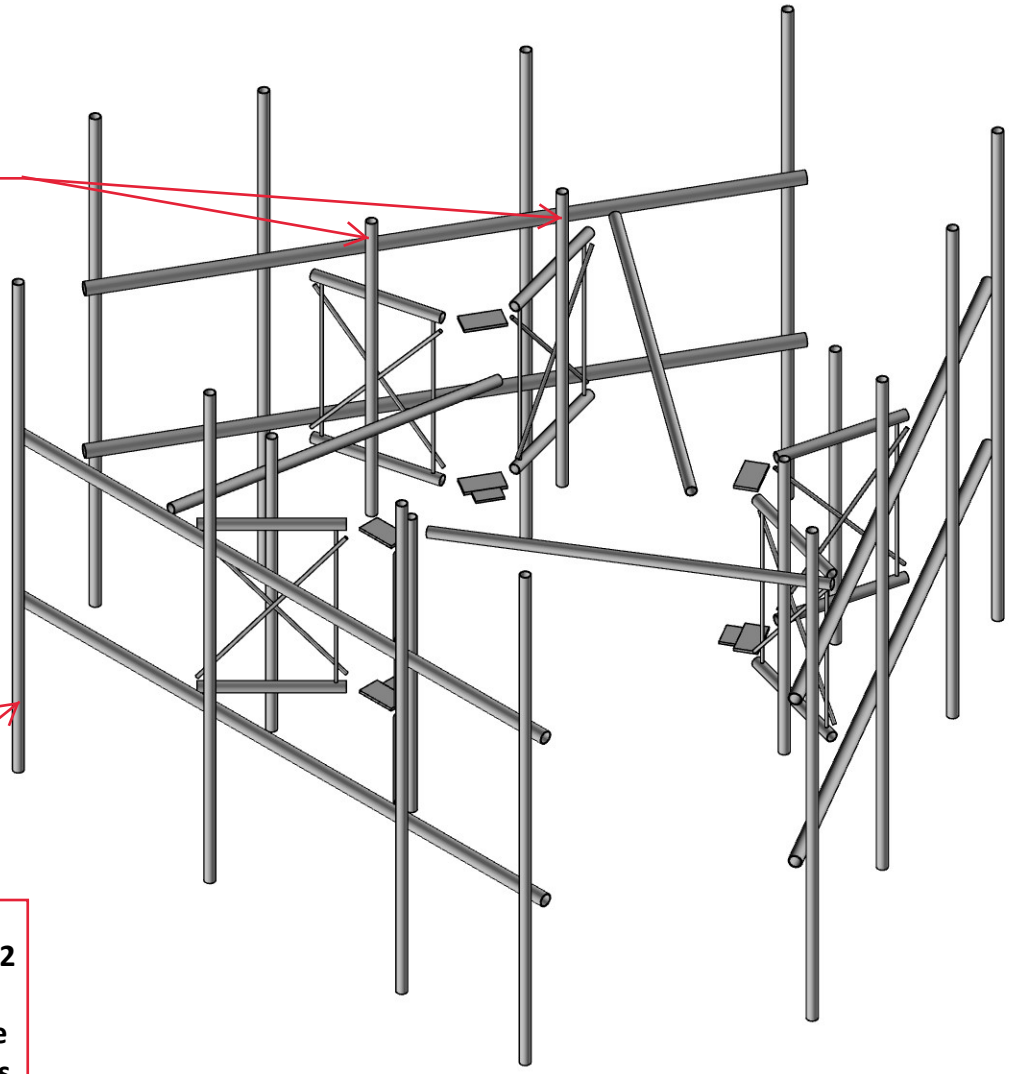
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from Telamon Tower Engineering, PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. Telamon Tower Engineering, PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by Telamon Tower Engineering, PLLC verifies the adequacy of the primary members of the structure. Telamon Tower Engineering, PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.

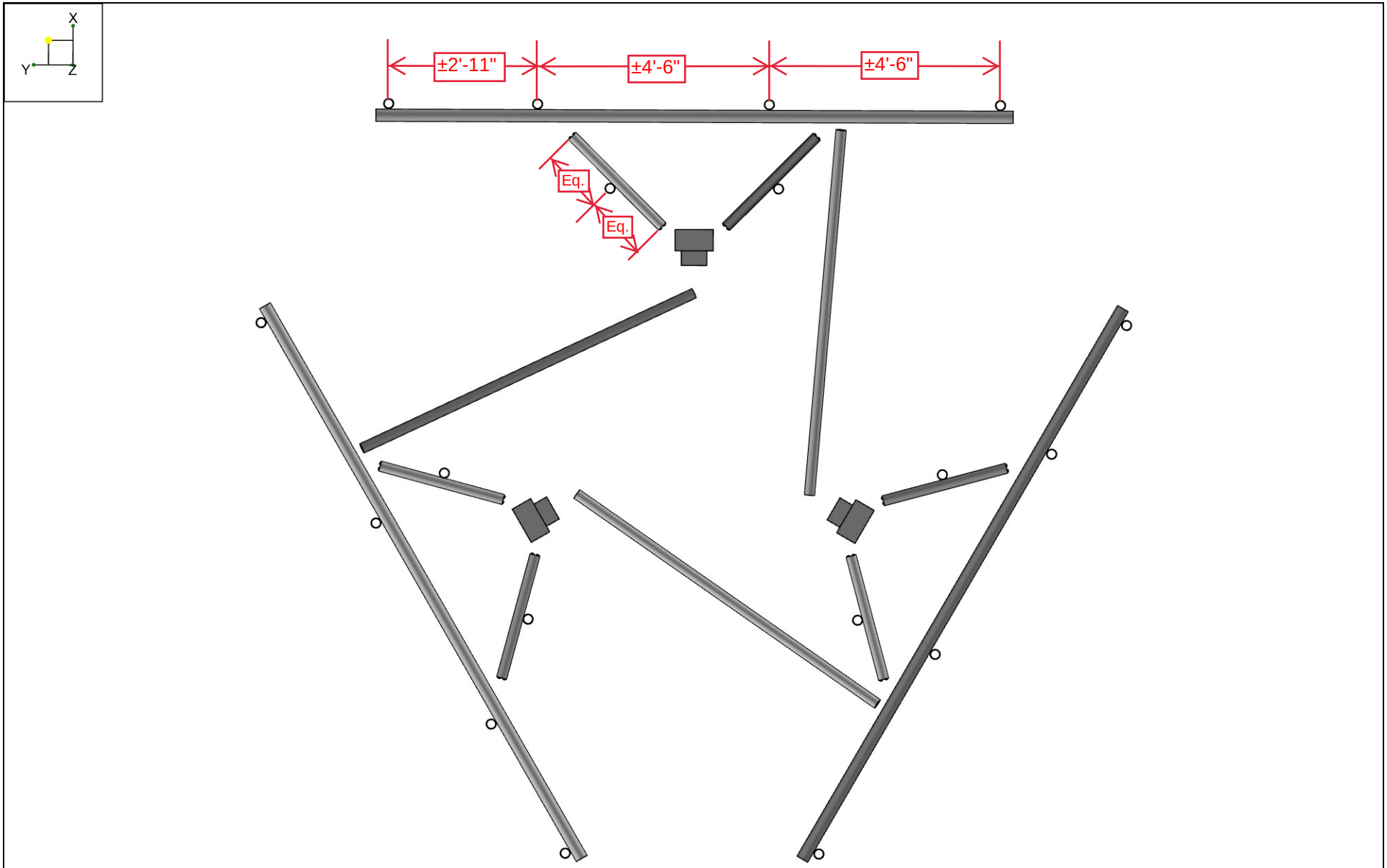
Replace existing Sector Frames with new (3) Site Pro 1 VFA12-H10-2120 (ANT.16962) Sector frame at 113 ft elevation.

Install (2) Site Pro 1 P272 Mount Pipes at each sector (6 total). Connect to standoff horizontal members using Site Pro 1 SCX7-U (ANT.16985) crossover plate kits (12 total).

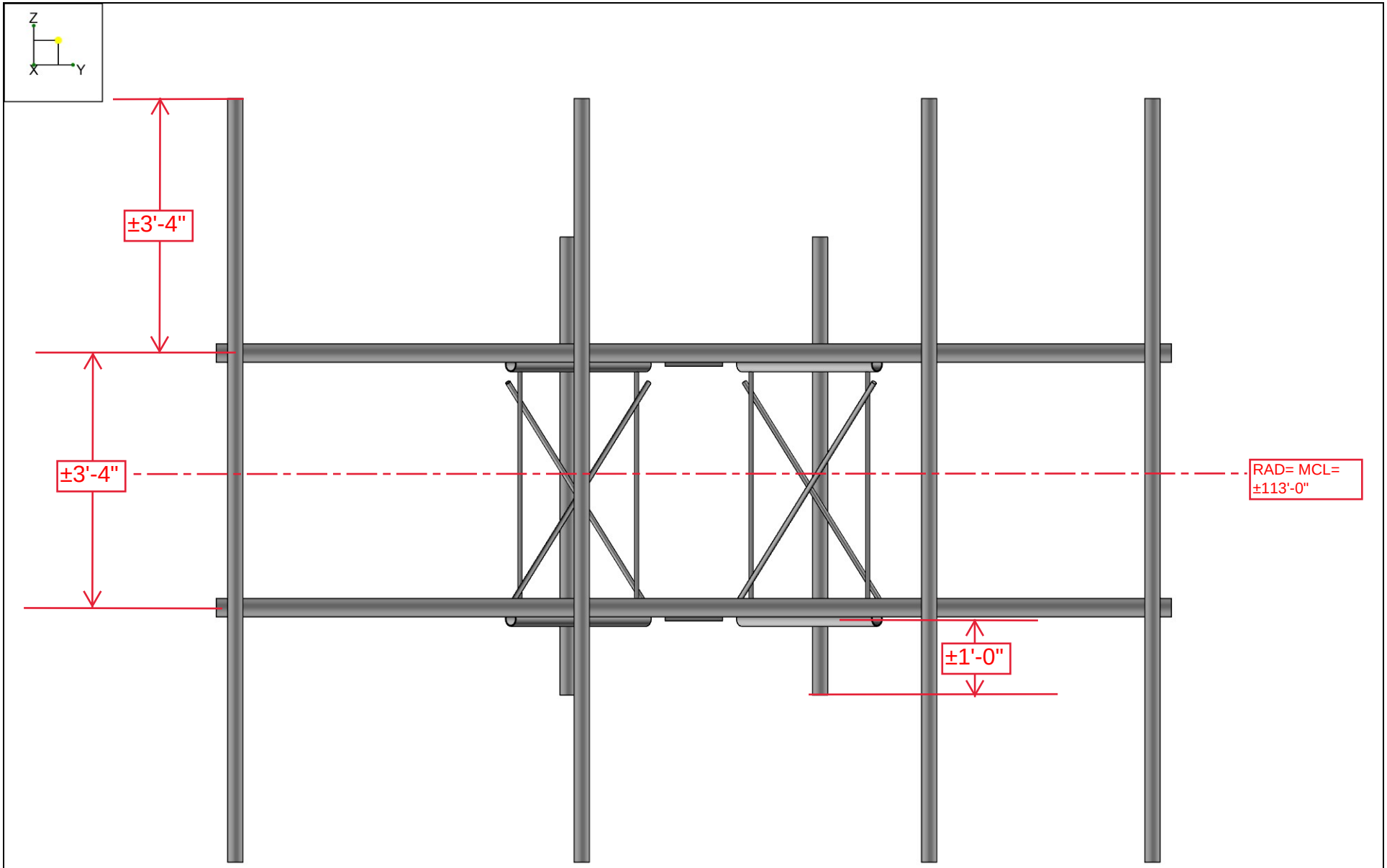


Install (4) Site Pro 1 P2120 Mount Pipes at each sector (12 total). Connect to face horizontal members using Site Pro 1 SCX2 crossover plate kits (24 total) included in the VFA12-H10-2120 kit.

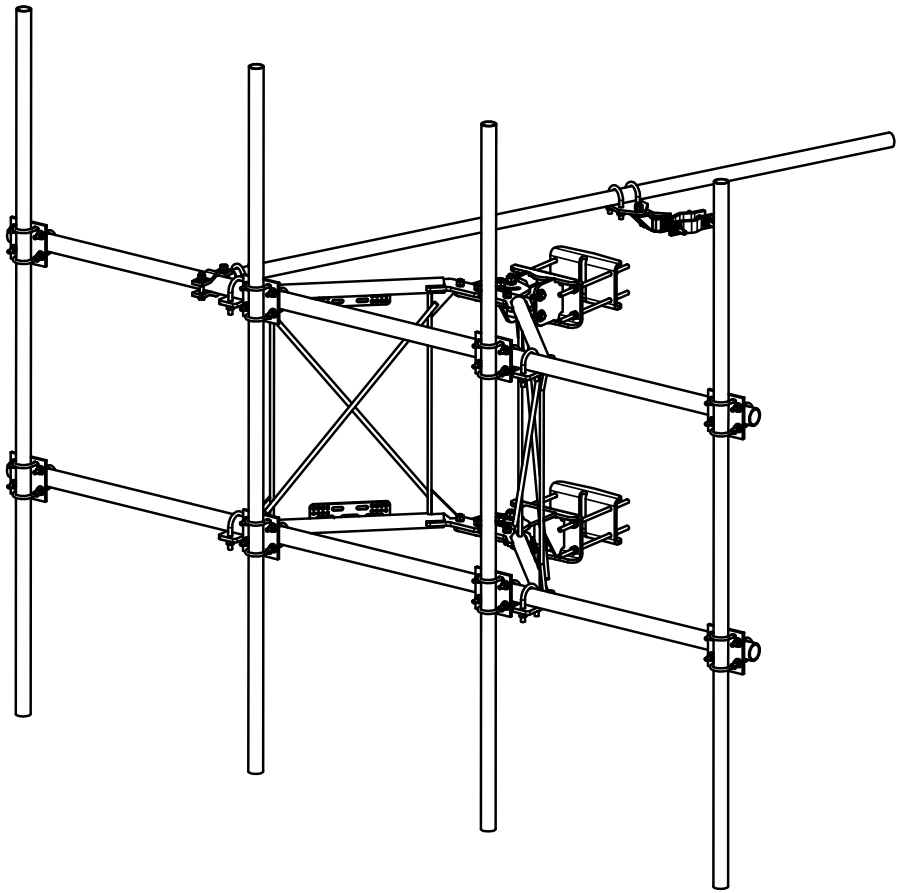
Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	IN-1
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Proposed Modifications - Rendered	302536_13759895_C8_04_AT&T MOBILITY.r3d



Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	IN-2
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Proposed Modifications - Plan View	302536_13759895_C8_04_AT&T MOBILITY.r3d



Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	IN-3
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Proposed Modifications - Front View	302536_13759895_C8_04_AT&T MOBILITY.r3d



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
5	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
6	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
7	2	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	11.74
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	2	X-TBCA	TIE BACK CLIP ANGLE		2.01	4.01
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	2	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	7.19
12	4	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	9.45
13	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
14	1	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	40.75
15	4	P2120	2-3/8" x 120" (2" SCH. 40) GALAVANIZED PIPE	120 in	38.81	155.25
16	4	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
17	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
18	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
19	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
20	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)	18 in	0.40	3.19
21	2	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	2.09
22	2	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	1.39
23	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
24	4	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
25	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
26	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
27	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
28	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	2	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	0.54
30	15	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.06
31	50	G58LW	5/8" HDG LOCKWASHER		0.03	1.30
32	53	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	6.88
33	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
34	16	X-UB1212	1/2" X 2" X 3" X 1-1/4" U-BOLT (HDG.)		0.60	9.56
35	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.18
36	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.89
37	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
					TOTAL WT. #	773.39

TOLERANCE NOTES

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ALL OTHER ASSEMBLY *(± 0.060")*

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	7/2/2018

REVISION HISTORY

DESCRIPTION: 12' 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 1 STIFF ARM & MOUNT PIPES

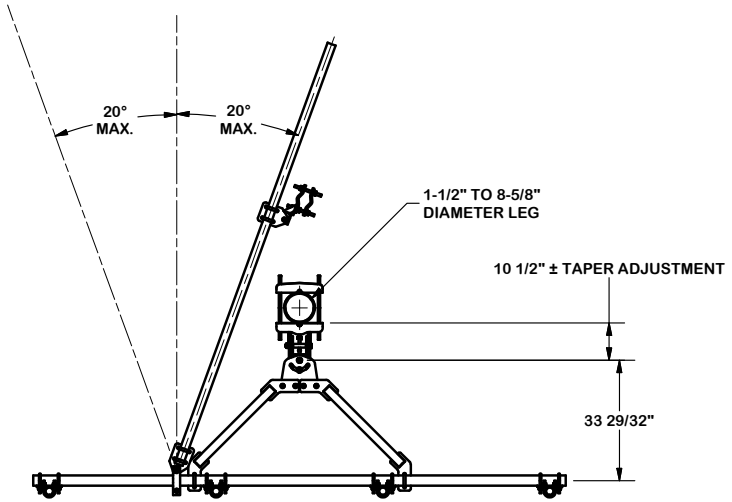
SITE PRO 1 — A valmont COMPANY

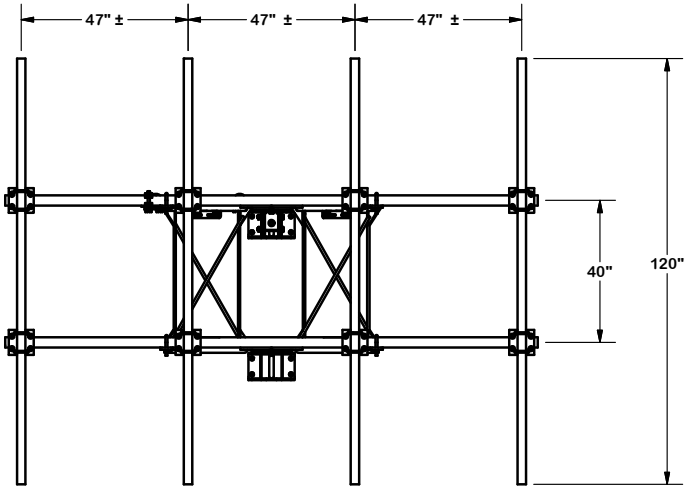
Engineering Support Team: 1-888-753-7446

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL 7/3/2017		VFA12-H10-2120

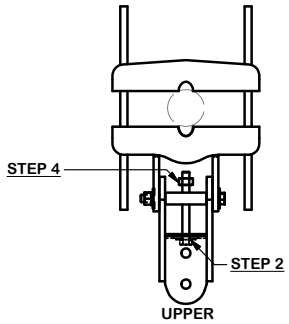
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 5/3/2018	VFA12-H10-2120

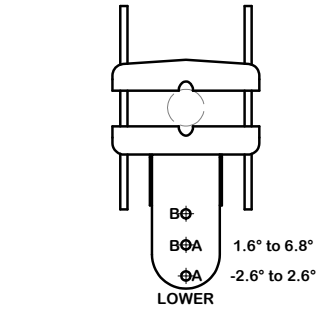


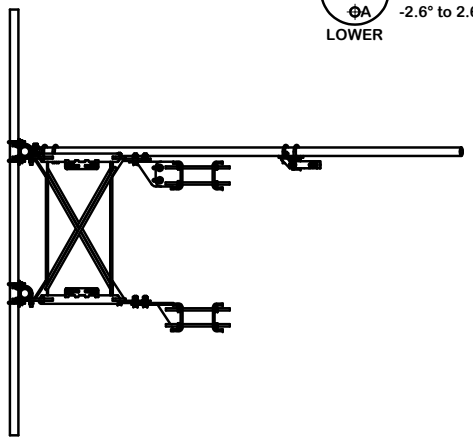


ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
   - HOLE A = -2.6° TO 2.6°
   - HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.







REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	7/2/2018

REVISION HISTORY

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DESCRIPTION: 12' 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 1 STIFF ARM & MOUNT PIPES

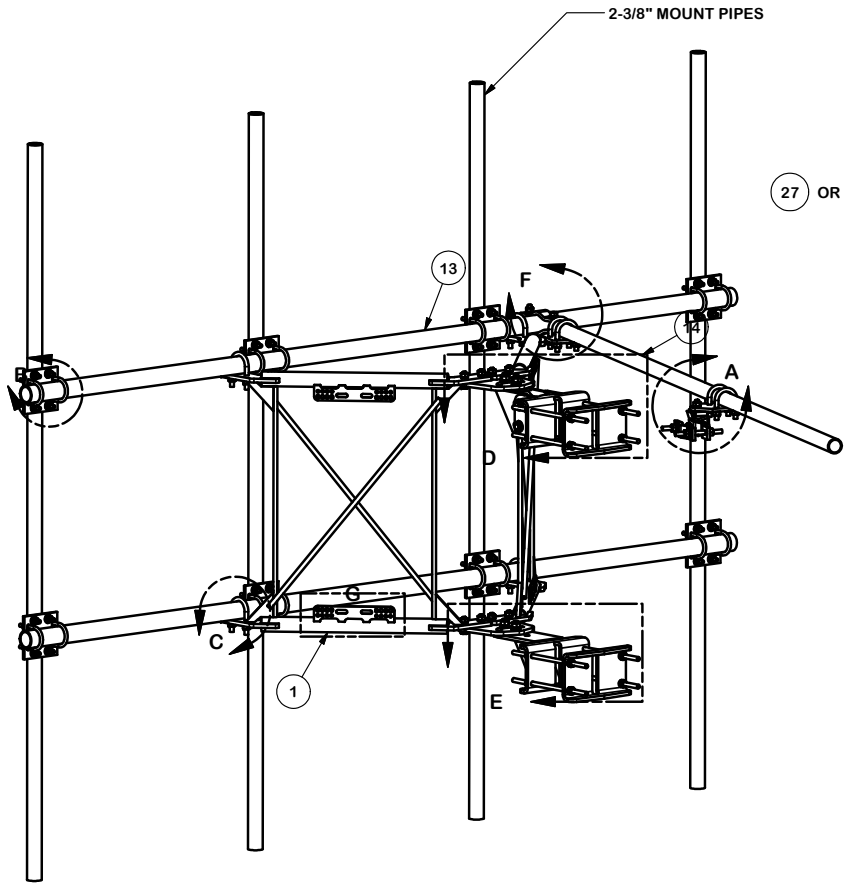
SITE PRO 1 — A valmont COMPANY

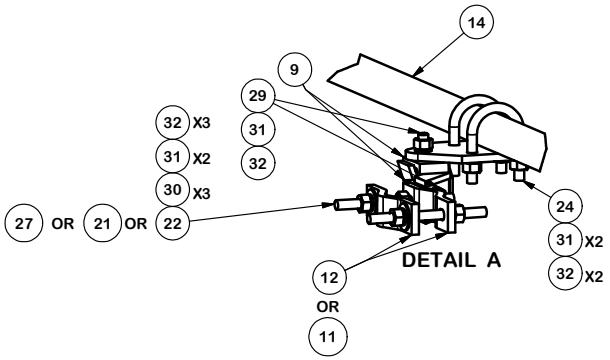
Engineering Support Team: 1-888-753-7446

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

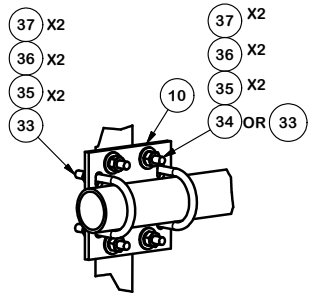
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL 7/3/2017		VFA12-H10-2120

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 5/3/2018	VFA12-H10-2120

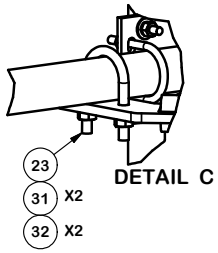




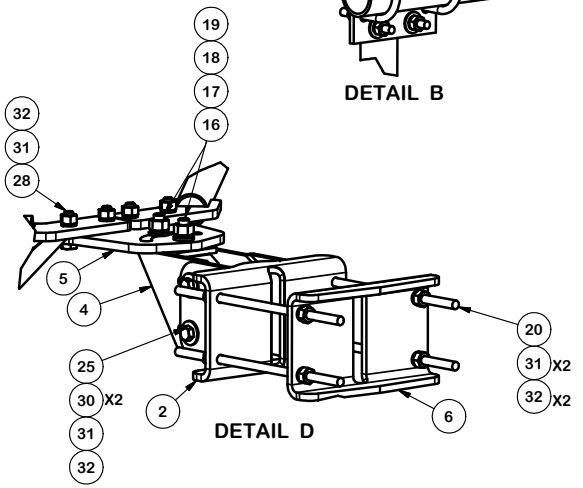
DETAIL A



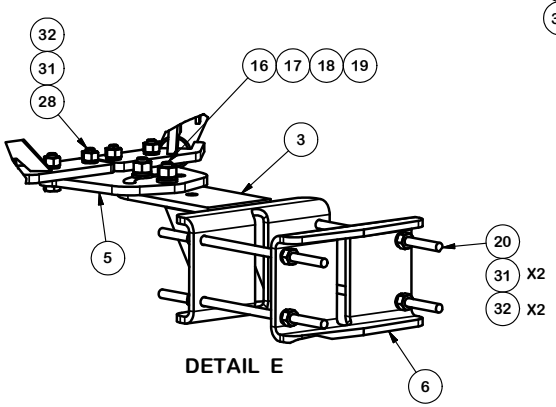
DETAIL B



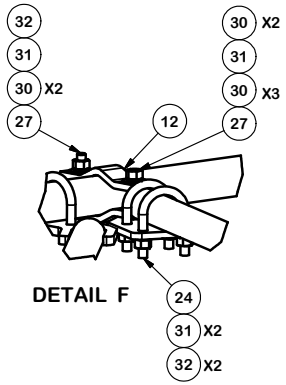
DETAIL C



DETAIL D



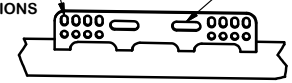
DETAIL E



DETAIL F

REVIEW CARRIER STANDARDS FOR PROPER SURFACE PREPARTION AND ASSEMBLY OF ELECTRICAL CONNECTIONS

9/16" SLOTTED HOLE FOR EQUIPMENT PIPE U-BOLT



DETAIL G

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	7/2/2018

REVISION HISTORY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
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ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: 12' 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 1 STIFF ARM & MOUNT PIPES

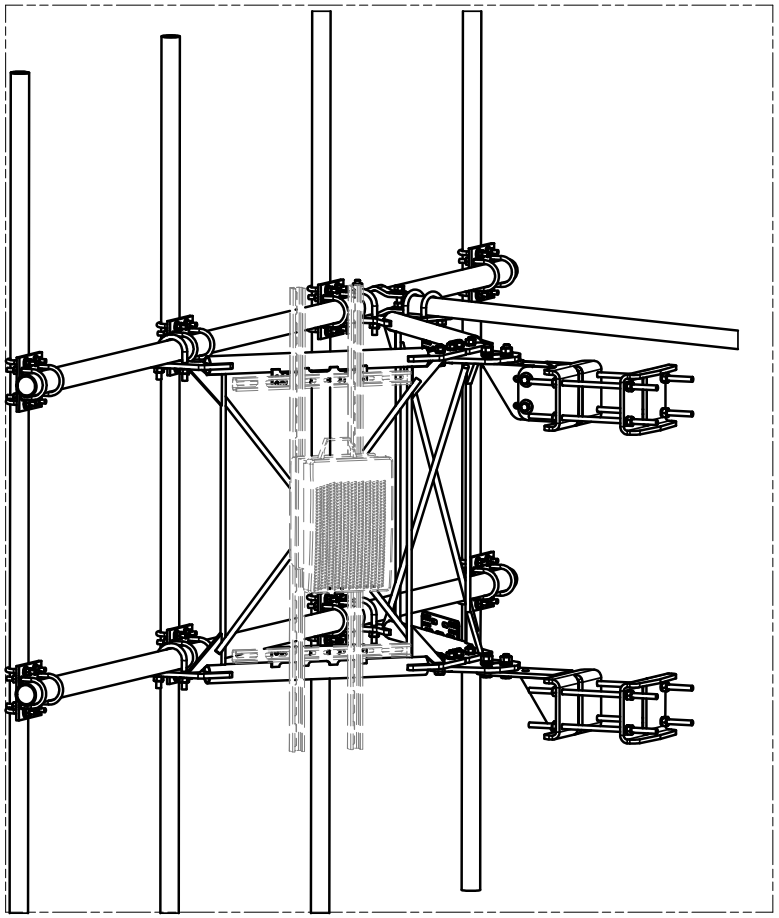
SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

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

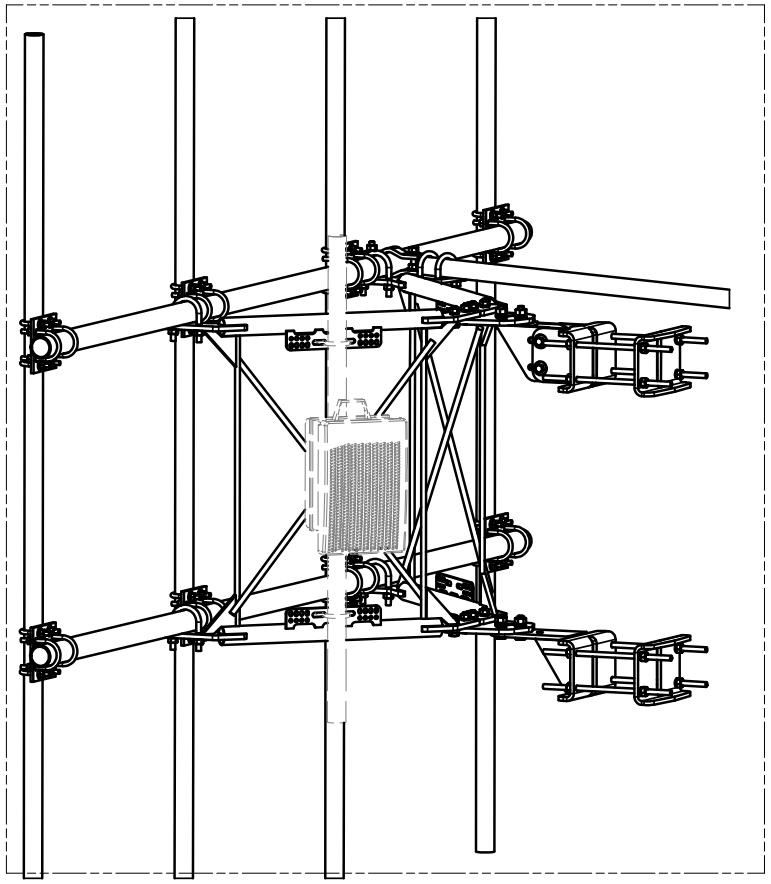
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL 7/3/2017		VFA12-H10-2120

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 5/3/2018	VFA12-H10-2120



UNISTRUT AND HARDWARE
SOLD SEPARATELY.

REQUIRES 3/8" HARDWARE



EQUIPMENT PIPE AND HARDWARE
SOLD SEPARATELY.

REQUIRES 1/2" HARDWARE
AND 2-3/8" TO 4-1/2" O.D. PIPE

TOLERANCE NOTES

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REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	7/2/2018

REVISION HISTORY

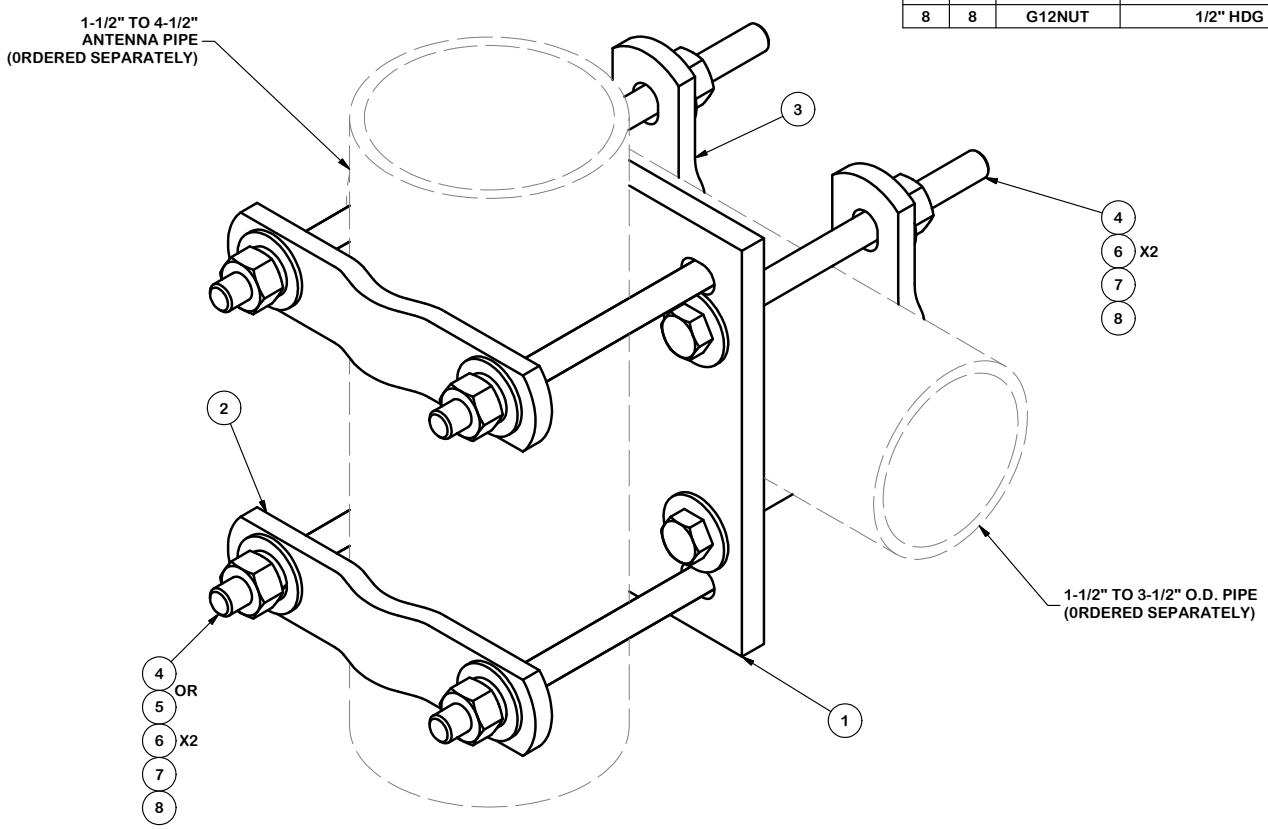
DESCRIPTION: 12' 6" HEAVY DUTY V-FRAME ASSEMBLY W/ 1 STIFF ARM & MOUNT PIPES

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
SP1	CSL 7/3/2017		VFA12-H10-2120

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 5/3/2018	VFA12-H10-2120

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

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	SCX7	CROSSOVER PLATE	8 in	7.55	7.55
2	2	X-115765	5" V-CLAMP		1.02	2.04
3	2	X-100064	CLAMP (S) (4" V-CLAMP) GALVANIZED		0.91	1.83
4	8	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	3.28
5	4	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	1.19
6	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.54
7	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
8	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	16.98



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ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: CROSSOVER PLATE (V-CLAMP STYLE)

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 10/7/2010		SCX7-U	1 OF 1

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	BMC 10/8/2010	SCX7-U

Wind & Ice Loading

Nominal Mount Elevation (AGL), z_{mount}	113 ft	K_a	0.90
Nominal Rad Elevation (AGL), z_{rad}	113 ft	K_d	0.95
Elevation AMSL (ft)	91 ft	K_e	1.00
TIA Standard	H	K_z	1.02
Basic Wind Speed, V_{ult} (bare)	121 mph	K_{zt}	1.00
Basic Wind Speed, V (ice)	50 mph	K_s	1.00
Design Ice Thickness, t_i	1 in	t_{iz}	1.13 in
Exposure Category	B	G_h	1.00
Risk Category	II	q_z (bare)	36.3 psf
Seismic Response Coeff., C_s	0.11	q_z (ice)	6.2 psf

Live Loading

At Mount Pipes, L_M	500 lb
Joint Labels Considered	M1
	M2
	M3
	M4

Member Distributed Loading

Section Set Label	Shape Label	F_A (lb/ft) Bare	F_A (lb/ft) Ice	Ice Wt. (lb/ft)
Front Horizontal	PIPE_2.5	9.40	2.87	5.54
Mount Pipe	PIPE_2.0	7.76	2.59	4.84
VFA-HD Pivot PL	PL5/8x9	49.03	6.30	10.03
Stiff Arm	PIPE_2.0	7.76	2.59	4.84
V-Frame Diagonal	.75 Dia.	2.45	1.68	2.60
V-Frame Horizontal	PIPE_2.0	7.76	2.59	4.84
V-Frame Vertical	.625 Dia._HRA	2.04	1.61	2.43
Taper PL	PL1/2x6	32.69	4.62	7.28
Mod Mount Pipe	PIPE_2.0	7.76	2.59	4.84

Appurtenances

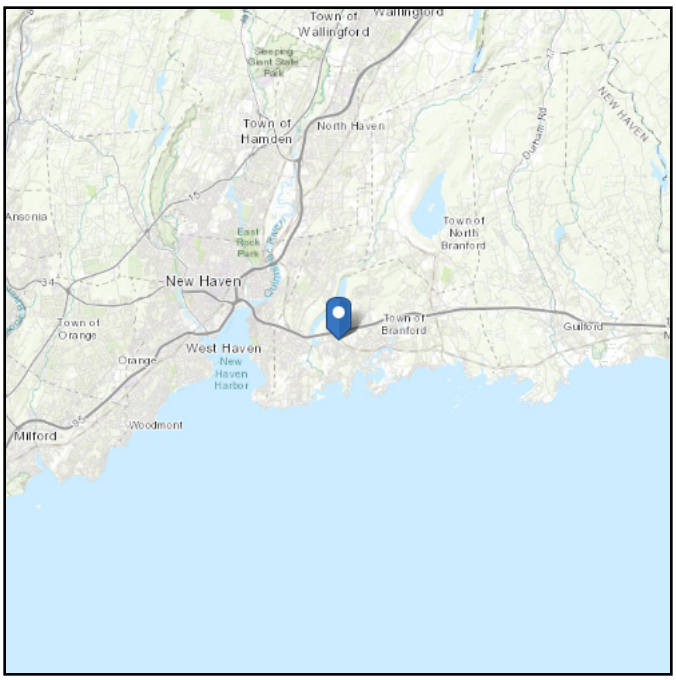
Appurtenance Model	Status	Azimuth Offset (°, ↻)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor Front	Area Factor Side	Qty. per Azimuth 0°	Qty. per Azimuth 120°	Qty. per Azimuth 240°	Total Qty. Override	0° Joints 1	0° Joints 2	120° Joints 1	120° Joints 2	240° Joints 1	240° Joints 2	Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA_A (Bare) (ft²) N	EPA_A (Bare) (ft²) T	EPA_A (Ice) (ft²) N	EPA_A (Ice) (ft²) T	F_A (Bare) (lb) N	F_A (Bare) (lb) T	F_A (Ice) (lb) N	F_A (Ice) (lb) T
TPA65R-BU8D				☐			1	1	1	3	A1	A2	B1	B2	G1	G2	96	21	7.8	87.5	Generic	223.91	15.91	5.97	18.04	7.87	520.04	195.14	100.67	43.93
DMP65R-BU8D				☐			1	1	1	3	A7	A8	B7	B8	G7	G8	96	20.7	7.7	105.6	Generic	220.72	15.86	5.95	17.99	7.83	518.41	194.48	100.39	43.69
AIR 6419 B77G				☐			1	1	1	3	A3	A4	B3	B4	G3	G4	28.3	16.1	7.9	66.1	Flat	63.02	3.80	1.94	4.68	2.64	124.11	63.34	26.10	14.72
AIR 6449 B77D				☐			1	1	1	3	A5	A6	B5	B5	G5	G6	30.4	15.9	10.6	81.6	Flat	75.65	4.03	2.72	4.94	3.51	131.66	88.97	27.59	19.57
WCS-IMFQ-AMT				☐	0.5				1	1					R7		11.2	10.6	6.9	29.5	Flat	21.91	0.49	0.64	0.72	1.03	16.17	21.05	4.03	5.74
RRUS 8843 B2/B66A				☑	0.5		1	1	1	3	R1		R2		R3		14.9	13.2	10.9	72	Flat	39.80	0.68	1.64	0.94	2.21	22.12	53.57	5.25	12.34
RRUS 32 B30				☑	0.5		1	1	1	3	R1		R2		R3		26.7	12.1	6.7	60	Flat	46.15	0.79	2.69	1.11	3.47	25.70	88.00	6.20	19.35
RRUS 4478 B14				☑	0.5		1	1	1	3	R4		R5		R6		16.5	13.4	7.7	59.9	Flat	35.91	0.53	1.84	0.78	2.45	17.30	60.22	4.35	13.67
RRUS 4449 B5/B12				☑	0.5		1	1	1	3	R4		R5		R6		17.9	13.19	9.44	71	Flat	41.87	0.70	1.97	0.98	2.60	23.01	64.31	5.49	14.49
DC6-48-60-18-8F				☐						1							24	11	11	18.9	Round	40.07	1.28	1.28	1.69	1.69	41.95	41.95	9.45	9.45
DC6-48-60-18-8F				☐						1							24	11	11	18.9	Round	40.07	1.28	1.28	1.69	1.69	41.95	41.95	9.45	9.45
DC6-48-60-0-8F				☐						1							24	11	11	18.9	Round	40.07	1.28	1.28	1.69	1.69	41.95	41.95	9.45	9.45

ASCE 7 Hazards Report

Address:
48 Beaver Rd
Branford, Connecticut
06405

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 91.25 ft (NAVD 88)
Latitude: 41.279981
Longitude: -72.841803



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	92 Vmph
100-year MRI	99 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Wed Mar 16 2022

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 7-16 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 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

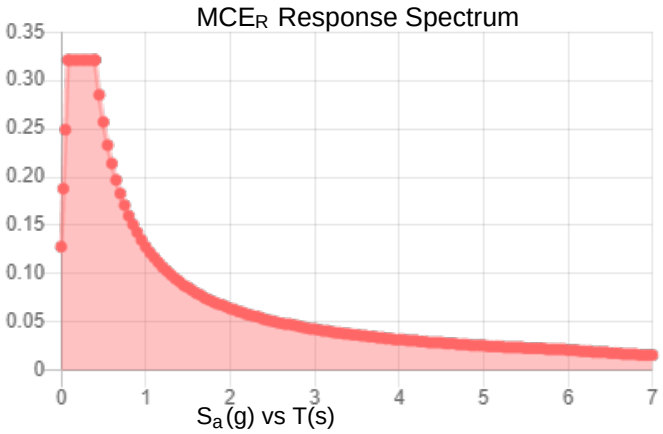
Seismic

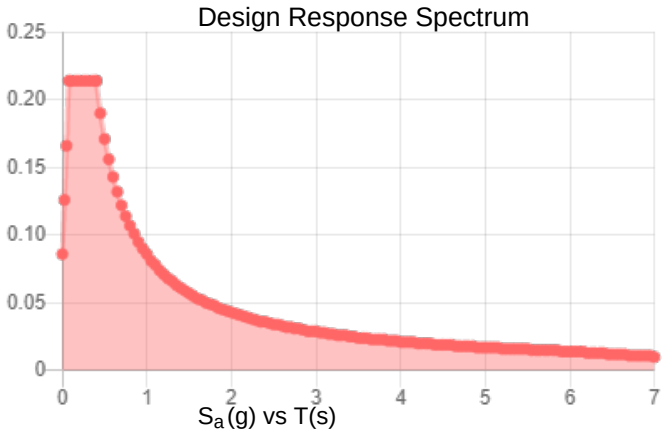
Site Soil Class: D - Default (see Section 11.4.3)

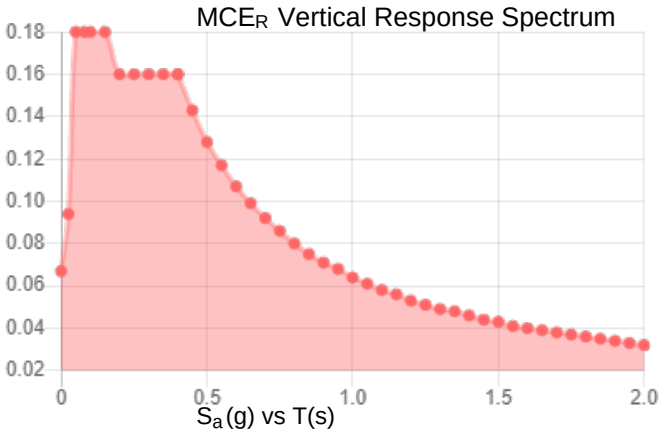
Results:

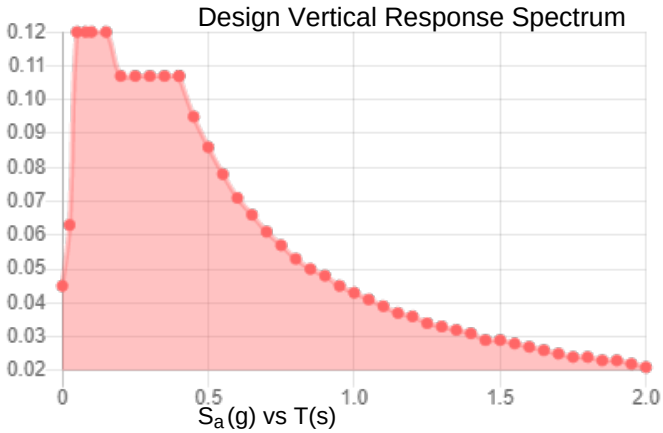
S_S :	0.2	S_{D1} :	0.086
S_1 :	0.053	T_L :	6
F_a :	1.6	PGA :	0.112
F_v :	2.4	PGA_M :	0.177
S_{MS} :	0.321	F_{PGA} :	1.576
S_{M1} :	0.128	I_e :	1
S_{DS} :	0.214	C_v :	0.701

Seismic Design Category B









Data Accessed: **Wed Mar 16 2022**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

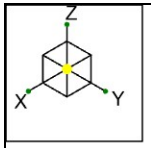
Ice

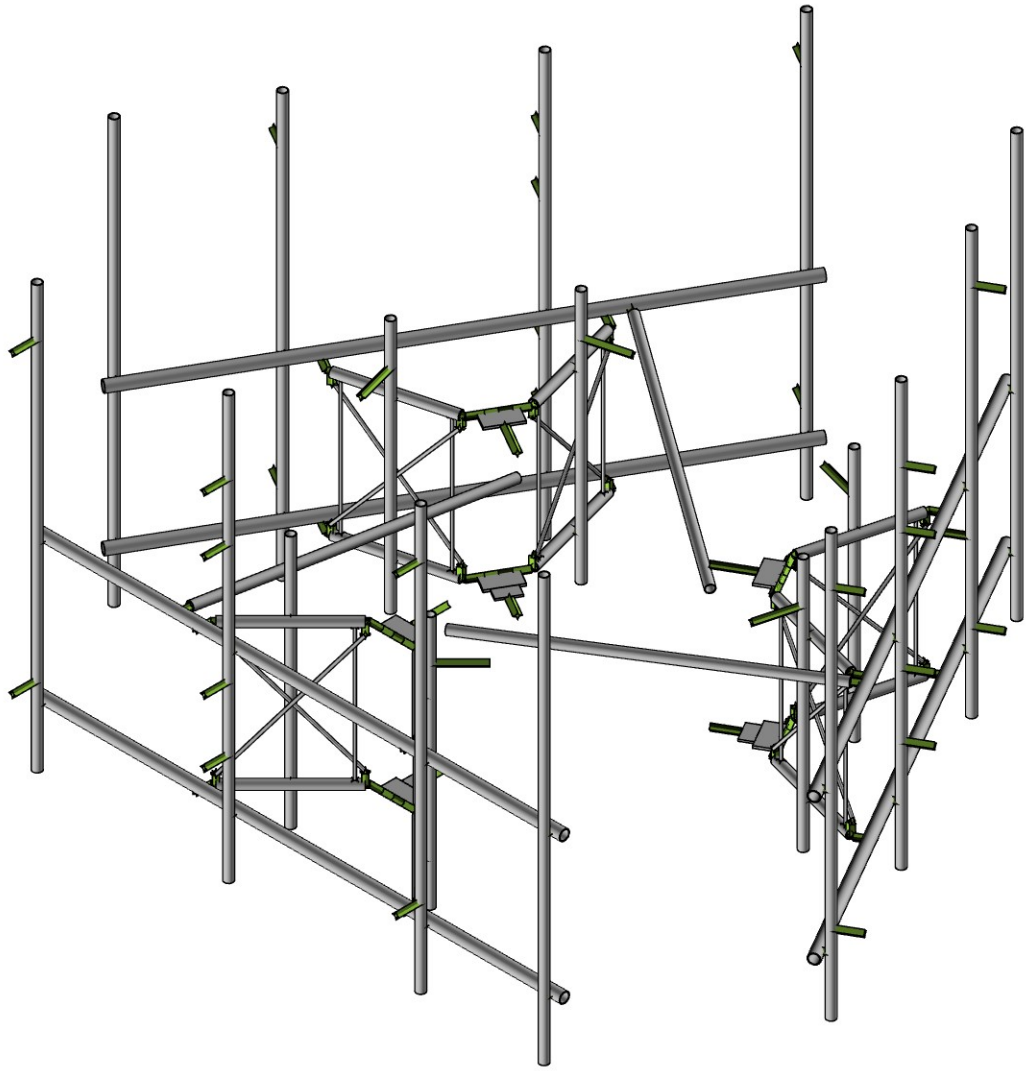
Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Wed Mar 16 2022

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

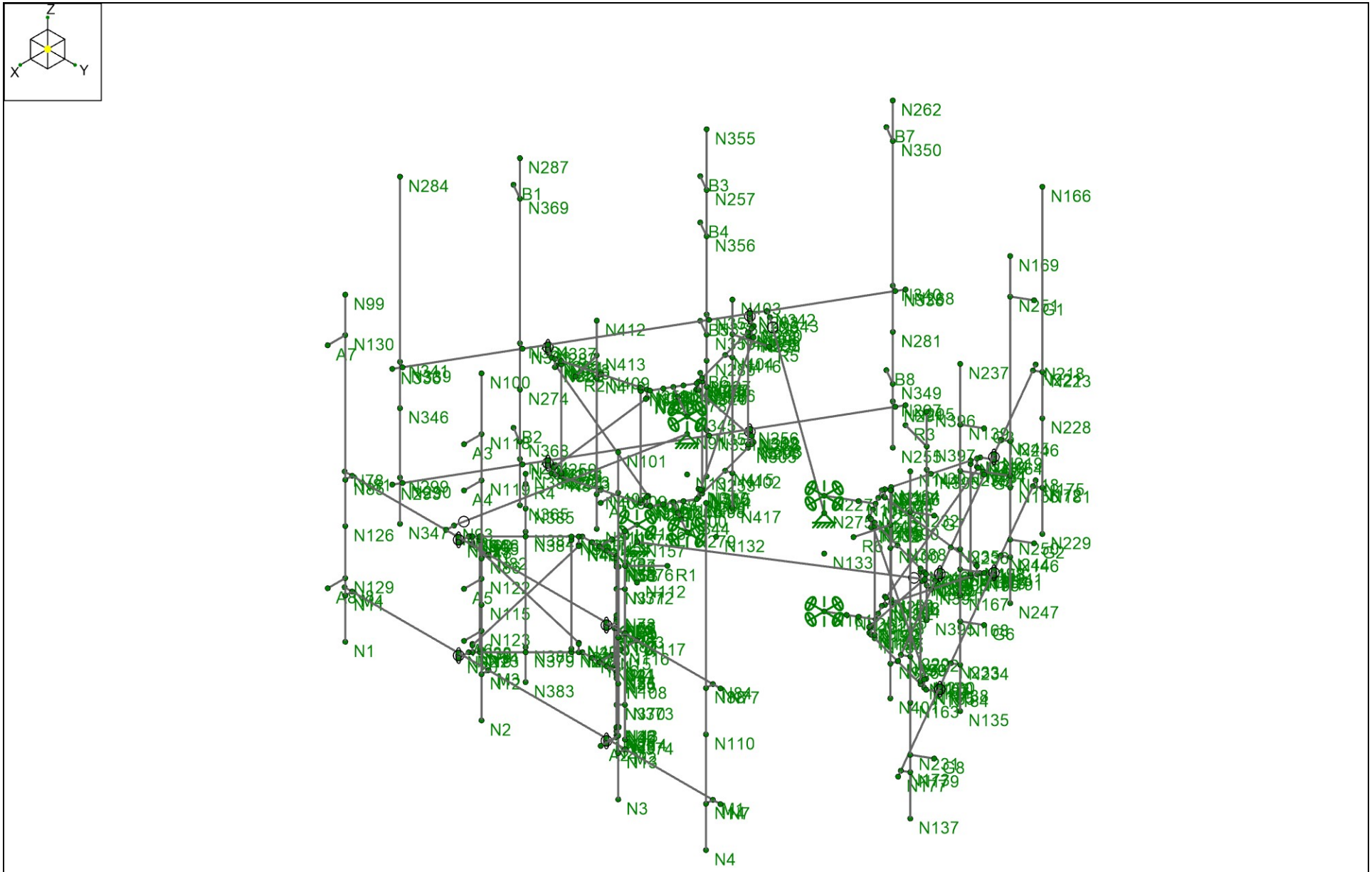
Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from 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.





Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-1
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Rendered	302536_13759895_C8_04_AT&T MOBILITY.r3d



Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-2
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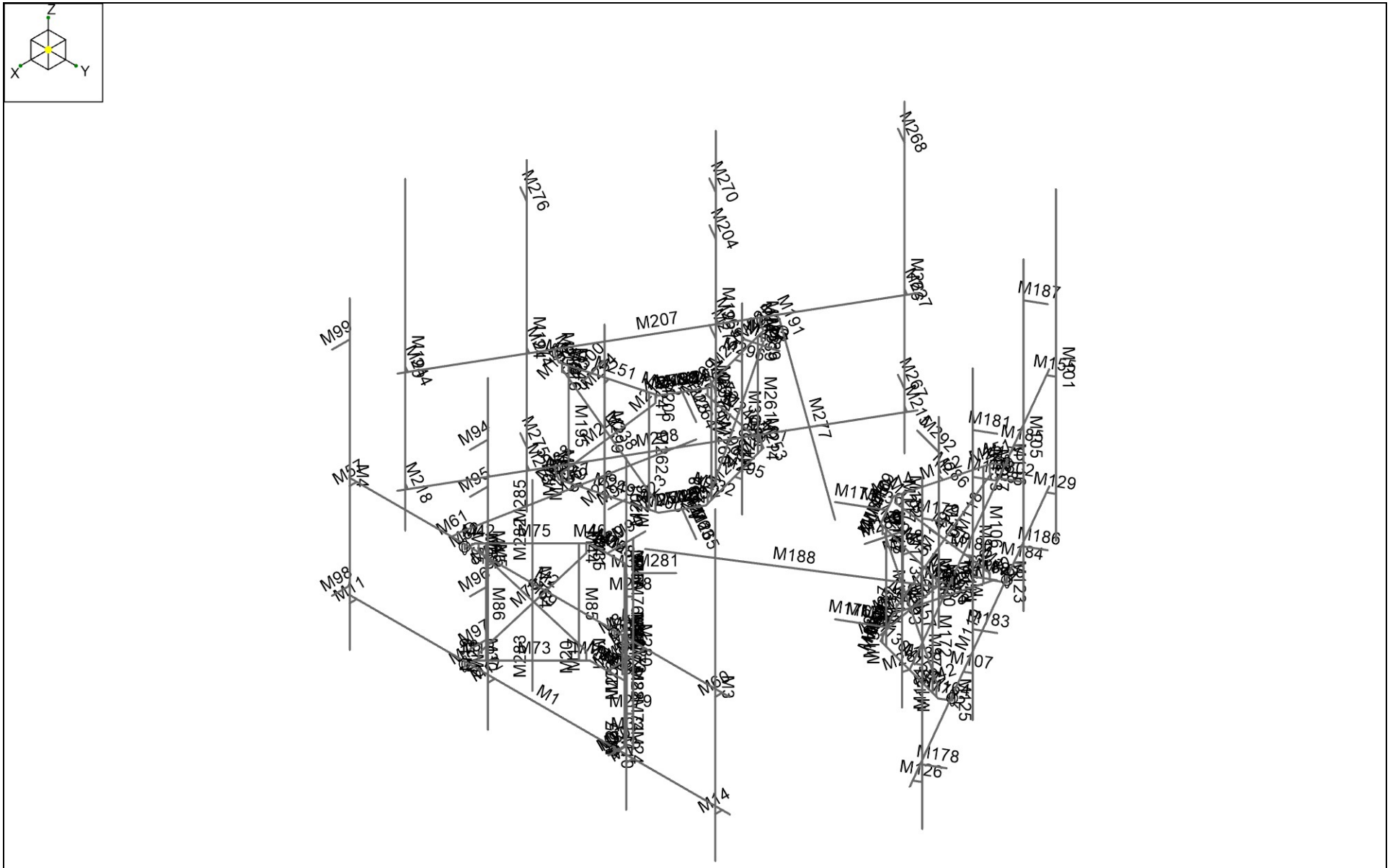
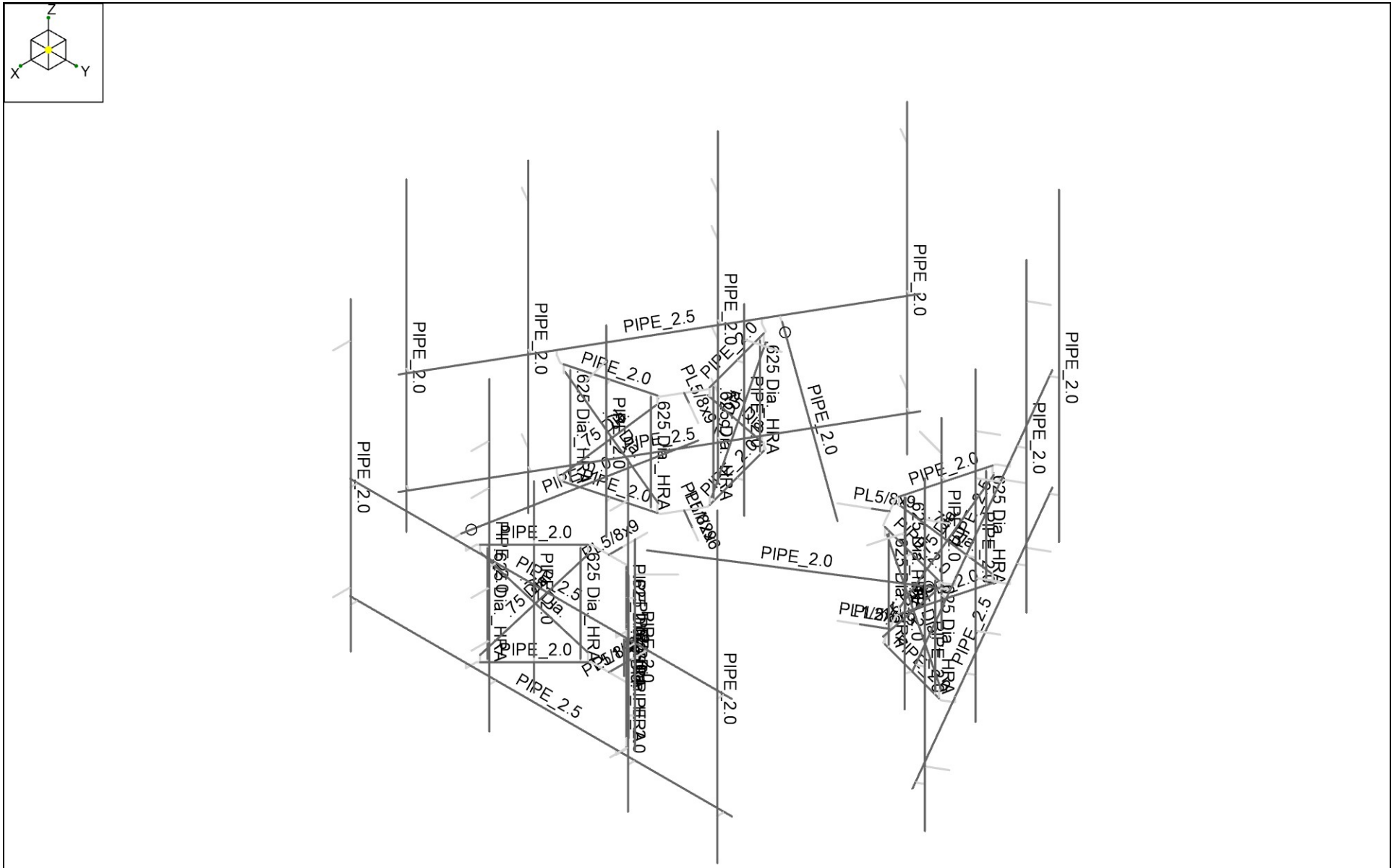


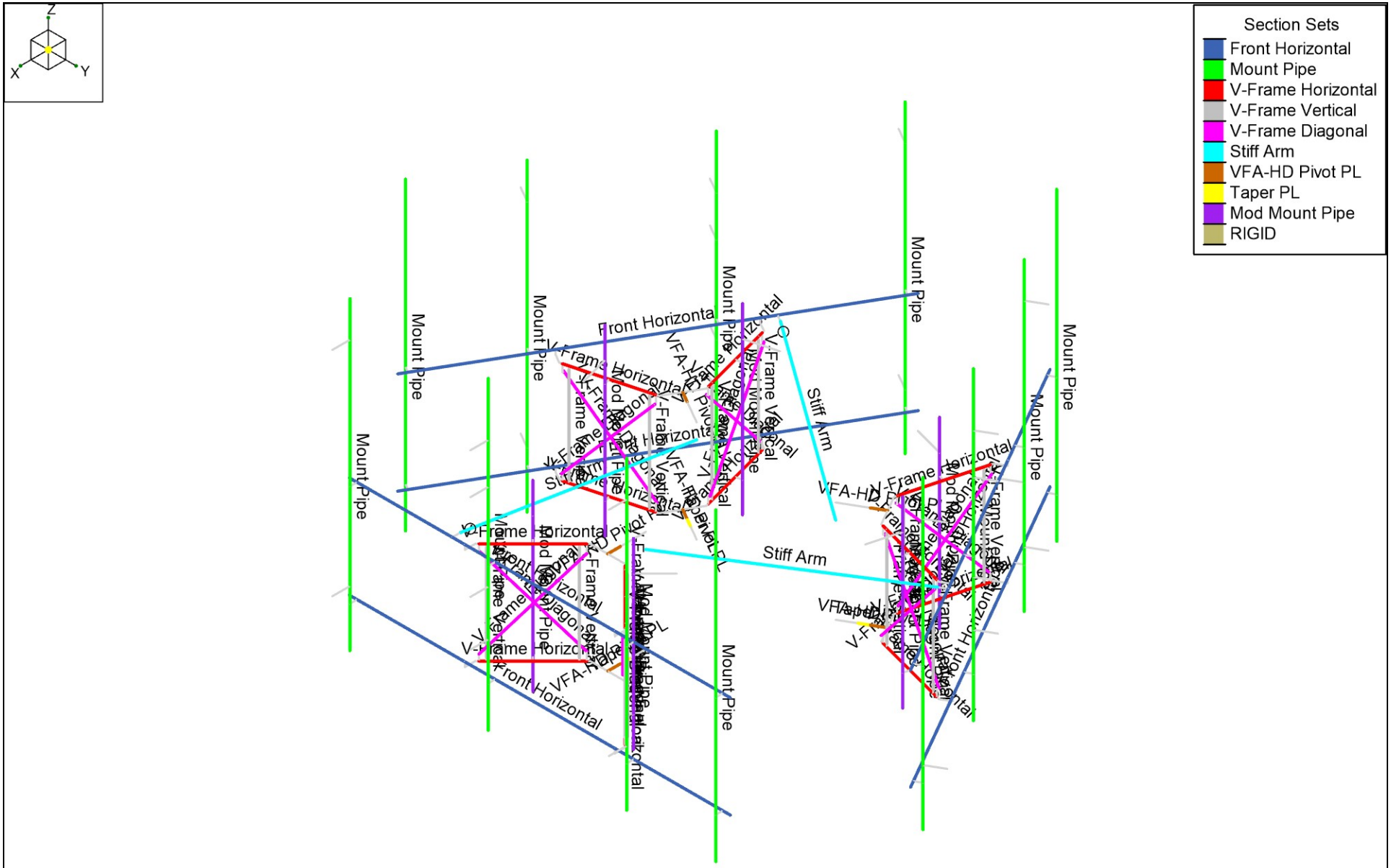
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-3
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Member Labels	302536_13759895_C8_04_AT&T MOBILITY.r3d



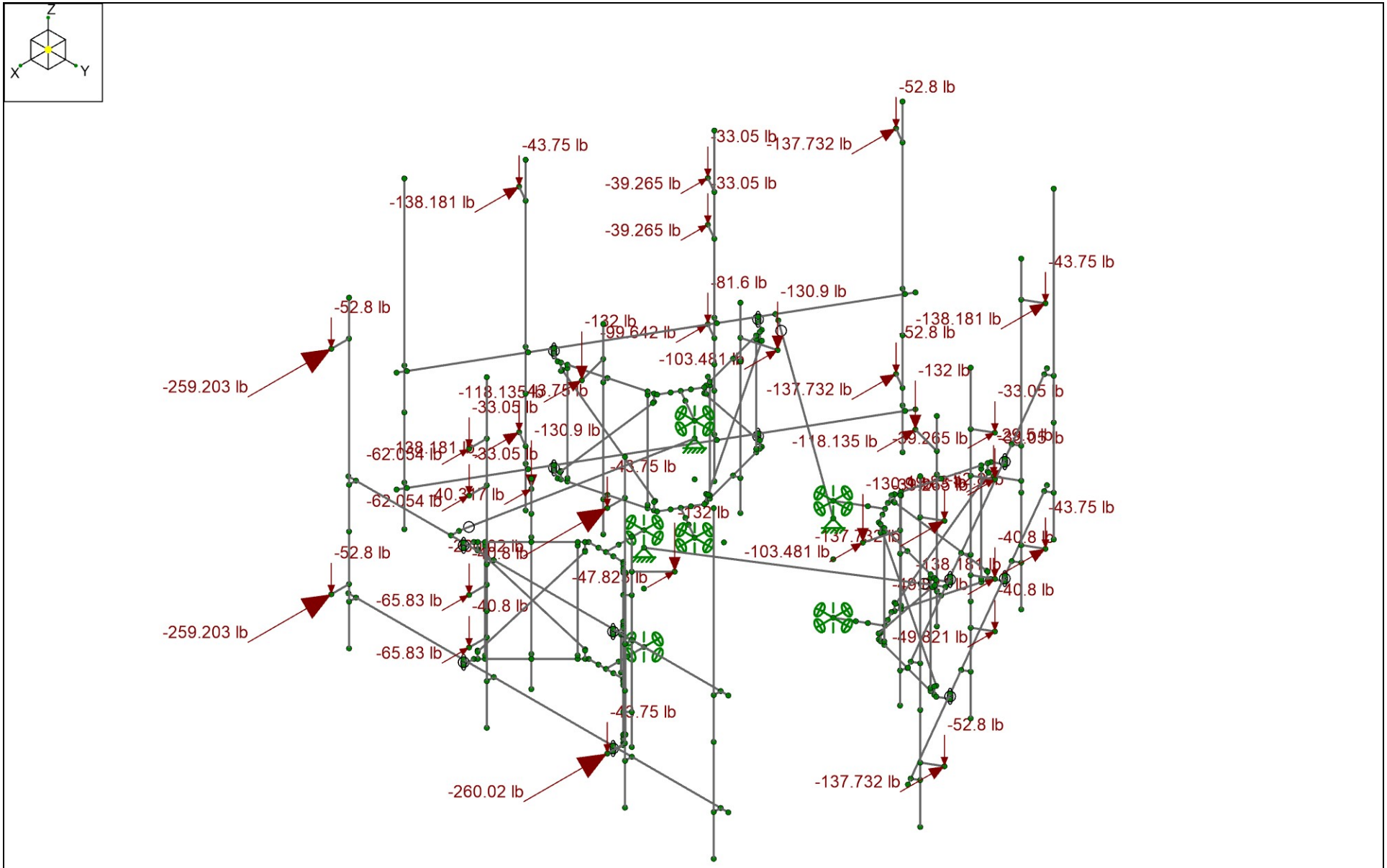
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-3.1
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Member Shapes	302536_13759895_C8_04_AT&T MOBILITY.r3d



Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-4
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Section Sets	302536_13759895_C8_04_AT&T MOBILITY.r3d



Loads: LC 1, DISPLAY (1.0D + 1.0W_0)
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-5
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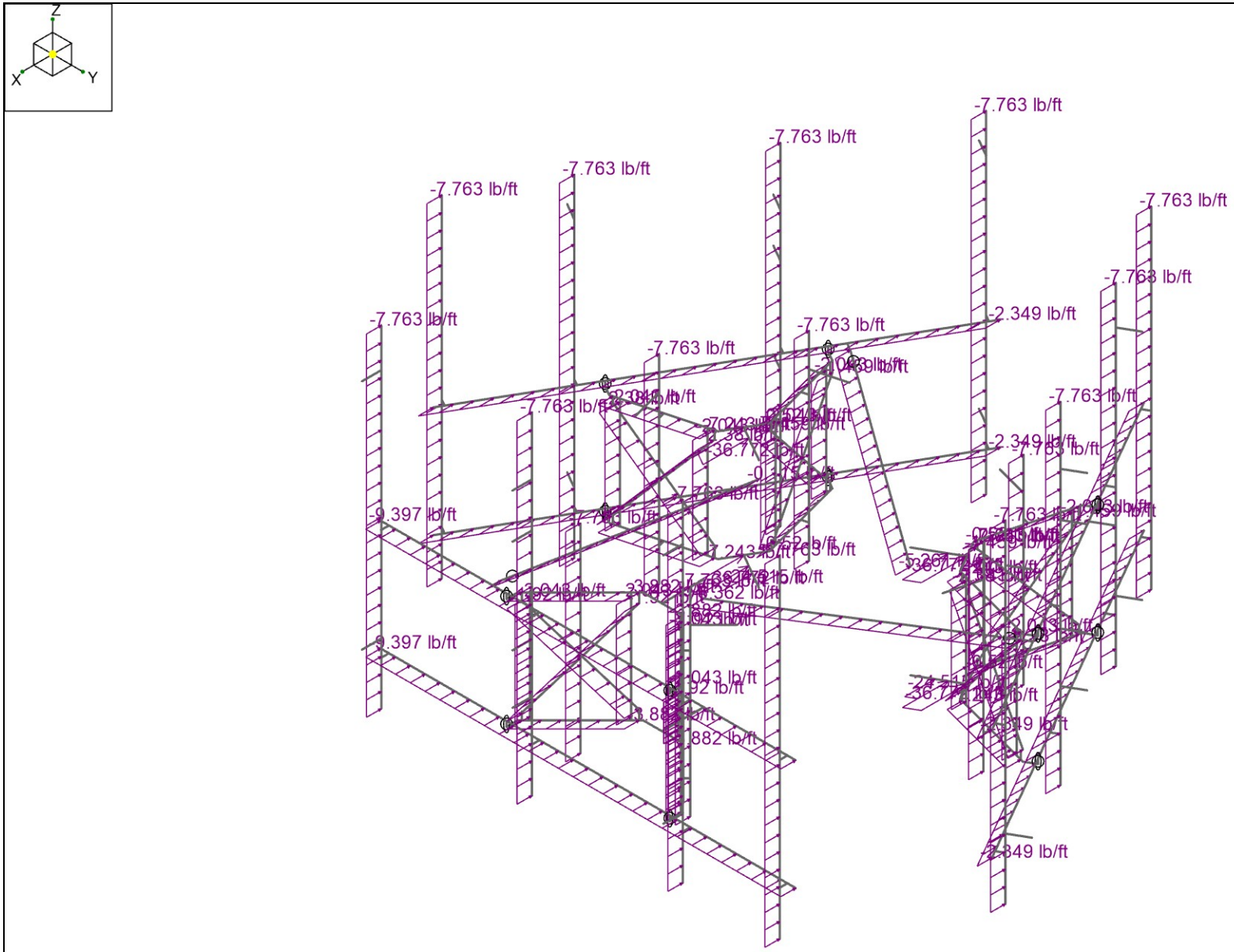
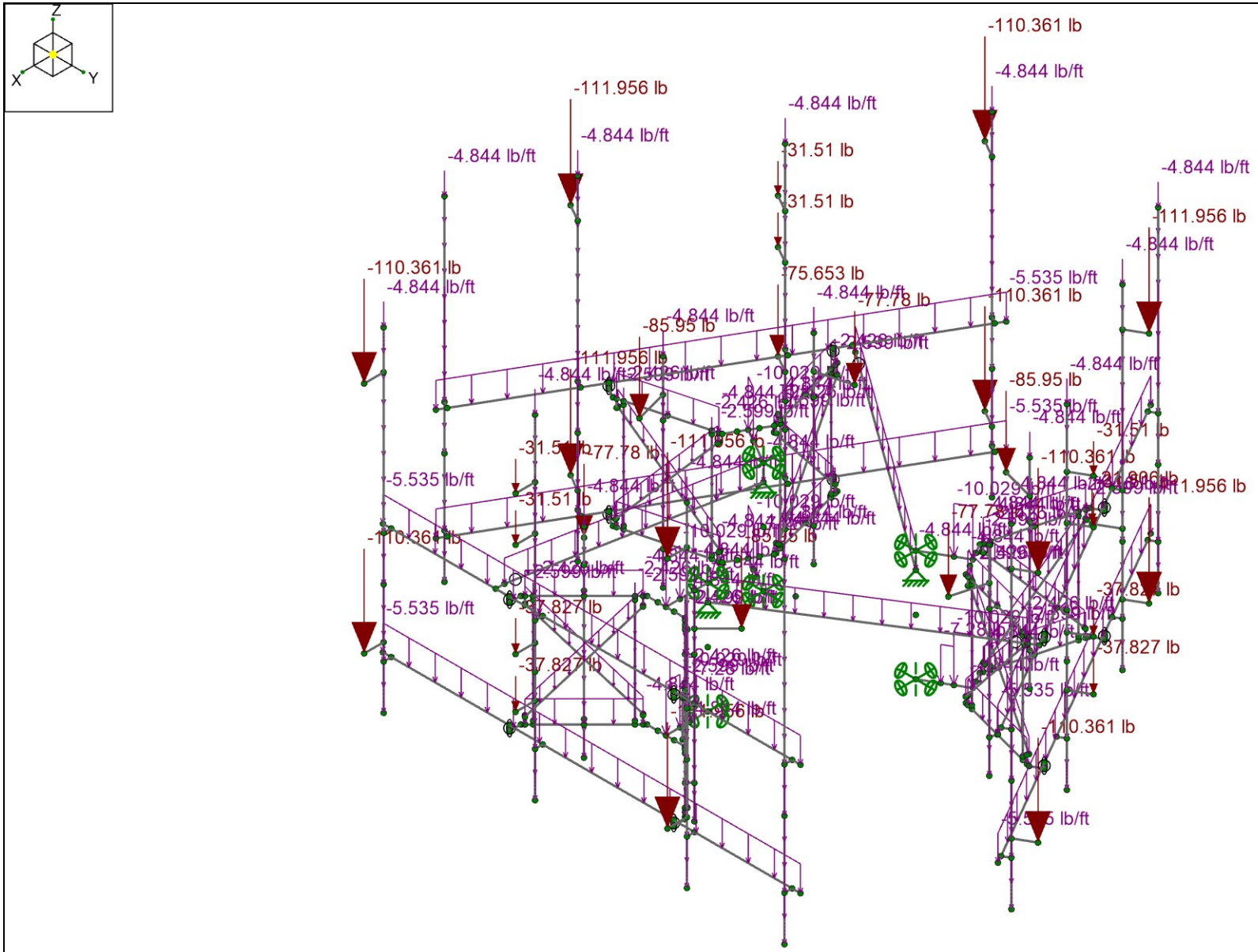


Loads: BLC 5, Structure Wind 0
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-6
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Distributed Loads - Normal Wind	302536_13759895_C8_04_AT&T MOBILITY.r3d



Loads: BLC 2, Ice Dead
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-7
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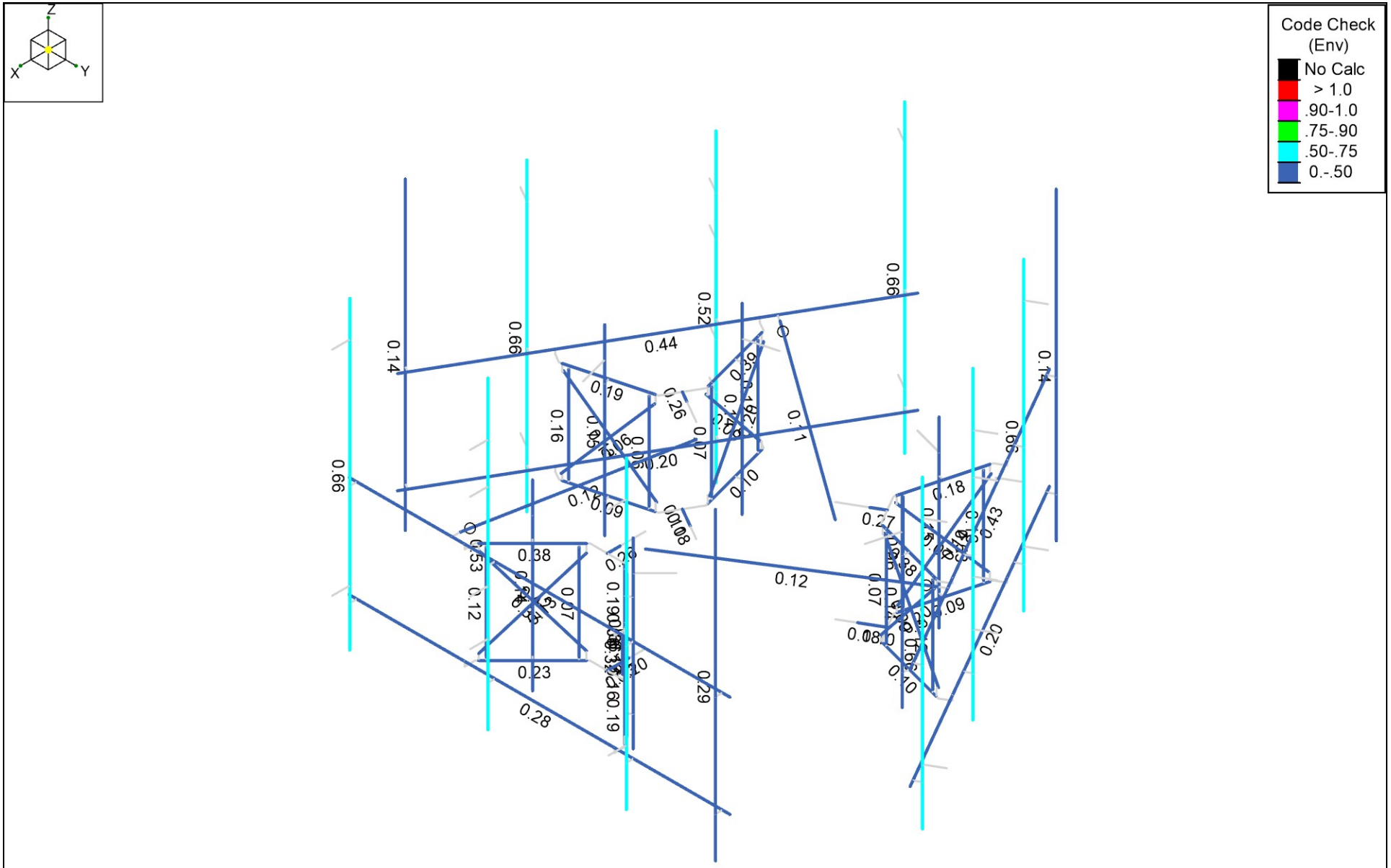
41124-13759895_C8_04-01-MA	Ice Dead Loads	302536_13759895_C8_04_AT&T MOBILITY.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-8
AM		Mar 24, 2022
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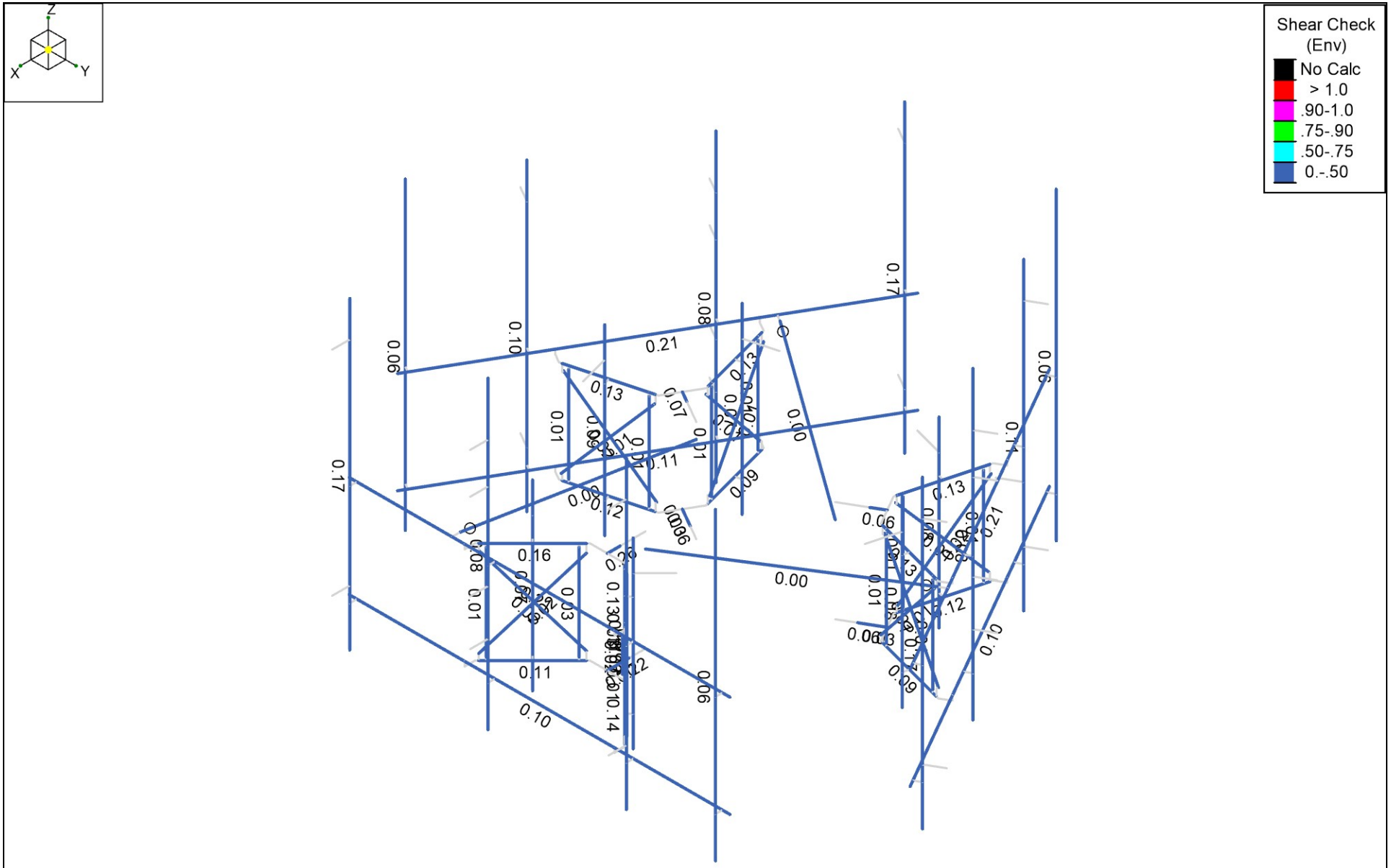


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	SK-9
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Envelope Member Check Results - Shear	302536_13759895_C8_04_AT&T MOBILITY.r3d

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed
1	Dead	DL	-1	37	
2	Ice Dead	RL		37	72
5	Structure Wind 0°	None			69
6	Structure Wind 30°	None			140
7	Structure Wind 45°	None			140
8	Structure Wind 60°	None			138
9	Structure Wind 90°	None			70
10	Structure Wind 120°	None			138
11	Structure Wind 135°	None			140
12	Structure Wind 150°	None			140
13	Structure Wind 180°	None			69
14	Structure Wind 210°	None			140
15	Structure Wind 225°	None			140
16	Structure Wind 240°	None			138
17	Structure Wind 270°	None			70
18	Structure Wind 300°	None			138
19	Structure Wind 315°	None			140
20	Structure Wind 330°	None			140
21	Structure Wind w/ Ice 0°	None			69
22	Structure Wind w/ Ice 30°	None			140
23	Structure Wind w/ Ice 45°	None			140
24	Structure Wind w/ Ice 60°	None			138
25	Structure Wind w/ Ice 90°	None			70
26	Structure Wind w/ Ice 120°	None			138
27	Structure Wind w/ Ice 135°	None			140
28	Structure Wind w/ Ice 150°	None			140
29	Structure Wind w/ Ice 180°	None			69
30	Structure Wind w/ Ice 210°	None			140
31	Structure Wind w/ Ice 225°	None			140
32	Structure Wind w/ Ice 240°	None			138
33	Structure Wind w/ Ice 270°	None			70
34	Structure Wind w/ Ice 300°	None			138
35	Structure Wind w/ Ice 315°	None			140
36	Structure Wind w/ Ice 330°	None			140
37	Antenna Wind 0°	None		37	
38	Antenna Wind 30°	None		74	
39	Antenna Wind 45°	None		74	
40	Antenna Wind 60°	None		74	
41	Antenna Wind 90°	None		37	
42	Antenna Wind 120°	None		74	
43	Antenna Wind 135°	None		74	
44	Antenna Wind 150°	None		74	
45	Antenna Wind 180°	None		37	
46	Antenna Wind 210°	None		74	
47	Antenna Wind 225°	None		74	
48	Antenna Wind 240°	None		74	
49	Antenna Wind 270°	None		37	
50	Antenna Wind 300°	None		74	
51	Antenna Wind 315°	None		74	
52	Antenna Wind 330°	None		74	
53	Antenna Wind w/ Ice 0°	None		37	
54	Antenna Wind w/ Ice 30°	None		74	
55	Antenna Wind w/ Ice 45°	None		74	
56	Antenna Wind w/ Ice 60°	None		74	
57	Antenna Wind w/ Ice 90°	None		37	
58	Antenna Wind w/ Ice 120°	None		74	
59	Antenna Wind w/ Ice 135°	None		74	
60	Antenna Wind w/ Ice 150°	None		74	
61	Antenna Wind w/ Ice 180°	None		37	
62	Antenna Wind w/ Ice 210°	None		74	
63	Antenna Wind w/ Ice 225°	None		74	
64	Antenna Wind w/ Ice 240°	None		74	
65	Antenna Wind w/ Ice 270°	None		37	
66	Antenna Wind w/ Ice 300°	None		74	
67	Antenna Wind w/ Ice 315°	None		74	

Basic Load Cases (Continued)

	BLC Description	Category	Z Gravity	Nodal	Distributed
68	Antenna Wind w/ Ice 330°	None		74	
69	Seismic X	ELX		37	72
70	Seismic Y	ELY		37	72
71	Seismic Z	ELZ		37	72
72	Maintenance Live 500 (1)	OL1		1	
73	Maintenance Live 500 (2)	OL2		1	
74	Maintenance Live 500 (3)	OL3		1	
75	Maintenance Live 500 (4)	OL4		1	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DISPLAY (1.0D + 1.0W_0°)	Yes	Y	DL	1	37	1				
2	1.4D	Yes	Y	DL	1.4						
3	1.2D + 1.0W_0°	Yes	Y	DL	1.2	5	1	37	1		
4	1.2D + 1.0W_30°	Yes	Y	DL	1.2	6	1	38	1		
5	1.2D + 1.0W_45°	Yes	Y	DL	1.2	7	1	39	1		
6	1.2D + 1.0W_60°	Yes	Y	DL	1.2	8	1	40	1		
7	1.2D + 1.0W_90°	Yes	Y	DL	1.2	9	1	41	1		
8	1.2D + 1.0W_120°	Yes	Y	DL	1.2	10	1	42	1		
9	1.2D + 1.0W_135°	Yes	Y	DL	1.2	11	1	43	1		
10	1.2D + 1.0W_150°	Yes	Y	DL	1.2	12	1	44	1		
11	1.2D + 1.0W_180°	Yes	Y	DL	1.2	13	-1	45	-1		
12	1.2D + 1.0W_210°	Yes	Y	DL	1.2	14	-1	46	-1		
13	1.2D + 1.0W_225°	Yes	Y	DL	1.2	15	-1	47	-1		
14	1.2D + 1.0W_240°	Yes	Y	DL	1.2	16	-1	48	-1		
15	1.2D + 1.0W_270°	Yes	Y	DL	1.2	17	-1	49	-1		
16	1.2D + 1.0W_300°	Yes	Y	DL	1.2	18	-1	50	-1		
17	1.2D + 1.0W_315°	Yes	Y	DL	1.2	19	-1	51	-1		
18	1.2D + 1.0W_330°	Yes	Y	DL	1.2	20	-1	52	-1		
19	1.2D + 1.0Di + 1.0Wi_0°	Yes	Y	DL	1.2	21	1	53	1	RL	1
20	1.2D + 1.0Di + 1.0Wi_30°	Yes	Y	DL	1.2	22	1	54	1	RL	1
21	1.2D + 1.0Di + 1.0Wi_45°	Yes	Y	DL	1.2	23	1	55	1	RL	1
22	1.2D + 1.0Di + 1.0Wi_60°	Yes	Y	DL	1.2	24	1	56	1	RL	1
23	1.2D + 1.0Di + 1.0Wi_90°	Yes	Y	DL	1.2	25	1	57	1	RL	1
24	1.2D + 1.0Di + 1.0Wi_120°	Yes	Y	DL	1.2	26	1	58	1	RL	1
25	1.2D + 1.0Di + 1.0Wi_135°	Yes	Y	DL	1.2	27	1	59	1	RL	1
26	1.2D + 1.0Di + 1.0Wi_150°	Yes	Y	DL	1.2	28	1	60	1	RL	1
27	1.2D + 1.0Di + 1.0Wi_180°	Yes	Y	DL	1.2	29	-1	61	-1	RL	1
28	1.2D + 1.0Di + 1.0Wi_210°	Yes	Y	DL	1.2	30	-1	62	-1	RL	1
29	1.2D + 1.0Di + 1.0Wi_225°	Yes	Y	DL	1.2	31	-1	63	-1	RL	1
30	1.2D + 1.0Di + 1.0Wi_240°	Yes	Y	DL	1.2	32	-1	64	-1	RL	1
31	1.2D + 1.0Di + 1.0Wi_270°	Yes	Y	DL	1.2	33	-1	65	-1	RL	1
32	1.2D + 1.0Di + 1.0Wi_300°	Yes	Y	DL	1.2	34	-1	66	-1	RL	1
33	1.2D + 1.0Di + 1.0Wi_315°	Yes	Y	DL	1.2	35	-1	67	-1	RL	1
34	1.2D + 1.0Di + 1.0Wi_330°	Yes	Y	DL	1.2	36	-1	68	-1	RL	1
35	1.2D + 1.0Ev + 1.0Eh_0°	Yes	Y	DL	1.243	ELX	-1	ELY			
36	1.2D + 1.0Ev + 1.0Eh_30°	Yes	Y	DL	1.243	ELX	-0.866	ELY	0.5		
37	1.2D + 1.0Ev + 1.0Eh_45°	Yes	Y	DL	1.243	ELX	-0.707	ELY	0.707		
38	1.2D + 1.0Ev + 1.0Eh_60°	Yes	Y	DL	1.243	ELX	-0.5	ELY	0.866		
39	1.2D + 1.0Ev + 1.0Eh_90°	Yes	Y	DL	1.243	ELX		ELY	1		
40	1.2D + 1.0Ev + 1.0Eh_120°	Yes	Y	DL	1.243	ELX	0.5	ELY	0.866		
41	1.2D + 1.0Ev + 1.0Eh_135°	Yes	Y	DL	1.243	ELX	0.707	ELY	0.707		
42	1.2D + 1.0Ev + 1.0Eh_150°	Yes	Y	DL	1.243	ELX	0.866	ELY	0.5		
43	1.2D + 1.0Ev + 1.0Eh_180°	Yes	Y	DL	1.243	ELX	1	ELY			
44	1.2D + 1.0Ev + 1.0Eh_210°	Yes	Y	DL	1.243	ELX	0.866	ELY	-0.5		
45	1.2D + 1.0Ev + 1.0Eh_225°	Yes	Y	DL	1.243	ELX	0.707	ELY	-0.707		
46	1.2D + 1.0Ev + 1.0Eh_240°	Yes	Y	DL	1.243	ELX	0.5	ELY	-0.866		
47	1.2D + 1.0Ev + 1.0Eh_270°	Yes	Y	DL	1.243	ELX		ELY	-1		
48	1.2D + 1.0Ev + 1.0Eh_300°	Yes	Y	DL	1.243	ELX	-0.5	ELY	-0.866		
49	1.2D + 1.0Ev + 1.0Eh_315°	Yes	Y	DL	1.243	ELX	-0.707	ELY	-0.707		
50	1.2D + 1.0Ev + 1.0Eh_330°	Yes	Y	DL	1.243	ELX	-0.866	ELY	-0.5		
51	0.9D - 1.0Ev + 1.0Eh_0°	Yes	Y	DL	0.857	ELX	-1	ELY			
52	0.9D - 1.0Ev + 1.0Eh_30°	Yes	Y	DL	0.857	ELX	-0.866	ELY	0.5		
53	0.9D - 1.0Ev + 1.0Eh_45°	Yes	Y	DL	0.857	ELX	-0.707	ELY	0.707		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
54	0.9D - 1.0Ev + 1.0Eh_60°	Yes	Y	DL	0.857	ELX	-0.5	ELY	0.866		
55	0.9D - 1.0Ev + 1.0Eh_90°	Yes	Y	DL	0.857	ELX		ELY	1		
56	0.9D - 1.0Ev + 1.0Eh_120°	Yes	Y	DL	0.857	ELX	0.5	ELY	0.866		
57	0.9D - 1.0Ev + 1.0Eh_135°	Yes	Y	DL	0.857	ELX	0.707	ELY	0.707		
58	0.9D - 1.0Ev + 1.0Eh_150°	Yes	Y	DL	0.857	ELX	0.866	ELY	0.5		
59	0.9D - 1.0Ev + 1.0Eh_180°	Yes	Y	DL	0.857	ELX	1	ELY			
60	0.9D - 1.0Ev + 1.0Eh_210°	Yes	Y	DL	0.857	ELX	0.866	ELY	-0.5		
61	0.9D - 1.0Ev + 1.0Eh_225°	Yes	Y	DL	0.857	ELX	0.707	ELY	-0.707		
62	0.9D - 1.0Ev + 1.0Eh_240°	Yes	Y	DL	0.857	ELX	0.5	ELY	-0.866		
63	0.9D - 1.0Ev + 1.0Eh_270°	Yes	Y	DL	0.857	ELX		ELY	-1		
64	0.9D - 1.0Ev + 1.0Eh_300°	Yes	Y	DL	0.857	ELX	-0.5	ELY	-0.866		
65	0.9D - 1.0Ev + 1.0Eh_315°	Yes	Y	DL	0.857	ELX	-0.707	ELY	-0.707		
66	0.9D - 1.0Ev + 1.0Eh_330°	Yes	Y	DL	0.857	ELX	-0.866	ELY	-0.5		
67	1.2D + 1.5Lm_1 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.065	37	0.065	OL1	1.5
68	1.2D + 1.5Lm_1 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.065	38	0.065	OL1	1.5
69	1.2D + 1.5Lm_1 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.065	39	0.065	OL1	1.5
70	1.2D + 1.5Lm_1 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.065	40	0.065	OL1	1.5
71	1.2D + 1.5Lm_1 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.065	41	0.065	OL1	1.5
72	1.2D + 1.5Lm_1 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.065	42	0.065	OL1	1.5
73	1.2D + 1.5Lm_1 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.065	43	0.065	OL1	1.5
74	1.2D + 1.5Lm_1 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.065	44	0.065	OL1	1.5
75	1.2D + 1.5Lm_1 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.065	45	-0.065	OL1	1.5
76	1.2D + 1.5Lm_1 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.065	46	-0.065	OL1	1.5
77	1.2D + 1.5Lm_1 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.065	47	-0.065	OL1	1.5
78	1.2D + 1.5Lm_1 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.065	48	-0.065	OL1	1.5
79	1.2D + 1.5Lm_1 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.065	49	-0.065	OL1	1.5
80	1.2D + 1.5Lm_1 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.065	50	-0.065	OL1	1.5
81	1.2D + 1.5Lm_1 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.065	51	-0.065	OL1	1.5
82	1.2D + 1.5Lm_1 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.065	52	-0.065	OL1	1.5
83	1.2D + 1.5Lm_2 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.065	37	0.065	OL2	1.5
84	1.2D + 1.5Lm_2 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.065	38	0.065	OL2	1.5
85	1.2D + 1.5Lm_2 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.065	39	0.065	OL2	1.5
86	1.2D + 1.5Lm_2 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.065	40	0.065	OL2	1.5
87	1.2D + 1.5Lm_2 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.065	41	0.065	OL2	1.5
88	1.2D + 1.5Lm_2 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.065	42	0.065	OL2	1.5
89	1.2D + 1.5Lm_2 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.065	43	0.065	OL2	1.5
90	1.2D + 1.5Lm_2 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.065	44	0.065	OL2	1.5
91	1.2D + 1.5Lm_2 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.065	45	-0.065	OL2	1.5
92	1.2D + 1.5Lm_2 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.065	46	-0.065	OL2	1.5
93	1.2D + 1.5Lm_2 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.065	47	-0.065	OL2	1.5
94	1.2D + 1.5Lm_2 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.065	48	-0.065	OL2	1.5
95	1.2D + 1.5Lm_2 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.065	49	-0.065	OL2	1.5
96	1.2D + 1.5Lm_2 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.065	50	-0.065	OL2	1.5
97	1.2D + 1.5Lm_2 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.065	51	-0.065	OL2	1.5
98	1.2D + 1.5Lm_2 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.065	52	-0.065	OL2	1.5
99	1.2D + 1.5Lm_3 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.065	37	0.065	OL3	1.5
100	1.2D + 1.5Lm_3 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.065	38	0.065	OL3	1.5
101	1.2D + 1.5Lm_3 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.065	39	0.065	OL3	1.5
102	1.2D + 1.5Lm_3 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.065	40	0.065	OL3	1.5
103	1.2D + 1.5Lm_3 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.065	41	0.065	OL3	1.5
104	1.2D + 1.5Lm_3 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.065	42	0.065	OL3	1.5
105	1.2D + 1.5Lm_3 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.065	43	0.065	OL3	1.5
106	1.2D + 1.5Lm_3 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.065	44	0.065	OL3	1.5
107	1.2D + 1.5Lm_3 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.065	45	-0.065	OL3	1.5
108	1.2D + 1.5Lm_3 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.065	46	-0.065	OL3	1.5
109	1.2D + 1.5Lm_3 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.065	47	-0.065	OL3	1.5
110	1.2D + 1.5Lm_3 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.065	48	-0.065	OL3	1.5
111	1.2D + 1.5Lm_3 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.065	49	-0.065	OL3	1.5
112	1.2D + 1.5Lm_3 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.065	50	-0.065	OL3	1.5
113	1.2D + 1.5Lm_3 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.065	51	-0.065	OL3	1.5
114	1.2D + 1.5Lm_3 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.065	52	-0.065	OL3	1.5
115	1.2D + 1.5Lm_4 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.065	37	0.065	OL4	1.5
116	1.2D + 1.5Lm_4 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.065	38	0.065	OL4	1.5
117	1.2D + 1.5Lm_4 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.065	39	0.065	OL4	1.5
118	1.2D + 1.5Lm_4 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.065	40	0.065	OL4	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
119	1.2D + 1.5Lm_4 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.065	41	0.065	OL4	1.5
120	1.2D + 1.5Lm_4 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.065	42	0.065	OL4	1.5
121	1.2D + 1.5Lm_4 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.065	43	0.065	OL4	1.5
122	1.2D + 1.5Lm_4 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.065	44	0.065	OL4	1.5
123	1.2D + 1.5Lm_4 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.065	45	-0.065	OL4	1.5
124	1.2D + 1.5Lm_4 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.065	46	-0.065	OL4	1.5
125	1.2D + 1.5Lm_4 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.065	47	-0.065	OL4	1.5
126	1.2D + 1.5Lm_4 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.065	48	-0.065	OL4	1.5
127	1.2D + 1.5Lm_4 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.065	49	-0.065	OL4	1.5
128	1.2D + 1.5Lm_4 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.065	50	-0.065	OL4	1.5
129	1.2D + 1.5Lm_4 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.065	51	-0.065	OL4	1.5
130	1.2D + 1.5Lm_4 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.065	52	-0.065	OL4	1.5

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
3	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	Q235	29000	11154	0.3	0.65	0.49	35	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Front Horizontal	PIPE_2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	Mount Pipe	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	V-Frame Horizontal	PIPE_2.0	Beam	None	Q235	Typical	1.02	0.627	0.627	1.25
4	V-Frame Vertical	.625 Dia._HRA	Beam	None	Q235	Typical	0.307	0.007	0.007	0.015
5	V-Frame Diagonal	.75 Dia.	Beam	None	Q235	Typical	0.442	0.016	0.016	0.031
6	Stiff Arm	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
7	VFA-HD Pivot PL	PL5/8x9	Beam	None	Q235	Typical	5.625	0.183	37.969	0.7
8	Taper PL	PL1/2x6	Beam	None	Q235	Typical	3	0.063	9	0.237
9	Mod Mount Pipe	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	0.627	0.627	1.25

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	K y-y	K z-z	Function
1	M1	Front Horizontal	150	59	54.5				Lateral
2	M2	Front Horizontal	150	59	54.5				Lateral
3	M3	Mount Pipe	120						Lateral
4	M4	Mount Pipe	120						Lateral
5	M5	Mount Pipe	120						Lateral
6	M6	Mount Pipe	120						Lateral
7	M15	VFA-HD Pivot PL	5						Lateral
8	M39	VFA-HD Pivot PL	5						Lateral
9	M67	Stiff Arm	86.597						Lateral
10	M69	V-Frame Diagonal	45.538				0.65	0.65	Lateral
11	M70	V-Frame Diagonal	45.538				0.65	0.65	Lateral
12	M71	V-Frame Diagonal	45.538				0.65	0.65	Lateral
13	M72	V-Frame Diagonal	45.538				0.65	0.65	Lateral
14	M73	V-Frame Horizontal	30						Lateral
15	M74	V-Frame Horizontal	30						Lateral
16	M75	V-Frame Horizontal	30						Lateral
17	M76	V-Frame Horizontal	30						Lateral
18	M85	V-Frame Vertical	37.625				0.65	0.65	Lateral
19	M86	V-Frame Vertical	37.625				0.65	0.65	Lateral
20	M87	V-Frame Vertical	37.625				0.65	0.65	Lateral
21	M88	V-Frame Vertical	37.625				0.65	0.65	Lateral
22	M89	Taper PL	3.46						Lateral
23	M101	Mount Pipe	120						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	K y-y	K z-z	Function
24	M103	Mount Pipe	120						Lateral
25	M105	Mount Pipe	120						Lateral
26	M106	V-Frame Vertical	37.625				0.65	0.65	Lateral
27	M118	Front Horizontal	150	59	54.5				Lateral
28	M119	Front Horizontal	150	59	54.5				Lateral
29	M122	VFA-HD Pivot PL	5						Lateral
30	M136	VFA-HD Pivot PL	5						Lateral
31	M149	V-Frame Diagonal	45.538				0.65	0.65	Lateral
32	M156	V-Frame Diagonal	45.538				0.65	0.65	Lateral
33	M157	V-Frame Diagonal	45.538				0.65	0.65	Lateral
34	M158	V-Frame Diagonal	45.538				0.65	0.65	Lateral
35	M159	V-Frame Horizontal	30						Lateral
36	M160	V-Frame Horizontal	30						Lateral
37	M161	V-Frame Horizontal	30						Lateral
38	M162	V-Frame Horizontal	30						Lateral
39	M171	V-Frame Vertical	37.625				0.65	0.65	Lateral
40	M172	V-Frame Vertical	37.625				0.65	0.65	Lateral
41	M173	V-Frame Vertical	37.625				0.65	0.65	Lateral
42	M174	Taper PL	3.46						Lateral
43	M177	Mount Pipe	120						Lateral
44	M188	Stiff Arm	86.597						Lateral
45	M190	Mount Pipe	120						Lateral
46	M192	Mount Pipe	120						Lateral
47	M194	Mount Pipe	120						Lateral
48	M195	V-Frame Vertical	37.625				0.65	0.65	Lateral
49	M207	Front Horizontal	150	59	54.5				Lateral
50	M208	Front Horizontal	150	59	54.5				Lateral
51	M211	VFA-HD Pivot PL	5						Lateral
52	M225	VFA-HD Pivot PL	5						Lateral
53	M238	V-Frame Diagonal	45.538				0.65	0.65	Lateral
54	M245	V-Frame Diagonal	45.538				0.65	0.65	Lateral
55	M246	V-Frame Diagonal	45.538				0.65	0.65	Lateral
56	M247	V-Frame Diagonal	45.538				0.65	0.65	Lateral
57	M248	V-Frame Horizontal	30						Lateral
58	M249	V-Frame Horizontal	30						Lateral
59	M250	V-Frame Horizontal	30						Lateral
60	M251	V-Frame Horizontal	30						Lateral
61	M260	V-Frame Vertical	37.625				0.65	0.65	Lateral
62	M261	V-Frame Vertical	37.625				0.65	0.65	Lateral
63	M262	V-Frame Vertical	37.625				0.65	0.65	Lateral
64	M263	Taper PL	3.46						Lateral
65	M266	Mount Pipe	120						Lateral
66	M277	Stiff Arm	86.597						Lateral
67	M280	Mod Mount Pipe	72			Lbyy			Lateral
68	M284	Mod Mount Pipe	72			Lbyy			Lateral
69	M291	Mod Mount Pipe	72			Lbyy			Lateral
70	M293	Mod Mount Pipe	72			Lbyy			Lateral
71	M299	Mod Mount Pipe	72			Lbyy			Lateral
72	M301	Mod Mount Pipe	72			Lbyy			Lateral

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	M1			Yes	Default	None
2	M2			Yes	Default	None
3	M3			Yes		None
4	M4			Yes		None
5	M5			Yes		None
6	M6			Yes		None
7	M9	AllPIN		Yes	** NA **	None
8	M10	AllPIN		Yes	** NA **	None
9	M11			Yes	** NA **	None
10	M12			Yes	** NA **	None
11	M13			Yes	** NA **	None
12	M14			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
13	M15			Yes	Default	None
14	M16			Yes	** NA **	None
15	M17			Yes	** NA **	None
16	M18			Yes	** NA **	None
17	M19			Yes	** NA **	None
18	M20			Yes	** NA **	None
19	M21			Yes	** NA **	None
20	M22			Yes	** NA **	None
21	M23			Yes	** NA **	None
22	M24			Yes	** NA **	None
23	M25			Yes	** NA **	None
24	M26			Yes	** NA **	None
25	M27			Yes	** NA **	None
26	M28			Yes	** NA **	None
27	M29			Yes	** NA **	None
28	M30			Yes	** NA **	None
29	M31			Yes	** NA **	None
30	M32			Yes	** NA **	None
31	M33			Yes	** NA **	None
32	M35			Yes	** NA **	None
33	M36			Yes	** NA **	None
34	M37			Yes	** NA **	None
35	M38			Yes	** NA **	None
36	M39			Yes	Default	None
37	M40			Yes	** NA **	None
38	M41			Yes	** NA **	None
39	M42			Yes	** NA **	None
40	M43			Yes	** NA **	None
41	M44			Yes	** NA **	None
42	M45			Yes	** NA **	None
43	M46			Yes	** NA **	None
44	M47			Yes	** NA **	None
45	M48			Yes	** NA **	None
46	M49			Yes	** NA **	None
47	M50			Yes	** NA **	None
48	M51			Yes	** NA **	None
49	M52			Yes	** NA **	None
50	M53			Yes	** NA **	None
51	M55	AllPIN		Yes	** NA **	None
52	M56	AllPIN		Yes	** NA **	None
53	M57			Yes	** NA **	None
54	M58			Yes	** NA **	None
55	M59			Yes	** NA **	None
56	M60			Yes	** NA **	None
57	M61			Yes	** NA **	None
58	M67		BenPIN	Yes		None
59	M69			Yes		None
60	M70			Yes		None
61	M71			Yes		None
62	M72			Yes		None
63	M73			Yes		None
64	M74			Yes		None
65	M75			Yes		None
66	M76			Yes		None
67	M77			Yes	** NA **	None
68	M78			Yes	** NA **	None
69	M79			Yes	** NA **	None
70	M80			Yes	** NA **	None
71	M81			Yes	** NA **	None
72	M82			Yes	** NA **	None
73	M83			Yes	** NA **	None
74	M84			Yes	** NA **	None
75	M85			Yes		None
76	M86			Yes		None
77	M87			Yes		None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
78	M88			Yes		None
79	M89			Yes	Default	None
80	M90			Yes	** NA **	None
81	M91			Yes	** NA **	None
82	M92			Yes	** NA **	None
83	M93			Yes	** NA **	None
84	M94			Yes	** NA **	None
85	M95			Yes	** NA **	None
86	M96			Yes	** NA **	None
87	M97			Yes	** NA **	None
88	M98			Yes	** NA **	None
89	M99			Yes	** NA **	None
90	M100			Yes	** NA **	None
91	M101			Yes		None
92	M102			Yes	** NA **	None
93	M103			Yes		None
94	M104			Yes	** NA **	None
95	M105			Yes		None
96	M106			Yes		None
97	M107			Yes	** NA **	None
98	M108			Yes	** NA **	None
99	M109			Yes	** NA **	None
100	M110			Yes	** NA **	None
101	M111			Yes	** NA **	None
102	M112			Yes	** NA **	None
103	M113			Yes	** NA **	None
104	M114			Yes	** NA **	None
105	M115			Yes	** NA **	None
106	M116	AllPIN		Yes	** NA **	None
107	M117			Yes	** NA **	None
108	M118			Yes	Default	None
109	M119			Yes	Default	None
110	M120			Yes	** NA **	None
111	M121			Yes	** NA **	None
112	M122			Yes	Default	None
113	M123	AllPIN		Yes	** NA **	None
114	M124			Yes	** NA **	None
115	M125	AllPIN		Yes	** NA **	None
116	M126			Yes	** NA **	None
117	M127			Yes	** NA **	None
118	M128			Yes	** NA **	None
119	M129			Yes	** NA **	None
120	M130			Yes	** NA **	None
121	M131			Yes	** NA **	None
122	M132			Yes	** NA **	None
123	M133			Yes	** NA **	None
124	M134			Yes	** NA **	None
125	M135			Yes	** NA **	None
126	M136			Yes	Default	None
127	M137			Yes	** NA **	None
128	M138			Yes	** NA **	None
129	M139			Yes	** NA **	None
130	M140			Yes	** NA **	None
131	M141			Yes	** NA **	None
132	M142			Yes	** NA **	None
133	M143			Yes	** NA **	None
134	M144			Yes	** NA **	None
135	M145			Yes	** NA **	None
136	M146			Yes	** NA **	None
137	M147			Yes	** NA **	None
138	M148			Yes	** NA **	None
139	M149			Yes		None
140	M150			Yes	** NA **	None
141	M151			Yes	** NA **	None
142	M152			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
143	M153			Yes	** NA **	None
144	M154	AllPIN		Yes	** NA **	None
145	M155			Yes	** NA **	None
146	M156			Yes		None
147	M157			Yes		None
148	M158			Yes		None
149	M159			Yes		None
150	M160			Yes		None
151	M161			Yes		None
152	M162			Yes		None
153	M163			Yes	** NA **	None
154	M164			Yes	** NA **	None
155	M165			Yes	** NA **	None
156	M166			Yes	** NA **	None
157	M167			Yes	** NA **	None
158	M168			Yes	** NA **	None
159	M169			Yes	** NA **	None
160	M170			Yes	** NA **	None
161	M171			Yes		None
162	M172			Yes		None
163	M173			Yes		None
164	M174			Yes	Default	None
165	M175			Yes	** NA **	None
166	M176			Yes	** NA **	None
167	M177			Yes		None
168	M178			Yes	** NA **	None
169	M179			Yes	** NA **	None
170	M180			Yes	** NA **	None
171	M181			Yes	** NA **	None
172	M182			Yes	** NA **	None
173	M183			Yes	** NA **	None
174	M184			Yes	** NA **	None
175	M185			Yes	** NA **	None
176	M186			Yes	** NA **	None
177	M187			Yes	** NA **	None
178	M188		BenPIN	Yes		None
179	M189			Yes	** NA **	None
180	M190			Yes		None
181	M191			Yes	** NA **	None
182	M192			Yes		None
183	M193			Yes	** NA **	None
184	M194			Yes		None
185	M195			Yes		None
186	M196			Yes	** NA **	None
187	M197			Yes	** NA **	None
188	M198			Yes	** NA **	None
189	M199			Yes	** NA **	None
190	M200			Yes	** NA **	None
191	M201			Yes	** NA **	None
192	M202			Yes	** NA **	None
193	M203			Yes	** NA **	None
194	M204			Yes	** NA **	None
195	M205	AllPIN		Yes	** NA **	None
196	M206			Yes	** NA **	None
197	M207			Yes	Default	None
198	M208			Yes	Default	None
199	M209			Yes	** NA **	None
200	M210			Yes	** NA **	None
201	M211			Yes	Default	None
202	M212	AllPIN		Yes	** NA **	None
203	M213			Yes	** NA **	None
204	M214	AllPIN		Yes	** NA **	None
205	M215			Yes	** NA **	None
206	M216			Yes	** NA **	None
207	M217			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
208	M218			Yes	** NA **	None
209	M219			Yes	** NA **	None
210	M220			Yes	** NA **	None
211	M221			Yes	** NA **	None
212	M222			Yes	** NA **	None
213	M223			Yes	** NA **	None
214	M224			Yes	** NA **	None
215	M225			Yes	Default	None
216	M226			Yes	** NA **	None
217	M227			Yes	** NA **	None
218	M228			Yes	** NA **	None
219	M229			Yes	** NA **	None
220	M230			Yes	** NA **	None
221	M231			Yes	** NA **	None
222	M232			Yes	** NA **	None
223	M233			Yes	** NA **	None
224	M234			Yes	** NA **	None
225	M235			Yes	** NA **	None
226	M236			Yes	** NA **	None
227	M237			Yes	** NA **	None
228	M238			Yes		None
229	M239			Yes	** NA **	None
230	M240			Yes	** NA **	None
231	M241			Yes	** NA **	None
232	M242			Yes	** NA **	None
233	M243	AllPIN		Yes	** NA **	None
234	M244			Yes	** NA **	None
235	M245			Yes		None
236	M246			Yes		None
237	M247			Yes		None
238	M248			Yes		None
239	M249			Yes		None
240	M250			Yes		None
241	M251			Yes		None
242	M252			Yes	** NA **	None
243	M253			Yes	** NA **	None
244	M254			Yes	** NA **	None
245	M255			Yes	** NA **	None
246	M256			Yes	** NA **	None
247	M257			Yes	** NA **	None
248	M258			Yes	** NA **	None
249	M259			Yes	** NA **	None
250	M260			Yes		None
251	M261			Yes		None
252	M262			Yes		None
253	M263			Yes	Default	None
254	M264			Yes	** NA **	None
255	M265			Yes	** NA **	None
256	M266			Yes		None
257	M267			Yes	** NA **	None
258	M268			Yes	** NA **	None
259	M269			Yes	** NA **	None
260	M270			Yes	** NA **	None
261	M271			Yes	** NA **	None
262	M272			Yes	** NA **	None
263	M273			Yes	** NA **	None
264	M274			Yes	** NA **	None
265	M275			Yes	** NA **	None
266	M276			Yes	** NA **	None
267	M277		BenPIN	Yes		None
268	M278			Yes	** NA **	None
269	M279			Yes	** NA **	None
270	M280			Yes	Default	None
271	M281			Yes	** NA **	None
272	M282			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
273	M283			Yes	** NA **	None
274	M284			Yes	Default	None
275	M285			Yes	** NA **	None
276	M286			Yes	** NA **	None
277	M287			Yes	** NA **	None
278	M288			Yes	** NA **	None
279	M289			Yes	** NA **	None
280	M290			Yes	** NA **	None
281	M291			Yes	Default	None
282	M292			Yes	** NA **	None
283	M293			Yes	Default	None
284	M294			Yes	** NA **	None
285	M295			Yes	** NA **	None
286	M296			Yes	** NA **	None
287	M297			Yes	** NA **	None
288	M298			Yes	** NA **	None
289	M299			Yes	Default	None
290	M300			Yes	** NA **	None
291	M301			Yes	Default	None
292	M302			Yes	** NA **	None

Node Boundary Conditions

	Y [k/in]	X Rot [k-ft/rad]	X [k/in]	Z [k/in]	Node Label	Y Rot [k-ft/rad]
1	Reaction		Reaction	Reaction	N91	
2					N58	
3					N15	
4					N116	
5	Reaction	Reaction	Reaction	Reaction	N116A	Reaction
6	Reaction	Reaction	Reaction	Reaction	N117	Reaction
7	Reaction		Reaction	Reaction	N157	
8					N160	
9	Reaction	Reaction	Reaction	Reaction	N161	Reaction
10					N182	
11					N226	
12	Reaction	Reaction	Reaction	Reaction	N227	Reaction
13	Reaction		Reaction	Reaction	N275	
14					N278	
15	Reaction	Reaction	Reaction	Reaction	N279	Reaction
16					N300	
17					N344	
18	Reaction	Reaction	Reaction	Reaction	N345	Reaction

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N91	max	2045.2	17	157.404	9	197.495	17	0	130	0	130	0	130
2		min	-2049.006	9	-157.66	17	-168.641	9	0	1	0	1	0	1
3	N116A	max	1982.308	4	1685.43	15	2140.316	26	328.219	82	-772.682	1	0	130
4		min	-3427.257	12	-1317.426	7	677.388	1	-418.255	122	-2351.048	26	0	1
5	N117	max	1641.866	27	1019.214	67	473.162	19	109.937	82	-57.636	11	0	130
6		min	252.542	1	-1385.165	123	52.005	11	-139.814	122	-403.647	19	0	1
7	N157	max	864.206	3	1780.403	11	191.112	11	0	130	0	130	0	130
8		min	-861.651	11	-1781.568	3	-161.931	3	0	1	0	1	0	1
9	N161	max	-166.312	66	1640.239	19	483.504	30	371.702	31	182.582	30	0	130
10		min	-555.563	27	511.884	59	58.925	6	67.934	6	8.974	6	0	1
11	N227	max	1182.433	5	2186.736	15	2186.775	20	2131.435	20	1111.785	19	0	130
12		min	-706.326	13	-3630.031	7	743.653	59	720.358	59	386.063	59	0	1
13	N275	max	1105.96	14	1632.247	14	190.296	6	0	130	0	130	0	130
14		min	-1106.225	6	-1629.447	6	-161.193	14	0	1	0	1	0	1
15	N279	max	-366.169	54	-349.177	8	470.362	25	-32.398	16	230.97	26	0	130
16		min	-1189.702	30	-1225.883	33	47.145	16	-330.964	24	46.595	17	0	1
17	N345	max	3028.03	3	2361.376	18	2145.232	31	-672.014	54	1279.463	31	0	130
18		min	-1983.571	11	-1294.296	10	724.118	54	-1981.248	31	426.89	54	0	1
19	Totals:	max	5309.762	3	5307.22	15	7689.043	23						

Envelope Node Reactions (Continued)

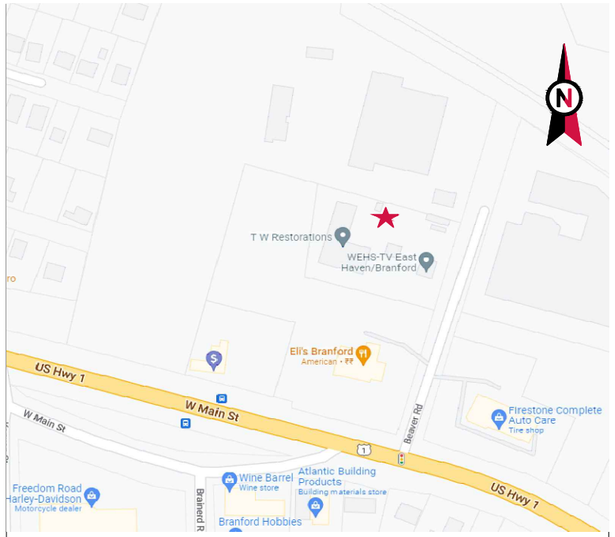
	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
20		min	-5309.773	11	-5307.227	7	2689.119	62						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	M4	PIPE_2.0	0.66	63.789	11	0.167	64.421		11	9836.597	32130	1871.625	1871.625	3	H1-1b
2	M177	PIPE_2.0	0.66	63.789	6	0.167	64.421		6	9836.597	32130	1871.625	1871.625	3	H1-1b
3	M266	PIPE_2.0	0.66	63.789	16	0.166	64.421		16	9836.597	32130	1871.625	1871.625	3	H1-1b
4	M6	PIPE_2.0	0.656	63.789	11	0.105	64.421		11	9836.597	32130	1871.625	1871.625	3	H1-1b
5	M105	PIPE_2.0	0.656	63.789	6	0.105	64.421		6	9836.597	32130	1871.625	1871.625	3	H1-1b
6	M194	PIPE_2.0	0.656	63.789	16	0.104	64.421		16	9836.597	32130	1871.625	1871.625	3	H1-1b
7	M5	PIPE_2.0	0.532	64.421	11	0.078	64.421		12	9836.597	32130	1871.625	1871.625	3	H1-1b
8	M103	PIPE_2.0	0.531	64.421	6	0.079	64.421		7	9836.597	32130	1871.625	1871.625	3	H1-1b
9	M192	PIPE_2.0	0.523	64.421	16	0.082	64.421		18	9836.597	32130	1871.625	1871.625	3	H1-1b
10	M207	PIPE_2.5	0.443	45.789	17	0.206	45		18	41612.363	50715	3596.25	3596.25	2.035	H1-1b
11	M118	PIPE_2.5	0.428	40.263	5	0.211	45		7	41612.363	50715	3596.25	3596.25	2.751	H1-1b
12	M2	PIPE_2.5	0.419	40.263	11	0.208	45		12	41612.363	50715	3596.25	3596.25	2.226	H1-1b
13	M250	PIPE_2.0	0.385	0	3	0.129	0		20	29810.292	32130	1871.625	1871.625	2.674	H1-1b
14	M161	PIPE_2.0	0.383	0	8	0.129	0		31	29810.292	32130	1871.625	1871.625	2.659	H1-1b
15	M75	PIPE_2.0	0.383	0	14	0.156	30		128	29810.292	32130	1871.625	1871.625	2.668	H1-1b
16	M69	.75 Dia.	0.374	45.538	116	0.018	0		119	4004.835	13916.259	173.958	173.958	1.457	H1-1a
17	M71	.75 Dia.	0.317	45.538	67	0.016	45.538		7	4004.835	13916.259	173.958	173.958	1.685	H1-1a
18	M3	PIPE_2.0	0.292	64.421	74	0.057	64.421		11	9836.597	32130	1871.625	1871.625	3	H1-1b
19	M1	PIPE_2.5	0.28	45.789	125	0.099	45.789		12	41612.363	50715	3596.25	3596.25	2.254	H1-1b
20	M136	PL5/8x9	0.266	0	25	0.063	0	y	4	170357.735	177187.5	2307.128	33222.656	1.154	H1-1b
21	M225	PL5/8x9	0.262	0	19	0.07	0	y	20	170357.735	177187.5	2307.128	33222.656	1.154	H1-1b
22	M39	PL5/8x9	0.262	0	30	0.256	0	y	127	170357.735	177187.5	2307.128	33222.656	1.154	H1-1b
23	M73	PIPE_2.0	0.233	0	122	0.108	15		124	29810.292	32130	1871.625	1871.625	1.657	H1-1b
24	M208	PIPE_2.5	0.204	56.842	8	0.105	45.789		17	41612.363	50715	3596.25	3596.25	2.003	H1-1b
25	M119	PIPE_2.5	0.199	56.842	14	0.1	45.789		7	41612.363	50715	3596.25	3596.25	2.027	H1-1b
26	M245	.75 Dia.	0.199	45.538	20	0.007	0		13	4004.835	13916.259	173.958	173.958	2.26	H1-1b*
27	M89	PL1/2x6	0.198	0	115	0.224	0	y	122	91761.124	94500	984.375	11812.5	1.161	H1-1b
28	M156	.75 Dia.	0.196	45.538	31	0.007	0		18	4004.835	13916.259	173.958	173.958	1.313	H1-1b*
29	M76	PIPE_2.0	0.194	0	128	0.132	0		70	29810.292	32130	1871.625	1871.625	2.76	H1-1b
30	M74	PIPE_2.0	0.193	0	80	0.144	30		74	29810.292	32130	1871.625	1871.625	1.407	H1-1b
31	M251	PIPE_2.0	0.19	0	6	0.128	0		27	29810.292	32130	1871.625	1871.625	1.442	H1-1b
32	M162	PIPE_2.0	0.185	0	11	0.13	0		33	29810.292	32130	1871.625	1871.625	1.425	H1-1b
33	M174	PL1/2x6	0.178	0	31	0.057	0	y	20	91761.124	94500	984.375	11812.5	1.161	H1-1b
34	M263	PL1/2x6	0.175	0	25	0.064	0	y	31	91761.124	94500	984.375	11812.5	1.161	H1-1b
35	M106	.625 Dia._HRA	0.156	37.625	14	0.012	0		9	2829.059	9664.074	100.666	100.666	2.2	H1-1b*
36	M88	.625 Dia._HRA	0.156	37.625	3	0.012	0		15	2829.059	9664.074	100.666	100.666	2.194	H1-1b*
37	M195	.625 Dia._HRA	0.155	37.625	8	0.011	0		4	2829.059	9664.074	100.666	100.666	2.191	H1-1b*
38	M291	PIPE_2.0	0.148	19.705	33	0.082	19.705		11	20866.733	32130	1871.625	1871.625	1.959	H1-1b
39	M299	PIPE_2.0	0.147	19.705	27	0.086	19.705		5	20866.733	32130	1871.625	1871.625	1.972	H1-1b
40	M280	PIPE_2.0	0.147	19.705	22	0.082	19.705		16	20866.733	32130	1871.625	1871.625	1.978	H1-1b
41	M149	.75 Dia.	0.144	45.538	29	0.016	45.538		18	4004.835	13916.259	173.958	173.958	1.96	H1-1b*
42	M301	PIPE_2.0	0.141	19.705	21	0.072	19.705		11	20866.733	32130	1871.625	1871.625	1.943	H1-1b
43	M284	PIPE_2.0	0.141	19.705	32	0.072	19.705		6	20866.733	32130	1871.625	1871.625	1.953	H1-1b
44	M293	PIPE_2.0	0.141	19.705	27	0.076	19.705		17	20866.733	32130	1871.625	1871.625	1.956	H1-1b
45	M190	PIPE_2.0	0.14	64.421	16	0.057	64.421		16	9836.597	32130	1871.625	1871.625	3	H1-1b
46	M101	PIPE_2.0	0.138	64.421	6	0.057	64.421		6	9836.597	32130	1871.625	1871.625	3	H1-1b
47	M15	PL5/8x9	0.132	5	115	0.099	0	y	122	170357.735	177187.5	2307.128	33222.656	1.154	H1-1b
48	M70	.75 Dia.	0.131	0	124	0.017	45.538		126	4004.835	13916.259	173.958	173.958	1.475	H1-1b
49	M238	.75 Dia.	0.129	45.538	24	0.016	45.538		12	4004.835	13916.259	173.958	173.958	1.954	H1-1b*
50	M67	PIPE_2.0	0.12	0	17	0.004	86.597		31	17208.325	32130	1871.625	1871.625	1.136	H1-1b*
51	M172	.625 Dia._HRA	0.118	37.625	15	0.008	0		11	2829.059	9664.074	100.666	100.666	2.705	H1-1b*
52	M72	.75 Dia.	0.118	0	73	0.017	45.538		72	4004.835	13916.259	173.958	173.958	1.257	H1-1b
53	M261	.625 Dia._HRA	0.118	37.625	9	0.008	0		6	2829.059	9664.074	100.666	100.666	2.531	H1-1b*
54	M86	.625 Dia._HRA	0.117	37.625	4	0.008	0		16	2829.059	9664.074	100.666	100.666	2.706	H1-1b*
55	M188	PIPE_2.0	0.115	0	11	0.004	86.597		26	17208.325	32130	1871.625	1871.625	1.136	H1-1b*
56	M277	PIPE_2.0	0.115	0	6	0.004	86.597		29	17208.325	32130	1871.625	1871.625	1.136	H1-1b*
57	M248	PIPE_2.0	0.101	15	27	0.093	27.789		17	29810.292	32130	1871.625	1871.625	1.288	H1-1b
58	M122	PL5/8x9	0.099	5	30	0.025	0	y	20	170357.735	177187.5	2307.128	33222.656	1.154	H1-1b
59	M159	PIPE_2.0	0.099	15	32	0.089	27.789		7	29810.292	32130	1871.625	1871.625	1.288	H1-1b
60	M211	PL5/8x9	0.099	5	25	0.028	0	y	31	170357.735	177187.5	2307.128	33222.656	1.154	H1-1b

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
61	M246	.75 Dia.	0.09	0	32	0.014	45.538		3	4004.835	13916.259	173.958	173.958	1.24	H1-1b
62	M157	.75 Dia.	0.088	0	21	0.014	45.538		8	4004.835	13916.259	173.958	173.958	1.235	H1-1b
63	M160	PIPE_2.0	0.086	27.947	13	0.118	27.947		5	29810.292	32130	1871.625	1871.625	1.791	H1-1b
64	M249	PIPE_2.0	0.085	27.947	8	0.115	27.947		16	29810.292	32130	1871.625	1871.625	1.846	H1-1b
65	M171	.625 Dia._HRA	0.075	0	21	0.007	0		20	2829.059	9664.074	100.666	100.666	2.39	H1-1b
66	M85	.625 Dia._HRA	0.075	0	27	0.026	0		127	2829.059	9664.074	100.666	100.666	2.225	H1-1b
67	M260	.625 Dia._HRA	0.075	0	32	0.008	37.625		4	2829.059	9664.074	100.666	100.666	2.223	H1-1b
68	M158	.75 Dia.	0.066	45.538	33	0.01	45.538		11	4004.835	13916.259	173.958	173.958	1.247	H1-1b
69	M87	.625 Dia._HRA	0.065	0	72	0.026	0		127	2829.059	9664.074	100.666	100.666	2.517	H1-1b
70	M247	.75 Dia.	0.064	45.538	15	0.011	45.538		6	4004.835	13916.259	173.958	173.958	2.575	H1-1b
71	M173	.625 Dia._HRA	0.059	0	20	0.009	37.625		9	2829.059	9664.074	100.666	100.666	2.785	H1-1b
72	M262	.625 Dia._HRA	0.057	37.625	25	0.01	37.625		4	2829.059	9664.074	100.666	100.666	2.788	H1-1b



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: CHERRY HILL-BRANFORD
ATC SITE NUMBER: 302536
AT&T PACE NUMBERS: MRCTB053753/ MRCTB056493/ MRCTB056487/ MRCTB053581
AT&T SITE ID: CTL02175
AT&T FA CODE:10035093
AT&T SITE NAME: BRANFORD WEST
SITE ADDRESS: 4 BEAVER ROAD
BRANFORD,CT 06405-3403

AT&T 5G NR Radio / 5G NR 1SR CBAND AMENDMENT PLAN

LOCATION MAP

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: UTILITY COMPANY DIRECT
PHONE: UNKNOWN

TELEPHONE COMPANY: UNKNOWN
PHONE: UNKNOWN

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

PROJECT SUMMARY

SITE ADDRESS:

4 BEAVER ROAD
BRANFORD,CT 06405-3403
COUNTY: NEW HAVEN

GEOGRAPHIC COORDINATES:

LATITUDE: 41.28015016
LONGITUDE: -72.84173799
GROUND ELEVATION: 90' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

AT&T MOBILITY

ENGINEER:

HUDSON DESIGN GROUP, LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

PROPERTY OWNER:

JOYCE TIPPING
4 BEAVER ROAD
BRANFORD,CT 06405-3403

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

TOWER WORK:

REMOVE (12) ANTENNA(S) AND (6) TMA(S)

INSTALL (3) SECTOR FRAMES W/ MOUNT MODIFICATION(S), (3) Y-CABLE(S), AND (12) ANTENNA(S)

EXISTING (12) RRH(S), (3) DC-6 SQUID(S), (12) 7/8" COAX, (6) 0.774" DC TRUNK(S) AND (2) 0.394" FIBER TRUNK(S) TO REMAIN

GROUND WORK:

REMOVE (3) RRH(S) AND (12) DIPLEXER(S)

INSTALL (1) IDLE XCEDE CABLE, (15) 721 UPCONVERTERS AND (4) RECTIFIERS

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.
6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

PROJECT LOCATION DIRECTIONS

FROM NEW LONDON CT - I 95 SOUTH TO EXIT 53. TAKE OFF RAMP AND THEN TAKE RIGHT ONTO RT 1 AND THEN FOLLOW TO BEAVER RD.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	06/07/22	TR
G-002	GENERAL NOTES	0	06/07/22	TR
C-101	DETAILED SITE PLAN	0	06/07/22	TR
C-201	TOWER ELEVATION	0	06/07/22	TR
C-401	RF SCHEDULE AND ANTENNA INSTALLATION	0	06/07/22	TR
C-501	CONSTRUCTION DETAILS	0	06/07/22	TR
E-501	GROUNDING DETAILS	0	06/07/22	TR
R-601	SUPPLEMENTAL	0		
R-602	SUPPLEMENTAL	0		
R-603	SUPPLEMENTAL	0		
R-604	SUPPLEMENTAL	0		
R-605	SUPPLEMENTAL	0		
	MOUNT MODIFICATIONS			

AT&T RAN SCOPING NOTES:

(15) 721 UPCONVERTERS REQUIRED
INSTALL (4) RECTIFIERS

AMERICAN TOWER®

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/18/22
B	PRELIM REVISED	TR	05/25/22
0	FINALS	BB	06/07/22

ATC SITE NUMBER:
302536

ATC SITE NAME:
CHERRY HILL-BRANFORD

AT&T SITE NAME:
BRANFORD WEST

SITE ADDRESS:
4 BEAVER ROAD
BRANFORD,CT 06405-3403

SEAL:

AT&T

DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

TITLE SHEET

SHEET NUMBER: G-001

REVISION: 0

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY AT&T REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T REP. ANY WORK FOUND BY THE AT&T REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. AT&T OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T OR THEIR ARCHITECT/ENGINEER.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
   - H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
   - I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T- MOBILE PROJECT MANAGER IN WRITING

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
   - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
   - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T SPECIFICATIONS.
   - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
   - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
   - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
   - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
   - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

AMERICAN TOWER®

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/18/22
B	PRELIM REVISED	TR	05/25/22
0	FINALS	BB	06/07/22

ATC SITE NUMBER:
302536

ATC SITE NAME:
CHERRY HILL-BRANFORD

AT&T SITE NAME:
BRANFORD WEST

SITE ADDRESS:
4 BEAVER ROAD
BRANFORD,CT 06405-3403

SEAL:

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

GENERAL NOTES

SHEET NUMBER: G-002

REVISION: 0

SITE PLAN NOTES:

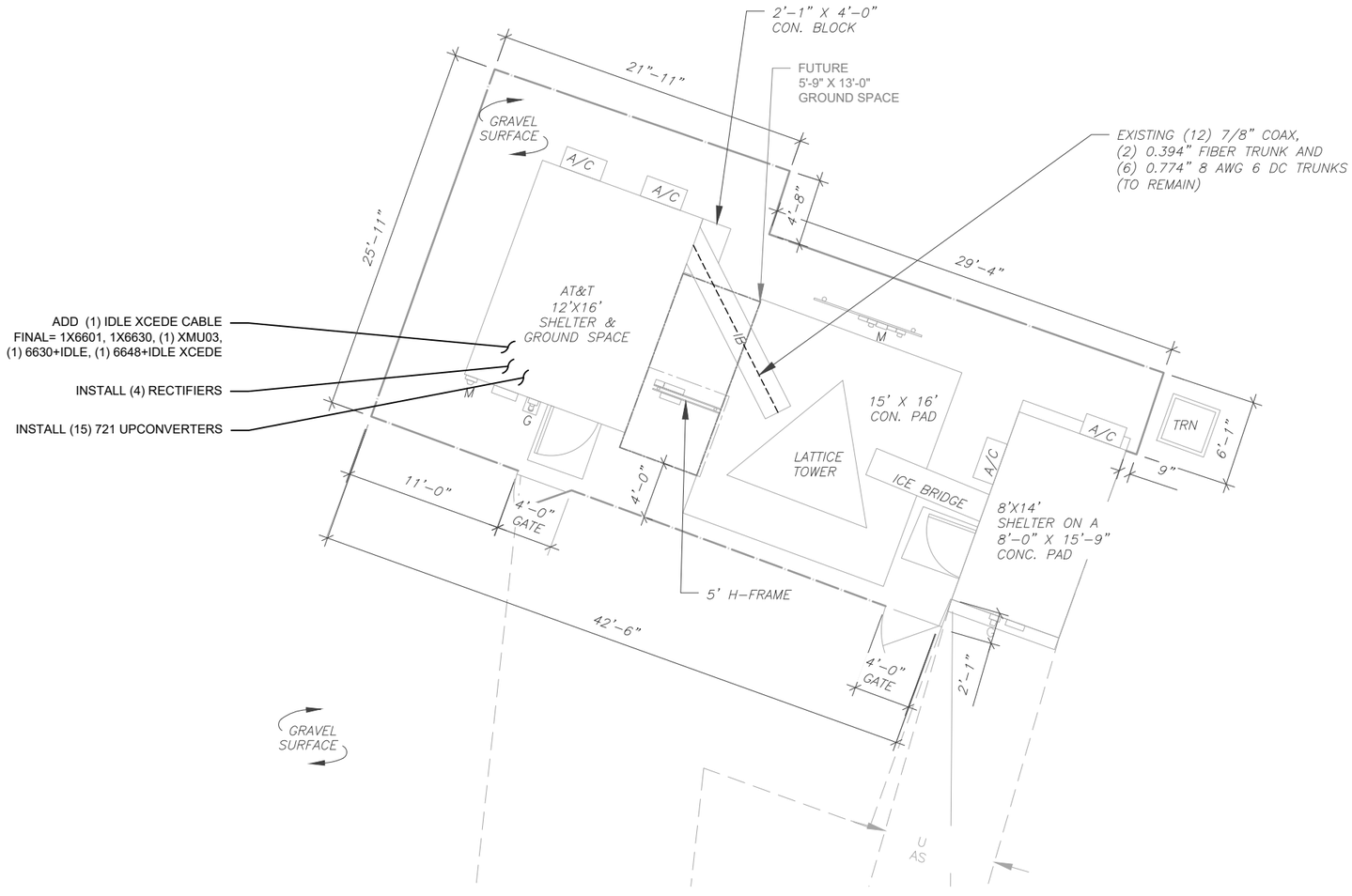
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—x—	CHAINLINK FENCE



1 DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 UNIT = 10 FEET

AMERICAN TOWER®

HUDSON Design Group LLC

45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	SS	04/18/22
B	PRELIM REVISED	TR	05/25/22
0	FINALS	BB	06/07/22

ATC SITE NUMBER:
302536

ATC SITE NAME:
CHERRY HILL-BRANFORD

AT&T SITE NAME:
BRANFORD WEST

SITE ADDRESS:
4 BEAVER ROAD
BRANFORD,CT 06405-3403

SEAL:

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED
PROFESSIONAL ENGINEER

AT&T

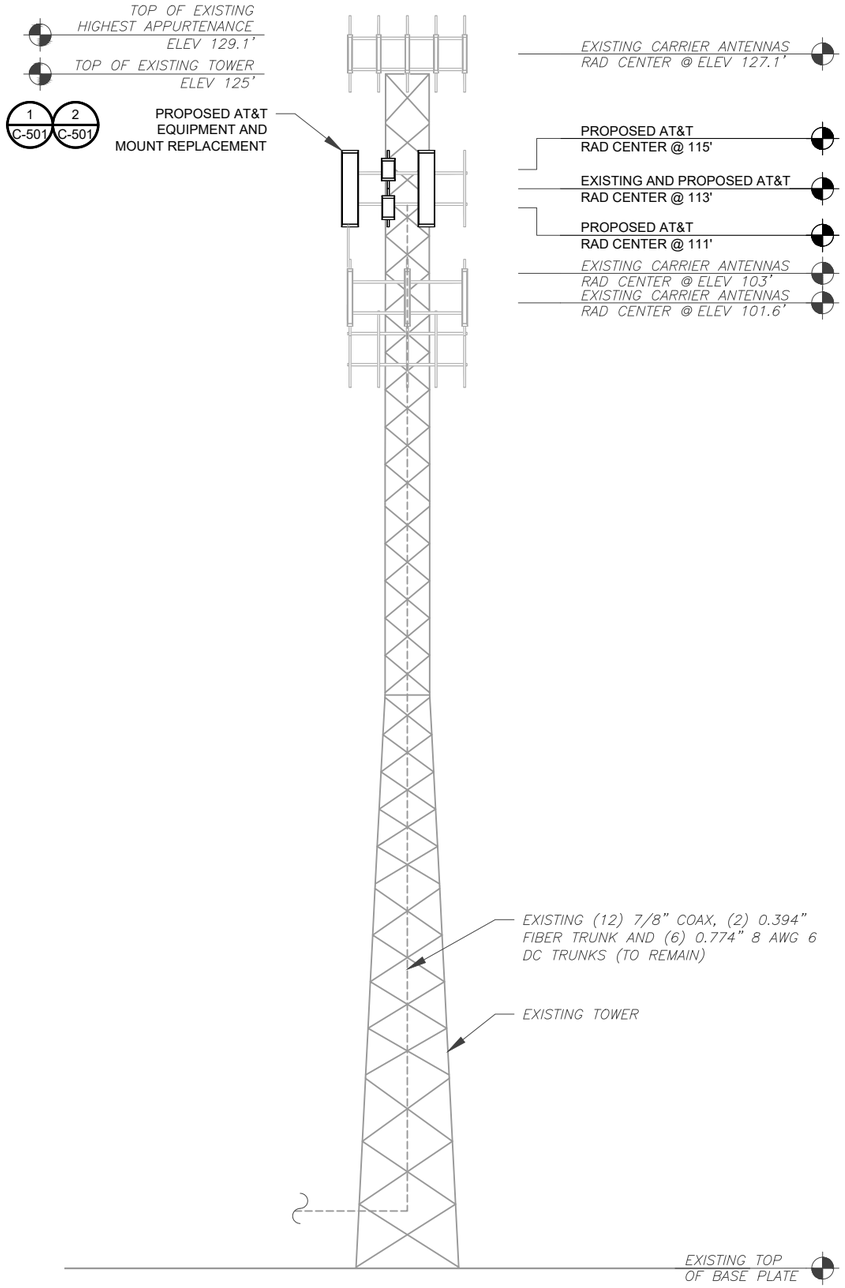
DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

DETAILED SITE PLAN

SHEET NUMBER: C-101

REVISION: 0

PER MOUNT ANALYSIS COMPLETED BY TELAMON TOWER ENGINEERING PLLC, DATED 03/24/22, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT REPLACEMENT PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



1 TOWER ELEVATION
SCALE: N.T.S.

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
3. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
4. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

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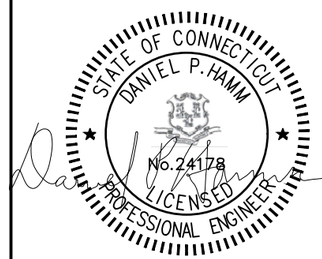
SITE ADDRESS:
4 BEAVER ROAD
BRANFORD,CT 06405-3403

SEAL:



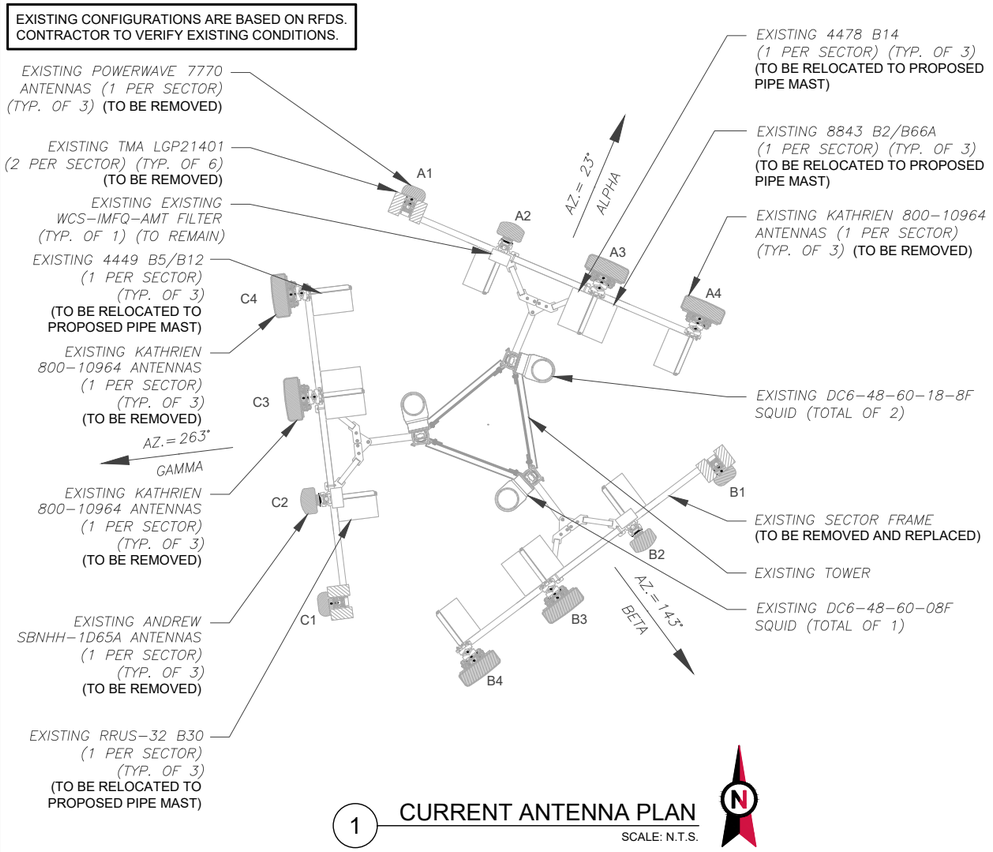
AT&T

DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

TOWER ELEVATION

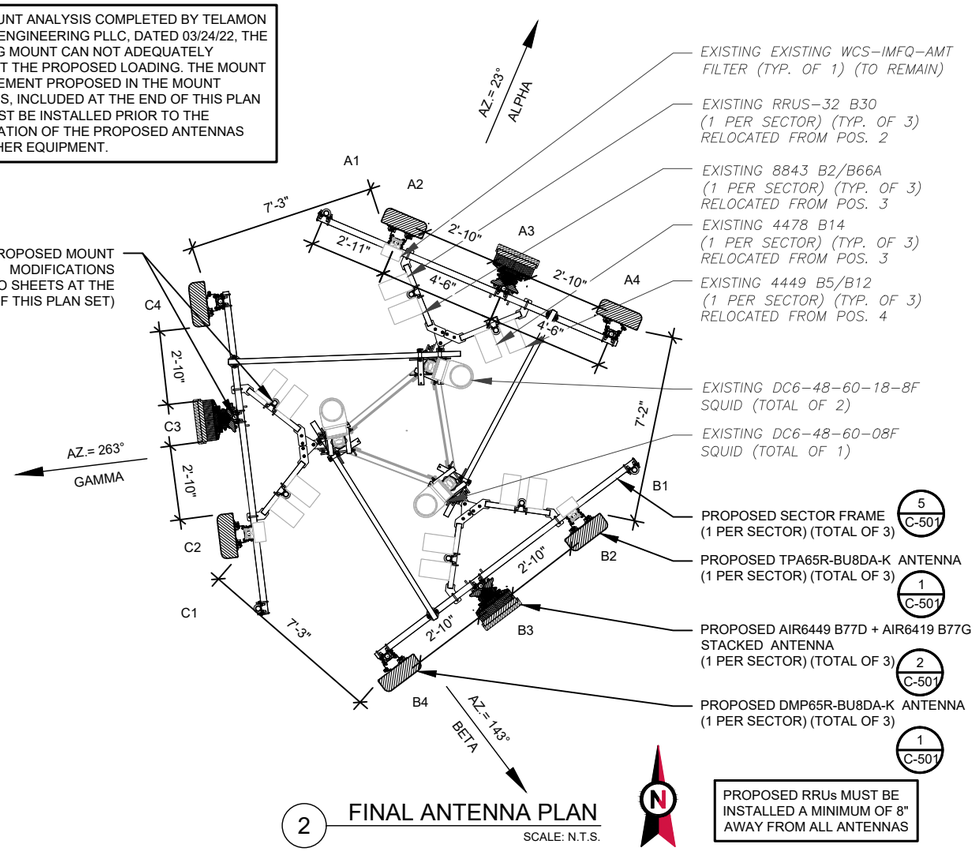
SHEET NUMBER:	REVISION:
C-201	0

EXISTING CONFIGURATIONS ARE BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



1 CURRENT ANTENNA PLAN
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY TELAMON TOWER ENGINEERING PLLC, DATED 03/24/22, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT REPLACEMENT PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



PROPOSED RRUs MUST BE INSTALLED A MINIMUM OF 8" AWAY FROM ALL ANTENNAS

2 FINAL ANTENNA PLAN
SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	113'	143°	A1	7770	UMTS 850	RMV	TMA LGP21401	RMV
		23°	A2	SBNHH-1D65A	WCS	RMV	WCS-IMFQ-AMT RRUS-32 B30	REL REL
			A3	800-10964	700, PCS, AWS	RMV	4478 B14 8843 B2/B66A	REL REL
			A4	800-10964	700, 850	RMV	4449 B5/B12	REL
BETA	113'	263°	B1	7770	UMTS 850	RMV	TMA LGP21401	RMV
		143°	B2	SBNHH-1D65A	WCS	RMV	RRUS-32 B30	REL
			B3	800-10964	700, PCS, AWS	RMV	4478 B14 8843 B2/B66A	REL REL
			B4	800-10964	700, 850	RMV	4449 B5/B12	REL
GAMMA	113'	23°	C1	7770	UMTS 850	RMV	TMA LGP21401	RMV
		263°	C2	SBNHH-1D65A	WCS	RMV	RRUS-32 B30	REL
			C3	800-10964	700, PCS, AWS	RMV	4478 B14 8843 B2/B66A	REL REL
			C4	800-10964	700, 850	RMV	4449 B5/B12	REL

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

NOTES

1. CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
3. THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	-	23°	A1	-	-	EMPTY	-	-
	113'		A2	TPA65R-BU8DA-K	LTE B14 / WCS / PCS	ADD	WCS-IMFQ-AMT RRUS-32 B30 8843 B2/B66A 4478 B14	REL REL REL REL
	115'		A3UP A3DN	AIR 6419 B77G AIR 6449 B77D	DOD+C-BAND	ADD	-	-
	113'		A4	DMP65R-BU8DA-K	LTE 700(BC) / 850 / AWS	ADD	4449 B5/B12	REL
BETA	-	143°	B1	-	-	EMPTY	-	-
	113'		B2	TPA65R-BU8DA-K	LTE B14 / WCS / PCS	ADD	RRUS-32 B30 8843 B2/B66A 4478 B14	REL REL REL
	115'		B3	AIR 6419 B77G AIR 6449 B77D	DOD+C-BAND	ADD	-	-
	111'							
	113'		B4	DMP65R-BU8DA-K	LTE 700(BC) / 850 / AWS	ADD	4449 B5/B12	REL
GAMMA	-	263°	C1	-	-	EMPTY	-	-
	113'		C2	TPA65R-BU8DA-K	LTE B14 / WCS / PCS	ADD	RRUS-32 B30 8843 B2/B66A 4478 B14	REL REL REL
	115'		C3	AIR 6419 B77G AIR 6449 B77D	DOD+C-BAND	ADD	-	-
	111'							
	113'		C4	DMP65R-BU8DA-K	LTE 700(BC) / 850 / AWS	ADD	4449 B5/B12	REL

EQUIPMENT SCHEDULES

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY				
MODEL NUMBER	STATUS	COAX	CONDUIT	DC	FIBER	STATUS
(2) DC6-48-60-18-8F (1) DC6-48-60-08F	RMN	(12) 7/8"	-	(6) 0.774" 8 AWG 6	(2) 0.394"	RMN

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY				
MODEL NUMBER	STATUS	COAX	CONDUIT	DC	FIBER	STATUS
(2) DC6-48-60-18-8F (1) DC6-48-60-08F	RMN	(12) 7/8"	-	(6) 0.774" 8 AWG 6	(2) 0.394"	RMN

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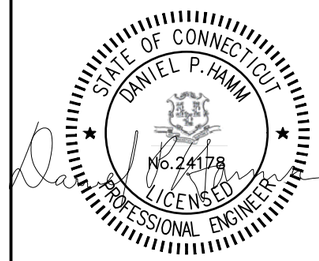
AT&T SITE NAME:
BRANFORD WEST

SITE ADDRESS:
4 BEAVER ROAD
BRANFORD,CT 06405-3403

SEAL:



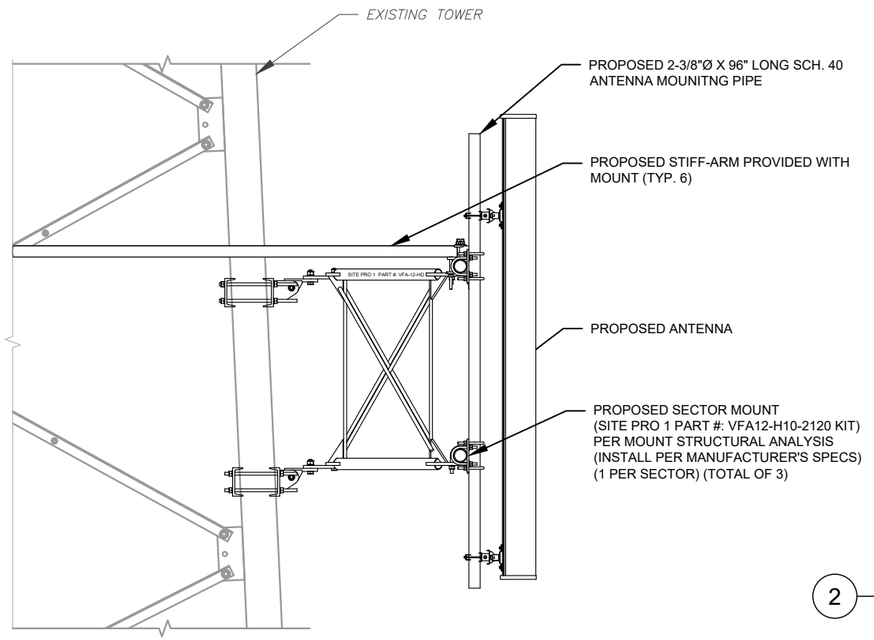
AT&T

DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

RF SCHEDULE AND ANTENNA INSTALLATION

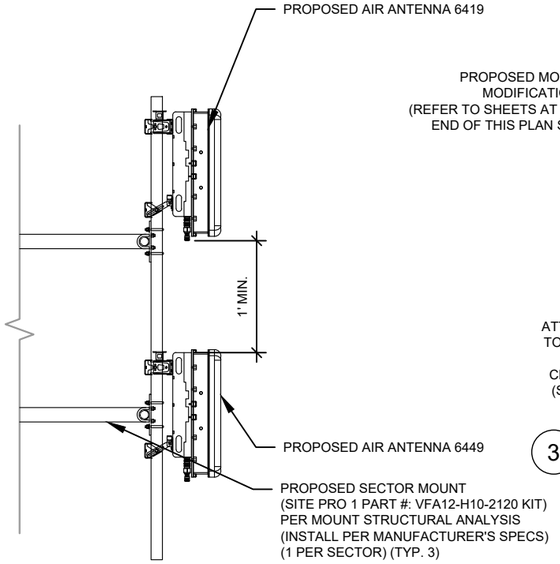
SHEET NUMBER:	REVISION:
C-401	0

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.



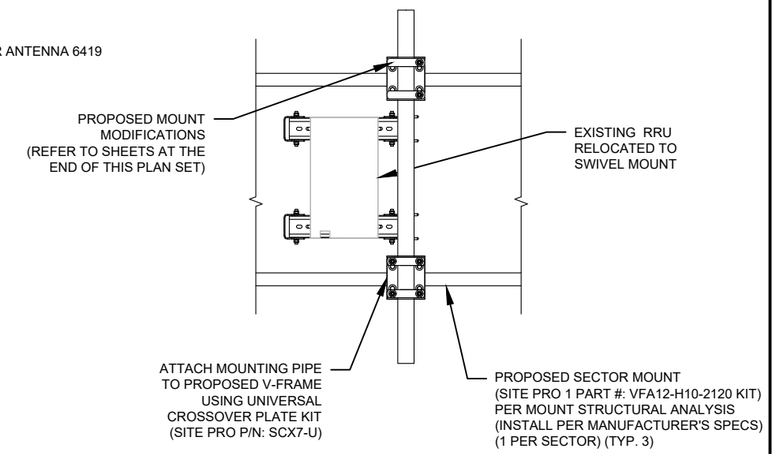
1 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)

SCALE: NOT TO SCALE



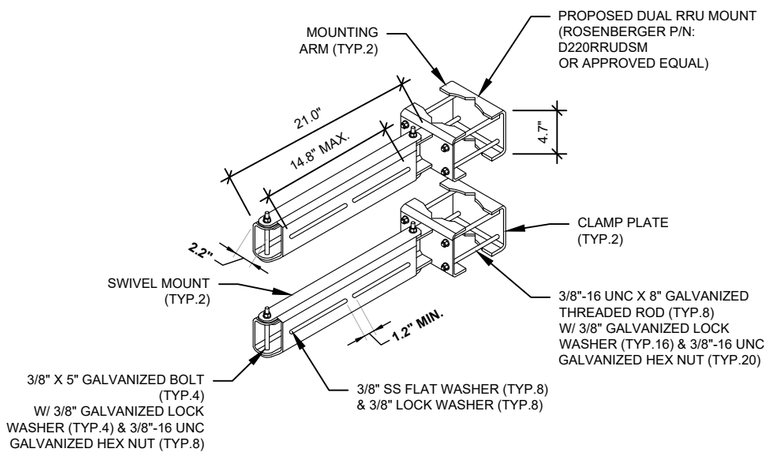
2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



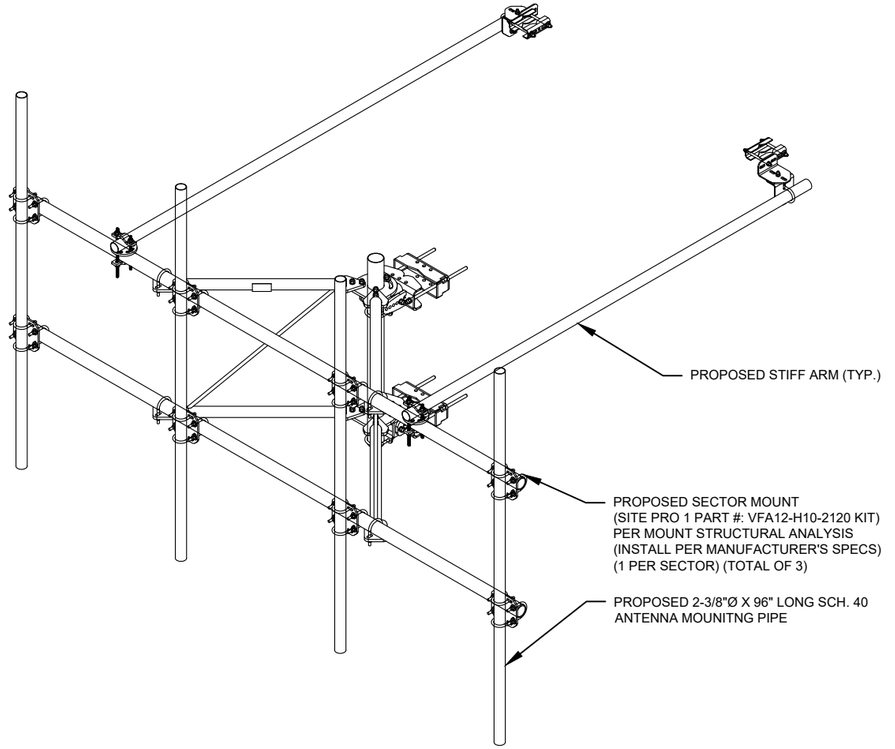
3 PROPOSED RRU/SQUID MOUNTING DETAIL

SCALE: NOT TO SCALE



4 PROPOSED SWIVEL MOUNT DETAIL

SCALE: N.T.S.



5 PROPOSED SECTOR FRAME

SCALE: N.T.S.

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ATC SITE NUMBER:
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AT&T SITE NAME:
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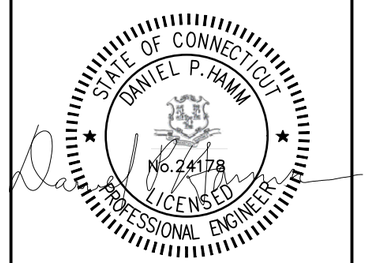
SITE ADDRESS:
4 BEAVER ROAD
BRANFORD,CT 06405-3403

SEAL:

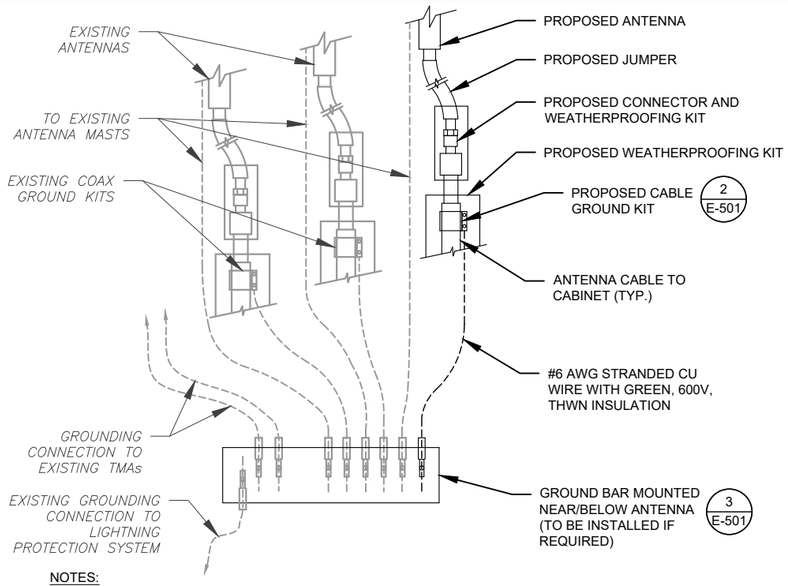


AT&T

DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

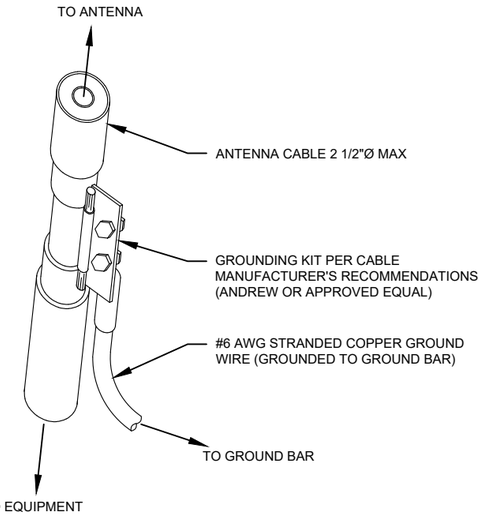


NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH AT&T GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

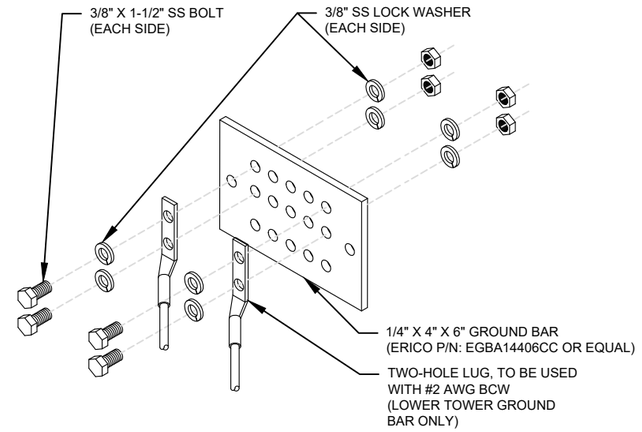


GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.

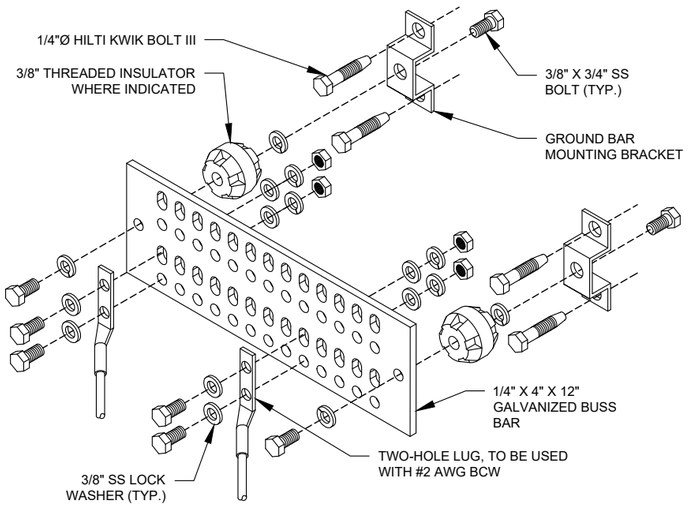


GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.
3. CONTRACTOR TO ENSURE AT&T UL467 COMPLIANCE WHEN ASSEMBLING KITS

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

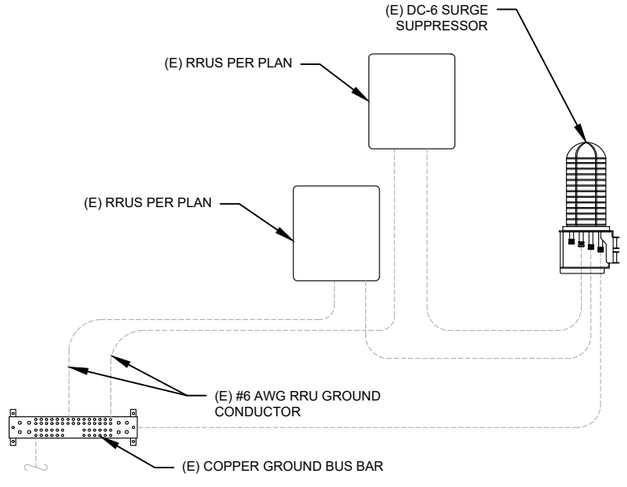


GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.
3. CONTRACTOR TO ENSURE AT&T UL467 COMPLIANCE WHEN ASSEMBLING KITS

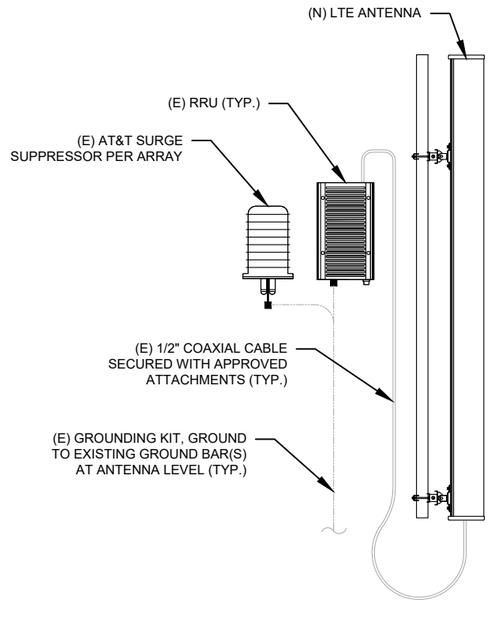
4 MAIN GROUND BAR DETAIL

SCALE: N.T.S.



5 RRU GROUNDING

SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING

SCALE: N.T.S.

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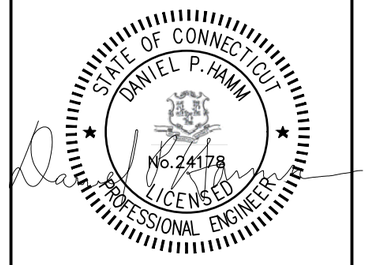


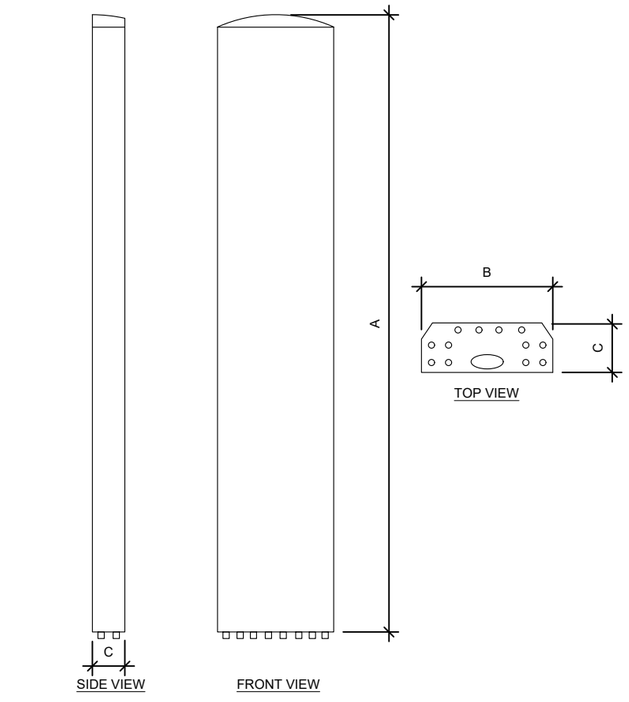
AT&T

DATE DRAWN:	04/15/22
ATC JOB NO:	13759895_G5
CUSTOMER ID:	CTL02175
CUSTOMER #:	10035093

GROUNDING DETAILS

SHEET NUMBER: E-501

REVISION: 0



ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
TPA65R-BU8DA-K	96.0"	21.0"	7.8"	83.0
AIR 6419 B77G	15.7"	30.0"	6.7"	102.5
AIR 6449 B77D	15.9"	30.4"	8.1"	103.6
DMP65R-BU8DA-K	96.0"	20.7"	7.7"	96.0

1 EQUIPMENT SPECIFICATIONS
SCALE: N.T.S.

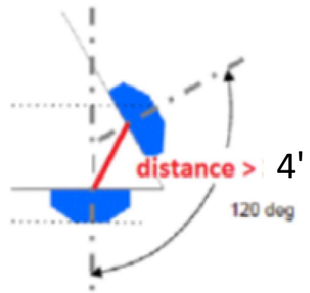
SUPPLEMENTAL

SHEET NUMBER: R-601

REVISION: 0

RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- Horizontal separation (side to side of antenna): >= 3’
- Vertical separation (between the tips of the antennas): > 3’
- Inter-sector separation: > 4' between the center of the antenna backplanes.



- Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- Typical 3' horizontal separation can tolerate skew angle up to 6°.

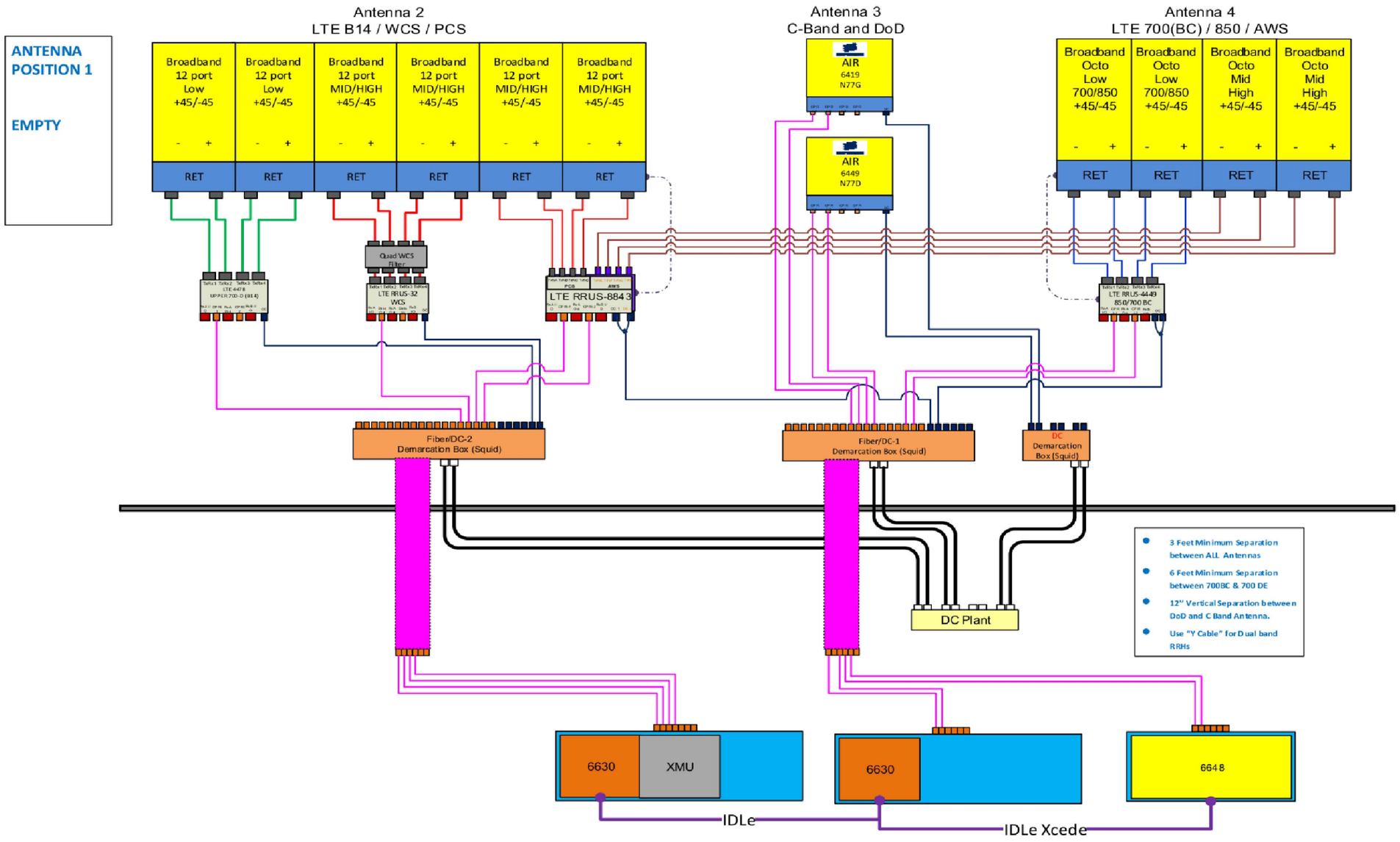
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-602

REVISION: 0

Diagram - Sector	A	Diagram File Name - CT2175_A_CBand_DoD_wFilter.vsd					
Atoll Site Name -	CTL02175	Location Name -	BRANFORD WEST	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson "							



ALPHA SECTOR

1 RFDS PLUMBING DIAGRAM

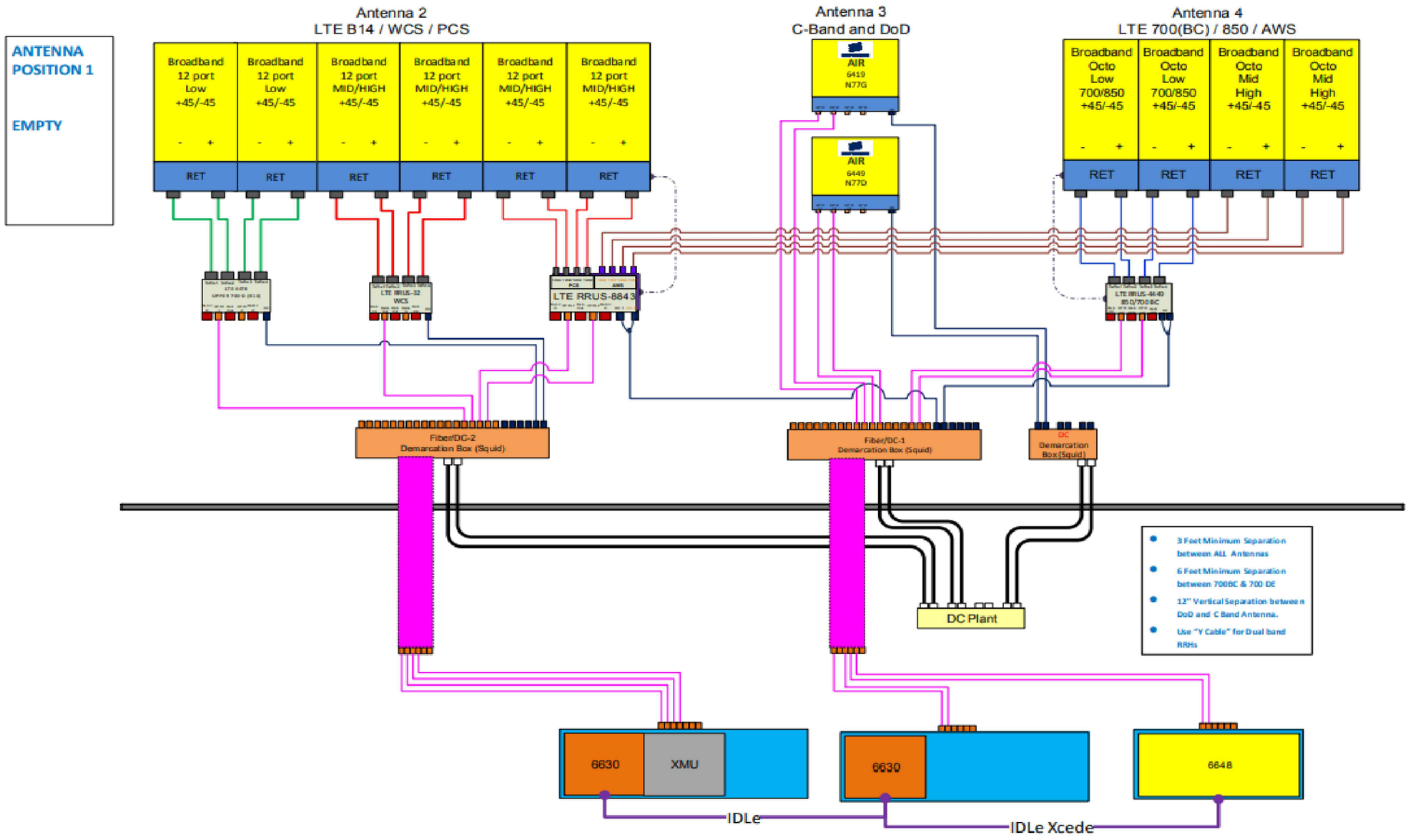
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&T CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-603	0

Diagram - Sector	B	Diagram File Name - CT2175_B_G_CBand_DoD_wFilter.vsd					
Atoll Site Name -	CTL02175	Location Name -	BRANFORD WEST	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson "



BETA & GAMMA SECTORS

1 RFDS PLUMBING DIAGRAM

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&T CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER: R-604

REVISION: 0

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

telamon
Tower Engineering PLLC

Antenna Mount Analysis Report

ATC Site Name	:	Cherry Hill-Branford
ATC Asset Number	:	302536
Engineering Number	:	13759895_C8_04
Mount Elevation	:	113 ft
Carrier	:	AT&T Mobility
Carrier Site Name	:	MRCTB056493
Carrier Site Number	:	CTL02175
Site Location	:	4 Beaver Road Branford, CT 06405-3403 41.28015, -72.84173333
County	:	New Haven
Date	:	March 24, 2022
Max Usage	:	66%
Result	:	Contingent Pass* *See conclusion for requirements

Prepared By:
Anudeep Meruva
Telamon Tower Engineering, PLLC

Reviewed By:
William Holt, P.E.
Telamon Tower Engineering, PLLC

Digitally signed by William Holt
Date: 2022.03.25 10:34:13 -04'00'

STATE OF CONNECTICUT · WILLIAM HOLT · PEN.35568 · LICENSED PROFESSIONAL ENGINEER
William Holt, PE
Director of Engineering
License No. 35568 Expires: 01/31/2023

Conclusion

Due to customer antenna spacing/separation requirements, the existing mount cannot support the equipment as described in this report and must be replaced with the mount listed below. Based on the analysis results, the proposed mount meets the requirements, per the applicable codes listed above, and can support the equipment as described in this report. Analysis is based on new Site Pro 1 VFA12-H10-2120 Sector Frame Mount.

- **Replace existing Sector Frames with new (3) Site Pro 1 VFA12-H10-2120 (ANT.16962) Sector frame at 113 ft elevation.**
- **Install (4) Site Pro 1 P2120 Mount Pipes at each sector (12 total). Connect to face horizontal members using Site Pro 1 SCX2 crossover plate kits (24 total) included in the VFA12-H10-2120 kit.**
- **Install (2) Site Pro 1 P272 Mount Pipes at each sector (6 total). Connect to standoff horizontal members using Site Pro 1 SCX7-U (ANT.16985) crossover plate kits (12 total).**
- **Install (1) stiff arm provided in the standard proposed sector frame kit, at each proposed sector frame mount (3 total). Connect to adjacent tower leg with (1) Site Pro 1 X-SPTB tie back plate provided with the kit in each sector (3 total).**
- **All mount pipes are to be installed as shown in following sketches.**
- **Install existing and proposed antennas such that they are vertically centered on the mounts. Install existing and proposed RRH's at the standoff horizontal member.**

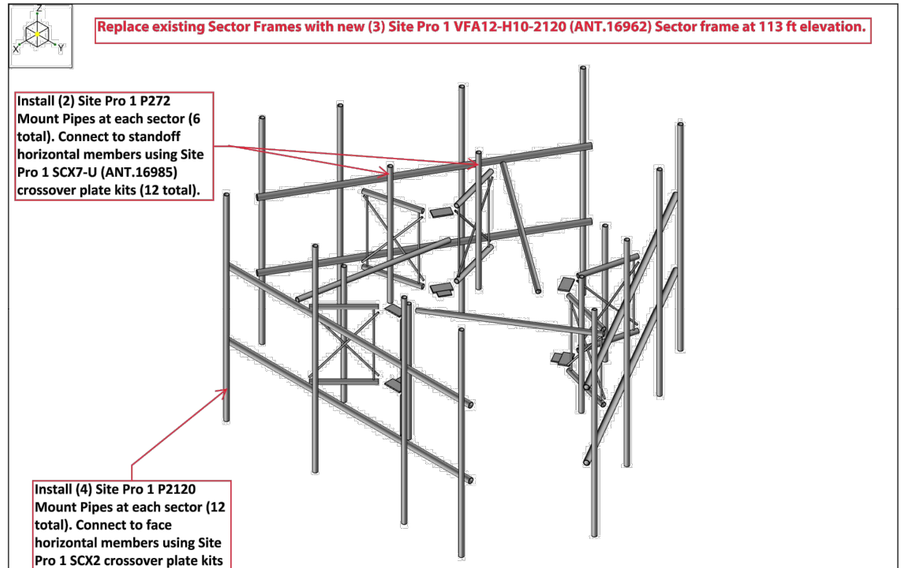
If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

1 MOUNT ANALYSIS

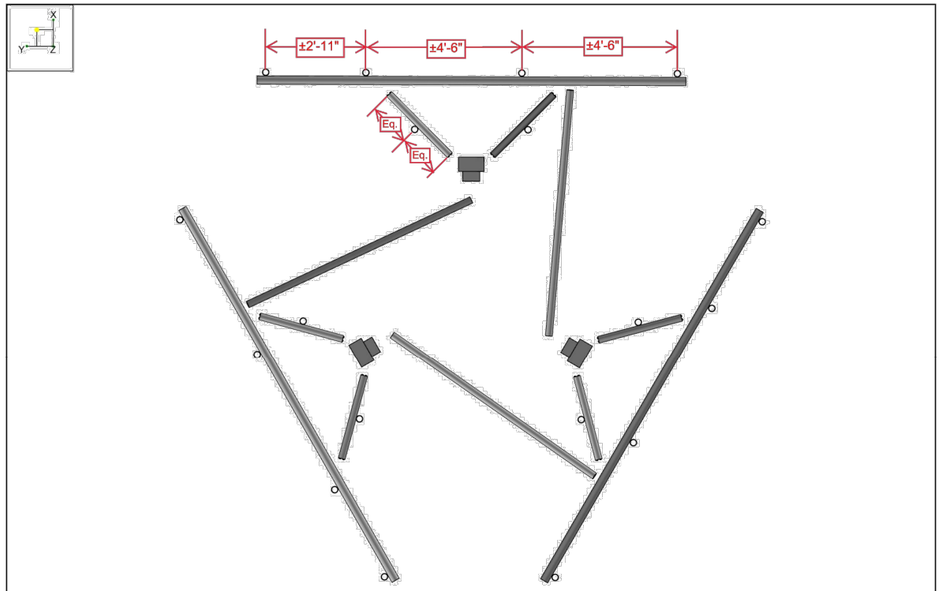
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERYIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONTRUCTION.

SUPPLEMENTAL

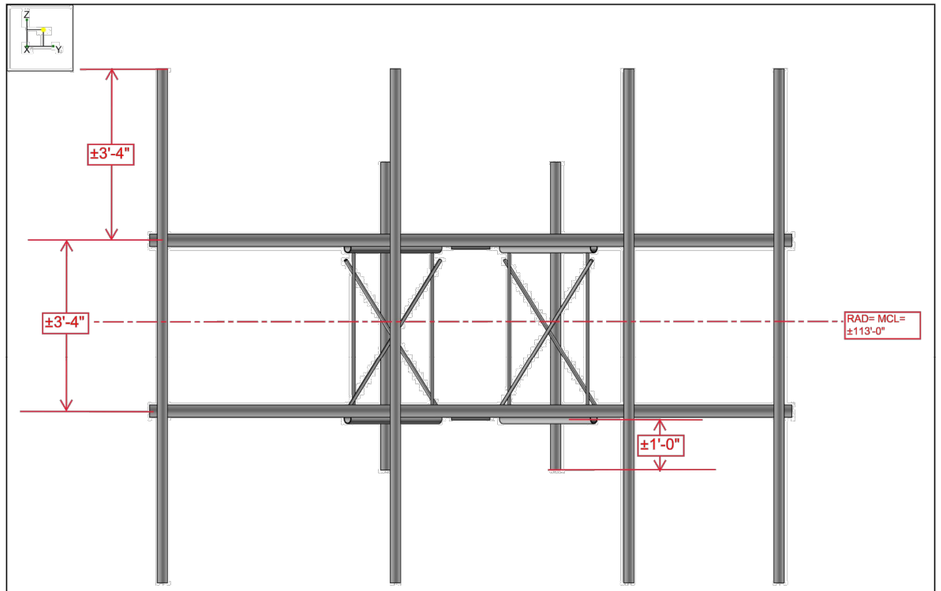
SHEET NUMBER:	REVISION:
R-605	0



Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	IN-1
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Proposed Modifications - Rendered	302536_13759895_C8_04_AT&T MOBILITY.r3d



Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	IN-2
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Proposed Modifications - Plan View	302536_13759895_C8_04_AT&T MOBILITY.r3d



Telamon CLS	41124-13759895_C8_04-Cherry Hill-Branford	IN-3
AM		Mar 24, 2022
41124-13759895_C8_04-01-MA	Proposed Modifications - Front View	302536_13759895_C8_04_AT&T MOBILITY.r3d

1 MOUNT MODIFICATIONS

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
MOUNT MODIFICATIONS	0

July 7, 2022

Jacqueline Hall
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Exempt Modification Application – AT&T Site 13759895
AT&T Mobility Telecommunications Facility @ 4 Beaver Road, Branford, CT

Dear Ms. Hall:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction and Antenna Mount Modification Drawings:

- Remove twelve (12) antennas and six (6) TMAs;
- Install three (3) sector frames with mount modifications, three (3) Y cables and twelve (12) antennas;
- Ground work includes removing three (3) RRHs and twelve (12) diplexers; and installing one (1) IDLE cable, fifteen (15) upconverters and four (4) rectifiers.

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

July 7, 2022

Town Planner Harry Smith
Branford Town Hall
1019 Main Street
Branford, CT 06405

Re: Exempt Modification Application – AT&T Site 13759895
AT&T Mobility Telecommunications Facility @ 4 Beaver Road, Branford, CT

Dear Mr. Smith:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction and Antenna Mount Modification Drawings:

- Remove twelve (12) antennas and six (6) TMAs;
- Install three (3) sector frames with mount modifications, three (3) Y cables and twelve (12) antennas;
- Ground work includes removing three (3) RRHs and twelve (12) diplexers; and installing one (1) IDLE cable, fifteen (15) upconverters and four (4) rectifiers.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

enclosures

July 7, 2022

The Honorable James Cosgrove
Branford Town Hall
1019 Main Street
Branford, CT 06405

Re: Exempt Modification Application – AT&T Site 13759895
AT&T Mobility Telecommunications Facility @ 4 Beaver Road, Branford, CT

Dear First Selectman Cosgrove:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction and Antenna Mount Modification Drawings:

- Remove twelve (12) antennas and six (6) TMAs;
- Install three (3) sector frames with mount modifications, three (3) Y cables and twelve (12) antennas;
- Ground work includes removing three (3) RRHs and twelve (12) diplexers; and installing one (1) IDLE cable, fifteen (15) upconverters and four (4) rectifiers.

This letter is intended to serve as the required notice to the municipality's chief elected official. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

enclosures

July 7, 2022

Joyce Tipping et al (Co Trustees)
36 Goodsell Point Rd.
Branford, CT 06405

Re: Exempt Modification Application – AT&T Site 13759895
AT&T Mobility Telecommunications Facility @ 4 Beaver Road, Branford, CT

Dear Property Owner:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction and Antenna Mount Modification Drawings:

- Remove twelve (12) antennas and six (6) TMAs;
- Install three (3) sector frames with mount modifications, three (3) Y cables and twelve (12) antennas;
- Ground work includes removing three (3) RRHs and twelve (12) diplexers; and installing one (1) IDLE cable, fifteen (15) upconverters and four (4) rectifiers.

This letter is intended to serve as the required notice to the property owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Acting Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
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James Cosgrove - First Selectman of the Town of Branford

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Branford, CT

Joyce Tipping - Property Owner

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