July 8, 2022

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

Re: Exempt Modification Request – AT&T Site 13753547
AT&T Wireless Telecommunications Facility @ 15 Miner Lane, Waterford, CT 06385
AKA 85 Miner Lane

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 Drawings:

- Remove nine (9) three (3) RRHs, six (6) TMAs, six (6) triplexers, one (1) DC squid and six (6) coax cables;
- Install nine (9) antennas, three (3) RRHs, one (1) D squid, one (1) DC trunk, one (1) fiber trunk and one (1) conduit.
- Ground work includes removing six (6) RRHs, six (6) triplexers and six (6) diplexers; and installing one (1) IDLE cable, and one (1) 6648.

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; the Town of Waterford as Property Owner; First Selectman Rob Brule, and Abby Piersall, the Planning & Zoning Director.

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 15 Miner Lane, Waterford, CT 06385 (AKA 85 Miner Lane).

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

Respectfully Submitted,

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
The Town of Waterford - Property Owner
The Honorable Rob Brule – Waterford First Selectman
Abby Piersall - Planning & Zoning Director

AMERICAN TOWER®
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

LETTER OF AUTHORIZATION
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

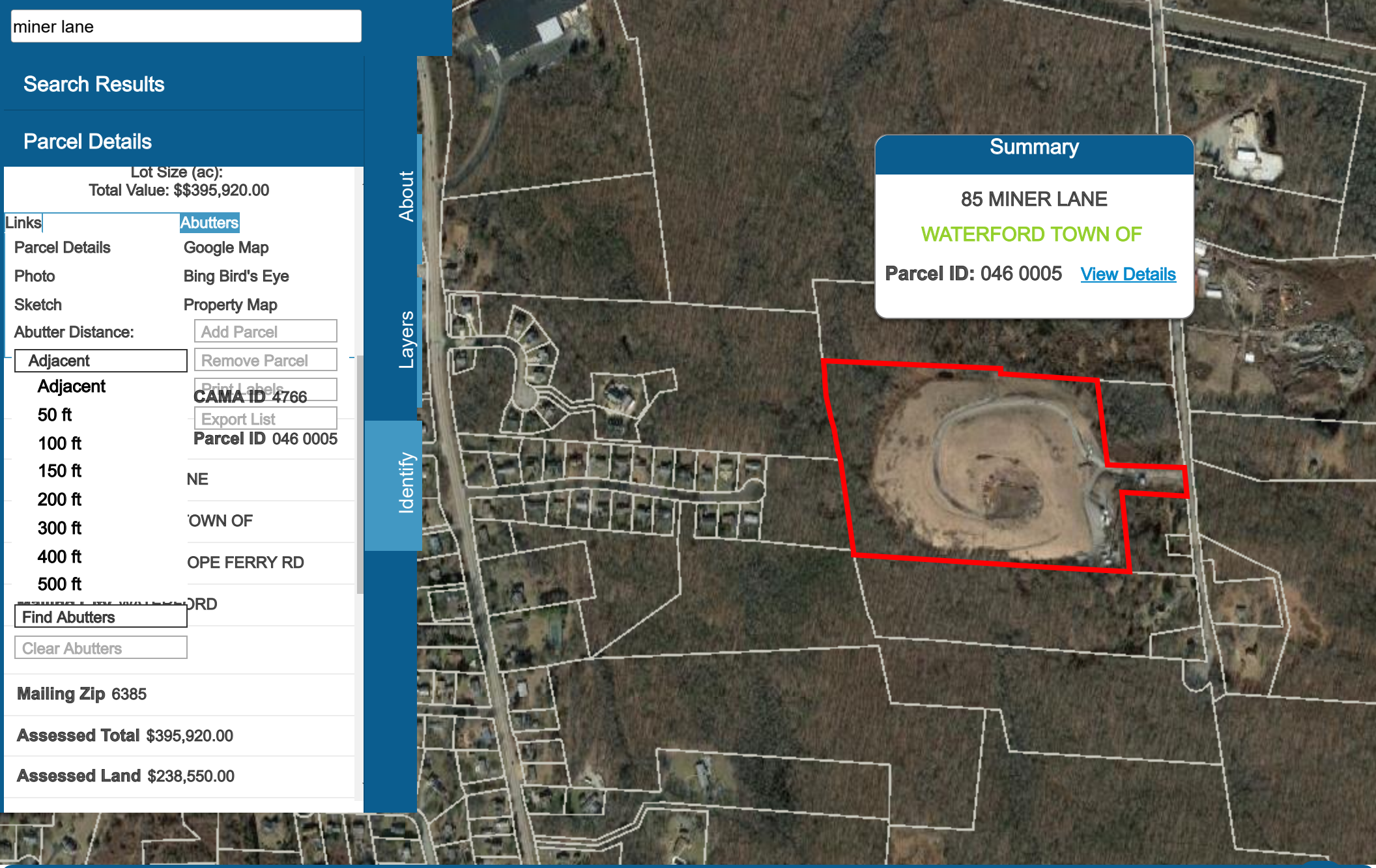
This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me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



Email Map Link

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

Print Map

Size:

Scale: 1" = ft. Title:

Close Print

lat:41.3315, long:-72.1308

Tighe&Bond

Radio Frequency Exposure Analysis Report

June 30, 2022

American Tower on behalf of AT&T
Centerline Communications Project Number: 950035-004

AT&T Site Name: WATERFORD REBUILD CT
Site Number: CTL02023
FA#: 10034987
USID: 65056

Site Address: 15 Miner Lane, Waterford, CT 06385

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	48.16760 µW/cm^2
Cumulative General Population % MPE (Ground Level):	4.8168100000000003%

June 30, 2022

Centerline
Attn: John Luca, Associate Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **WATERFORD REBUILD CT**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **15 Miner Lane, Waterford, CT 06385** 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 369' south 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	QUINTEL QD6616-7 V1	700	11.93	153.00	4.00	30.00	1871.85	0.00000	466.67	0.00000
AT&T A 1	QUINTEL QD6616-7 V1	1900	15.11	153.00	4.00	30.00	3888.22	0.00000	1000.00	0.00000
AT&T A 1	QUINTEL QD6616-7 V1	2100	15.50	153.00	4.00	30.00	4257.96	0.00000	1000.00	0.00000
AT&T A 1	QUINTEL QD6616-7 V1	700	11.93	153.00	2.00	30.00	935.93	0.00000	466.67	0.00000
AT&T A 2	Ericsson AIR6449	3700	23.45	155.00	1.00	108.40	23989.95	0.00000	1000.00	0.00000
AT&T A 3	Ericsson AIR6419	3450	23.45	151.00	1.00	108.40	23989.95	0.00000	1000.00	0.00000
AT&T A 4	KATHREIN 80010965	700	11.85	153.00	4.00	30.00	1837.30	0.00000	466.67	0.00000
AT&T A 4	KATHREIN 80010965	850	13.55	153.00	4.00	30.00	2717.57	0.00000	566.67	0.00000
AT&T A 4	KATHREIN 80010965	2300	15.75	153.00	4.00	18.00	2706.03	0.00000	1000.00	0.00000
AT&T B 5	QUINTEL QD6616-7 V1	700	11.93	153.00	4.00	30.00	1871.85	0.00003	466.67	0.00001
AT&T B 5	QUINTEL QD6616-7 V1	1900	15.11	153.00	4.00	30.00	3888.22	0.00003	1000.00	0.00000
AT&T B 5	QUINTEL QD6616-7 V1	2100	15.50	153.00	4.00	30.00	4257.96	0.00004	1000.00	0.00000
AT&T B 5	QUINTEL QD6616-7 V1	700	11.93	153.00	2.00	30.00	935.93	0.00001	466.67	0.00000
AT&T B 6	Ericsson AIR6449	3700	23.45	155.00	1.00	108.40	23989.95	0.00044	1000.00	0.00004
AT&T B 7	Ericsson AIR6419	3450	23.45	151.00	1.00	108.40	23989.95	0.00039	1000.00	0.00004
AT&T B 8	KATHREIN 80010965	700	11.85	153.00	4.00	30.00	1837.30	0.00006	466.67	0.00001
AT&T B 8	KATHREIN 80010965	850	13.55	153.00	4.00	30.00	2717.57	0.00003	566.67	0.00001
AT&T B 8	KATHREIN 80010965	2300	15.75	153.00	4.00	18.00	2706.03	0.00001	1000.00	0.00000
AT&T C 9	QUINTEL QD6616-7 V1	700	11.93	153.00	4.00	30.00	1871.85	0.00002	466.67	0.00001
AT&T C 9	QUINTEL QD6616-7 V1	1900	15.11	153.00	4.00	30.00	3888.22	0.00002	1000.00	0.00000
AT&T C 9	QUINTEL QD6616-7 V1	2100	15.50	153.00	4.00	30.00	4257.96	0.00001	1000.00	0.00000
AT&T C 9	QUINTEL QD6616-7 V1	700	11.93	153.00	2.00	30.00	935.93	0.00001	466.67	0.00000
AT&T C 10	Ericsson AIR6449	3700	23.45	155.00	1.00	108.40	23989.95	0.00030	1000.00	0.00003
AT&T C 11	Ericsson AIR6419	3450	23.45	151.00	1.00	108.40	23989.95	0.00032	1000.00	0.00003
AT&T C 12	KATHREIN 80010965	700	11.85	153.00	4.00	30.00	1837.30	0.00004	466.67	0.00001
AT&T C 12	KATHREIN 80010965	850	13.55	153.00	4.00	30.00	2717.57	0.00002	566.67	0.00000
AT&T C 12	KATHREIN 80010965	2300	15.75	153.00	4.00	18.00	2706.03	0.00001	1000.00	0.00000
Other 13	GENERIC OMNI 12FT	850	8.96	186.30	1.00	12.70	99.95	0.00000	566.67	0.00000
Clearwire A 14	KMW HB-X-AW-17-65-	1900	15.05	170.00	1.00	40.00	1279.56	0.00000	1000.00	0.00000
Clearwire A 15	KMW HB-X-AW-17-65-	2100	15.35	170.00	1.00	40.00	1371.07	0.00000	1000.00	0.00000
Clearwire B 16	KMW HB-X-AW-17-65-	1900	15.05	170.00	1.00	40.00	1279.56	0.00001	1000.00	0.00000
Clearwire B 17	KMW HB-X-AW-17-65-	2100	15.35	170.00	1.00	40.00	1371.07	0.00000	1000.00	0.00000
Clearwire C 18	KMW HB-X-AW-17-65-	1900	15.05	170.00	1.00	40.00	1279.56	0.00001	1000.00	0.00000
Clearwire C 19	KMW HB-X-AW-17-65-	2100	15.35	170.00	1.00	40.00	1371.07	0.00000	1000.00	0.00000
Verizon A 20	COMMSCOPE JAHH-65B-R3B	700	12.11	160.00	2.00	40.00	1300.44	0.00000	466.67	0.00000

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
Verizon A 20	COMMSCOPE JAHH-65B-R3B	850	12.81	160.00	2.00	40.00	1527.88	0.00000	566.67	0.00000
Verizon A 20	COMMSCOPE JAHH-65B-R3B	1900	15.72	160.00	4.00	40.00	5972.00	0.00000	1000.00	0.00000
Verizon A 21	COMMSCOPE JAHH-65B-R3B	700	12.11	160.00	2.00	40.00	1300.44	0.00000	466.67	0.00000
Verizon A 21	COMMSCOPE JAHH-65B-R3B	850	12.81	160.00	2.00	40.00	1527.88	0.00000	566.67	0.00000
Verizon A 21	COMMSCOPE JAHH-65B-R3B	2100	15.71	160.00	4.00	40.00	5958.27	0.00000	1000.00	0.00000
Verizon A 22	SAMSUNG MT6407	3700	23.35	160.00	4.00	80.00	69206.99	0.00001	1000.00	0.00000
Verizon B 23	COMMSCOPE JAHH-65B-R3B	700	12.11	160.00	2.00	40.00	1300.44	0.00001	466.67	0.00000
Verizon B 23	COMMSCOPE JAHH-65B-R3B	850	12.81	160.00	2.00	40.00	1527.88	0.00001	566.67	0.00000
Verizon B 23	COMMSCOPE JAHH-65B-R3B	1900	15.72	160.00	4.00	40.00	5972.00	0.00002	1000.00	0.00000
Verizon B 24	COMMSCOPE JAHH-65B-R3B	700	12.11	160.00	2.00	40.00	1300.44	0.00001	466.67	0.00000
Verizon B 24	COMMSCOPE JAHH-65B-R3B	850	12.81	160.00	2.00	40.00	1527.88	0.00001	566.67	0.00000
Verizon B 24	COMMSCOPE JAHH-65B-R3B	2100	15.71	160.00	4.00	40.00	5958.27	0.00002	1000.00	0.00000
Verizon B 25	SAMSUNG MT6407	3700	23.35	160.00	4.00	80.00	69206.99	0.00088	1000.00	0.00009
Verizon C 26	COMMSCOPE JAHH-65B-R3B	700	12.11	160.00	2.00	40.00	1300.44	0.00001	466.67	0.00000
Verizon C 26	COMMSCOPE JAHH-65B-R3B	850	12.81	160.00	2.00	40.00	1527.88	0.00001	566.67	0.00000
Verizon C 26	COMMSCOPE JAHH-65B-R3B	1900	15.72	160.00	4.00	40.00	5972.00	0.00002	1000.00	0.00000
Verizon C 27	COMMSCOPE JAHH-65B-R3B	700	12.11	160.00	2.00	40.00	1300.44	0.00001	466.67	0.00000
Verizon C 27	COMMSCOPE JAHH-65B-R3B	850	12.81	160.00	2.00	40.00	1527.88	0.00001	566.67	0.00000
Verizon C 27	COMMSCOPE JAHH-65B-R3B	2100	15.71	160.00	4.00	40.00	5958.27	0.00002	1000.00	0.00000
Verizon C 28	SAMSUNG MT6407	3700	23.35	160.00	4.00	80.00	69206.99	0.00092	1000.00	0.00009
T-Mobile A 29	ERICSSON AIR6449	2500	17.30	130.00	1.00	60.00	3222.19	0.00147	1000.00	0.00015
T-Mobile A 29	ERICSSON AIR6449	2500	22.35	130.00	1.00	90.00	15461.18	0.01426	1000.00	0.00143
T-Mobile A 29	ERICSSON AIR6449	2500	22.35	130.00	1.00	90.00	15461.18	0.01426	1000.00	0.00143
T-Mobile A 30	RFS APXVAARR24 43-U-NA20	700	13.17	130.00	4.00	40.00	3319.86	0.00000	466.67	0.00000
T-Mobile A 30	RFS APXVAARR24 43-U-NA20	600	13.11	130.00	4.00	40.00	3274.31	0.00000	400.00	0.00000
T-Mobile A 31	RFS APX16DWV-16DWVS-E-A20	1900	16.25	130.00	4.00	40.00	6747.14	0.00000	1000.00	0.00000
T-Mobile A 31	RFS APX16DWV-16DWVS-E-A20	2100	16.25	130.00	4.00	40.00	6747.14	0.00000	1000.00	0.00000
T-Mobile B 32	ERICSSON AIR6449	2500	17.30	130.00	1.00	60.00	3222.19	0.29407	1000.00	0.02941
T-Mobile B 32	ERICSSON AIR6449	2500	22.35	130.00	1.00	90.00	15461.18	7.88887	1000.00	0.78889
T-Mobile B 32	ERICSSON AIR6449	2500	22.35	130.00	1.00	90.00	15461.18	7.88887	1000.00	0.78889
T-Mobile B 33	RFS APXVAARR24 43-U-NA20	700	13.17	130.00	4.00	40.00	3319.86	0.00003	466.67	0.00001
T-Mobile B 33	RFS APXVAARR24 43-U-NA20	600	13.11	130.00	4.00	40.00	3274.31	0.00003	400.00	0.00001
T-Mobile B 34	RFS APX16DWV-16DWVS-E-A20	1900	16.25	130.00	4.00	40.00	6747.14	0.00003	1000.00	0.00000
T-Mobile B 34	RFS APX16DWV-16DWVS-E-A20	2100	16.25	130.00	4.00	40.00	6747.14	0.00003	1000.00	0.00000
T-Mobile C 35	ERICSSON AIR6449	2500	17.30	130.00	1.00	60.00	3222.19	0.32023	1000.00	0.03202
T-Mobile 0 35	ERICSSON AIR6449	2500	22.35	130.00	1.00	90.00	15461.18	8.12859	1000.00	0.81286

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
T-Mobile 0 35	ERICSSON AIR6449	2500	22.35	130.00	1.00	90.00	15461.18	0.00000	1000.00	0.81286
T-Mobile 0 36	RFS APXVAARR24 43-U-NA20	700	13.17	130.00	4.00	40.00	3319.86	0.00004	466.67	0.00001
T-Mobile 0 36	RFS APXVAARR24 43-U-NA20	600	13.11	130.00	4.00	40.00	3274.31	0.00006	400.00	0.00002
T-Mobile 0 37	RFS APX16DWV-16DWVS-E-A20	1900	16.25	130.00	4.00	40.00	6747.14	0.00003	1000.00	0.00000
T-Mobile 0 37	RFS APX16DWV-16DWVS-E-A20	2100	16.25	130.00	4.00	40.00	6747.14	0.00003	1000.00	0.00000
							Cumulative Power Density:	**48.16760 $\mu W/cm^2$**	**Cumulative % MPE:**	**4.81681%**

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.

Katrina Styx
RF EME Technical Writer
Centerline Communications, LLC

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

B+T GRP

Antenna Mount Analysis Report

ATC Site Name	:	**Waterford Rebuild Ct**
ATC Site Number	:	**310972**
Engineering Number	:	**13753547_C8_01**
Mount Elevation	:	**153 ft.**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB056375**
Carrier Site Number	:	**CT2023**
Site Location	:	**15 Miner Lane** **Waterford, CT 06385** **41.32910°, -72.12460°**
County	:	**New London**
Date	:	**March 24, 2022**
Max Usage	:	**65%**
Result	:	**Pass**

Prepared By:
Matthew Williams
Project Engineer

Reviewed By:

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

3-24-22

COA: PEC.0001564 Expires:02/01/2023

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Table of Contents

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 153 ft.

Supporting Documents

Mount Mapping	B+T Group Project #G0160587.001.01, dated February 05 ,2022
RFDS	RFDS dated February 17 ,2022
Photos	Site photos from 2022
Other	310972_APP
	Structural Analysis Report by American Tower Corporation dated June 4, 2021

Analysis

This antenna mount was analyzed using RISA-3D v19.0.4 analysis software

Basic Wind Speed:	127 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H/ 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height:	0 ft
Crest Length:	0 ft
Spectral Response:	Ss = 0.191, S1 = 0.052
Site Class:	D – Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed. The mount 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.

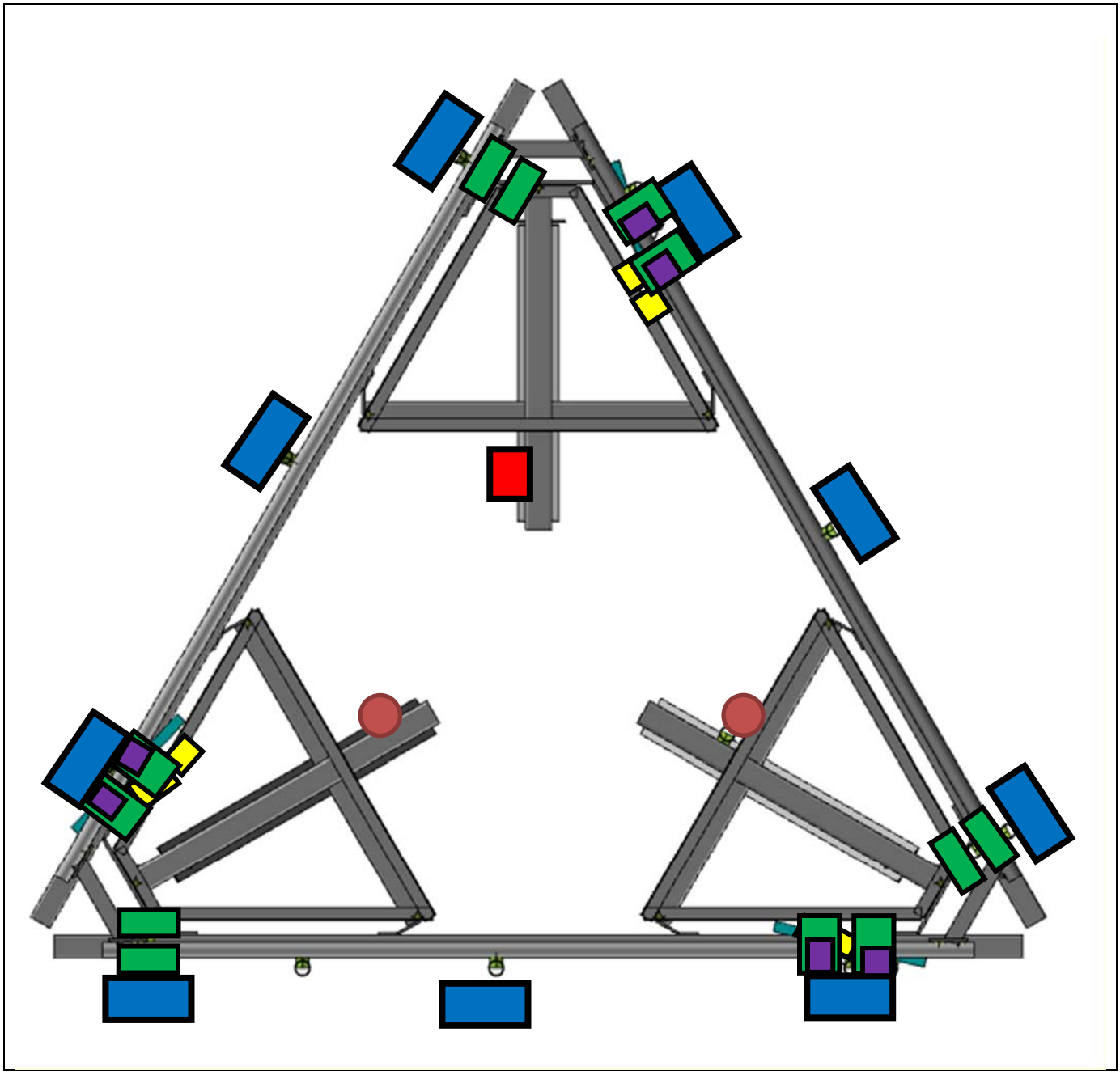
Antenna Loading

Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
153	155	3	Ericsson AIR6449 B77D/ C-Band
	153	3	Quintel QD6616-7
		3	Kathrein 800-10965
		1	Raycap DC9-48-60-24-8C-EV
		6	Andrew APTDC-BDFDM-DBW
		1	Raycap DC6-48-60-18-8F ("Squid")
		1	Raycap DC6-48-60-18-8F
		6	Powerwave Allgon 7020.00 Dual Band RET
		3	Ericsson RRUS 32 B2
		3	Ericsson RRUS 4449 B5,B12
		3	Ericsson RRUS E2 B29
		3	Ericsson RRUS 32 B66A
		3	Ericsson RRUS 4478 B14 (15")
		3	Ericsson RRUS 32 B30 (60 lbs)
	151	3	Ericsson AIR6419 B77G

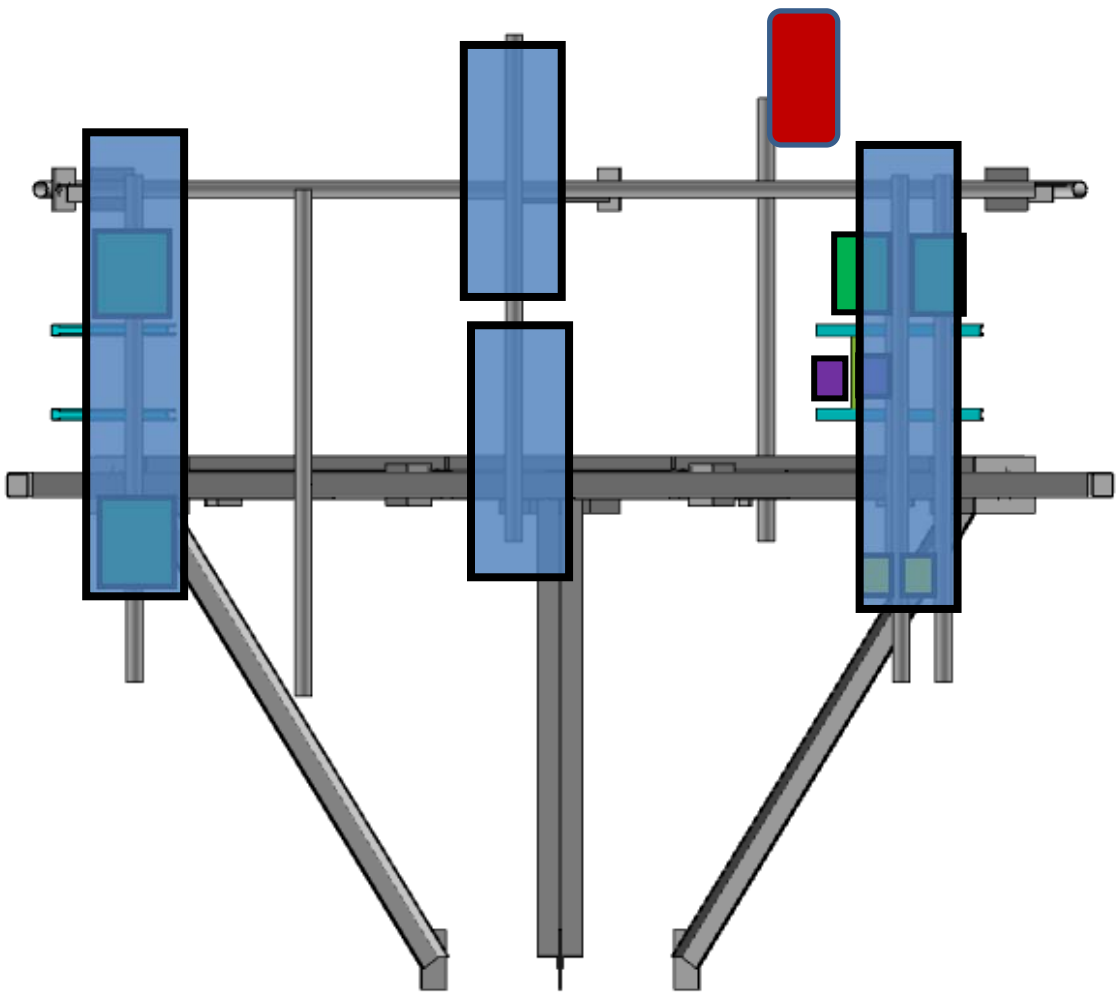
Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Main Horizontals	18%	Pass
Support Tubes	13%	Pass
Support Rails	34%	Pass
Mount Pipes	56%	Pass
Connection Plates	38%	Pass
Connection Angles	38%	Pass
Support Angles	65%	Pass
Kickers	5%	Pass

Mount Layout



Equipment Layout



	Antenna Model	Location
1	Ericsson AIR6449 B77D/ C-Band	Support Tube
2	Quintel QD6616-7	MP2
3	Kathrein 800-10965	MP4
4	Raycap DC9-48-60-24-8C-EV	Support Tube
5	Andrew APTDC-BDFDM-DBW	MP2

6	Raycap DC6-48-60-18-8F ("Squid")	Raycap Pipes
7	Raycap DC6-48-60-18-8F	Support Tube
8	Powerwave Allgon 7020.00 Dual Band RET	MP1
9	Ericsson RRUS 32 B2	Tower
10	Ericsson RRUS 4449 B5,B12	MP4
11	Ericsson RRUS E2 B29	Ground
12	Ericsson RRUS 32 B66A	MP2
13	Ericsson RRUS 4478 B14 (15")	MP2
14	Ericsson RRUS 32 B30 (60 lbs)	MP4
15	Ericsson AIR6419 B77G	MP3

Standard Conditions

All engineering services performed by B+T Group, Tulsa 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 and mounts
- Information from drawings, design and analysis documents, and field notes in the possession of B+T Group

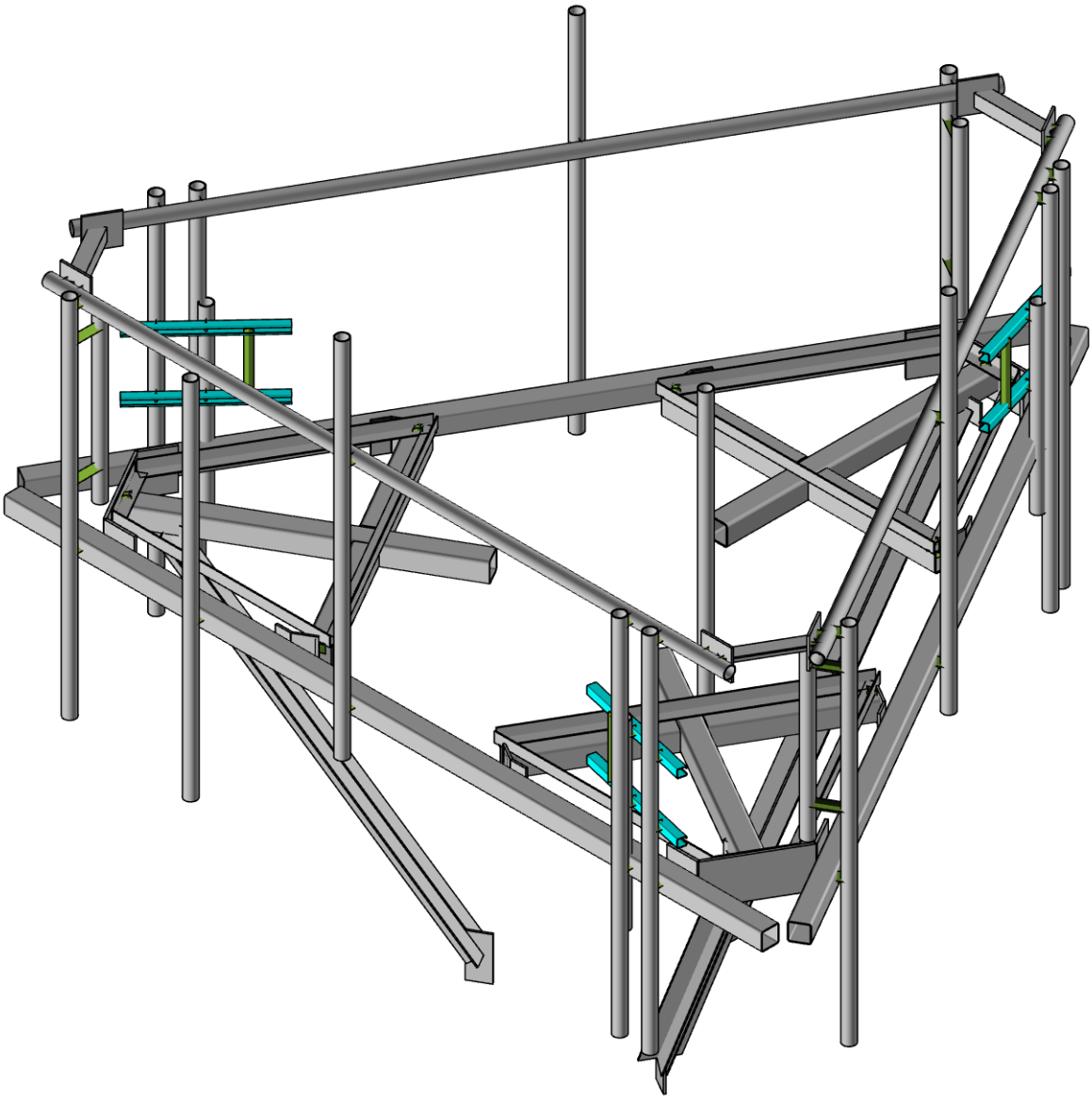
It is the responsibility of the client to ensure that the information provided B+T Group and used in the performance of our engineering services is correct and complete.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and B+T Group, 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. B+T Group is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



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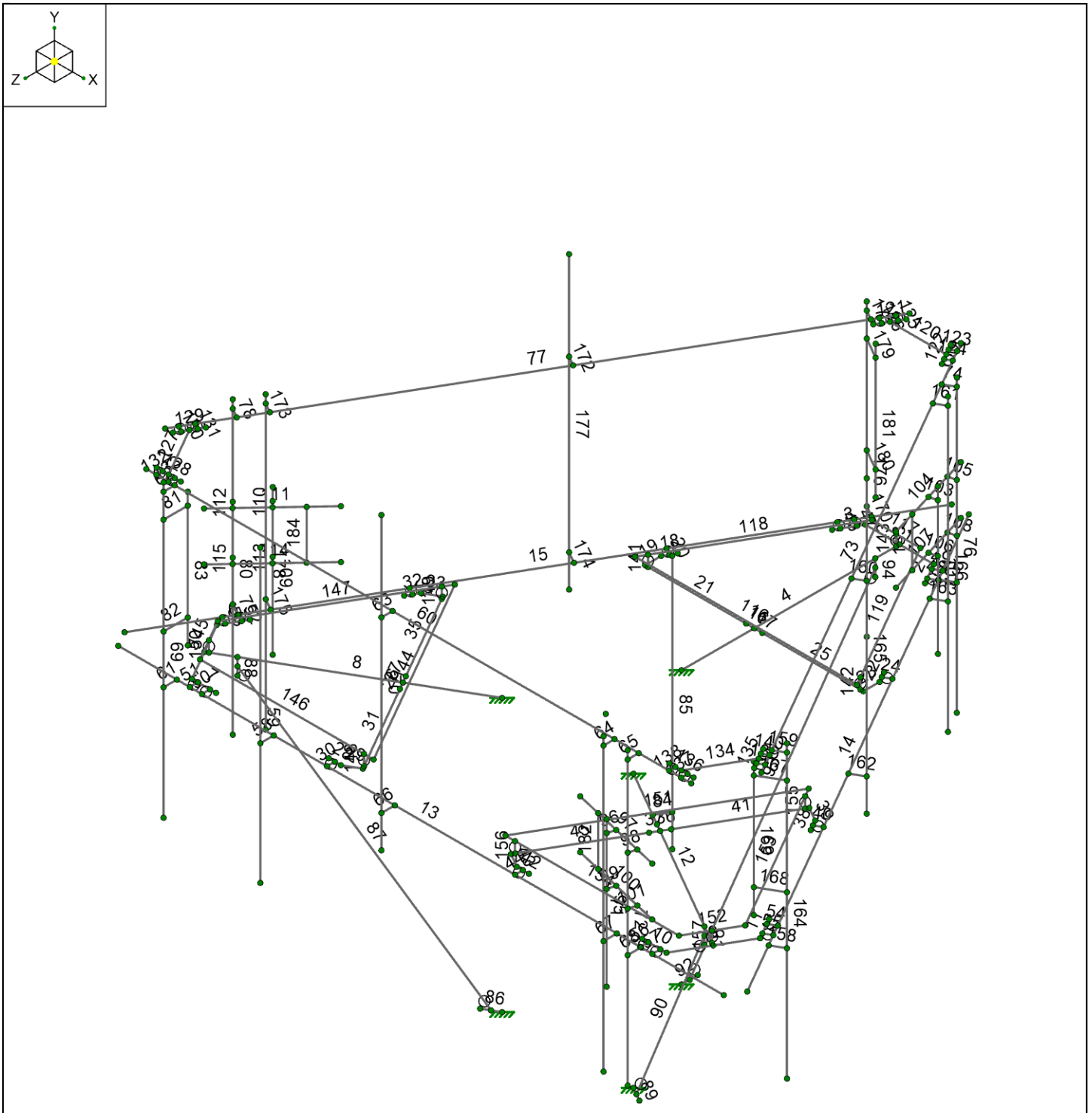

Envelope Only Solution

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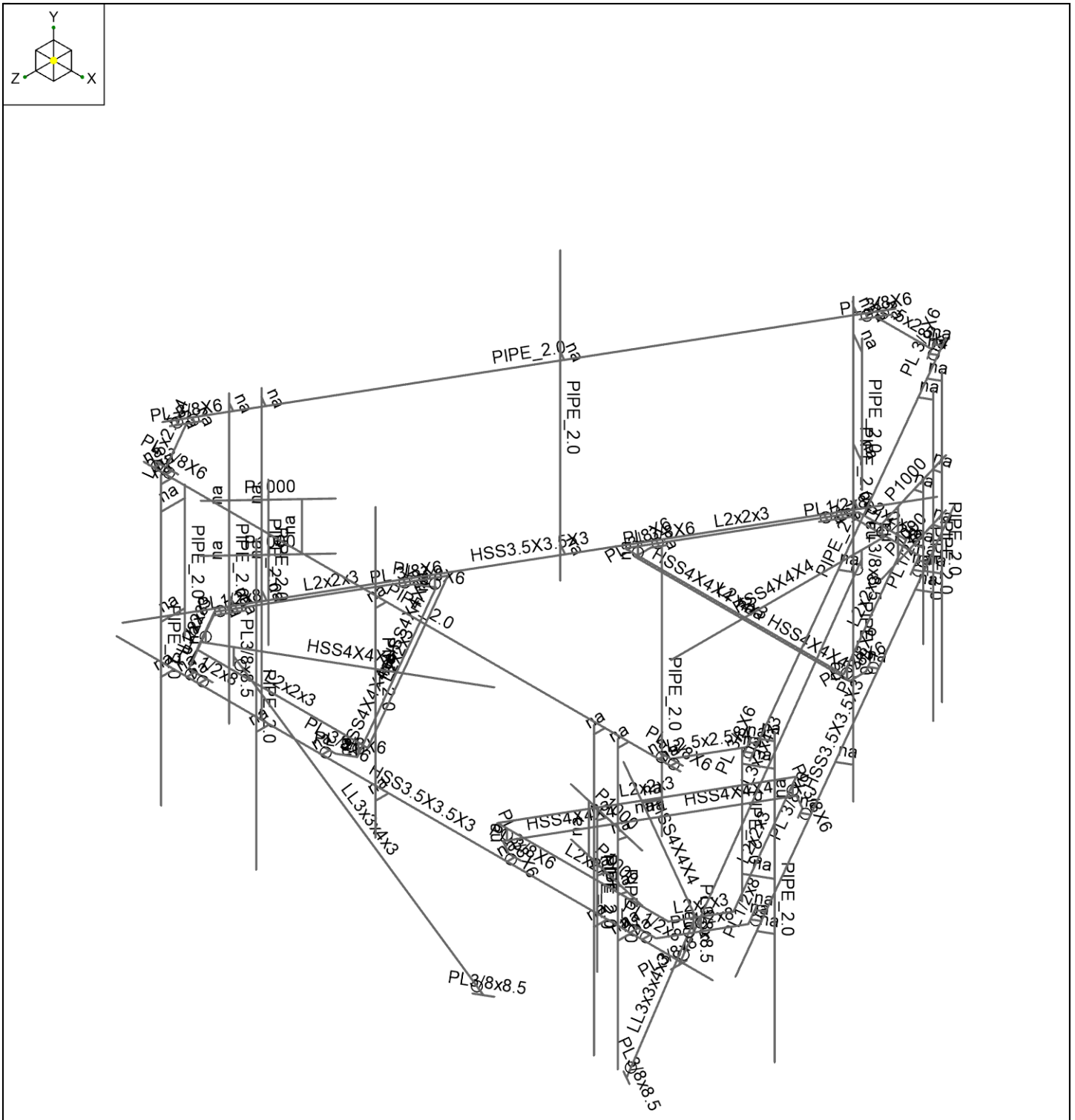

Envelope Only Solution

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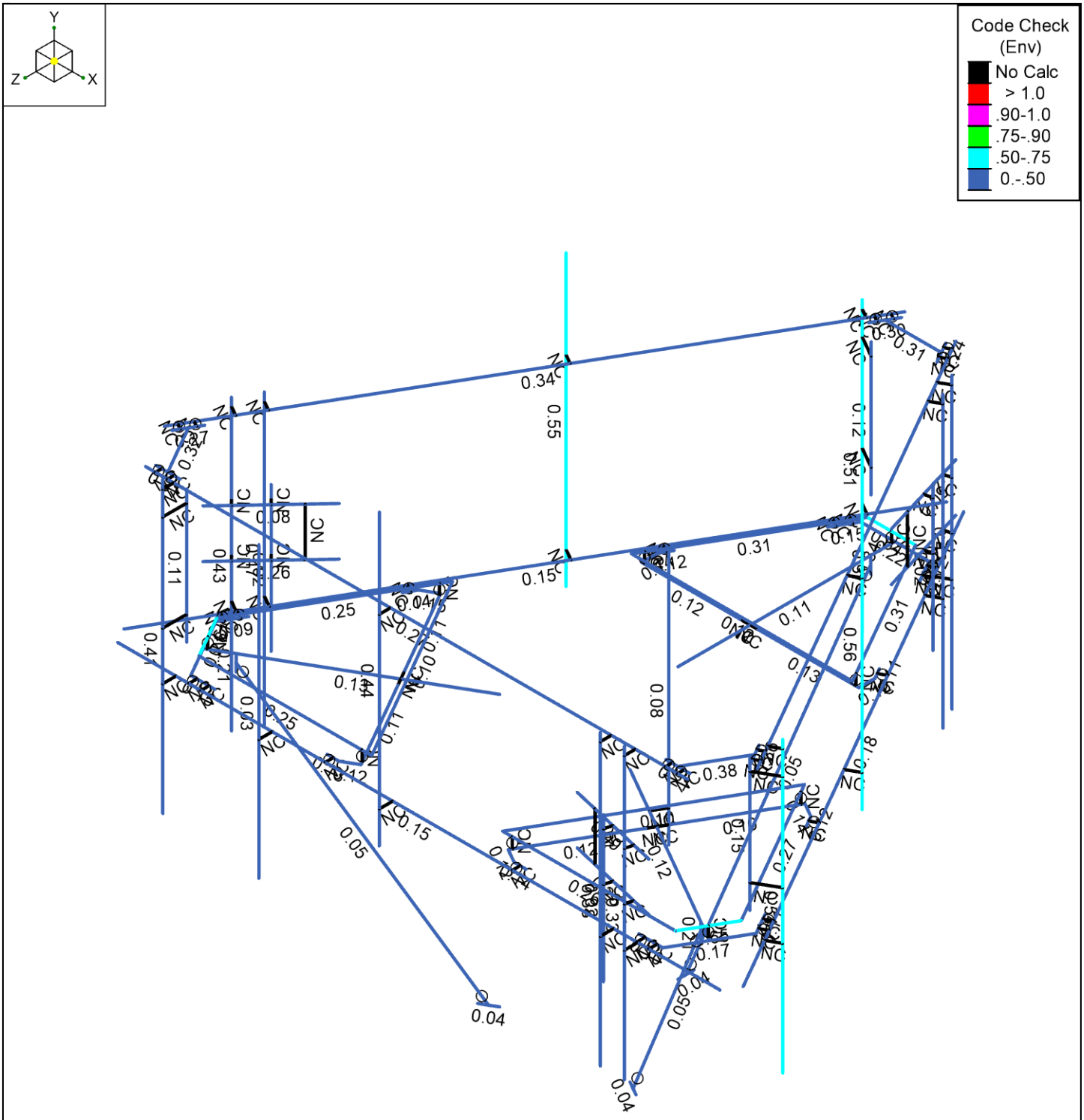

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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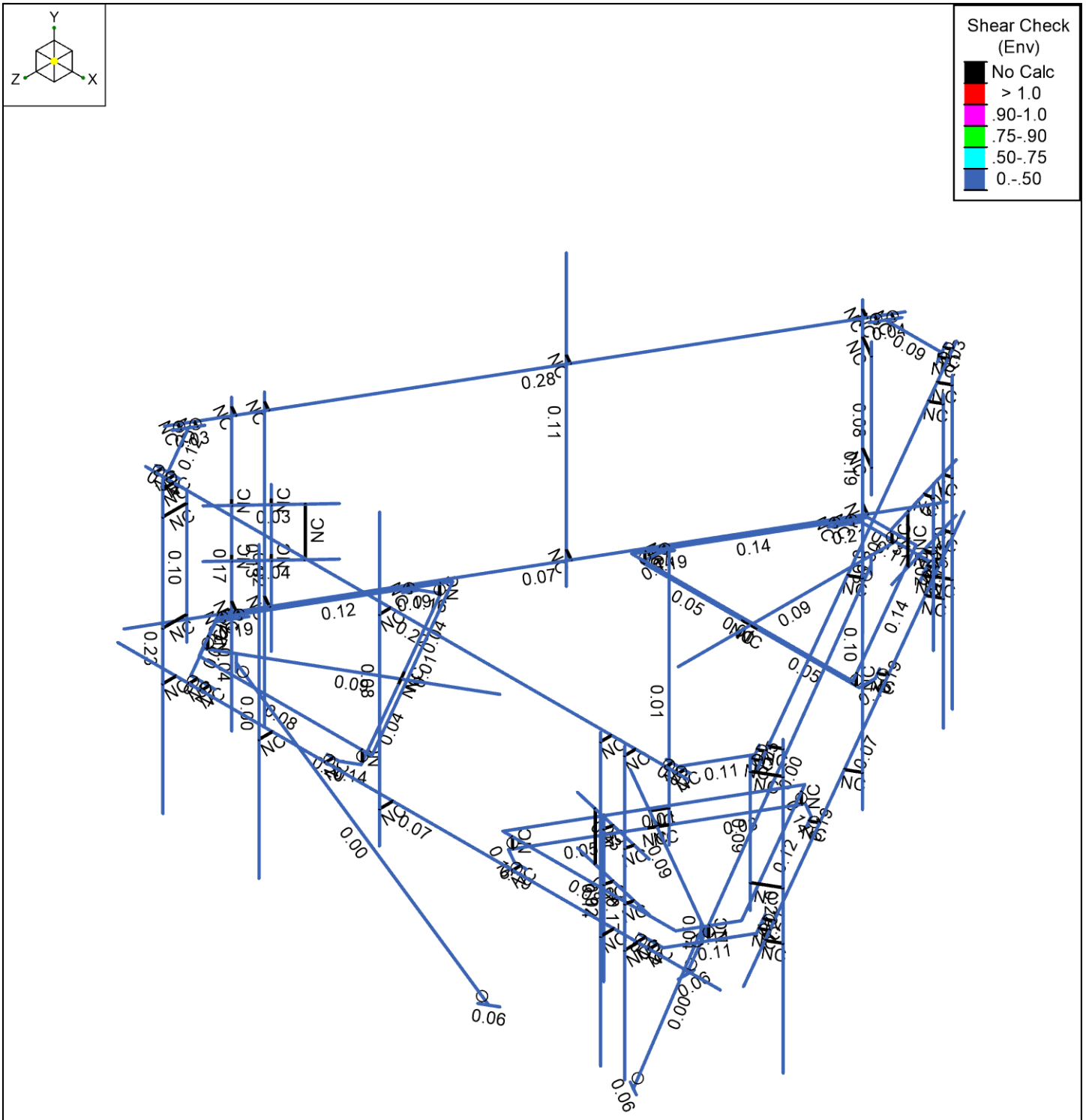

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	310972 - Waterford Rebuild Ct	SK-6
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Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	0	
2	2	0.708333	0	-6.06534	
3	3	0.958333	0	-5.632327	
4	4	-0.708333	0	-6.06534	
5	5	-0.958333	0	-5.632327	
6	6	0	0	-1.56534	
7	7	0	0	-6.06534	
8	8	-5.606905	0	2.419235	
9	9	-5.356905	0	1.986223	
10	10	-4.898572	0	3.646104	
11	11	-4.398572	0	3.646104	
12	12	-1.355624	0	0.78267	
13	13	-5.252738	0	3.03267	
14	14	4.898572	0	3.646104	
15	15	4.398572	0	3.646104	
16	16	5.606905	0	2.419235	
17	17	5.356905	0	1.986223	
18	18	1.355624	0	0.78267	
19	19	5.252738	0	3.03267	
20	20	-6.25	0	3.812771	
21	21	6.25	0	3.812771	
22	22	6.426956	0	3.506273	
23	23	0.176956	0	-7.319044	
24	24	-0.176956	0	-7.319044	
25	25	-6.426956	0	3.506273	
26	26	-2.128948	0	-3.615179	
27	27	-2.253948	0	-3.398673	
28	28	-2.191448	0	-3.506926	
29	29	-2.331275	0	-3.587655	
30	30	-2.253948	0	-3.06534	
31	31	0	0	-3.06534	
32	32	-0.166667	0	-3.06534	
33	33	2.128948	0	-3.615179	
34	34	2.253948	0	-3.398673	
35	35	2.191448	0	-3.506926	
36	36	2.331275	0	-3.587655	
37	37	2.253948	0	-3.06534	
38	38	0.166667	0	-3.06534	
39	39	-2.066363	0	3.651312	
40	40	-1.816363	0	3.651312	
41	41	-1.941363	0	3.651312	
42	42	-1.941363	0	3.812771	
43	43	-1.527688	0	3.484646	
44	44	-2.654662	0	1.53267	
45	45	-2.571329	0	1.677007	
46	46	-4.195311	0	-0.036133	
47	47	-4.070311	0	-0.252639	
48	48	-4.132811	0	-0.144386	
49	49	-4.272638	0	-0.225115	
50	50	-3.781636	0	-0.419306	
51	51	-2.737995	0	1.388332	
52	52	4.195311	0	-0.036133	
53	53	4.070311	0	-0.252639	
54	54	4.132811	0	-0.144386	
55	55	4.272638	0	-0.225115	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	3.781636	0	-0.419306	
57	57	2.654662	0	1.53267	
58	58	2.737995	0	1.388332	
59	59	2.066363	0	3.651312	
60	60	1.816363	0	3.651312	
61	61	1.941363	0	3.651312	
62	62	1.941363	0	3.812771	
63	63	1.527688	0	3.484646	
64	64	2.571329	0	1.677007	
65	65	-0.895833	0	-5.74058	
66	66	-1.040171	0	-5.823913	
67	67	-0.770833	0	-5.957086	
68	68	-0.915171	0	-6.04042	
69	69	0.895833	0	-5.74058	
70	70	1.040171	0	-5.823913	
71	71	0.770833	0	-5.957086	
72	72	0.915171	0	-6.04042	
73	73	-4.523572	0	3.646104	
74	74	-4.523572	0	3.812771	
75	75	-4.773572	0	3.646104	
76	76	-4.773572	0	3.812771	
77	77	-5.419405	0	2.094476	
78	78	-5.563742	0	2.011143	
79	79	-5.544405	0	2.310982	
80	80	-5.688742	0	2.227649	
81	81	5.419405	0	2.094476	
82	82	5.563742	0	2.011143	
83	83	5.544405	0	2.310982	
84	84	5.688742	0	2.227649	
85	85	4.523572	0	3.646104	
86	86	4.523572	0	3.812771	
87	87	4.773572	0	3.646104	
88	88	4.773572	0	3.812771	
89	89	-3.041673	0	3.812771	
90	90	-3.041673	0	4.088812	
91	91	-3.041733	3.5	4.088812	
92	92	-3.041733	-2.5	4.088812	
93	93	-5.625	3.5	3.859646	
94	94	5.625	3.5	3.859646	
95	95	-5.040333	0	3.812771	
96	96	-5.040333	0	4.088812	
97	97	-5.040333	3.5	3.859646	
98	98	-5.040333	3.5	4.088812	
99	99	-0.541667	3.5	3.859646	
100	100	-0.541667	3.5	4.088812	
101	101	4.042333	3.5	3.859646	
102	102	4.042333	3.5	4.088812	
103	103	4.541666	3.5	3.859646	
104	104	4.541666	3.5	4.088812	
105	105	-0.541667	0	3.812771	
106	106	-0.541667	0	4.088812	
107	107	4.042333	0	3.812771	
108	108	4.042333	0	4.088812	
109	109	4.541663	0	3.812771	
110	110	4.541663	0	4.088812	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	-5.040333	3.666667	4.088812	
112	112	-5.040333	-2.333333	4.088812	
113	113	-0.541667	5.333333	4.088812	
114	114	-0.541667	-0.666667	4.088812	
115	115	4.042333	3.666667	4.088812	
116	116	4.042333	-2.333333	4.088812	
117	117	4.541666	3.666667	4.088812	
118	118	4.541666	-2.333333	4.088812	
119	119	6.155051	3.5	2.94157	
120	120	0.530051	3.5	-6.801216	
121	121	1.071718	3.5	-5.863021	
122	122	1.270182	3.5	-5.977604	
123	123	1.031125	0	-5.839581	
124	124	1.270189	0	-5.977604	
125	125	1.270182	3.666667	-5.977604	
126	126	1.270182	-2.333333	-5.977604	
127	127	-0.530051	3.5	-6.801216	
128	128	-6.155051	3.5	2.94157	
129	129	-5.613384	3.5	2.003375	
130	130	-5.811848	3.5	1.888792	
131	131	-5.572788	0	2.02681	
132	132	-5.811842	0	1.888792	
133	133	-5.811848	3.666667	1.888792	
134	134	-5.811848	-2.333333	1.888792	
135	135	-5.040333	3	4.088812	
136	136	-5.040333	3	3.588812	
137	137	-5.040333	1	4.088812	
138	138	-5.040333	1	3.588812	
139	139	-5.040333	3.25	3.588812	
140	140	-5.040333	0.5	3.588812	
141	141	2.293818	0	1.324336	
142	142	2.442256	0	1.067235	
143	143	2.442256	4.583333	1.067235	
144	144	2.442256	-0.666667	1.067235	
145	145	-1.355624	-5.620981	0.78267	
146	146	-1.644296	-5.620981	0.949335	
147	147	-1.49996	-5.620981	0.866002	
148	148	-4.819725	-0.166665	2.78267	
149	149	-4.819725	0	2.78267	
150	150	-4.819725	-0.33333	2.78267	
151	151	1.355624	-5.620981	0.78267	
152	152	1.644296	-5.620981	0.949335	
153	153	1.49996	-5.620981	0.866002	
154	154	4.819725	-0.166665	2.78267	
155	155	4.819725	0	2.78267	
156	156	4.819725	-0.33333	2.78267	
157	157	0	-5.620981	-1.56534	
158	158	0	-5.620981	-1.89867	
159	159	0	-5.620981	-1.732005	
160	160	0	-0.166665	-5.56534	
161	161	0	0	-5.56534	
162	162	0	-0.33333	-5.56534	
163	163	3.973888	2.083333	3.955001	
164	164	3.973888	-0.916667	3.955001	
165	165	3.973888	1.833333	3.955001	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	166	4.01762	1.833333	3.800601	
167	167	3.044285	1.833333	3.57121	
168	168	4.990954	1.833333	4.029991	
169	169	4.541666	1.833333	4.088812	
170	170	4.585398	1.833333	3.934412	
171	171	3.973888	0.833333	3.955001	
172	172	4.01762	0.833333	3.800601	
173	173	3.044285	0.833333	3.57121	
174	174	4.990954	0.833333	4.029991	
175	175	4.541666	0.833333	4.088812	
176	176	4.585398	0.833333	3.934412	
177	177	1.438188	2.083333	-5.418988	
178	178	1.438188	-0.916667	-5.418988	
179	179	1.438188	1.833333	-5.418988	
180	180	1.282607	1.833333	-5.379661	
181	181	1.570616	1.833333	-4.422033	
182	182	0.994598	1.833333	-6.337289	
183	183	1.270182	1.833333	-5.977604	
184	184	1.114602	1.833333	-5.938277	
185	185	1.438188	0.833333	-5.418988	
186	186	1.282607	0.833333	-5.379661	
187	187	1.570616	0.833333	-4.422033	
188	188	0.994598	0.833333	-6.337289	
189	189	1.270182	0.833333	-5.977604	
190	190	1.114602	0.833333	-5.938277	
191	191	-5.414001	2.083333	1.462006	
192	192	-5.414001	-0.916667	1.462006	
193	193	-5.414001	1.833333	1.462006	
194	194	-5.302152	1.833333	1.577079	
195	195	-4.616826	1.833333	0.848842	
196	196	-5.987477	1.833333	2.305316	
197	197	-5.811848	1.833333	1.888792	
198	198	-5.701925	1.833333	2.001884	
199	199	-5.414001	0.833333	1.462006	
200	200	-5.302152	0.833333	1.577079	
201	201	-4.616826	0.833333	0.848842	
202	202	-5.987477	0.833333	2.305316	
203	203	-5.811848	0.833333	1.888792	
204	204	-5.701925	0.833333	2.001884	
205	205	-0.5	0.22	-5.997076	
206	206	-2.291667	0.22	-2.893819	
207	207	0.5	0.22	-5.997076	
208	208	2.291667	0.22	-2.893819	
209	209	-0.583333	3.5	-6.448512	
210	210	0.583333	3.5	-6.448512	
211	211	-0.458333	3.5	-6.665018	
212	212	-0.708333	3.5	-6.232006	
213	213	0.458333	3.5	-6.665018	
214	214	0.708333	3.5	-6.232006	
215	215	0.520833	3.5	-6.556765	
216	216	0.633597	3.5	-6.621869	
217	217	0.645833	3.5	-6.340259	
218	218	0.758597	3.5	-6.405363	
219	219	-0.520833	3.5	-6.556765	
220	220	-0.633597	3.5	-6.621869	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
221	221	-0.645833	3.5	-6.340259	
222	222	-0.758597	3.5	-6.405363	
223	223	-5.292909	3.5	3.729438	
224	224	-5.876242	3.5	2.719075	
225	225	-5.542909	3.5	3.729438	
226	226	-5.042909	3.5	3.729438	
227	227	-6.001242	3.5	2.935581	
228	228	-5.751242	3.5	2.502568	
229	229	-5.938742	3.5	2.827328	
230	230	-6.051506	3.5	2.762224	
231	231	-5.813742	3.5	2.610821	
232	232	-5.926506	3.5	2.545717	
233	233	-5.417909	3.5	3.729438	
234	234	-5.417909	3.5	3.859646	
235	235	-5.167909	3.5	3.729438	
236	236	-5.167909	3.5	3.859646	
237	237	5.876242	3.5	2.719075	
238	238	5.292909	3.5	3.729438	
239	239	6.001242	3.5	2.935581	
240	240	5.751242	3.5	2.502568	
241	241	5.542909	3.5	3.729438	
242	242	5.042909	3.5	3.729438	
243	243	5.417909	3.5	3.729438	
244	244	5.417909	3.5	3.859646	
245	245	5.167909	3.5	3.729438	
246	246	5.167909	3.5	3.859646	
247	247	5.938742	3.5	2.827328	
248	248	6.051506	3.5	2.762224	
249	249	5.813742	3.5	2.610821	
250	250	5.926506	3.5	2.545717	
251	251	0	0	-5.997076	
252	252	2.506121	0	1.446909	
253	253	5.19362	0	2.998538	
254	254	-2.192639	0	-3.06534	
255	255	2.192639	0	-3.06534	
256	256	0	0.22	-5.997076	
257	257	-2.192639	0.22	-3.06534	
258	258	2.192639	0.22	-3.06534	
259	259	-4.94362	0.22	3.431551	
260	260	-1.360287	0.22	3.431551	
261	261	-5.44362	0.22	2.565525	
262	262	-3.651954	0.22	-0.537732	
263	263	-5.19362	0	2.998538	
264	264	-1.558342	0	3.431551	
265	265	-3.750981	0	-0.366211	
266	266	-5.19362	0.22	2.998538	
267	267	-1.558342	0.22	3.431551	
268	268	-3.750981	0.22	-0.366211	
269	269	5.44362	0.22	2.565525	
270	270	3.651954	0.22	-0.537732	
271	271	4.94362	0.22	3.431551	
272	272	1.360287	0.22	3.431551	
273	273	3.750981	0	-0.366211	
274	274	1.558342	0	3.431551	
275	275	5.19362	0.22	2.998538	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
276	276	3.750981	0.22	-0.366211	
277	277	1.558342	0.22	3.431551	
278	278	5.822123	0	2.458671	
279	279	6.061182	0	2.32065	
280	280	5.862718	3.5	2.435234	
281	281	6.061182	3.5	2.32065	
282	282	3.613385	3.5	-1.460725	
283	283	3.811849	3.5	-1.575309	
284	284	1.321385	3.5	-5.430586	
285	285	1.519849	3.5	-5.545169	
286	286	3.57279	0	-1.437288	
287	287	3.811849	0	-1.575309	
288	288	1.28079	0	-5.407148	
289	289	1.519849	0	-5.545169	
290	290	6.061182	3.666667	2.32065	
291	291	6.061182	-2.333333	2.32065	
292	292	3.811849	5.333333	-1.575309	
293	293	3.811849	-0.666667	-1.575309	
294	294	1.519849	3.666667	-5.545169	
295	295	1.519849	-2.333333	-5.545169	
296	296	6.061182	3	2.32065	
297	297	5.628169	3	2.57065	
298	298	6.061182	1	2.32065	
299	299	5.628169	1	2.57065	
300	300	5.628169	3.25	2.57065	
301	301	5.628169	0.5	2.57065	
302	302	-0.78179	0	-6.271442	
303	303	-1.020849	0	-6.409463	
304	304	-0.822385	3.5	-6.29488	
305	305	-1.020849	3.5	-6.409463	
306	306	-3.071718	3.5	-2.398921	
307	307	-3.270182	3.5	-2.513504	
308	308	-5.363718	3.5	1.57094	
309	309	-5.562182	3.5	1.456357	
310	310	-3.031123	0	-2.375483	
311	311	-3.270182	0	-2.513504	
312	312	-5.323123	0	1.594377	
313	313	-5.562182	0	1.456357	
314	314	-1.020849	3.666667	-6.409463	
315	315	-1.020849	-2.333333	-6.409463	
316	316	-3.270182	5.333333	-2.513504	
317	317	-3.270182	-0.666667	-2.513504	
318	318	-5.562182	3.666667	1.456357	
319	319	-5.562182	-2.333333	1.456357	
320	320	-1.020849	3	-6.409463	
321	321	-0.587836	3	-6.159463	
322	322	-1.020849	1	-6.409463	
323	323	-0.587836	1	-6.159463	
324	324	-0.587836	3.25	-6.159463	
325	325	-0.587836	0.5	-6.159463	
326	326	3.530952	1.833333	3.685905	
327	327	3.530952	0.833333	3.685905	
328	328	1.426611	1.833333	-4.900847	
329	329	1.426611	0.833333	-4.900847	
330	330	-4.957564	1.833333	1.214942	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
331	331	-4.957564	0.833333	1.214942	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	145	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	151	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	157	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	12	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	18	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	6	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

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	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	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

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33	45
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50	65

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	HSS3.5X3.5X3	Beam	Tube	A500 Gr.B Rect	Typical	2.24	4.05	4.05	6.56
2	MF-ST1	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
3	MF-SR1	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
4	MF-P1	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5	MF-CP1	PL 3/8X6	Beam	RECT	A36 Gr.36	Typical	2.28	0.027	6.84	0.105
6	MF-CP2	PL1/2x8	Beam	RECT	A36 Gr.36	Typical	4	0.083	21.333	0.32
7	MF-CP3	PL3/8x8.5	Column	RECT	A36 Gr.36	Typical	3.188	0.037	19.191	0.145
8	MF-CP4	PL3/8x8.5	Beam	RECT	A36 Gr.36	Typical	3.188	0.037	19.191	0.145
9	MF-CA1	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
10	MF-SA1	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
11	Kickers	LL3x3x4x3	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical	2.88	5.48	2.46	0.063

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	CF1	P1000	Beam	CS	A653 SS Gr33	Typical	0.517	0.165	0.222	0.002

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	4	2		MF-CP2	Beam	RECT	A36 Gr.36	Typical
2	2	2	3		MF-CP2	Beam	RECT	A36 Gr.36	Typical
3	3	4	5		MF-CP2	Beam	RECT	A36 Gr.36	Typical
4	4	6	7		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
5	5	10	8		MF-CP2	Beam	RECT	A36 Gr.36	Typical
6	6	8	9		MF-CP2	Beam	RECT	A36 Gr.36	Typical
7	7	10	11		MF-CP2	Beam	RECT	A36 Gr.36	Typical
8	8	12	13		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
9	9	16	14		MF-CP2	Beam	RECT	A36 Gr.36	Typical
10	10	14	15		MF-CP2	Beam	RECT	A36 Gr.36	Typical
11	11	16	17		MF-CP2	Beam	RECT	A36 Gr.36	Typical
12	12	18	19		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
13	13	20	21		MF-H1	Beam	Tube	A500 Gr.B Rect	Typical
14	14	22	23		MF-H1	Beam	Tube	A500 Gr.B Rect	Typical
15	15	24	25		MF-H1	Beam	Tube	A500 Gr.B Rect	Typical
16	16	31	32		RIGID	None	None	RIGID	Typical
17	17	31	38		RIGID	None	None	RIGID	Typical
18	18	26	27		MF-CP1	Beam	RECT	A36 Gr.36	Typical
19	19	27	30		MF-CP1	Beam	RECT	A36 Gr.36	Typical
20	20	28	29		RIGID	None	None	RIGID	Typical
21	21	30	32		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
22	22	33	34		MF-CP1	Beam	RECT	A36 Gr.36	Typical
23	23	34	37		MF-CP1	Beam	RECT	A36 Gr.36	Typical
24	24	35	36		RIGID	None	None	RIGID	Typical
25	25	37	38		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
26	26	44	45		RIGID	None	None	RIGID	Typical
27	27	44	51		RIGID	None	None	RIGID	Typical
28	28	39	40		MF-CP1	Beam	RECT	A36 Gr.36	Typical
29	29	40	43		MF-CP1	Beam	RECT	A36 Gr.36	Typical
30	30	41	42		RIGID	None	None	RIGID	Typical
31	31	43	45		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	46	47		MF-CP1	Beam	RECT	A36 Gr.36	Typical
33	33	47	50		MF-CP1	Beam	RECT	A36 Gr.36	Typical
34	34	48	49		RIGID	None	None	RIGID	Typical
35	35	50	51		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
36	36	57	58		RIGID	None	None	RIGID	Typical
37	37	57	64		RIGID	None	None	RIGID	Typical
38	38	52	53		MF-CP1	Beam	RECT	A36 Gr.36	Typical
39	39	53	56		MF-CP1	Beam	RECT	A36 Gr.36	Typical
40	40	54	55		RIGID	None	None	RIGID	Typical
41	41	56	58		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
42	42	59	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
43	43	60	63		MF-CP1	Beam	RECT	A36 Gr.36	Typical
44	44	61	62		RIGID	None	None	RIGID	Typical
45	45	63	64		MF-ST1	Beam	Tube	A500 Gr.B Rect	Typical
46	46	65	66		RIGID	None	None	RIGID	Typical
47	47	67	68		RIGID	None	None	RIGID	Typical
48	48	69	70		RIGID	None	None	RIGID	Typical
49	49	71	72		RIGID	None	None	RIGID	Typical
50	50	73	74		RIGID	None	None	RIGID	Typical
51	51	75	76		RIGID	None	None	RIGID	Typical
52	52	77	78		RIGID	None	None	RIGID	Typical
53	53	79	80		RIGID	None	None	RIGID	Typical
54	54	81	82		RIGID	None	None	RIGID	Typical
55	55	83	84		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
56	56	85	86		RIGID	None	None	RIGID	Typical
57	57	87	88		RIGID	None	None	RIGID	Typical
58	58	89	90		RIGID	None	None	RIGID	Typical
59	59	91	92		MF-P1	Column	Pipe	A53 Gr.B	Typical
60	60	93	94		MF-SR1	Beam	Pipe	A53 Gr.B	Typical
61	61	95	96		RIGID	None	None	RIGID	Typical
62	62	97	98		RIGID	None	None	RIGID	Typical
63	63	99	100		RIGID	None	None	RIGID	Typical
64	64	101	102		RIGID	None	None	RIGID	Typical
65	65	103	104		RIGID	None	None	RIGID	Typical
66	66	105	106		RIGID	None	None	RIGID	Typical
67	67	107	108		RIGID	None	None	RIGID	Typical
68	68	109	110		RIGID	None	None	RIGID	Typical
69	69	111	112		MF-P1	Column	Pipe	A53 Gr.B	Typical
70	70	113	114		MF-P1	Column	Pipe	A53 Gr.B	Typical
71	71	115	116		MF-P1	Column	Pipe	A53 Gr.B	Typical
72	72	117	118		MF-P1	Column	Pipe	A53 Gr.B	Typical
73	73	119	120		MF-SR1	Beam	Pipe	A53 Gr.B	Typical
74	74	121	122		RIGID	None	None	RIGID	Typical
75	75	123	124		RIGID	None	None	RIGID	Typical
76	76	125	126		MF-P1	Column	Pipe	A53 Gr.B	Typical
77	77	127	128		MF-SR1	Beam	Pipe	A53 Gr.B	Typical
78	78	129	130		RIGID	None	None	RIGID	Typical
79	79	131	132		RIGID	None	None	RIGID	Typical
80	80	133	134		MF-P1	Column	Pipe	A53 Gr.B	Typical
81	81	135	136		RIGID	None	None	RIGID	Typical
82	82	137	138		RIGID	None	None	RIGID	Typical
83	83	139	140		MF-P1	Column	Pipe	A53 Gr.B	Typical
84	84	141	142		RIGID	None	None	RIGID	Typical
85	85	143	144		MF-P1	Column	Pipe	A53 Gr.B	Typical
86	86	145	146		MF-CP4	Beam	RECT	A36 Gr.36	Typical
87	87	147	148		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
88	88	149	150		MF-CP3	Column	RECT	A36 Gr.36	Typical
89	89	151	152		MF-CP4	Beam	RECT	A36 Gr.36	Typical
90	90	153	154		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
91	91	155	156		MF-CP3	Column	RECT	A36 Gr.36	Typical
92	92	157	158		MF-CP4	Beam	RECT	A36 Gr.36	Typical
93	93	159	160		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
94	94	161	162		MF-CP3	Column	RECT	A36 Gr.36	Typical
95	95	163	164		MF-P1	Column	Pipe	A53 Gr.B	Typical
96	96	165	166		RIGID	None	None	RIGID	Typical
97	97	167	168	180	CF1	Beam	CS	A653 SS Gr33	Typical
98	98	169	170		RIGID	None	None	RIGID	Typical
99	99	171	172		RIGID	None	None	RIGID	Typical
100	100	173	174	180	CF1	Beam	CS	A653 SS Gr33	Typical
101	101	175	176		RIGID	None	None	RIGID	Typical
102	102	177	178		MF-P1	Column	Pipe	A53 Gr.B	Typical
103	103	179	180		RIGID	None	None	RIGID	Typical
104	104	181	182	180	CF1	Beam	CS	A653 SS Gr33	Typical
105	105	183	184		RIGID	None	None	RIGID	Typical
106	106	185	186		RIGID	None	None	RIGID	Typical
107	107	187	188	180	CF1	Beam	CS	A653 SS Gr33	Typical
108	108	189	190		RIGID	None	None	RIGID	Typical
109	109	191	192		MF-P1	Column	Pipe	A53 Gr.B	Typical
110	110	193	194		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
111	111	195	196	180	CF1	Beam	CS	A653 SS Gr33	Typical
112	112	197	198		RIGID	None	None	RIGID	Typical
113	113	199	200		RIGID	None	None	RIGID	Typical
114	114	201	202	180	CF1	Beam	CS	A653 SS Gr33	Typical
115	115	203	204		RIGID	None	None	RIGID	Typical
116	116	206	208	270	MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
117	117	205	207		MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
118	118	205	206	270	MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
119	119	207	208		MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
120	120	209	210	180	MF-CA1	Beam	Single Angle	A36 Gr.36	Typical
121	121	211	212		MF-CP1	Beam	RECT	A36 Gr.36	Typical
122	122	213	214		MF-CP1	Beam	RECT	A36 Gr.36	Typical
123	123	215	216		RIGID	None	None	RIGID	Typical
124	124	217	218		RIGID	None	None	RIGID	Typical
125	125	219	220		RIGID	None	None	RIGID	Typical
126	126	221	222		RIGID	None	None	RIGID	Typical
127	127	223	224	180	MF-CA1	Beam	Single Angle	A36 Gr.36	Typical
128	128	225	226		MF-CP1	Beam	RECT	A36 Gr.36	Typical
129	129	227	228		MF-CP1	Beam	RECT	A36 Gr.36	Typical
130	130	229	230		RIGID	None	None	RIGID	Typical
131	131	231	232		RIGID	None	None	RIGID	Typical
132	132	233	234		RIGID	None	None	RIGID	Typical
133	133	235	236		RIGID	None	None	RIGID	Typical
134	134	237	238	180	MF-CA1	Beam	Single Angle	A36 Gr.36	Typical
135	135	239	240		MF-CP1	Beam	RECT	A36 Gr.36	Typical
136	136	241	242		MF-CP1	Beam	RECT	A36 Gr.36	Typical
137	137	243	244		RIGID	None	None	RIGID	Typical
138	138	245	246		RIGID	None	None	RIGID	Typical
139	139	247	248		RIGID	None	None	RIGID	Typical
140	140	249	250		RIGID	None	None	RIGID	Typical
141	141	254	257		RIGID	None	None	RIGID	Typical
142	142	255	258		RIGID	None	None	RIGID	Typical
143	143	251	256		RIGID	None	None	RIGID	Typical
144	144	260	262	270	MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
145	145	259	261		MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
146	146	259	260	270	MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
147	147	261	262		MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
148	148	264	267		RIGID	None	None	RIGID	Typical
149	149	265	268		RIGID	None	None	RIGID	Typical
150	150	263	266		RIGID	None	None	RIGID	Typical
151	151	270	272	270	MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
152	152	269	271		MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
153	153	269	270	270	MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
154	154	271	272		MF-SA1	Beam	Single Angle	A36 Gr.36	Typical
155	155	273	276		RIGID	None	None	RIGID	Typical
156	156	274	277		RIGID	None	None	RIGID	Typical
157	157	253	275		RIGID	None	None	RIGID	Typical
158	158	278	279		RIGID	None	None	RIGID	Typical
159	159	280	281		RIGID	None	None	RIGID	Typical
160	160	282	283		RIGID	None	None	RIGID	Typical
161	161	284	285		RIGID	None	None	RIGID	Typical
162	162	286	287		RIGID	None	None	RIGID	Typical
163	163	288	289		RIGID	None	None	RIGID	Typical
164	164	290	291		MF-P1	Column	Pipe	A53 Gr.B	Typical
165	165	292	293		MF-P1	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
166	166	294	295		MF-P1	Column	Pipe	A53 Gr.B	Typical
167	167	296	297		RIGID	None	None	RIGID	Typical
168	168	298	299		RIGID	None	None	RIGID	Typical
169	169	300	301		MF-P1	Column	Pipe	A53 Gr.B	Typical
170	170	302	303		RIGID	None	None	RIGID	Typical
171	171	304	305		RIGID	None	None	RIGID	Typical
172	172	306	307		RIGID	None	None	RIGID	Typical
173	173	308	309		RIGID	None	None	RIGID	Typical
174	174	310	311		RIGID	None	None	RIGID	Typical
175	175	312	313		RIGID	None	None	RIGID	Typical
176	176	314	315		MF-P1	Column	Pipe	A53 Gr.B	Typical
177	177	316	317		MF-P1	Column	Pipe	A53 Gr.B	Typical
178	178	318	319		MF-P1	Column	Pipe	A53 Gr.B	Typical
179	179	320	321		RIGID	None	None	RIGID	Typical
180	180	322	323		RIGID	None	None	RIGID	Typical
181	181	324	325		MF-P1	Column	Pipe	A53 Gr.B	Typical
182	182	327	326		RIGID	None	None	RIGID	Typical
183	183	329	328		RIGID	None	None	RIGID	Typical
184	184	331	330		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	1			Yes	N/A	None
2	2			Yes	N/A	None
3	3			Yes	N/A	None
4	4			Yes	N/A	None
5	5			Yes	N/A	None
6	6			Yes	N/A	None
7	7			Yes	N/A	None
8	8			Yes	N/A	None
9	9			Yes	N/A	None
10	10			Yes	N/A	None
11	11			Yes	N/A	None
12	12			Yes	N/A	None
13	13			Yes	N/A	None
14	14			Yes	N/A	None
15	15			Yes	N/A	None
16	16			Yes	** NA **	None
17	17			Yes	** NA **	None
18	18			Yes	N/A	None
19	19			Yes	N/A	None
20	20		OOOOOX	Yes	** NA **	None
21	21			Yes	N/A	None
22	22			Yes	N/A	None
23	23			Yes	N/A	None
24	24		OOOOOX	Yes	** NA **	None
25	25			Yes	N/A	None
26	26			Yes	** NA **	None
27	27			Yes	** NA **	None
28	28			Yes	N/A	None
29	29			Yes	N/A	None
30	30		OOOOOX	Yes	** NA **	None
31	31			Yes	N/A	None
32	32			Yes	N/A	None
33	33			Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
34	34		OOOOOX	Yes	** NA **	None
35	35			Yes	N/A	None
36	36			Yes	** NA **	None
37	37			Yes	** NA **	None
38	38			Yes	N/A	None
39	39			Yes	N/A	None
40	40		OOOOOX	Yes	** NA **	None
41	41			Yes	N/A	None
42	42			Yes	N/A	None
43	43			Yes	N/A	None
44	44		OOOOOX	Yes	** NA **	None
45	45			Yes	N/A	None
46	46		OOOOOX	Yes	** NA **	None
47	47		OOOOOX	Yes	** NA **	None
48	48		OOOOOX	Yes	** NA **	None
49	49		OOOOOX	Yes	** NA **	None
50	50		OOOOOX	Yes	** NA **	None
51	51		OOOOOX	Yes	** NA **	None
52	52		OOOOOX	Yes	** NA **	None
53	53		OOOOOX	Yes	** NA **	None
54	54		OOOOOX	Yes	** NA **	None
55	55		OOOOOX	Yes	** NA **	None
56	56		OOOOOX	Yes	** NA **	None
57	57		OOOOOX	Yes	** NA **	None
58	58			Yes	** NA **	None
59	59			Yes	** NA **	None
60	60			Yes	N/A	None
61	61			Yes	** NA **	None
62	62			Yes	** NA **	None
63	63			Yes	** NA **	None
64	64			Yes	** NA **	None
65	65			Yes	** NA **	None
66	66			Yes	** NA **	None
67	67			Yes	** NA **	None
68	68			Yes	** NA **	None
69	69			Yes	** NA **	None
70	70			Yes	** NA **	None
71	71			Yes	** NA **	None
72	72			Yes	** NA **	None
73	73			Yes	N/A	None
74	74			Yes	** NA **	None
75	75			Yes	** NA **	None
76	76			Yes	** NA **	None
77	77			Yes	N/A	None
78	78			Yes	** NA **	None
79	79			Yes	** NA **	None
80	80			Yes	** NA **	None
81	81			Yes	** NA **	None
82	82			Yes	** NA **	None
83	83			Yes	** NA **	None
84	84			Yes	** NA **	None
85	85			Yes	** NA **	None
86	86			Yes	N/A	None
87	87	BenPIN	BenPIN	Yes	** NA **	None
88	88			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
89	89			Yes	N/A	None
90	90	BenPIN	BenPIN	Yes	** NA **	None
91	91			Yes	** NA **	None
92	92			Yes	N/A	None
93	93	BenPIN	BenPIN	Yes	** NA **	None
94	94			Yes	** NA **	None
95	95			Yes	** NA **	None
96	96			Yes	** NA **	None
97	97			Yes	N/A	None
98	98			Yes	** NA **	None
99	99			Yes	** NA **	None
100	100			Yes	N/A	None
101	101			Yes	** NA **	None
102	102			Yes	** NA **	None
103	103			Yes	** NA **	None
104	104			Yes	N/A	None
105	105			Yes	** NA **	None
106	106			Yes	** NA **	None
107	107			Yes	N/A	None
108	108			Yes	** NA **	None
109	109			Yes	** NA **	None
110	110			Yes	** NA **	None
111	111			Yes	N/A	None
112	112			Yes	** NA **	None
113	113			Yes	** NA **	None
114	114			Yes	N/A	None
115	115			Yes	** NA **	None
116	116			Yes	N/A	None
117	117			Yes	N/A	None
118	118			Yes	N/A	None
119	119			Yes	N/A	None
120	120			Yes	N/A	None
121	121			Yes	N/A	None
122	122			Yes	N/A	None
123	123		OOOOOX	Yes	** NA **	None
124	124		OOOOOX	Yes	** NA **	None
125	125		OOOOOX	Yes	** NA **	None
126	126		OOOOOX	Yes	** NA **	None
127	127			Yes	N/A	None
128	128			Yes	N/A	None
129	129			Yes	N/A	None
130	130		OOOOOX	Yes	** NA **	None
131	131		OOOOOX	Yes	** NA **	None
132	132		OOOOOX	Yes	** NA **	None
133	133		OOOOOX	Yes	** NA **	None
134	134			Yes	N/A	None
135	135			Yes	N/A	None
136	136			Yes	N/A	None
137	137		OOOOOX	Yes	** NA **	None
138	138		OOOOOX	Yes	** NA **	None
139	139		OOOOOX	Yes	** NA **	None
140	140		OOOOOX	Yes	** NA **	None
141	141		OOOOXO	Yes	** NA **	None
142	142		OOOOXO	Yes	** NA **	None
143	143		OOOOXO	Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
144	144			Yes	N/A	None
145	145			Yes	N/A	None
146	146			Yes	N/A	None
147	147			Yes	N/A	None
148	148		OOOOXO	Yes	** NA **	None
149	149		OOOOXO	Yes	** NA **	None
150	150		OOOOXO	Yes	** NA **	None
151	151			Yes	N/A	None
152	152			Yes	N/A	None
153	153			Yes	N/A	None
154	154			Yes	N/A	None
155	155		OOOOXO	Yes	** NA **	None
156	156		OOOOXO	Yes	** NA **	None
157	157		OOOOXO	Yes	** NA **	None
158	158			Yes	** NA **	None
159	159			Yes	** NA **	None
160	160			Yes	** NA **	None
161	161			Yes	** NA **	None
162	162			Yes	** NA **	None
163	163			Yes	** NA **	None
164	164			Yes	** NA **	None
165	165			Yes	** NA **	None
166	166			Yes	** NA **	None
167	167			Yes	** NA **	None
168	168			Yes	** NA **	None
169	169			Yes	** NA **	None
170	170			Yes	** NA **	None
171	171			Yes	** NA **	None
172	172			Yes	** NA **	None
173	173			Yes	** NA **	None
174	174			Yes	** NA **	None
175	175			Yes	** NA **	None
176	176			Yes	** NA **	None
177	177			Yes	** NA **	None
178	178			Yes	** NA **	None
179	179			Yes	** NA **	None
180	180			Yes	** NA **	None
181	181			Yes	** NA **	None
182	182			Yes	** NA **	None
183	183			Yes	** NA **	None
184	184			Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	MF-CP2	1.417	Lbyy	Lateral
2	2	MF-CP2	0.5	Lbyy	Lateral
3	3	MF-CP2	0.5	Lbyy	Lateral
4	4	MF-ST1	4.5	Lbyy	Lateral
5	5	MF-CP2	1.417	Lbyy	Lateral
6	6	MF-CP2	0.5	Lbyy	Lateral
7	7	MF-CP2	0.5	Lbyy	Lateral
8	8	MF-ST1	4.5	Lbyy	Lateral
9	9	MF-CP2	1.417	Lbyy	Lateral
10	10	MF-CP2	0.5	Lbyy	Lateral
11	11	MF-CP2	0.5	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
12	12	MF-ST1	4.5	Lbyy	Lateral
13	13	MF-H1	12.5	Lbyy	Lateral
14	14	MF-H1	12.5	Lbyy	Lateral
15	15	MF-H1	12.5	Lbyy	Lateral
16	18	MF-CP1	0.25	Lbyy	Lateral
17	19	MF-CP1	0.333	Lbyy	Lateral
18	21	MF-ST1	2.087	Lbyy	Lateral
19	22	MF-CP1	0.25	Lbyy	Lateral
20	23	MF-CP1	0.333	Lbyy	Lateral
21	25	MF-ST1	2.087	Lbyy	Lateral
22	28	MF-CP1	0.25	Lbyy	Lateral
23	29	MF-CP1	0.333	Lbyy	Lateral
24	31	MF-ST1	2.087	Lbyy	Lateral
25	32	MF-CP1	0.25	Lbyy	Lateral
26	33	MF-CP1	0.333	Lbyy	Lateral
27	35	MF-ST1	2.087	Lbyy	Lateral
28	38	MF-CP1	0.25	Lbyy	Lateral
29	39	MF-CP1	0.333	Lbyy	Lateral
30	41	MF-ST1	2.087	Lbyy	Lateral
31	42	MF-CP1	0.25	Lbyy	Lateral
32	43	MF-CP1	0.333	Lbyy	Lateral
33	45	MF-ST1	2.087	Lbyy	Lateral
34	59	MF-P1	6	Lbyy	Lateral
35	60	MF-SR1	11.25	Lbyy	Lateral
36	69	MF-P1	6	Lbyy	Lateral
37	70	MF-P1	6	Lbyy	Lateral
38	71	MF-P1	6	Lbyy	Lateral
39	72	MF-P1	6	Lbyy	Lateral
40	73	MF-SR1	11.25	Lbyy	Lateral
41	76	MF-P1	6	Lbyy	Lateral
42	77	MF-SR1	11.25	Lbyy	Lateral
43	80	MF-P1	6	Lbyy	Lateral
44	83	MF-P1	2.75	Lbyy	Lateral
45	85	MF-P1	5.25	Lbyy	Lateral
46	86	MF-CP4	0.333	Lbyy	Lateral
47	87	Kickers	6.667	Lbyy	Lateral
48	88	MF-CP3	0.333	Lbyy	Lateral
49	89	MF-CP4	0.333	Lbyy	Lateral
50	90	Kickers	6.667	Lbyy	Lateral
51	91	MF-CP3	0.333	Lbyy	Lateral
52	92	MF-CP4	0.333	Lbyy	Lateral
53	93	Kickers	6.667	Lbyy	Lateral
54	94	MF-CP3	0.333	Lbyy	Lateral
55	95	MF-P1	3	Lbyy	Lateral
56	102	MF-P1	3	Lbyy	Lateral
57	109	MF-P1	3	Lbyy	Lateral
58	116	MF-SA1	4.583	Lbyy	Lateral
59	117	MF-SA1	1	Lbyy	Lateral
60	118	MF-SA1	3.583	Lbyy	Lateral
61	119	MF-SA1	3.583	Lbyy	Lateral
62	120	MF-CA1	1.167	Lbyy	Lateral
63	121	MF-CP1	0.5	Lbyy	Lateral
64	122	MF-CP1	0.5	Lbyy	Lateral
65	127	MF-CA1	1.167	Lbyy	Lateral
66	128	MF-CP1	0.5	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
67	129	MF-CP1	0.5	Lbyy	Lateral
68	134	MF-CA1	1.167	Lbyy	Lateral
69	135	MF-CP1	0.5	Lbyy	Lateral
70	136	MF-CP1	0.5	Lbyy	Lateral
71	144	MF-SA1	4.583	Lbyy	Lateral
72	145	MF-SA1	1	Lbyy	Lateral
73	146	MF-SA1	3.583	Lbyy	Lateral
74	147	MF-SA1	3.583	Lbyy	Lateral
75	151	MF-SA1	4.583	Lbyy	Lateral
76	152	MF-SA1	1	Lbyy	Lateral
77	153	MF-SA1	3.583	Lbyy	Lateral
78	154	MF-SA1	3.583	Lbyy	Lateral
79	164	MF-P1	6	Lbyy	Lateral
80	165	MF-P1	6	Lbyy	Lateral
81	166	MF-P1	6	Lbyy	Lateral
82	169	MF-P1	2.75	Lbyy	Lateral
83	176	MF-P1	6	Lbyy	Lateral
84	177	MF-P1	6	Lbyy	Lateral
85	178	MF-P1	6	Lbyy	Lateral
86	181	MF-P1	2.75	Lbyy	Lateral

Cold Formed Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	97	CF1	2	Lbyy	Lateral
2	100	CF1	2	Lbyy	Lateral
3	104	CF1	2	Lbyy	Lateral
4	107	CF1	2	Lbyy	Lateral
5	111	CF1	2	Lbyy	Lateral
6	114	CF1	2	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	Y	-0.065	%5
2	71	Y	-0.065	%95
3	71	Y	-0.059	%30
4	71	Y	-0.051	%30
5	71	Y	-0.003	%75
6	70	Y	-0.033	%5
7	70	Y	-0.033	%45
8	70	Y	-0.041	%55
9	70	Y	-0.041	%95
10	70	Y	0	0
11	69	Y	-0.049	%5
12	69	Y	-0.049	%95
13	69	Y	-0.071	%75
14	69	Y	0	0
15	69	Y	0	0
16	83	Y	-0.06	%50
17	83	Y	0	0
18	83	Y	0	0
19	83	Y	0	0
20	83	Y	0	0
21	178	Y	-0.065	%5

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
22	178	Y	-0.065	%95
23	178	Y	-0.059	%30
24	178	Y	-0.051	%30
25	178	Y	-0.003	%75
26	177	Y	-0.033	%5
27	177	Y	-0.033	%45
28	177	Y	-0.041	%55
29	177	Y	-0.041	%95
30	177	Y	0	0
31	176	Y	-0.049	%5
32	176	Y	-0.049	%95
33	176	Y	-0.071	%75
34	176	Y	0	0
35	176	Y	0	0
36	181	Y	-0.06	%50
37	181	Y	0	0
38	181	Y	0	0
39	181	Y	0	0
40	181	Y	0	0
41	166	Y	-0.065	%5
42	166	Y	-0.065	%95
43	166	Y	-0.059	%30
44	166	Y	-0.051	%30
45	166	Y	-0.003	%75
46	165	Y	-0.033	%5
47	165	Y	-0.033	%45
48	165	Y	-0.041	%55
49	165	Y	-0.041	%95
50	165	Y	0	0
51	164	Y	-0.049	%5
52	164	Y	-0.049	%95
53	164	Y	-0.071	%75
54	164	Y	0	0
55	164	Y	0	0
56	169	Y	-0.06	%50
57	169	Y	0	0
58	169	Y	0	0
59	169	Y	0	0
60	169	Y	0	0
61	182	Y	-0.004	%50
62	182	Y	0	0
63	182	Y	0	0
64	182	Y	0	0
65	182	Y	0	0
66	184	Y	-0.004	%50
67	184	Y	0	0
68	184	Y	0	0
69	184	Y	0	0
70	184	Y	0	0
71	183	Y	-0.004	%50
72	183	Y	0	0
73	183	Y	0	0
74	183	Y	0	0
75	183	Y	0	0
76	85	Y	-0.02	%50

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
77	85	Y	0	0
78	85	Y	0	0
79	85	Y	0	0
80	85	Y	0	0
81	8	Y	-0.032	%15
82	8	Y	0	0
83	8	Y	0	0
84	8	Y	0	0
85	8	Y	0	0
86	4	Y	-0.016	%15
87	4	Y	0	0
88	4	Y	0	0
89	4	Y	0	0
90	4	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	Z	-0.267	%5
2	71	Z	-0.267	%95
3	71	Z	-0.036	%30
4	71	Z	-0.066	%30
5	71	Z	-0.004	%75
6	70	Z	-0.075	%5
7	70	Z	-0.075	%45
8	70	Z	-0.079	%55
9	70	Z	-0.079	%95
10	70	Z	0	0
11	69	Z	-0.271	%5
12	69	Z	-0.271	%95
13	69	Z	-0.077	%75
14	69	Z	0	0
15	69	Z	0	0
16	83	Z	-0.062	%50
17	83	Z	0	0
18	83	Z	0	0
19	83	Z	0	0
20	83	Z	0	0
21	178	Z	-0.267	%5
22	178	Z	-0.267	%95
23	178	Z	-0.036	%30
24	178	Z	-0.066	%30
25	178	Z	-0.004	%75
26	177	Z	-0.075	%5
27	177	Z	-0.075	%45
28	177	Z	-0.079	%55
29	177	Z	-0.079	%95
30	177	Z	0	0
31	176	Z	-0.271	%5
32	176	Z	-0.271	%95
33	176	Z	-0.077	%75
34	176	Z	0	0
35	176	Z	0	0
36	181	Z	-0.062	%50
37	181	Z	0	0
38	181	Z	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
39	181	Z	0	0
40	181	Z	0	0
41	166	Z	-0.267	%5
42	166	Z	-0.267	%95
43	166	Z	-0.036	%30
44	166	Z	-0.066	%30
45	166	Z	-0.004	%75
46	165	Z	-0.075	%5
47	165	Z	-0.075	%45
48	165	Z	-0.079	%55
49	165	Z	-0.079	%95
50	165	Z	0	0
51	164	Z	-0.271	%5
52	164	Z	-0.271	%95
53	164	Z	-0.077	%75
54	164	Z	0	0
55	164	Z	0	0
56	169	Z	-0.062	%50
57	169	Z	0	0
58	169	Z	0	0
59	169	Z	0	0
60	169	Z	0	0
61	182	Z	-0.027	%50
62	182	Z	0	0
63	182	Z	0	0
64	182	Z	0	0
65	182	Z	0	0
66	184	Z	-0.027	%50
67	184	Z	0	0
68	184	Z	0	0
69	184	Z	0	0
70	184	Z	0	0
71	183	Z	-0.027	%50
72	183	Z	0	0
73	183	Z	0	0
74	183	Z	0	0
75	183	Z	0	0
76	85	Z	-0.031	%50
77	85	Z	0	0
78	85	Z	0	0
79	85	Z	0	0
80	85	Z	0	0
81	8	Z	-0.036	%15
82	8	Z	0	0
83	8	Z	0	0
84	8	Z	0	0
85	8	Z	0	0
86	4	Z	-0.188	%15
87	4	Z	0	0
88	4	Z	0	0
89	4	Z	0	0
90	4	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	X	-0.116	%5
2	71	X	-0.116	%95
3	71	X	-0.065	%30
4	71	X	-0.112	%30
5	71	X	-0.008	%75
6	70	X	-0.037	%5
7	70	X	-0.037	%45
8	70	X	-0.053	%55
9	70	X	-0.053	%95
10	70	X	0	0
11	69	X	-0.094	%5
12	69	X	-0.094	%95
13	69	X	-0.055	%75
14	69	X	0	0
15	69	X	0	0
16	83	X	-0.112	%50
17	83	X	0	0
18	83	X	0	0
19	83	X	0	0
20	83	X	0	0
21	178	X	-0.116	%5
22	178	X	-0.116	%95
23	178	X	-0.065	%30
24	178	X	-0.112	%30
25	178	X	-0.008	%75
26	177	X	-0.037	%5
27	177	X	-0.037	%45
28	177	X	-0.053	%55
29	177	X	-0.053	%95
30	177	X	0	0
31	176	X	-0.094	%5
32	176	X	-0.094	%95
33	176	X	-0.055	%75
34	176	X	0	0
35	176	X	0	0
36	181	X	-0.112	%50
37	181	X	0	0
38	181	X	0	0
39	181	X	0	0
40	181	X	0	0
41	166	X	-0.116	%5
42	166	X	-0.116	%95
43	166	X	-0.065	%30
44	166	X	-0.112	%30
45	166	X	-0.008	%75
46	165	X	-0.037	%5
47	165	X	-0.037	%45
48	165	X	-0.053	%55
49	165	X	-0.053	%95
50	165	X	0	0
51	164	X	-0.094	%5
52	164	X	-0.094	%95
53	164	X	-0.055	%75
54	164	X	0	0
55	164	X	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
56	169	X	-0.112	%50
57	169	X	0	0
58	169	X	0	0
59	169	X	0	0
60	169	X	0	0
61	182	X	-0.008	%50
62	182	X	0	0
63	182	X	0	0
64	182	X	0	0
65	182	X	0	0
66	184	X	-0.008	%50
67	184	X	0	0
68	184	X	0	0
69	184	X	0	0
70	184	X	0	0
71	183	X	-0.008	%50
72	183	X	0	0
73	183	X	0	0
74	183	X	0	0
75	183	X	0	0
76	85	X	-0.031	%50
77	85	X	0	0
78	85	X	0	0
79	85	X	0	0
80	85	X	0	0
81	8	X	-0.036	%15
82	8	X	0	0
83	8	X	0	0
84	8	X	0	0
85	8	X	0	0
86	4	X	-0.105	%15
87	4	X	0	0
88	4	X	0	0
89	4	X	0	0
90	4	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	Z	-0.041	%5
2	71	Z	-0.041	%95
3	71	Z	-0.006	%30
4	71	Z	-0.01	%30
5	71	Z	-0.0006	%75
6	70	Z	-0.012	%5
7	70	Z	-0.012	%45
8	70	Z	-0.012	%55
9	70	Z	-0.012	%95
10	70	Z	0	0
11	69	Z	-0.042	%5
12	69	Z	-0.042	%95
13	69	Z	-0.012	%75
14	69	Z	0	0
15	69	Z	0	0
16	83	Z	-0.01	%50
17	83	Z	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
18	83	Z	0	0
19	83	Z	0	0
20	83	Z	0	0
21	178	Z	-0.041	%5
22	178	Z	-0.041	%95
23	178	Z	-0.006	%30
24	178	Z	-0.01	%30
25	178	Z	-0.0006	%75
26	177	Z	-0.012	%5
27	177	Z	-0.012	%45
28	177	Z	-0.012	%55
29	177	Z	-0.012	%95
30	177	Z	0	0
31	176	Z	-0.042	%5
32	176	Z	-0.042	%95
33	176	Z	-0.012	%75
34	176	Z	0	0
35	176	Z	0	0
36	181	Z	-0.01	%50
37	181	Z	0	0
38	181	Z	0	0
39	181	Z	0	0
40	181	Z	0	0
41	166	Z	-0.041	%5
42	166	Z	-0.041	%95
43	166	Z	-0.006	%30
44	166	Z	-0.01	%30
45	166	Z	-0.0006	%75
46	165	Z	-0.012	%5
47	165	Z	-0.012	%45
48	165	Z	-0.012	%55
49	165	Z	-0.012	%95
50	165	Z	0	0
51	164	Z	-0.042	%5
52	164	Z	-0.042	%95
53	164	Z	-0.012	%75
54	164	Z	0	0
55	164	Z	0	0
56	169	Z	-0.01	%50
57	169	Z	0	0
58	169	Z	0	0
59	169	Z	0	0
60	169	Z	0	0
61	182	Z	-0.004	%50
62	182	Z	0	0
63	182	Z	0	0
64	182	Z	0	0
65	182	Z	0	0
66	184	Z	-0.004	%50
67	184	Z	0	0
68	184	Z	0	0
69	184	Z	0	0
70	184	Z	0	0
71	183	Z	-0.004	%50
72	183	Z	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
73	183	Z	0	0
74	183	Z	0	0
75	183	Z	0	0
76	85	Z	-0.005	%50
77	85	Z	0	0
78	85	Z	0	0
79	85	Z	0	0
80	85	Z	0	0
81	8	Z	-0.006	%15
82	8	Z	0	0
83	8	Z	0	0
84	8	Z	0	0
85	8	Z	0	0
86	4	Z	-0.029	%15
87	4	Z	0	0
88	4	Z	0	0
89	4	Z	0	0
90	4	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	X	-0.018	%5
2	71	X	-0.018	%95
3	71	X	-0.01	%30
4	71	X	-0.017	%30
5	71	X	-0.001	%75
6	70	X	-0.006	%5
7	70	X	-0.006	%45
8	70	X	-0.008	%55
9	70	X	-0.008	%95
10	70	X	0	0
11	69	X	-0.015	%5
12	69	X	-0.015	%95
13	69	X	-0.009	%75
14	69	X	0	0
15	69	X	0	0
16	83	X	-0.017	%50
17	83	X	0	0
18	83	X	0	0
19	83	X	0	0
20	83	X	0	0
21	178	X	-0.018	%5
22	178	X	-0.018	%95
23	178	X	-0.01	%30
24	178	X	-0.017	%30
25	178	X	-0.001	%75
26	177	X	-0.006	%5
27	177	X	-0.006	%45
28	177	X	-0.008	%55
29	177	X	-0.008	%95
30	177	X	0	0
31	176	X	-0.015	%5
32	176	X	-0.015	%95
33	176	X	-0.009	%75
34	176	X	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
35	176	X	0	0
36	181	X	-0.017	%50
37	181	X	0	0
38	181	X	0	0
39	181	X	0	0
40	181	X	0	0
41	166	X	-0.018	%5
42	166	X	-0.018	%95
43	166	X	-0.01	%30
44	166	X	-0.017	%30
45	166	X	-0.001	%75
46	165	X	-0.006	%5
47	165	X	-0.006	%45
48	165	X	-0.008	%55
49	165	X	-0.008	%95
50	165	X	0	0
51	164	X	-0.015	%5
52	164	X	-0.015	%95
53	164	X	-0.009	%75
54	164	X	0	0
55	164	X	0	0
56	169	X	-0.017	%50
57	169	X	0	0
58	169	X	0	0
59	169	X	0	0
60	169	X	0	0
61	182	X	-0.001	%50
62	182	X	0	0
63	182	X	0	0
64	182	X	0	0
65	182	X	0	0
66	184	X	-0.001	%50
67	184	X	0	0
68	184	X	0	0
69	184	X	0	0
70	184	X	0	0
71	183	X	-0.001	%50
72	183	X	0	0
73	183	X	0	0
74	183	X	0	0
75	183	X	0	0
76	85	X	-0.005	%50
77	85	X	0	0
78	85	X	0	0
79	85	X	0	0
80	85	X	0	0
81	8	X	-0.006	%15
82	8	X	0	0
83	8	X	0	0
84	8	X	0	0
85	8	X	0	0
86	4	X	-0.016	%15
87	4	X	0	0
88	4	X	0	0
89	4	X	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
90	4	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	Z	-0.015	%5
2	71	Z	-0.015	%95
3	71	Z	-0.002	%30
4	71	Z	-0.004	%30
5	71	Z	-0.0002	%75
6	70	Z	-0.004	%5
7	70	Z	-0.004	%45
8	70	Z	-0.004	%55
9	70	Z	-0.004	%95
10	70	Z	0	0
11	69	Z	-0.015	%5
12	69	Z	-0.015	%95
13	69	Z	-0.004	%75
14	69	Z	0	0
15	69	Z	0	0
16	83	Z	-0.003	%50
17	83	Z	0	0
18	83	Z	0	0
19	83	Z	0	0
20	83	Z	0	0
21	178	Z	-0.015	%5
22	178	Z	-0.015	%95
23	178	Z	-0.002	%30
24	178	Z	-0.004	%30
25	178	Z	-0.0002	%75
26	177	Z	-0.004	%5
27	177	Z	-0.004	%45
28	177	Z	-0.004	%55
29	177	Z	-0.004	%95
30	177	Z	0	0
31	176	Z	-0.015	%5
32	176	Z	-0.015	%95
33	176	Z	-0.004	%75
34	176	Z	0	0
35	176	Z	0	0
36	181	Z	-0.003	%50
37	181	Z	0	0
38	181	Z	0	0
39	181	Z	0	0
40	181	Z	0	0
41	166	Z	-0.015	%5
42	166	Z	-0.015	%95
43	166	Z	-0.002	%30
44	166	Z	-0.004	%30
45	166	Z	-0.0002	%75
46	165	Z	-0.004	%5
47	165	Z	-0.004	%45
48	165	Z	-0.004	%55
49	165	Z	-0.004	%95
50	165	Z	0	0
51	164	Z	-0.015	%5

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
52	164	Z	-0.015	%95
53	164	Z	-0.004	%75
54	164	Z	0	0
55	164	Z	0	0
56	169	Z	-0.003	%50
57	169	Z	0	0
58	169	Z	0	0
59	169	Z	0	0
60	169	Z	0	0
61	182	Z	-0.002	%50
62	182	Z	0	0
63	182	Z	0	0
64	182	Z	0	0
65	182	Z	0	0
66	184	Z	-0.002	%50
67	184	Z	0	0
68	184	Z	0	0
69	184	Z	0	0
70	184	Z	0	0
71	183	Z	-0.002	%50
72	183	Z	0	0
73	183	Z	0	0
74	183	Z	0	0
75	183	Z	0	0
76	85	Z	-0.002	%50
77	85	Z	0	0
78	85	Z	0	0
79	85	Z	0	0
80	85	Z	0	0
81	8	Z	-0.002	%15
82	8	Z	0	0
83	8	Z	0	0
84	8	Z	0	0
85	8	Z	0	0
86	4	Z	-0.011	%15
87	4	Z	0	0
88	4	Z	0	0
89	4	Z	0	0
90	4	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	X	-0.007	%5
2	71	X	-0.007	%95
3	71	X	-0.004	%30
4	71	X	-0.006	%30
5	71	X	-0.0004	%75
6	70	X	-0.002	%5
7	70	X	-0.002	%45
8	70	X	-0.003	%55
9	70	X	-0.003	%95
10	70	X	0	0
11	69	X	-0.005	%5
12	69	X	-0.005	%95
13	69	X	-0.003	%75

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	69	X	0	0
15	69	X	0	0
16	83	X	-0.006	%50
17	83	X	0	0
18	83	X	0	0
19	83	X	0	0
20	83	X	0	0
21	178	X	-0.007	%5
22	178	X	-0.007	%95
23	178	X	-0.004	%30
24	178	X	-0.006	%30
25	178	X	-0.0004	%75
26	177	X	-0.002	%5
27	177	X	-0.002	%45
28	177	X	-0.003	%55
29	177	X	-0.003	%95
30	177	X	0	0
31	176	X	-0.005	%5
32	176	X	-0.005	%95
33	176	X	-0.003	%75
34	176	X	0	0
35	176	X	0	0
36	181	X	-0.006	%50
37	181	X	0	0
38	181	X	0	0
39	181	X	0	0
40	181	X	0	0
41	166	X	-0.007	%5
42	166	X	-0.007	%95
43	166	X	-0.004	%30
44	166	X	-0.006	%30
45	166	X	-0.0004	%75
46	165	X	-0.002	%5
47	165	X	-0.002	%45
48	165	X	-0.003	%55
49	165	X	-0.003	%95
50	165	X	0	0
51	164	X	-0.005	%5
52	164	X	-0.005	%95
53	164	X	-0.003	%75
54	164	X	0	0
55	164	X	0	0
56	169	X	-0.006	%50
57	169	X	0	0
58	169	X	0	0
59	169	X	0	0
60	169	X	0	0
61	182	X	-0.0004	%50
62	182	X	0	0
63	182	X	0	0
64	182	X	0	0
65	182	X	0	0
66	184	X	-0.0004	%50
67	184	X	0	0
68	184	X	0	0

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
69	184	X	0	0
70	184	X	0	0
71	183	X	-0.0004	%50
72	183	X	0	0
73	183	X	0	0
74	183	X	0	0
75	183	X	0	0
76	85	X	-0.002	%50
77	85	X	0	0
78	85	X	0	0
79	85	X	0	0
80	85	X	0	0
81	8	X	-0.002	%15
82	8	X	0	0
83	8	X	0	0
84	8	X	0	0
85	8	X	0	0
86	4	X	-0.006	%15
87	4	X	0	0
88	4	X	0	0
89	4	X	0	0
90	4	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	Y	-0.108	%5
2	71	Y	-0.108	%95
3	71	Y	-0.029	%30
4	71	Y	-0.049	%30
5	71	Y	-0.004	%75
6	70	Y	-0.032	%5
7	70	Y	-0.032	%45
8	70	Y	-0.037	%55
9	70	Y	-0.037	%95
10	70	Y	0	0
11	69	Y	-0.104	%5
12	69	Y	-0.104	%95
13	69	Y	-0.037	%75
14	69	Y	0	0
15	69	Y	0	0
16	83	Y	-0.048	%50
17	83	Y	0	0
18	83	Y	0	0
19	83	Y	0	0
20	83	Y	0	0
21	178	Y	-0.108	%5
22	178	Y	-0.108	%95
23	178	Y	-0.029	%30
24	178	Y	-0.049	%30
25	178	Y	-0.004	%75
26	177	Y	-0.032	%5
27	177	Y	-0.032	%45
28	177	Y	-0.037	%55
29	177	Y	-0.037	%95
30	177	Y	0	0

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
31	176	Y	-0.104	%5
32	176	Y	-0.104	%95
33	176	Y	-0.037	%75
34	176	Y	0	0
35	176	Y	0	0
36	181	Y	-0.048	%50
37	181	Y	0	0
38	181	Y	0	0
39	181	Y	0	0
40	181	Y	0	0
41	166	Y	-0.108	%5
42	166	Y	-0.108	%95
43	166	Y	-0.029	%30
44	166	Y	-0.049	%30
45	166	Y	-0.004	%75
46	165	Y	-0.032	%5
47	165	Y	-0.032	%45
48	165	Y	-0.037	%55
49	165	Y	-0.037	%95
50	165	Y	0	0
51	164	Y	-0.104	%5
52	164	Y	-0.104	%95
53	164	Y	-0.037	%75
54	164	Y	0	0
55	164	Y	0	0
56	169	Y	-0.048	%50
57	169	Y	0	0
58	169	Y	0	0
59	169	Y	0	0
60	169	Y	0	0
61	182	Y	-0.011	%50
62	182	Y	0	0
63	182	Y	0	0
64	182	Y	0	0
65	182	Y	0	0
66	184	Y	-0.011	%50
67	184	Y	0	0
68	184	Y	0	0
69	184	Y	0	0
70	184	Y	0	0
71	183	Y	-0.011	%50
72	183	Y	0	0
73	183	Y	0	0
74	183	Y	0	0
75	183	Y	0	0
76	85	Y	-0.03	%50
77	85	Y	0	0
78	85	Y	0	0
79	85	Y	0	0
80	85	Y	0	0
81	8	Y	-0.035	%15
82	8	Y	0	0
83	8	Y	0	0
84	8	Y	0	0
85	8	Y	0	0

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
86	4	Y	-0.082	%15
87	4	Y	0	0
88	4	Y	0	0
89	4	Y	0	0
90	4	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	Z	-0.032	%5
2	71	Z	-0.032	%95
3	71	Z	-0.015	%30
4	71	Z	-0.012	%30
5	71	Z	-0.0003	%75
6	70	Z	-0.016	%5
7	70	Z	-0.016	%45
8	70	Z	-0.02	%55
9	70	Z	-0.02	%95
10	70	Z	0	0
11	69	Z	-0.024	%5
12	69	Z	-0.024	%95
13	69	Z	-0.017	%75
14	69	Z	0	0
15	69	Z	0	0
16	83	Z	-0.015	%50
17	83	Z	0	0
18	83	Z	0	0
19	83	Z	0	0
20	83	Z	0	0
21	178	Z	-0.032	%5
22	178	Z	-0.032	%95
23	178	Z	-0.015	%30
24	178	Z	-0.012	%30
25	178	Z	-0.0003	%75
26	177	Z	-0.016	%5
27	177	Z	-0.016	%45
28	177	Z	-0.02	%55
29	177	Z	-0.02	%95
30	177	Z	0	0
31	176	Z	-0.024	%5
32	176	Z	-0.024	%95
33	176	Z	-0.017	%75
34	176	Z	0	0
35	176	Z	0	0
36	181	Z	-0.015	%50
37	181	Z	0	0
38	181	Z	0	0
39	181	Z	0	0
40	181	Z	0	0
41	166	Z	-0.032	%5
42	166	Z	-0.032	%95
43	166	Z	-0.015	%30
44	166	Z	-0.012	%30
45	166	Z	-0.0003	%75
46	165	Z	-0.016	%5
47	165	Z	-0.016	%45

Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
48	165	Z	-0.02	%55
49	165	Z	-0.02	%95
50	165	Z	0	0
51	164	Z	-0.024	%5
52	164	Z	-0.024	%95
53	164	Z	-0.017	%75
54	164	Z	0	0
55	164	Z	0	0
56	169	Z	-0.015	%50
57	169	Z	0	0
58	169	Z	0	0
59	169	Z	0	0
60	169	Z	0	0
61	182	Z	-0.0005	%50
62	182	Z	0	0
63	182	Z	0	0
64	182	Z	0	0
65	182	Z	0	0
66	184	Z	-0.0005	%50
67	184	Z	0	0
68	184	Z	0	0
69	184	Z	0	0
70	184	Z	0	0
71	183	Z	-0.0005	%50
72	183	Z	0	0
73	183	Z	0	0
74	183	Z	0	0
75	183	Z	0	0
76	85	Z	-0.005	%50
77	85	Z	0	0
78	85	Z	0	0
79	85	Z	0	0
80	85	Z	0	0
81	8	Z	-0.008	0
82	8	Z	0	0
83	8	Z	0	0
84	8	Z	0	0
85	8	Z	0	%15
86	4	Z	-0.004	%15
87	4	Z	0	0
88	4	Z	0	0
89	4	Z	0	0
90	4	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	71	X	-0.032	%5
2	71	X	-0.032	%95
3	71	X	-0.015	%30
4	71	X	-0.012	%30
5	71	X	-0.0003	%75
6	70	X	-0.016	%5
7	70	X	-0.016	%45
8	70	X	-0.02	%55
9	70	X	-0.02	%95

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
10	70	X	0	0
11	69	X	-0.024	%5
12	69	X	-0.024	%95
13	69	X	-0.017	%75
14	69	X	0	0
15	69	X	0	0
16	83	X	-0.015	%50
17	83	X	0	0
18	83	X	0	0
19	83	X	0	0
20	83	X	0	0
21	178	X	-0.032	%5
22	178	X	-0.032	%95
23	178	X	-0.015	%30
24	178	X	-0.012	%30
25	178	X	-0.0003	%75
26	177	X	-0.016	%5
27	177	X	-0.016	%45
28	177	X	-0.02	%55
29	177	X	-0.02	%95
30	177	X	0	0
31	176	X	-0.024	%5
32	176	X	-0.024	%95
33	176	X	-0.017	%75
34	176	X	0	0
35	176	X	0	0
36	181	X	-0.015	%50
37	181	X	0	0
38	181	X	0	0
39	181	X	0	0
40	181	X	0	0
41	166	X	-0.032	%5
42	166	X	-0.032	%95
43	166	X	-0.015	%30
44	166	X	-0.012	%30
45	166	X	-0.0003	%75
46	165	X	-0.016	%5
47	165	X	-0.016	%45
48	165	X	-0.02	%55
49	165	X	-0.02	%95
50	165	X	0	0
51	164	X	-0.024	%5
52	164	X	-0.024	%95
53	164	X	-0.017	%75
54	164	X	0	0
55	164	X	0	0
56	169	X	-0.015	%50
57	169	X	0	0
58	169	X	0	0
59	169	X	0	0
60	169	X	0	0
61	182	X	-0.0005	%50
62	182	X	0	0
63	182	X	0	0
64	182	X	0	0

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
65	182	X	0	0
66	184	X	-0.0005	%50
67	184	X	0	0
68	184	X	0	0
69	184	X	0	0
70	184	X	0	0
71	183	X	-0.0005	%50
72	183	X	0	0
73	183	X	0	0
74	183	X	0	0
75	183	X	0	0
76	85	X	-0.005	%50
77	85	X	0	0
78	85	X	0	0
79	85	X	0	0
80	85	X	0	0
81	8	X	-0.008	0
82	8	X	0	0
83	8	X	0	0
84	8	X	0	0
85	8	X	0	%15
86	4	X	-0.004	%15
87	4	X	0	0
88	4	X	0	0
89	4	X	0	0
90	4	X	0	0

Member Point Loads (BLC 16 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	13	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	60	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	14	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	73	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	77	Y	-0.25	%5

Member Point Loads (BLC 22 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	13	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	60	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	14	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	73	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	77	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	8	Y	-0.25	%95

Member Point Loads (BLC 29 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	12	Y	-0.25	%95

Member Point Loads (BLC 30 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	4	Y	-0.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.031	-0.031	0	%100
2	2	Z	-0.031	-0.031	0	%100
3	3	Z	-0.031	-0.031	0	%100
4	4	Z	-0.021	-0.021	0	%100
5	5	Z	-0.031	-0.031	0	%100
6	6	Z	-0.031	-0.031	0	%100
7	7	Z	-0.031	-0.031	0	%100
8	8	Z	-0.021	-0.021	0	%100
9	9	Z	-0.031	-0.031	0	%100
10	10	Z	-0.031	-0.031	0	%100
11	11	Z	-0.031	-0.031	0	%100
12	12	Z	-0.021	-0.021	0	%100
13	13	Z	-0.023	-0.023	0	%100
14	14	Z	-0.023	-0.023	0	%100
15	15	Z	-0.023	-0.023	0	%100
16	18	Z	-0.024	-0.024	0	%100
17	19	Z	-0.024	-0.024	0	%100
18	21	Z	-0.018	-0.018	0	%100
19	22	Z	-0.024	-0.024	0	%100
20	23	Z	-0.024	-0.024	0	%100
21	25	Z	-0.018	-0.018	0	%100
22	28	Z	-0.024	-0.024	0	%100
23	29	Z	-0.024	-0.024	0	%100
24	31	Z	-0.018	-0.018	0	%100
25	32	Z	-0.024	-0.024	0	%100
26	33	Z	-0.024	-0.024	0	%100
27	35	Z	-0.018	-0.018	0	%100
28	38	Z	-0.024	-0.024	0	%100
29	39	Z	-0.024	-0.024	0	%100
30	41	Z	-0.018	-0.018	0	%100
31	42	Z	-0.024	-0.024	0	%100
32	43	Z	-0.024	-0.024	0	%100
33	45	Z	-0.018	-0.018	0	%100
34	59	Z	-0.009	-0.009	0	%100
35	60	Z	-0.009	-0.009	0	%100
36	69	Z	-0.009	-0.009	0	%100
37	70	Z	-0.009	-0.009	0	%100
38	71	Z	-0.009	-0.009	0	%100
39	72	Z	-0.009	-0.009	0	%100
40	73	Z	-0.009	-0.009	0	%100
41	76	Z	-0.009	-0.009	0	%100
42	77	Z	-0.009	-0.009	0	%100
43	80	Z	-0.009	-0.009	0	%100
44	83	Z	-0.007	-0.007	0	%100
45	85	Z	-0.009	-0.009	0	%100
46	86	Z	-0.033	-0.033	0	%100
47	87	Z	-0.02	-0.02	0	%100
48	88	Z	-0.033	-0.033	0	%100
49	89	Z	-0.033	-0.033	0	%100
50	90	Z	-0.02	-0.02	0	%100
51	91	Z	-0.033	-0.033	0	%100
52	92	Z	-0.033	-0.033	0	%100
53	93	Z	-0.02	-0.02	0	%100
54	94	Z	-0.033	-0.033	0	%100
55	95	Z	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
56	102	Z	-0.008	-0.008	0	%100
57	109	Z	-0.008	-0.008	0	%100
58	116	Z	-0.013	-0.013	0	%100
59	117	Z	-0.009	-0.009	0	%100
60	118	Z	-0.012	-0.012	0	%100
61	119	Z	-0.012	-0.012	0	%100
62	120	Z	-0.011	-0.011	0	%100
63	121	Z	-0.024	-0.024	0	%100
64	122	Z	-0.024	-0.024	0	%100
65	127	Z	-0.011	-0.011	0	%100
66	128	Z	-0.024	-0.024	0	%100
67	129	Z	-0.024	-0.024	0	%100
68	134	Z	-0.011	-0.011	0	%100
69	135	Z	-0.024	-0.024	0	%100
70	136	Z	-0.024	-0.024	0	%100
71	144	Z	-0.013	-0.013	0	%100
72	145	Z	-0.009	-0.009	0	%100
73	146	Z	-0.012	-0.012	0	%100
74	147	Z	-0.012	-0.012	0	%100
75	151	Z	-0.013	-0.013	0	%100
76	152	Z	-0.009	-0.009	0	%100
77	153	Z	-0.012	-0.012	0	%100
78	154	Z	-0.012	-0.012	0	%100
79	164	Z	-0.009	-0.009	0	%100
80	165	Z	-0.009	-0.009	0	%100
81	166	Z	-0.009	-0.009	0	%100
82	169	Z	-0.007	-0.007	0	%100
83	176	Z	-0.009	-0.009	0	%100
84	177	Z	-0.009	-0.009	0	%100
85	178	Z	-0.009	-0.009	0	%100
86	181	Z	-0.007	-0.007	0	%100
87	97	Z	-0.009	-0.009	0	%100
88	100	Z	-0.009	-0.009	0	%100
89	104	Z	-0.009	-0.009	0	%100
90	107	Z	-0.009	-0.009	0	%100
91	111	Z	-0.009	-0.009	0	%100
92	114	Z	-0.009	-0.009	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.031	-0.031	0	%100
2	2	X	-0.031	-0.031	0	%100
3	3	X	-0.031	-0.031	0	%100
4	4	X	-0.021	-0.021	0	%100
5	5	X	-0.031	-0.031	0	%100
6	6	X	-0.031	-0.031	0	%100
7	7	X	-0.031	-0.031	0	%100
8	8	X	-0.021	-0.021	0	%100
9	9	X	-0.031	-0.031	0	%100
10	10	X	-0.031	-0.031	0	%100
11	11	X	-0.031	-0.031	0	%100
12	12	X	-0.021	-0.021	0	%100
13	13	X	-0.023	-0.023	0	%100
14	14	X	-0.023	-0.023	0	%100
15	15	X	-0.023	-0.023	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
16	18	X	-0.024	-0.024	0	%100
17	19	X	-0.024	-0.024	0	%100
18	21	X	-0.018	-0.018	0	%100
19	22	X	-0.024	-0.024	0	%100
20	23	X	-0.024	-0.024	0	%100
21	25	X	-0.018	-0.018	0	%100
22	28	X	-0.024	-0.024	0	%100
23	29	X	-0.024	-0.024	0	%100
24	31	X	-0.018	-0.018	0	%100
25	32	X	-0.024	-0.024	0	%100
26	33	X	-0.024	-0.024	0	%100
27	35	X	-0.018	-0.018	0	%100
28	38	X	-0.024	-0.024	0	%100
29	39	X	-0.024	-0.024	0	%100
30	41	X	-0.018	-0.018	0	%100
31	42	X	-0.024	-0.024	0	%100
32	43	X	-0.024	-0.024	0	%100
33	45	X	-0.018	-0.018	0	%100
34	59	X	-0.009	-0.009	0	%100
35	60	X	-0.009	-0.009	0	%100
36	69	X	-0.009	-0.009	0	%100
37	70	X	-0.009	-0.009	0	%100
38	71	X	-0.009	-0.009	0	%100
39	72	X	-0.009	-0.009	0	%100
40	73	X	-0.009	-0.009	0	%100
41	76	X	-0.009	-0.009	0	%100
42	77	X	-0.009	-0.009	0	%100
43	80	X	-0.009	-0.009	0	%100
44	83	X	-0.007	-0.007	0	%100
45	85	X	-0.009	-0.009	0	%100
46	86	X	-0.033	-0.033	0	%100
47	87	X	-0.02	-0.02	0	%100
48	88	X	-0.033	-0.033	0	%100
49	89	X	-0.033	-0.033	0	%100
50	90	X	-0.02	-0.02	0	%100
51	91	X	-0.033	-0.033	0	%100
52	92	X	-0.033	-0.033	0	%100
53	93	X	-0.02	-0.02	0	%100
54	94	X	-0.033	-0.033	0	%100
55	95	X	-0.008	-0.008	0	%100
56	102	X	-0.008	-0.008	0	%100
57	109	X	-0.008	-0.008	0	%100
58	116	X	-0.013	-0.013	0	%100
59	117	X	-0.009	-0.009	0	%100
60	118	X	-0.012	-0.012	0	%100
61	119	X	-0.012	-0.012	0	%100
62	120	X	-0.011	-0.011	0	%100
63	121	X	-0.024	-0.024	0	%100
64	122	X	-0.024	-0.024	0	%100
65	127	X	-0.011	-0.011	0	%100
66	128	X	-0.024	-0.024	0	%100
67	129	X	-0.024	-0.024	0	%100
68	134	X	-0.011	-0.011	0	%100
69	135	X	-0.024	-0.024	0	%100
70	136	X	-0.024	-0.024	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
71	144	X	-0.013	-0.013	0	%100
72	145	X	-0.009	-0.009	0	%100
73	146	X	-0.012	-0.012	0	%100
74	147	X	-0.012	-0.012	0	%100
75	151	X	-0.013	-0.013	0	%100
76	152	X	-0.009	-0.009	0	%100
77	153	X	-0.012	-0.012	0	%100
78	154	X	-0.012	-0.012	0	%100
79	164	X	-0.009	-0.009	0	%100
80	165	X	-0.009	-0.009	0	%100
81	166	X	-0.009	-0.009	0	%100
82	169	X	-0.007	-0.007	0	%100
83	176	X	-0.009	-0.009	0	%100
84	177	X	-0.009	-0.009	0	%100
85	178	X	-0.009	-0.009	0	%100
86	181	X	-0.007	-0.007	0	%100
87	97	X	-0.009	-0.009	0	%100
88	100	X	-0.009	-0.009	0	%100
89	104	X	-0.009	-0.009	0	%100
90	107	X	-0.009	-0.009	0	%100
91	111	X	-0.009	-0.009	0	%100
92	114	X	-0.009	-0.009	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.007	-0.007	0	%100
2	2	Z	-0.009	-0.009	0	%100
3	3	Z	-0.009	-0.009	0	%100
4	4	Z	-0.005	-0.005	0	%100
5	5	Z	-0.007	-0.007	0	%100
6	6	Z	-0.009	-0.009	0	%100
7	7	Z	-0.009	-0.009	0	%100
8	8	Z	-0.005	-0.005	0	%100
9	9	Z	-0.007	-0.007	0	%100
10	10	Z	-0.009	-0.009	0	%100
11	11	Z	-0.009	-0.009	0	%100
12	12	Z	-0.005	-0.005	0	%100
13	13	Z	-0.006	-0.006	0	%100
14	14	Z	-0.006	-0.006	0	%100
15	15	Z	-0.006	-0.006	0	%100
16	18	Z	-0.009	-0.009	0	%100
17	19	Z	-0.008	-0.008	0	%100
18	21	Z	-0.005	-0.005	0	%100
19	22	Z	-0.009	-0.009	0	%100
20	23	Z	-0.008	-0.008	0	%100
21	25	Z	-0.005	-0.005	0	%100
22	28	Z	-0.009	-0.009	0	%100
23	29	Z	-0.008	-0.008	0	%100
24	31	Z	-0.005	-0.005	0	%100
25	32	Z	-0.009	-0.009	0	%100
26	33	Z	-0.008	-0.008	0	%100
27	35	Z	-0.005	-0.005	0	%100
28	38	Z	-0.009	-0.009	0	%100
29	39	Z	-0.008	-0.008	0	%100
30	41	Z	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
31	42	Z	-0.009	-0.009	0	%100
32	43	Z	-0.008	-0.008	0	%100
33	45	Z	-0.005	-0.005	0	%100
34	59	Z	-0.002	-0.002	0	%100
35	60	Z	-0.002	-0.002	0	%100
36	69	Z	-0.002	-0.002	0	%100
37	70	Z	-0.002	-0.002	0	%100
38	71	Z	-0.002	-0.002	0	%100
39	72	Z	-0.002	-0.002	0	%100
40	73	Z	-0.002	-0.002	0	%100
41	76	Z	-0.002	-0.002	0	%100
42	77	Z	-0.002	-0.002	0	%100
43	80	Z	-0.002	-0.002	0	%100
44	83	Z	-0.002	-0.002	0	%100
45	85	Z	-0.002	-0.002	0	%100
46	86	Z	-0.01	-0.01	0	%100
47	87	Z	-0.006	-0.006	0	%100
48	88	Z	-0.01	-0.01	0	%100
49	89	Z	-0.01	-0.01	0	%100
50	90	Z	-0.006	-0.006	0	%100
51	91	Z	-0.01	-0.01	0	%100
52	92	Z	-0.01	-0.01	0	%100
53	93	Z	-0.006	-0.006	0	%100
54	94	Z	-0.01	-0.01	0	%100
55	95	Z	-0.002	-0.002	0	%100
56	102	Z	-0.002	-0.002	0	%100
57	109	Z	-0.002	-0.002	0	%100
58	116	Z	-0.005	-0.005	0	%100
59	117	Z	-0.004	-0.004	0	%100
60	118	Z	-0.004	-0.004	0	%100
61	119	Z	-0.004	-0.004	0	%100
62	120	Z	-0.004	-0.004	0	%100
63	121	Z	-0.007	-0.007	0	%100
64	122	Z	-0.007	-0.007	0	%100
65	127	Z	-0.004	-0.004	0	%100
66	128	Z	-0.007	-0.007	0	%100
67	129	Z	-0.007	-0.007	0	%100
68	134	Z	-0.004	-0.004	0	%100
69	135	Z	-0.007	-0.007	0	%100
70	136	Z	-0.007	-0.007	0	%100
71	144	Z	-0.005	-0.005	0	%100
72	145	Z	-0.004	-0.004	0	%100
73	146	Z	-0.004	-0.004	0	%100
74	147	Z	-0.004	-0.004	0	%100
75	151	Z	-0.005	-0.005	0	%100
76	152	Z	-0.004	-0.004	0	%100
77	153	Z	-0.004	-0.004	0	%100
78	154	Z	-0.004	-0.004	0	%100
79	164	Z	-0.002	-0.002	0	%100
80	165	Z	-0.002	-0.002	0	%100
81	166	Z	-0.002	-0.002	0	%100
82	169	Z	-0.002	-0.002	0	%100
83	176	Z	-0.002	-0.002	0	%100
84	177	Z	-0.002	-0.002	0	%100
85	178	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
86	181	Z	-0.002	-0.002	0	%100
87	97	Z	-0.004	-0.004	0	%100
88	100	Z	-0.004	-0.004	0	%100
89	104	Z	-0.004	-0.004	0	%100
90	107	Z	-0.004	-0.004	0	%100
91	111	Z	-0.004	-0.004	0	%100
92	114	Z	-0.004	-0.004	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.007	-0.007	0	%100
2	2	X	-0.009	-0.009	0	%100
3	3	X	-0.009	-0.009	0	%100
4	4	X	-0.005	-0.005	0	%100
5	5	X	-0.007	-0.007	0	%100
6	6	X	-0.009	-0.009	0	%100
7	7	X	-0.009	-0.009	0	%100
8	8	X	-0.005	-0.005	0	%100
9	9	X	-0.007	-0.007	0	%100
10	10	X	-0.009	-0.009	0	%100
11	11	X	-0.009	-0.009	0	%100
12	12	X	-0.005	-0.005	0	%100
13	13	X	-0.006	-0.006	0	%100
14	14	X	-0.006	-0.006	0	%100
15	15	X	-0.006	-0.006	0	%100
16	18	X	-0.009	-0.009	0	%100
17	19	X	-0.008	-0.008	0	%100
18	21	X	-0.005	-0.005	0	%100
19	22	X	-0.009	-0.009	0	%100
20	23	X	-0.008	-0.008	0	%100
21	25	X	-0.005	-0.005	0	%100
22	28	X	-0.009	-0.009	0	%100
23	29	X	-0.008	-0.008	0	%100
24	31	X	-0.005	-0.005	0	%100
25	32	X	-0.009	-0.009	0	%100
26	33	X	-0.008	-0.008	0	%100
27	35	X	-0.005	-0.005	0	%100
28	38	X	-0.009	-0.009	0	%100
29	39	X	-0.008	-0.008	0	%100
30	41	X	-0.005	-0.005	0	%100
31	42	X	-0.009	-0.009	0	%100
32	43	X	-0.008	-0.008	0	%100
33	45	X	-0.005	-0.005	0	%100
34	59	X	-0.002	-0.002	0	%100
35	60	X	-0.002	-0.002	0	%100
36	69	X	-0.002	-0.002	0	%100
37	70	X	-0.002	-0.002	0	%100
38	71	X	-0.002	-0.002	0	%100
39	72	X	-0.002	-0.002	0	%100
40	73	X	-0.002	-0.002	0	%100
41	76	X	-0.002	-0.002	0	%100
42	77	X	-0.002	-0.002	0	%100
43	80	X	-0.002	-0.002	0	%100
44	83	X	-0.002	-0.002	0	%100
45	85	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
46	86	X	-0.01	-0.01	0	%100
47	87	X	-0.006	-0.006	0	%100
48	88	X	-0.01	-0.01	0	%100
49	89	X	-0.01	-0.01	0	%100
50	90	X	-0.006	-0.006	0	%100
51	91	X	-0.01	-0.01	0	%100
52	92	X	-0.01	-0.01	0	%100
53	93	X	-0.006	-0.006	0	%100
54	94	X	-0.01	-0.01	0	%100
55	95	X	-0.002	-0.002	0	%100
56	102	X	-0.002	-0.002	0	%100
57	109	X	-0.002	-0.002	0	%100
58	116	X	-0.005	-0.005	0	%100
59	117	X	-0.004	-0.004	0	%100
60	118	X	-0.004	-0.004	0	%100
61	119	X	-0.004	-0.004	0	%100
62	120	X	-0.004	-0.004	0	%100
63	121	X	-0.007	-0.007	0	%100
64	122	X	-0.007	-0.007	0	%100
65	127	X	-0.004	-0.004	0	%100
66	128	X	-0.007	-0.007	0	%100
67	129	X	-0.007	-0.007	0	%100
68	134	X	-0.004	-0.004	0	%100
69	135	X	-0.007	-0.007	0	%100
70	136	X	-0.007	-0.007	0	%100
71	144	X	-0.005	-0.005	0	%100
72	145	X	-0.004	-0.004	0	%100
73	146	X	-0.004	-0.004	0	%100
74	147	X	-0.004	-0.004	0	%100
75	151	X	-0.005	-0.005	0	%100
76	152	X	-0.004	-0.004	0	%100
77	153	X	-0.004	-0.004	0	%100
78	154	X	-0.004	-0.004	0	%100
79	164	X	-0.002	-0.002	0	%100
80	165	X	-0.002	-0.002	0	%100
81	166	X	-0.002	-0.002	0	%100
82	169	X	-0.002	-0.002	0	%100
83	176	X	-0.002	-0.002	0	%100
84	177	X	-0.002	-0.002	0	%100
85	178	X	-0.002	-0.002	0	%100
86	181	X	-0.002	-0.002	0	%100
87	97	X	-0.004	-0.004	0	%100
88	100	X	-0.004	-0.004	0	%100
89	104	X	-0.004	-0.004	0	%100
90	107	X	-0.004	-0.004	0	%100
91	111	X	-0.004	-0.004	0	%100
92	114	X	-0.004	-0.004	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.002	-0.002	0	%100
10	10	Z	-0.002	-0.002	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	12	Z	-0.001	-0.001	0	%100
13	13	Z	-0.001	-0.001	0	%100
14	14	Z	-0.001	-0.001	0	%100
15	15	Z	-0.001	-0.001	0	%100
16	18	Z	-0.001	-0.001	0	%100
17	19	Z	-0.001	-0.001	0	%100
18	21	Z	-0.001	-0.001	0	%100
19	22	Z	-0.001	-0.001	0	%100
20	23	Z	-0.001	-0.001	0	%100
21	25	Z	-0.001	-0.001	0	%100
22	28	Z	-0.001	-0.001	0	%100
23	29	Z	-0.001	-0.001	0	%100
24	31	Z	-0.001	-0.001	0	%100
25	32	Z	-0.001	-0.001	0	%100
26	33	Z	-0.001	-0.001	0	%100
27	35	Z	-0.001	-0.001	0	%100
28	38	Z	-0.001	-0.001	0	%100
29	39	Z	-0.001	-0.001	0	%100
30	41	Z	-0.001	-0.001	0	%100
31	42	Z	-0.001	-0.001	0	%100
32	43	Z	-0.001	-0.001	0	%100
33	45	Z	-0.001	-0.001	0	%100
34	59	Z	-0.0003	-0.0003	0	%100
35	60	Z	-0.0003	-0.0003	0	%100
36	69	Z	-0.0003	-0.0003	0	%100
37	70	Z	-0.0003	-0.0003	0	%100
38	71	Z	-0.0003	-0.0003	0	%100
39	72	Z	-0.0003	-0.0003	0	%100
40	73	Z	-0.0003	-0.0003	0	%100
41	76	Z	-0.0003	-0.0003	0	%100
42	77	Z	-0.0003	-0.0003	0	%100
43	80	Z	-0.0003	-0.0003	0	%100
44	83	Z	-0.0003	-0.0003	0	%100
45	85	Z	-0.0003	-0.0003	0	%100
46	86	Z	-0.002	-0.002	0	%100
47	87	Z	-0.001	-0.001	0	%100
48	88	Z	-0.002	-0.002	0	%100
49	89	Z	-0.002	-0.002	0	%100
50	90	Z	-0.001	-0.001	0	%100
51	91	Z	-0.002	-0.002	0	%100
52	92	Z	-0.002	-0.002	0	%100
53	93	Z	-0.001	-0.001	0	%100
54	94	Z	-0.002	-0.002	0	%100
55	95	Z	-0.0003	-0.0003	0	%100
56	102	Z	-0.0003	-0.0003	0	%100
57	109	Z	-0.0003	-0.0003	0	%100
58	116	Z	-0.0007	-0.0007	0	%100
59	117	Z	-0.0005	-0.0005	0	%100
60	118	Z	-0.0007	-0.0007	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
61	119	Z	-0.0007	-0.0007	0	%100
62	120	Z	-0.0006	-0.0006	0	%100
63	121	Z	-0.001	-0.001	0	%100
64	122	Z	-0.001	-0.001	0	%100
65	127	Z	-0.0006	-0.0006	0	%100
66	128	Z	-0.001	-0.001	0	%100
67	129	Z	-0.001	-0.001	0	%100
68	134	Z	-0.0006	-0.0006	0	%100
69	135	Z	-0.001	-0.001	0	%100
70	136	Z	-0.001	-0.001	0	%100
71	144	Z	-0.0007	-0.0007	0	%100
72	145	Z	-0.0005	-0.0005	0	%100
73	146	Z	-0.0007	-0.0007	0	%100
74	147	Z	-0.0007	-0.0007	0	%100
75	151	Z	-0.0007	-0.0007	0	%100
76	152	Z	-0.0005	-0.0005	0	%100
77	153	Z	-0.0007	-0.0007	0	%100
78	154	Z	-0.0007	-0.0007	0	%100
79	164	Z	-0.0003	-0.0003	0	%100
80	165	Z	-0.0003	-0.0003	0	%100
81	166	Z	-0.0003	-0.0003	0	%100
82	169	Z	-0.0003	-0.0003	0	%100
83	176	Z	-0.0003	-0.0003	0	%100
84	177	Z	-0.0003	-0.0003	0	%100
85	178	Z	-0.0003	-0.0003	0	%100
86	181	Z	-0.0003	-0.0003	0	%100
87	97	Z	-0.0005	-0.0005	0	%100
88	100	Z	-0.0005	-0.0005	0	%100
89	104	Z	-0.0005	-0.0005	0	%100
90	107	Z	-0.0005	-0.0005	0	%100
91	111	Z	-0.0005	-0.0005	0	%100
92	114	Z	-0.0005	-0.0005	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.002	-0.002	0	%100
10	10	X	-0.002	-0.002	0	%100
11	11	X	-0.002	-0.002	0	%100
12	12	X	-0.001	-0.001	0	%100
13	13	X	-0.001	-0.001	0	%100
14	14	X	-0.001	-0.001	0	%100
15	15	X	-0.001	-0.001	0	%100
16	18	X	-0.001	-0.001	0	%100
17	19	X	-0.001	-0.001	0	%100
18	21	X	-0.001	-0.001	0	%100
19	22	X	-0.001	-0.001	0	%100
20	23	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
21	25	X	-0.001	-0.001	0	%100
22	28	X	-0.001	-0.001	0	%100
23	29	X	-0.001	-0.001	0	%100
24	31	X	-0.001	-0.001	0	%100
25	32	X	-0.001	-0.001	0	%100
26	33	X	-0.001	-0.001	0	%100
27	35	X	-0.001	-0.001	0	%100
28	38	X	-0.001	-0.001	0	%100
29	39	X	-0.001	-0.001	0	%100
30	41	X	-0.001	-0.001	0	%100
31	42	X	-0.001	-0.001	0	%100
32	43	X	-0.001	-0.001	0	%100
33	45	X	-0.001	-0.001	0	%100
34	59	X	-0.0003	-0.0003	0	%100
35	60	X	-0.0003	-0.0003	0	%100
36	69	X	-0.0003	-0.0003	0	%100
37	70	X	-0.0003	-0.0003	0	%100
38	71	X	-0.0003	-0.0003	0	%100
39	72	X	-0.0003	-0.0003	0	%100
40	73	X	-0.0003	-0.0003	0	%100
41	76	X	-0.0003	-0.0003	0	%100
42	77	X	-0.0003	-0.0003	0	%100
43	80	X	-0.0003	-0.0003	0	%100
44	83	X	-0.0003	-0.0003	0	%100
45	85	X	-0.0003	-0.0003	0	%100
46	86	X	-0.002	-0.002	0	%100
47	87	X	-0.001	-0.001	0	%100
48	88	X	-0.002	-0.002	0	%100
49	89	X	-0.002	-0.002	0	%100
50	90	X	-0.001	-0.001	0	%100
51	91	X	-0.002	-0.002	0	%100
52	92	X	-0.002	-0.002	0	%100
53	93	X	-0.001	-0.001	0	%100
54	94	X	-0.002	-0.002	0	%100
55	95	X	-0.0003	-0.0003	0	%100
56	102	X	-0.0003	-0.0003	0	%100
57	109	X	-0.0003	-0.0003	0	%100
58	116	X	-0.0007	-0.0007	0	%100
59	117	X	-0.0005	-0.0005	0	%100
60	118	X	-0.0007	-0.0007	0	%100
61	119	X	-0.0007	-0.0007	0	%100
62	120	X	-0.0006	-0.0006	0	%100
63	121	X	-0.001	-0.001	0	%100
64	122	X	-0.001	-0.001	0	%100
65	127	X	-0.0006	-0.0006	0	%100
66	128	X	-0.001	-0.001	0	%100
67	129	X	-0.001	-0.001	0	%100
68	134	X	-0.0006	-0.0006	0	%100
69	135	X	-0.001	-0.001	0	%100
70	136	X	-0.001	-0.001	0	%100
71	144	X	-0.0007	-0.0007	0	%100
72	145	X	-0.0005	-0.0005	0	%100
73	146	X	-0.0007	-0.0007	0	%100
74	147	X	-0.0007	-0.0007	0	%100
75	151	X	-0.0007	-0.0007	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
76	152	X	-0.0005	-0.0005	0	%100
77	153	X	-0.0007	-0.0007	0	%100
78	154	X	-0.0007	-0.0007	0	%100
79	164	X	-0.0003	-0.0003	0	%100
80	165	X	-0.0003	-0.0003	0	%100
81	166	X	-0.0003	-0.0003	0	%100
82	169	X	-0.0003	-0.0003	0	%100
83	176	X	-0.0003	-0.0003	0	%100
84	177	X	-0.0003	-0.0003	0	%100
85	178	X	-0.0003	-0.0003	0	%100
86	181	X	-0.0003	-0.0003	0	%100
87	97	X	-0.0005	-0.0005	0	%100
88	100	X	-0.0005	-0.0005	0	%100
89	104	X	-0.0005	-0.0005	0	%100
90	107	X	-0.0005	-0.0005	0	%100
91	111	X	-0.0005	-0.0005	0	%100
92	114	X	-0.0005	-0.0005	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.013	-0.013	0	%100
2	2	Y	-0.013	-0.013	0	%100
3	3	Y	-0.013	-0.013	0	%100
4	4	Y	-0.01	-0.01	0	%100
5	5	Y	-0.013	-0.013	0	%100
6	6	Y	-0.013	-0.013	0	%100
7	7	Y	-0.013	-0.013	0	%100
8	8	Y	-0.01	-0.01	0	%100
9	9	Y	-0.013	-0.013	0	%100
10	10	Y	-0.013	-0.013	0	%100
11	11	Y	-0.013	-0.013	0	%100
12	12	Y	-0.01	-0.01	0	%100
13	13	Y	-0.009	-0.009	0	%100
14	14	Y	-0.009	-0.009	0	%100
15	15	Y	-0.009	-0.009	0	%100
16	18	Y	-0.01	-0.01	0	%100
17	19	Y	-0.01	-0.01	0	%100
18	21	Y	-0.01	-0.01	0	%100
19	22	Y	-0.01	-0.01	0	%100
20	23	Y	-0.01	-0.01	0	%100
21	25	Y	-0.01	-0.01	0	%100
22	28	Y	-0.01	-0.01	0	%100
23	29	Y	-0.01	-0.01	0	%100
24	31	Y	-0.01	-0.01	0	%100
25	32	Y	-0.01	-0.01	0	%100
26	33	Y	-0.01	-0.01	0	%100
27	35	Y	-0.01	-0.01	0	%100
28	38	Y	-0.01	-0.01	0	%100
29	39	Y	-0.01	-0.01	0	%100
30	41	Y	-0.01	-0.01	0	%100
31	42	Y	-0.01	-0.01	0	%100
32	43	Y	-0.01	-0.01	0	%100
33	45	Y	-0.01	-0.01	0	%100
34	59	Y	-0.005	-0.005	0	%100
35	60	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
36	69	Y	-0.005	-0.005	0	%100
37	70	Y	-0.005	-0.005	0	%100
38	71	Y	-0.005	-0.005	0	%100
39	72	Y	-0.005	-0.005	0	%100
40	73	Y	-0.005	-0.005	0	%100
41	76	Y	-0.005	-0.005	0	%100
42	77	Y	-0.005	-0.005	0	%100
43	80	Y	-0.005	-0.005	0	%100
44	83	Y	-0.005	-0.005	0	%100
45	85	Y	-0.005	-0.005	0	%100
46	86	Y	-0.014	-0.014	0	%100
47	87	Y	-0.012	-0.012	0	%100
48	88	Y	-0.014	-0.014	0	%100
49	89	Y	-0.014	-0.014	0	%100
50	90	Y	-0.012	-0.012	0	%100
51	91	Y	-0.014	-0.014	0	%100
52	92	Y	-0.014	-0.014	0	%100
53	93	Y	-0.012	-0.012	0	%100
54	94	Y	-0.014	-0.014	0	%100
55	95	Y	-0.005	-0.005	0	%100
56	102	Y	-0.005	-0.005	0	%100
57	109	Y	-0.005	-0.005	0	%100
58	116	Y	-0.006	-0.006	0	%100
59	117	Y	-0.006	-0.006	0	%100
60	118	Y	-0.006	-0.006	0	%100
61	119	Y	-0.006	-0.006	0	%100
62	120	Y	-0.007	-0.007	0	%100
63	121	Y	-0.01	-0.01	0	%100
64	122	Y	-0.01	-0.01	0	%100
65	127	Y	-0.007	-0.007	0	%100
66	128	Y	-0.01	-0.01	0	%100
67	129	Y	-0.01	-0.01	0	%100
68	134	Y	-0.007	-0.007	0	%100
69	135	Y	-0.01	-0.01	0	%100
70	136	Y	-0.01	-0.01	0	%100
71	144	Y	-0.006	-0.006	0	%100
72	145	Y	-0.006	-0.006	0	%100
73	146	Y	-0.006	-0.006	0	%100
74	147	Y	-0.006	-0.006	0	%100
75	151	Y	-0.006	-0.006	0	%100
76	152	Y	-0.006	-0.006	0	%100
77	153	Y	-0.006	-0.006	0	%100
78	154	Y	-0.006	-0.006	0	%100
79	164	Y	-0.005	-0.005	0	%100
80	165	Y	-0.005	-0.005	0	%100
81	166	Y	-0.005	-0.005	0	%100
82	169	Y	-0.005	-0.005	0	%100
83	176	Y	-0.005	-0.005	0	%100
84	177	Y	-0.005	-0.005	0	%100
85	178	Y	-0.005	-0.005	0	%100
86	181	Y	-0.005	-0.005	0	%100
87	97	Y	-0.005	-0.005	0	%100
88	100	Y	-0.005	-0.005	0	%100
89	104	Y	-0.005	-0.005	0	%100
90	107	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
91	111	Y	-0.005	-0.005	0	%100
92	114	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	4	Z	-0.003	-0.003	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.003	-0.003	0	%100
9	9	Z	-0.002	-0.002	0	%100
10	10	Z	-0.002	-0.002	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	12	Z	-0.003	-0.003	0	%100
13	13	Z	-0.002	-0.002	0	%100
14	14	Z	-0.002	-0.002	0	%100
15	15	Z	-0.002	-0.002	0	%100
16	18	Z	-0.002	-0.002	0	%100
17	19	Z	-0.002	-0.002	0	%100
18	21	Z	-0.003	-0.003	0	%100
19	22	Z	-0.002	-0.002	0	%100
20	23	Z	-0.002	-0.002	0	%100
21	25	Z	-0.003	-0.003	0	%100
22	28	Z	-0.002	-0.002	0	%100
23	29	Z	-0.002	-0.002	0	%100
24	31	Z	-0.003	-0.003	0	%100
25	32	Z	-0.002	-0.002	0	%100
26	33	Z	-0.002	-0.002	0	%100
27	35	Z	-0.003	-0.003	0	%100
28	38	Z	-0.002	-0.002	0	%100
29	39	Z	-0.002	-0.002	0	%100
30	41	Z	-0.003	-0.003	0	%100
31	42	Z	-0.002	-0.002	0	%100
32	43	Z	-0.002	-0.002	0	%100
33	45	Z	-0.003	-0.003	0	%100
34	59	Z	-0.0009	-0.0009	0	%100
35	60	Z	-0.0009	-0.0009	0	%100
36	69	Z	-0.0009	-0.0009	0	%100
37	70	Z	-0.0009	-0.0009	0	%100
38	71	Z	-0.0009	-0.0009	0	%100
39	72	Z	-0.0009	-0.0009	0	%100
40	73	Z	-0.0009	-0.0009	0	%100
41	76	Z	-0.0009	-0.0009	0	%100
42	77	Z	-0.0009	-0.0009	0	%100
43	80	Z	-0.0009	-0.0009	0	%100
44	83	Z	-0.0009	-0.0009	0	%100
45	85	Z	-0.0009	-0.0009	0	%100
46	86	Z	-0.002	-0.002	0	%100
47	87	Z	-0.002	-0.002	0	%100
48	88	Z	-0.002	-0.002	0	%100
49	89	Z	-0.002	-0.002	0	%100
50	90	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
51	91	Z	-0.002	-0.002	0	%100
52	92	Z	-0.002	-0.002	0	%100
53	93	Z	-0.002	-0.002	0	%100
54	94	Z	-0.002	-0.002	0	%100
55	95	Z	-0.0009	-0.0009	0	%100
56	102	Z	-0.0009	-0.0009	0	%100
57	109	Z	-0.0009	-0.0009	0	%100
58	116	Z	-0.0006	-0.0006	0	%100
59	117	Z	-0.0006	-0.0006	0	%100
60	118	Z	-0.0006	-0.0006	0	%100
61	119	Z	-0.0006	-0.0006	0	%100
62	120	Z	-0.001	-0.001	0	%100
63	121	Z	-0.002	-0.002	0	%100
64	122	Z	-0.002	-0.002	0	%100
65	127	Z	-0.001	-0.001	0	%100
66	128	Z	-0.002	-0.002	0	%100
67	129	Z	-0.002	-0.002	0	%100
68	134	Z	-0.001	-0.001	0	%100
69	135	Z	-0.002	-0.002	0	%100
70	136	Z	-0.002	-0.002	0	%100
71	144	Z	-0.0006	-0.0006	0	%100
72	145	Z	-0.0006	-0.0006	0	%100
73	146	Z	-0.0006	-0.0006	0	%100
74	147	Z	-0.0006	-0.0006	0	%100
75	151	Z	-0.0006	-0.0006	0	%100
76	152	Z	-0.0006	-0.0006	0	%100
77	153	Z	-0.0006	-0.0006	0	%100
78	154	Z	-0.0006	-0.0006	0	%100
79	164	Z	-0.0009	-0.0009	0	%100
80	165	Z	-0.0009	-0.0009	0	%100
81	166	Z	-0.0009	-0.0009	0	%100
82	169	Z	-0.0009	-0.0009	0	%100
83	176	Z	-0.0009	-0.0009	0	%100
84	177	Z	-0.0009	-0.0009	0	%100
85	178	Z	-0.0009	-0.0009	0	%100
86	181	Z	-0.0009	-0.0009	0	%100
87	97	Z	-0.0004	-0.0004	0	%100
88	100	Z	-0.0004	-0.0004	0	%100
89	104	Z	-0.0004	-0.0004	0	%100
90	107	Z	-0.0004	-0.0004	0	%100
91	111	Z	-0.0004	-0.0004	0	%100
92	114	Z	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	4	X	-0.003	-0.003	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.003	-0.003	0	%100
9	9	X	-0.002	-0.002	0	%100
10	10	X	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
11	11	X	-0.002	-0.002	0	%100
12	12	X	-0.003	-0.003	0	%100
13	13	X	-0.002	-0.002	0	%100
14	14	X	-0.002	-0.002	0	%100
15	15	X	-0.002	-0.002	0	%100
16	18	X	-0.002	-0.002	0	%100
17	19	X	-0.002	-0.002	0	%100
18	21	X	-0.003	-0.003	0	%100
19	22	X	-0.002	-0.002	0	%100
20	23	X	-0.002	-0.002	0	%100
21	25	X	-0.003	-0.003	0	%100
22	28	X	-0.002	-0.002	0	%100
23	29	X	-0.002	-0.002	0	%100
24	31	X	-0.003	-0.003	0	%100
25	32	X	-0.002	-0.002	0	%100
26	33	X	-0.002	-0.002	0	%100
27	35	X	-0.003	-0.003	0	%100
28	38	X	-0.002	-0.002	0	%100
29	39	X	-0.002	-0.002	0	%100
30	41	X	-0.003	-0.003	0	%100
31	42	X	-0.002	-0.002	0	%100
32	43	X	-0.002	-0.002	0	%100
33	45	X	-0.003	-0.003	0	%100
34	59	X	-0.0009	-0.0009	0	%100
35	60	X	-0.0009	-0.0009	0	%100
36	69	X	-0.0009	-0.0009	0	%100
37	70	X	-0.0009	-0.0009	0	%100
38	71	X	-0.0009	-0.0009	0	%100
39	72	X	-0.0009	-0.0009	0	%100
40	73	X	-0.0009	-0.0009	0	%100
41	76	X	-0.0009	-0.0009	0	%100
42	77	X	-0.0009	-0.0009	0	%100
43	80	X	-0.0009	-0.0009	0	%100
44	83	X	-0.0009	-0.0009	0	%100
45	85	X	-0.0009	-0.0009	0	%100
46	86	X	-0.002	-0.002	0	%100
47	87	X	-0.002	-0.002	0	%100
48	88	X	-0.002	-0.002	0	%100
49	89	X	-0.002	-0.002	0	%100
50	90	X	-0.002	-0.002	0	%100
51	91	X	-0.002	-0.002	0	%100
52	92	X	-0.002	-0.002	0	%100
53	93	X	-0.002	-0.002	0	%100
54	94	X	-0.002	-0.002	0	%100
55	95	X	-0.0009	-0.0009	0	%100
56	102	X	-0.0009	-0.0009	0	%100
57	109	X	-0.0009	-0.0009	0	%100
58	116	X	-0.0006	-0.0006	0	%100
59	117	X	-0.0006	-0.0006	0	%100
60	118	X	-0.0006	-0.0006	0	%100
61	119	X	-0.0006	-0.0006	0	%100
62	120	X	-0.001	-0.001	0	%100
63	121	X	-0.002	-0.002	0	%100
64	122	X	-0.002	-0.002	0	%100
65	127	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
66	128	X	-0.002	-0.002	0	%100
67	129	X	-0.002	-0.002	0	%100
68	134	X	-0.001	-0.001	0	%100
69	135	X	-0.002	-0.002	0	%100
70	136	X	-0.002	-0.002	0	%100
71	144	X	-0.0006	-0.0006	0	%100
72	145	X	-0.0006	-0.0006	0	%100
73	146	X	-0.0006	-0.0006	0	%100
74	147	X	-0.0006	-0.0006	0	%100
75	151	X	-0.0006	-0.0006	0	%100
76	152	X	-0.0006	-0.0006	0	%100
77	153	X	-0.0006	-0.0006	0	%100
78	154	X	-0.0006	-0.0006	0	%100
79	164	X	-0.0009	-0.0009	0	%100
80	165	X	-0.0009	-0.0009	0	%100
81	166	X	-0.0009	-0.0009	0	%100
82	169	X	-0.0009	-0.0009	0	%100
83	176	X	-0.0009	-0.0009	0	%100
84	177	X	-0.0009	-0.0009	0	%100
85	178	X	-0.0009	-0.0009	0	%100
86	181	X	-0.0009	-0.0009	0	%100
87	97	X	-0.0004	-0.0004	0	%100
88	100	X	-0.0004	-0.0004	0	%100
89	104	X	-0.0004	-0.0004	0	%100
90	107	X	-0.0004	-0.0004	0	%100
91	111	X	-0.0004	-0.0004	0	%100
92	114	X	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 40 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	144	Y	-0.008	-0.008	1.265	3.287
2	145	Y	-0.005	-0.005	0	0.887
3	146	Y	-0.007	-0.009	0	1.194
4	146	Y	-0.009	-0.009	1.194	2.389
5	146	Y	-0.009	-0.007	2.389	3.583
6	147	Y	-0.011	-0.011	0	1.194
7	147	Y	-0.011	-0.01	1.194	2.389
8	147	Y	-0.01	-0.007	2.389	3.583
9	151	Y	-0.008	-0.008	1.296	3.318
10	152	Y	-0.005	-0.005	0.113	1
11	153	Y	-0.011	-0.011	0	1.194
12	153	Y	-0.011	-0.01	1.194	2.389
13	153	Y	-0.01	-0.007	2.389	3.583
14	154	Y	-0.007	-0.009	0	1.194
15	154	Y	-0.009	-0.009	1.194	2.389
16	154	Y	-0.009	-0.007	2.389	3.583
17	116	Y	-0.008	-0.008	1.265	3.287
18	117	Y	-0.005	-0.005	0	0.887
19	118	Y	-0.007	-0.009	0	1.194
20	118	Y	-0.009	-0.009	1.194	2.389
21	118	Y	-0.009	-0.007	2.389	3.583
22	119	Y	-0.011	-0.011	0	1.194
23	119	Y	-0.011	-0.01	1.194	2.389
24	119	Y	-0.01	-0.007	2.389	3.583

Member Distributed Loads (BLC 41 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	116	Y	-0.005	-0.005	1.265	3.287
2	117	Y	-0.003	-0.003	0	0.887
3	118	Y	-0.004	-0.005	0	1.194
4	118	Y	-0.005	-0.006	1.194	2.389
5	118	Y	-0.006	-0.004	2.389	3.583
6	119	Y	-0.006	-0.007	0	1.194
7	119	Y	-0.007	-0.006	1.194	2.389
8	119	Y	-0.006	-0.004	2.389	3.583
9	144	Y	-0.005	-0.005	1.265	3.287
10	145	Y	-0.003	-0.003	0	0.887
11	146	Y	-0.004	-0.005	0	1.194
12	146	Y	-0.005	-0.005	1.194	2.389
13	146	Y	-0.005	-0.004	2.389	3.583
14	147	Y	-0.006	-0.006	0	1.194
15	147	Y	-0.006	-0.006	1.194	2.389
16	147	Y	-0.006	-0.004	2.389	3.583
17	151	Y	-0.005	-0.005	1.296	3.318
18	152	Y	-0.003	-0.003	0.113	1
19	153	Y	-0.006	-0.007	0	1.194
20	153	Y	-0.007	-0.006	1.194	2.389
21	153	Y	-0.006	-0.004	2.389	3.583
22	154	Y	-0.004	-0.005	0	1.194
23	154	Y	-0.005	-0.006	1.194	2.389
24	154	Y	-0.006	-0.004	2.389	3.583

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	260	262	261	259	Y	Two Way	-0.01
2	272	270	269	271	Y	Two Way	-0.01
3	206	208	207	205	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	260	262	261	259	Y	Two Way	-0.006
2	272	270	269	271	Y	Two Way	-0.006
3	206	208	207	205	Y	Two Way	-0.006

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	95	L	Y	-0.5
2	278	L	Y	-0.5
3	302	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	89	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	105	L	Y	-0.5
2	286	L	Y	-0.5
3	310	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 14 : Live Load d)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	107	L	Y	-0.5
2	288	L	Y	-0.5
3	312	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 15 : Live Load e)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	109	L	Y	-0.5
2	123	L	Y	-0.5
3	131	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		90		3
2	0 Wind - No Ice	WLZ			90	92	
3	90 Wind - No Ice	WLX			90	92	
4	0 Wind - Ice	WLZ			90	92	
5	90 Wind - Ice	WLX			90	92	
6	0 Wind - Service	WLZ			90	92	
7	90 Wind - Service	WLX			90	92	
8	Ice	OL1			90	92	3
9	0 Seismic	ELZ			90	92	
10	90 Seismic	ELX			90	92	
11	Live Load a	LL		3			
12	Live Load b	LL		1			
13	Live Load c	LL		3			
14	Live Load d	LL		3			
15	Live Load e	LL		3			
16	Maint LL 1	LL			1		
17	Maint LL 2	LL			1		
18	Maint LL 3	LL			1		
19	Maint LL 4	LL			1		
20	Maint LL 5	LL			1		
21	Maint LL 6	LL			1		
22	Maint LL 7	LL			1		
23	Maint LL 8	LL			1		
24	Maint LL 9	LL			1		
25	Maint LL 10	LL			1		
26	Maint LL 11	LL			1		
27	Maint LL 12	LL			1		
28	Maint LL 13	LL			1		
29	Maint LL 14	LL			1		
30	Maint LL 15	LL			1		
31	Maint LL 16	LL					
32	Maint LL 17	LL					
33	Maint LL 18	LL					

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
34	Maint LL 19	LL					
35	Maint LL 20	LL					
36	Maint LL 21	LL					
37	Maint LL 22	LL					
38	Maint LL 23	LL					
39	Maint LL 24	LL					
40	BLC 1 Transient Area Loads	None				24	
41	BLC 8 Transient Area Loads	None				24	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL e + Service - 0 W	Yes	Y	1	1.2	6	1			15	1.5
87	1.2 D + 1.5 LL e + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	15	1.5
88	1.2 D + 1.5 LL e + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	15	1.5
89	1.2 D + 1.5 LL e + Service - 90 W	Yes	Y	1	1.2	7	1			15	1.5
90	1.2 D + 1.5 LL e + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	15	1.5
91	1.2 D + 1.5 LL e + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	15	1.5
92	1.2 D + 1.5 LL e + Service - 180 W	Yes	Y	1	1.2	6	-1			15	1.5
93	1.2 D + 1.5 LL e + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	15	1.5
94	1.2 D + 1.5 LL e + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	15	1.5
95	1.2 D + 1.5 LL e + Service - 270 W	Yes	Y	1	1.2	7	-1			15	1.5
96	1.2 D + 1.5 LL e + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	15	1.5
97	1.2 D + 1.5 LL e + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	15	1.5
98	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					16	1.5
99	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					17	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
100	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					18	1.5
101	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					19	1.5
102	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					20	1.5
103	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					21	1.5
104	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					22	1.5
105	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					23	1.5
106	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					24	1.5
107	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					25	1.5
108	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					26	1.5
109	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					27	1.5
110	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					28	1.5
111	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					29	1.5
112	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					30	1.5
113	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					31	1.5
114	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					32	1.5
115	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					33	1.5
116	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					34	1.5
117	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					35	1.5
118	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					36	1.5
119	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					37	1.5
120	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					38	1.5
121	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					39	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	145	max	-0.178	13	2.578	18	0.864	18	-0.021	12	0.013	3	-0.036	12
2		min	-1.501	19	0.251	12	0.111	12	-0.215	18	-0.014	9	-0.372	18
3	151	max	1.48	22	2.55	22	0.858	23	-0.021	4	0.014	7	0.368	22
4		min	0.191	4	0.249	4	0.11	4	-0.212	22	-0.013	13	0.036	4
5	157	max	0.076	5	2.546	14	-0.106	8	0.424	14	0.013	11	0	89
6		min	-0.076	11	0.086	8	-1.706	14	0.014	8	-0.013	5	-0.001	47
7	12	max	4.304	6	0.821	73	2.304	13	0.143	9	1.437	3	0.07	6
8		min	-3.02	12	0.057	7	-3.044	7	-0.895	51	-1.438	9	-0.708	72
9	18	max	2.994	4	0.823	65	2.368	3	0.177	9	1.424	7	0.847	66
10		min	-4.262	10	0.077	11	-3.101	9	-0.553	75	-1.428	13	0.043	12
11	6	max	1.206	5	0.808	69	6.019	2	0.916	69	1.124	11	0.393	79
12		min	-1.207	11	0.087	3	-4.576	8	0.031	3	-1.126	5	-0.341	49
13	Totals:	max	7.074	5	9.073	17	9.244	2						
14		min	-7.074	11	4.546	11	-9.244	8						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	PL1/2x8	0.219	0.708	2	0.107	0.708	y	46	62.438	129.6	1.35	21.6	1.266	H1-1b
2	2	PL1/2x8	0.116	0	8	0.189	0	y	87	118.331	129.6	1.35	21.6	1.158	H1-1b
3	3	PL1/2x8	0.145	0.125	8	0.209	0	y	49	118.331	129.6	1.35	20.993	1.002	H1-1b
4	4	HSS4X4X4	0.106	0	10	0.087	4.031	y	48	128.181	139.518	16.181	16.181	1.942	H1-1b
5	5	PL1/2x8	0.207	0.708	7	0.116	0.708	y	2	62.438	129.6	1.35	21.6	1.306	H1-1b
6	6	PL1/2x8	0.092	0	12	0.189	0	y	91	118.331	129.6	1.35	21.6	1.163	H1-1b
7	7	PL1/2x8	0.152	0.125	13	0.211	0	y	41	118.331	129.6	1.35	20.96	1.001	H1-1b
8	8	HSS4X4X4	0.129	0	2	0.089	4.031	y	40	128.181	139.518	16.181	16.181	1.931	H1-1b
9	9	PL1/2x8	0.173	0.708	9	0.107	0.708	y	42	62.438	129.6	1.35	21.6	1.272	H1-1b
10	10	PL1/2x8	0.102	0.125	3	0.188	0	y	95	118.331	129.6	1.35	21.6	2.433	H1-1b
11	11	PL1/2x8	0.11	0.125	5	0.209	0	y	45	118.331	129.6	1.35	20.967	1.001	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
12	12	HSS4X4X4	0.124	0	7	0.088	4.031	y	44	128.181	139.518	16.181	16.181	2.635	H1-1b
13	13	HSS3.5X3.5X3	0.15	10.286	4	0.072	1.432	z	8	40.151	92.736	9.522	9.522	2.271	H1-1b
14	14	HSS3.5X3.5X3	0.178	10.286	8	0.072	10.677	y	9	40.151	92.736	9.522	9.522	2.214	H1-1b
15	15	HSS3.5X3.5X3	0.151	10.286	12	0.065	1.432	y	3	40.151	92.736	9.522	9.522	2.209	H1-1b
16	18	PL 3/8X6	0.123	0.25	8	0.195	0.25	y	73	71.02	73.872	0.585	9.234	1.35	H1-1b
17	19	PL 3/8X6	0.145	0.333	13	0.143	0.333	y	68	68.878	73.872	0.585	9.234	1.263	H1-1b
18	21	HSS4X4X4	0.12	2.087	2	0.047	0.043	z	2	136.997	139.518	16.181	16.181	1.927	H1-1b
19	22	PL 3/8X6	0.109	0.125	11	0.186	0.25	y	69	71.02	73.872	0.585	9.234	2.823	H1-1b
20	23	PL 3/8X6	0.124	0.333	9	0.159	0.333	y	69	68.878	73.872	0.585	9.234	1.337	H1-1b
21	25	HSS4X4X4	0.129	2.087	8	0.048	0.043	z	8	136.997	139.518	16.181	16.181	1.744	H1-1b
22	28	PL 3/8X6	0.131	0.125	3	0.197	0.25	y	63	71.02	73.872	0.585	9.234	1.842	H1-1b
23	29	PL 3/8X6	0.12	0.333	4	0.138	0.333	y	73	68.878	73.872	0.585	9.234	1.336	H1-1b
24	31	HSS4X4X4	0.112	2.087	13	0.042	0.043	z	7	136.997	139.518	16.181	16.181	1.887	H1-1b
25	32	PL 3/8X6	0.143	0.125	3	0.186	0.25	y	73	71.02	73.872	0.585	9.234	3	H1-1b
26	33	PL 3/8X6	0.149	0.333	2	0.161	0.333	y	73	68.878	73.872	0.585	9.234	1.338	H1-1b
27	35	HSS4X4X4	0.11	2.087	12	0.039	0.043	z	11	136.997	139.518	16.181	16.181	1.747	H1-1b
28	38	PL 3/8X6	0.124	0.125	13	0.195	0.25	y	68	71.02	73.872	0.585	9.234	1.338	H1-1b
29	39	PL 3/8X6	0.143	0.333	8	0.142	0.333	y	65	68.878	73.872	0.585	9.234	1.308	H1-1b
30	41	HSS4X4X4	0.096	2.087	10	0.035	0.043	z	10	136.997	139.518	16.181	16.181	1.934	H1-1b
31	42	PL 3/8X6	0.143	0.125	13	0.187	0.25	y	65	71.02	73.872	0.585	9.234	1.478	H1-1b
32	43	PL 3/8X6	0.123	0.333	6	0.159	0.333	y	64	68.878	73.872	0.585	9.234	1.323	H1-1b
33	45	HSS4X4X4	0.118	2.087	3	0.047	0.043	z	3	136.997	139.518	16.181	16.181	1.844	H1-1b
34	59	PIPE_2.0	0.031	3.5	8	0.003	3.5		8	20.867	32.13	1.872	1.872	1	H1-1b
35	60	PIPE_2.0	0.27	0.586	5	0.22	10.078		10	7.772	32.13	1.872	1.872	2.109	H1-1b
36	69	PIPE_2.0	0.408	3.625	5	0.232	3.625		9	20.867	32.13	1.872	1.872	2.166	H1-1b
37	70	PIPE_2.0	0.441	5.313	5	0.084	5.313		6	20.867	32.13	1.872	1.872	2.345	H1-1b
38	71	PIPE_2.0	0.376	3.625	11	0.145	0.188		8	20.867	32.13	1.872	1.872	1.986	H1-1b
39	72	PIPE_2.0	0.333	3.625	11	0.171	3.625		8	20.867	32.13	1.872	1.872	2.328	H1-1b
40	73	PIPE_2.0	0.344	0.586	9	0.3	10.078		2	7.772	32.13	1.872	1.872	2.118	H1-1b
41	76	PIPE_2.0	0.423	3.625	3	0.138	3.625		12	20.867	32.13	1.872	1.872	2.315	H1-1b
42	77	PIPE_2.0	0.34	0.586	13	0.28	10.078		7	7.772	32.13	1.872	1.872	2.121	H1-1b
43	80	PIPE_2.0	0.429	3.625	7	0.173	3.625		3	20.867	32.13	1.872	1.872	2.525	H1-1b
44	83	PIPE_2.0	0.112	2.234	4	0.097	2.234		9	29.345	32.13	1.872	1.872	1.747	H1-1b
45	85	PIPE_2.0	0.084	4.539	11	0.008	4.539		11	23.088	32.13	1.872	1.872	2.207	H1-1b
46	86	PL3/8x8.5	0.038	0	8	0.063	0	y	18	96.113	103.275	0.807	18.288	3	H1-1b
47	87	LL3x3x4x3	0.051	3.333	7	0.005	6.667	z	9	62.897	93.312	7.427	4.885	1.136	H1-1b
48	88	PL3/8x8.5	0.211	0	19	0.038	0	y	18	96.113	103.275	0.807	18.288	3	H1-1b
49	89	PL3/8x8.5	0.036	0	20	0.062	0	y	22	96.113	103.275	0.807	18.288	3	H1-1b
50	90	LL3x3x4x3	0.05	3.333	11	0.005	6.667	z	7	62.897	93.312	7.427	4.885	1.136	H1-1b
51	91	PL3/8x8.5	0.207	0	22	0.038	0	y	22	96.113	103.275	0.807	18.288	3	H1-1b
52	92	PL3/8x8.5	0.036	0	4	0.062	0	y	14	96.113	103.275	0.807	18.288	3	H1-1b
53	93	LL3x3x4x3	0.051	3.333	3	0.003	6.667	z	11	62.897	93.312	7.427	4.885	1.136	H1-1b
54	94	PL3/8x8.5	0.375	0	14	0.028	0	z	14	96.113	103.275	0.807	18.288	1.853	H1-1b
55	95	PIPE_2.0	0.02	1.25	12	0.022	1.25		13	28.843	32.13	1.872	1.872	2.729	H1-1b
56	102	PIPE_2.0	0.02	1.25	3	0.017	1.25		5	28.843	32.13	1.872	1.872	2.5	H1-1b
57	109	PIPE_2.0	0.023	1.25	8	0.022	1.25		9	28.843	32.13	1.872	1.872	3	H1-1b
58	116	L2x2x3	0.116	4.583	8	0.005	0	z	17	8.159	23.393	0.558	1.071	1.235	H2-1
59	117	L2x2x3	0.644	0.5	7	0.126	0.5	z	9	22.25	23.393	0.558	1.239	1.489	H2-1
60	118	L2x2x3	0.307	3.397	2	0.137	3.583	y	14	12.295	23.393	0.558	1.172	1.5	H2-1
61	119	L2x2x3	0.307	3.397	2	0.137	3.583	z	14	12.295	23.393	0.558	1.172	1.5	H2-1
62	120	L2.5x2.5x4	0.306	0	12	0.087	1.167	z	11	36.881	38.556	1.114	2.537	1.5	H2-1
63	121	PL 3/8X6	0.297	0.25	12	0.037	0.375	z	12	63.107	73.872	0.585	9.234	1.323	H1-1b
64	122	PL 3/8X6	0.237	0.25	3	0.031	0.375	z	3	63.107	73.872	0.585	9.234	1.317	H1-1b
65	127	L2.5x2.5x4	0.318	0	4	0.117	0.887	z	3	36.881	38.556	1.114	2.537	1.5	H2-1
66	128	PL 3/8X6	0.315	0.25	3	0.041	0.25	z	3	63.107	73.872	0.585	9.234	1.326	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
67	129	PL 3/8X6	0.268	0.25	8	0.034	0.25	z	8	63.107	73.872	0.585	9.234	1.334	H1-1b
68	134	L2.5x2.5x4	0.377	0	8	0.112	1.167	z	7	36.881	38.556	1.114	2.537	1.5	H2-1
69	135	PL 3/8X6	0.364	0.25	8	0.047	0.25	z	8	63.107	73.872	0.585	9.234	1.338	H1-1b
70	136	PL 3/8X6	0.212	0.25	12	0.027	0.25	z	12	63.107	73.872	0.585	9.234	1.32	H1-1b
71	144	L2x2x3	0.104	2.244	18	0.007	4.583	z	20	8.159	23.393	0.558	1.05	1.143	H2-1
72	145	L2x2x3	0.614	0.5	13	0.14	0.5	z	7	22.25	23.393	0.558	1.239	1.5	H2-1
73	146	L2x2x3	0.252	3.397	6	0.078	3.583	y	66	12.295	23.393	0.558	1.172	1.5	H2-1
74	147	L2x2x3	0.252	3.397	6	0.12	3.583	z	65	12.295	23.393	0.558	1.172	1.5	H2-1
75	151	L2x2x3	0.105	2.339	21	0.007	0	z	21	8.159	23.393	0.558	1.05	1.141	H2-1
76	152	L2x2x3	0.653	0.5	3	0.141	0.5	z	9	22.25	23.393	0.558	1.239	1.5	H2-1
77	153	L2x2x3	0.265	3.397	9	0.122	3.583	y	69	12.295	23.393	0.558	1.172	1.5	H2-1
78	154	L2x2x3	0.262	3.397	9	0.081	3.583	z	9	12.295	23.393	0.558	1.172	1.5	H2-1
79	164	PIPE_2.0	0.539	3.625	9	0.223	3.625		13	20.867	32.13	1.872	1.872	3	H1-1b
80	165	PIPE_2.0	0.562	5.313	9	0.102	5.313		9	20.867	32.13	1.872	1.872	2.117	H1-1b
81	166	PIPE_2.0	0.456	3.625	3	0.117	0.188		12	20.867	32.13	1.872	1.872	2.091	H1-1b
82	169	PIPE_2.0	0.146	2.234	8	0.087	2.234		13	29.345	32.13	1.872	1.872	1.868	H1-1b
83	176	PIPE_2.0	0.506	3.625	13	0.19	3.625		5	20.867	32.13	1.872	1.872	2.18	H1-1b
84	177	PIPE_2.0	0.553	5.313	13	0.106	5.313		2	20.867	32.13	1.872	1.872	2.349	H1-1b
85	178	PIPE_2.0	0.469	3.625	7	0.126	3.625		3	20.867	32.13	1.872	1.872	1.771	H1-1b
86	181	PIPE_2.0	0.118	2.234	13	0.08	0.258		4	29.345	32.13	1.872	1.872	1.899	H1-1b

Envelope AISI S100-16: LRFD Member Cold Formed Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pn[k]	phi*Tn[k]	phi*Mnyy[k-ft]	phi*Mnzz[k-ft]	phi*Vny[k]	phi*Vnz[k]	Cb	Eqn
1	97	P1000	0.091	1.583	9	0.031	1	y	4	10.733	15.362	0.432	0.676	2.36	4.72	1.99	H1.2-1
2	100	P1000	0.226	1.583	7	0.039	1.583	y	3	10.733	15.362	0.432	0.676	2.36	4.72	1.491	H1.1-1
3	104	P1000	0.09	1.583	13	0.041	1	y	9	10.733	15.362	0.432	0.676	2.36	4.72	1.911	H1.2-1
4	107	P1000	0.205	1.583	11	0.053	1.583	y	9	10.733	15.362	0.432	0.676	2.36	4.72	1.946	H1.1-1
5	111	P1000	0.084	1	4	0.025	1	y	13	10.733	15.362	0.432	0.676	2.36	4.72	1.516	H1.2-1
6	114	P1000	0.256	1.583	3	0.04	1.583	y	2	10.733	15.362	0.432	0.676	2.36	4.72	1.775	H1.1-1

PROJECT	**160587.002.01 - WATERFORD REBUIL**				**KSC**
SUBJECT	**Platform Mount Analysis**				
DATE	**03/24/22**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	6.019	k
Vertical Shear	:	0.808	k
Horizontal Shear	:	1.206	k
Torsion	:	0.393	k.ft
Moment from Horizontal Forces	:	1.124	k.ft
Moment from Vertical Forces	:	0.916	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	1.45	k
Force from Horz. Moment	:	2.04	k
Force from Vert. Moment	:	1.66	k
Shear Load / Bolt	:	0.36	k
Tension Load / Bolt	:	1.50	k
Resultant from Moments / Bolt	:	1.31	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**13.60%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**16.90%**		**OKAY**
Unity Check, Combined	:	**30.50%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**1.05%**		**OKAY**

PROJECT	**160587.002.01 - WATERFORD**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**03/24/22**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	94	ft	[ASCE7 Hazard Tool]
Tower Height		:	180.00	ft	
Mount Elevation		:	153.00	ft	
Antenna Elevation		:	155.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	127	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.19		
	S_1	:	0.05		
	S_{DS}	:	0.20		
	S_{D1}	:	0.08		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.12		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	1.00		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.17	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.102		[Sec. 2.7.7.1]
Amplification	A_s	:	2.4		[Sec. 16.7]

	q_z	:	43.62	psf

PROJECT	**160587.002.01 - WATERFORD**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**03/24/22**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
Quintel	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.27	0.12	0.04	0.02
Quintel	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.27	0.12	0.04	0.02
Ericsson	RRUS 4478 B14 (15")	1	2.05	1.20	0.76	1.38	1.16	1.87	0.04	0.07	0.01	0.01
Ericsson	RRUS-32 B66A	1	3.89	1.26	1.32	2.27	1.91	2.94	0.07	0.11	0.01	0.02
ANDREW	APTDC-BDFDM-DBW	2	2.06	1.20	0.08	0.17	0.33	0.47	0.00	0.01	0.00	0.00
Ericsson	AIR6419 B77G	0.5	1.76	1.20	1.58	0.78	1.96	1.09	0.07	0.04	0.01	0.01
Ericsson	AIR6419 B77G	0.5	1.76	1.20	1.58	0.78	1.96	1.09	0.07	0.04	0.01	0.01
Ericsson	AIR6449 B77D/ C-Band	0.5	1.91	1.20	1.68	1.12	2.07	1.47	0.08	0.05	0.01	0.01
Ericsson	AIR6449 B77D/ C-Band	0.5	1.91	1.20	1.68	1.12	2.07	1.47	0.08	0.05	0.01	0.01
Kathrein	800-10965	0.5	3.94	1.26	5.47	1.89	6.28	2.60	0.27	0.09	0.04	0.01
Kathrein	800-10965	0.5	3.94	1.26	5.47	1.89	6.28	2.60	0.27	0.09	0.04	0.01
Ericsson	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.18	1.65	0.08	0.06	0.01	0.01
Ericsson	RRUS-32 B30 (60 lbs)	1	3.99	1.27	1.24	2.24	1.82	2.91	0.06	0.11	0.01	0.02
Quintel	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.27	0.12	0.04	0.02
Quintel	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.27	0.12	0.04	0.02
Ericsson	RRUS 4478 B14 (15")	1	2.05	1.20	0.76	1.38	1.16	1.87	0.04	0.07	0.01	0.01
Ericsson	RRUS-32 B66A	1	3.89	1.26	1.32	2.27	1.91	2.94	0.07	0.11	0.01	0.02
Ericsson	AIR6419 B77G	0.5	1.76	1.20	1.58	0.78	1.96	1.09	0.07	0.04	0.01	0.01
Ericsson	AIR6419 B77G	0.5	1.76	1.20	1.58	0.78	1.96	1.09	0.07	0.04	0.01	0.01
Ericsson	AIR6449 B77D/ C-Band	0.5	1.91	1.20	1.68	1.12	2.07	1.47	0.08	0.05	0.01	0.01
Ericsson	AIR6449 B77D/ C-Band	0.5	1.91	1.20	1.68	1.12	2.07	1.47	0.08	0.05	0.01	0.01

PROJECT	160587.002.01 - WATERFORD		KSC
SUBJECT	Platform Mount Analysis		
DATE	03/24/22	PAGE 3 OF	

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
Kathrein	800-10965	0.5	3.94	1.26	5.47	1.89	6.28	2.60	0.27	0.09	0.04	0.01
Kathrein	800-10965	0.5	3.94	1.26	5.47	1.89	6.28	2.60	0.27	0.09	0.04	0.01
Ericsson	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.18	1.65	0.08	0.06	0.01	0.01
Ericsson	RRUS-32 B30 (60 lbs)	1	3.99	1.27	1.24	2.24	1.82	2.91	0.06	0.11	0.01	0.02
Quintel	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.27	0.12	0.04	0.02
Quintel	QD6616-7	0.5	3.27	1.23	5.50	2.40	6.28	3.08	0.27	0.12	0.04	0.02
Ericsson	RRUS 4478 B14 (15")	1	2.05	1.20	0.76	1.38	1.16	1.87	0.04	0.07	0.01	0.01
Ericsson	RRUS-32 B66A	1	3.89	1.26	1.32	2.27	1.91	2.94	0.07	0.11	0.01	0.02
ANDREW	APTDC-BDFDM-DBW	2	2.06	1.20	0.08	0.17	0.33	0.47	0.00	0.01	0.00	0.00
Ericsson	AIR6419 B77G	0.5	1.76	1.20	1.58	0.78	1.96	1.09	0.07	0.04	0.01	0.01
Ericsson	AIR6419 B77G	0.5	1.76	1.20	1.58	0.78	1.96	1.09	0.07	0.04	0.01	0.01
Ericsson	AIR6449 B77D/ C-Band	0.5	1.91	1.20	1.68	1.12	2.07	1.47	0.08	0.05	0.01	0.01
Ericsson	AIR6449 B77D/ C-Band	0.5	1.91	1.20	1.68	1.12	2.07	1.47	0.08	0.05	0.01	0.01
Kathrein	800-10965	0.5	3.94	1.26	5.47	1.89	6.28	2.60	0.27	0.09	0.04	0.01
Kathrein	800-10965	0.5	3.94	1.26	5.47	1.89	6.28	2.60	0.27	0.09	0.04	0.01
Ericsson	RRUS 4449 B5/B12	1	1.36	1.20	1.64	1.17	2.18	1.65	0.08	0.06	0.01	0.01
Ericsson	RRUS-32 B30 (60 lbs)	1	3.99	1.27	1.24	2.24	1.82	2.91	0.06	0.11	0.01	0.02

PROJECT	160587.002.01 - WATERFORD		KSC
SUBJECT	Platform Mount Analysis		
DATE	03/24/22	PAGE 4	OF

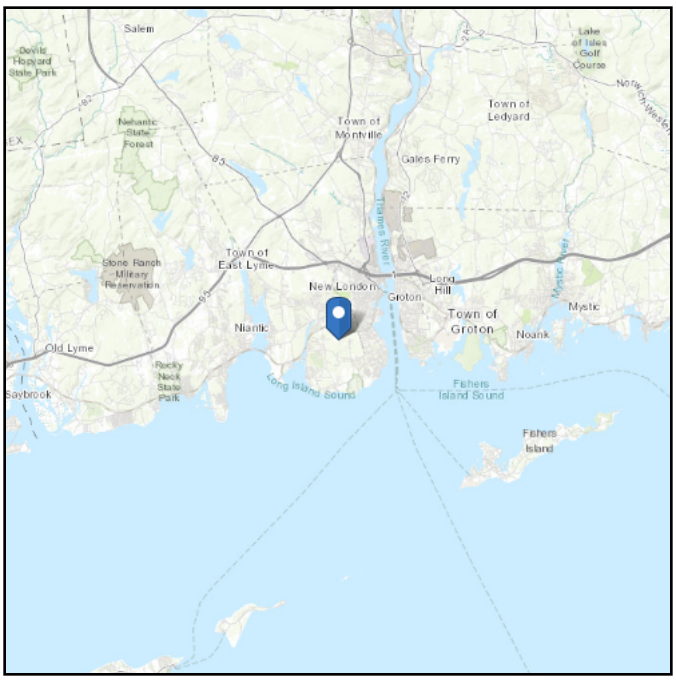
B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
Powerwave Allgon	7020.00 Dual Band RET	2	0.59	1.20	0.56	0.16	1.07	0.48	0.03	0.01	0.00	0.00
Powerwave Allgon	7020.00 Dual Band RET	2	0.59	1.20	0.56	0.16	1.07	0.48	0.03	0.01	0.00	0.00
Powerwave Allgon	7020.00 Dual Band RET	2	0.59	1.20	0.56	0.16	1.07	0.48	0.03	0.01	0.00	0.00
Raycap	DC6-48-60-18-8F	1	2.42	0.50	1.58	1.58	2.16	2.16	0.03	0.03	0.00	0.00
Raycap	DC6-48-60-18-8F ("Squid")	1	2.18	0.50	1.83	1.83	2.44	2.44	0.04	0.04	0.01	0.01
Raycap	DC9-48-60-24-8C-EV	1	1.72	1.20	3.99	2.22	4.83	2.94	0.19	0.11	0.03	0.02

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	93.57 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.3291
Soil Class:	D - Default (see Section 11.4.3)	**Longitude:**	-72.1246



Wind

Results:

Wind Speed	127 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	98 Vmph
100-year MRI	104 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:	Tue Mar 22 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.

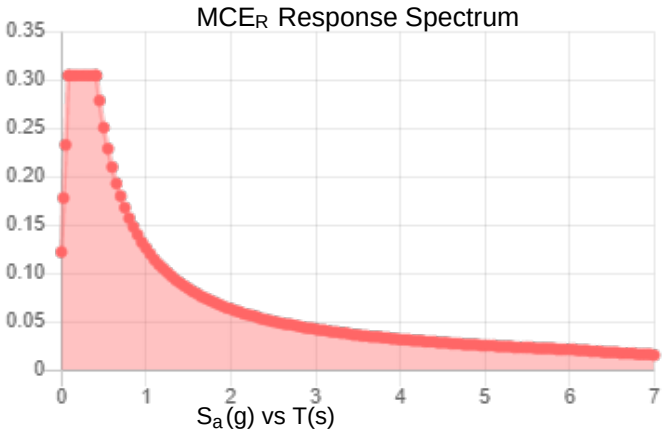
Seismic

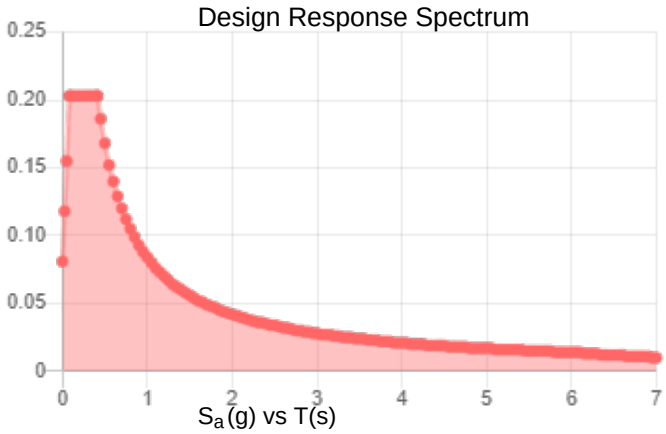
Site Soil Class: D - Default (see Section 11.4.3)

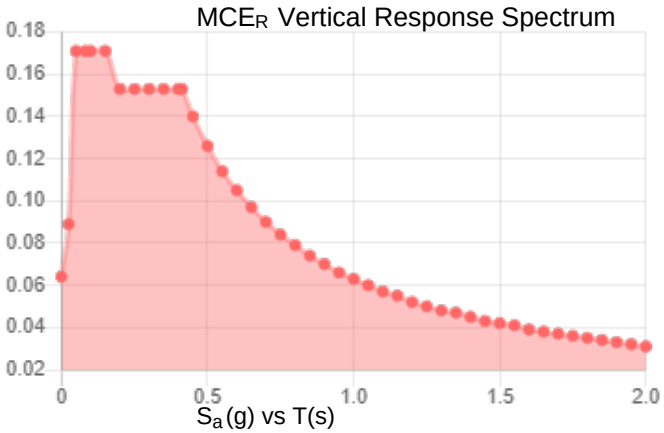
Results:

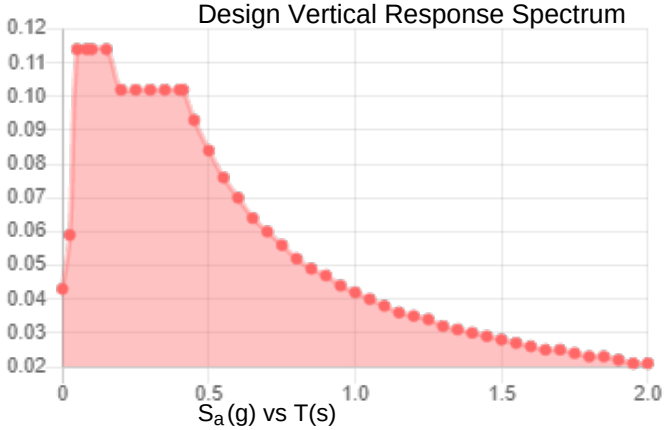
S_S :	0.191	S_{D1} :	0.084
S_1 :	0.052	T_L :	6
F_a :	1.6	PGA :	0.105
F_v :	2.4	PGA_M :	0.167
S_{MS} :	0.305	F_{PGA} :	1.59
S_{M1} :	0.126	I_e :	1
S_{DS} :	0.203	C_v :	0.7

Seismic Design Category B









Data Accessed: **Tue Mar 22 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:	Tue Mar 22 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.

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

telamon
Tower Engineering PLLC

Structural Analysis Report

Structure	:	**180 ft Monopole**
ATC Site Name	:	**WATERFORD REBUILD CT,CT**
ATC Site Number	:	**310972**
Engineering Number	:	**13753547_C3_03**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**MRCTB056375**
Carrier Site Number	:	**CT2023**
Site Location	:	**15 Miner Lane** **Waterford, CT 06385-3016** **41.32904616, -72.12460691**
County	:	**New London**
Date	:	**March 23, 2022**
Max Usage	:	**69%**
Result	:	**Pass**

Prepared By:

Josh Stone
CLS

Reviewed By:

Digitally signed by William Holt
Date: 2022.03.24 09:24:13 -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

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Table of Contents

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft Monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	FWT Job #23766000, dated July 18, 2001
Foundation Drawing	ATC Job #42693971, dated December 8, 2008
Geotechnical Report	Tower Engineering Professionals Project #082973.01, dated November 7, 2008
Modifications	ATC Job #442108F2, dated November 9, 2009

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:	127 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 = 0.19, 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
186.3	2	Generic 15' Omni	Triangular Low Profile Platform	(2) 1 5/8" Coax	SPOK HOLDINGS, INC.
179.6	1	Generic TTA			
170.0	3	KMW HB-X-WM-17-65-00T	Side Arm	(6) 1 5/8" Coax	CLEARWIRE CORPORATION
	3	KMW HB-X-WM-17-65-00T-TTLNA (w/BKT)			
167.2	3	Samsung B2/B66A RRH-BR049	Triangular Platform with Handrails	(2) 1 5/8" (1.63"-41.3mm) Fiber (12) 1 5/8" Coax	VERIZON WIRELESS
167.1	3	Samsung B5/B13 RRH-BR04C			
160.0	3	Commscope CBC78T-DS-43-2X			
	3	Samsung MT6407-77A			
	2	RFS DB-T1-6Z-8AB-0Z			
	6	Commscope JAHH-65B-R3B			
153.0	3	Kathrein Scala 80010965	Triangular Platform with Handrails	(4) 0.78" (19.7mm) 8 AWG 6 (6) 1 1/4" Coax (3) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 32 B2			
	3	Ericsson RRUS 32 B66A			
	3	Ericsson RRUS 32 B30 (60 lbs)			
	3	Ericsson RRUS 4478 B14 (15")			
	1	Raycap DC6-48-60-18-8F			
	6	Powerwave Allgon 7020.00 Dual Band RET			
	1	Raycap DC6-48-60-18-8F ("Squid")			
130.0	3	Ericsson Radio 4449 B71 B85A	Triangular Platform with Handrails	(5) 1 5/8" Hybriflex	T-MOBILE
	3	Ericsson 4424 B25			
	3	Ericsson Air6449 B41			
	3	RFS APX16DWV-16DWVS-E-A20			
	3	RFS APXVAARR24_43-U-NA20			
	3	Ericsson RRUS 4415 B66			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
153.0	6	CCI TPX-070821	-	(3) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (6) 1 1/4" Coax	AT&T MOBILITY
	6	Powerwave Allgon LGP17201			
	6	Commscope SBNHH-1D65A			
	3	Ericsson RRUS 11 (Band 12)			
	3	Powerwave Allgon 7770.00			
	1	Raycap DC6-48-60-18-8C			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
155.0	3	Ericsson AIR 6449 B77D/ C-Band	Triangular Platform with Handrails	(3) 0.41" (10.3mm) Fiber (1) 0.92" (23.4mm) Cable (2) 0.96" (24.3mm) Cable (2) 2" conduit	AT&T MOBILITY
153.0	6	Andrew APTDC-BDFDM-DBW			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS E2 B29			
	1	Raycap DC9-48-60-24-8C-EV			
	3	Quintel QD6616-7			
151.0	3	Ericsson AIR 6419 B77G			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	58%	Pass
Shaft	63%	Pass
Base Plate	14%	Pass
Flanges	20%	Pass

Foundations

ReactioComponent	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	5615.0	7580.2	4486.6	59%
Shear (Kips)	38.5	52.0	35.8	69%
* 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 and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
155.0	Ericsson AIR 6449 B77D/ C-Band	AT&T MOBILITY	1.320	0.920
153.0	Ericsson RRUS 4449 B5, B12		1.288	0.910
	Andrew APTDC-BDFDM-DBW			
	Ericsson RRUS E2 B29			
	Raycap DC9-48-60-24-8C-EV			
	Quintel QD6616-7			
151.0	Ericsson AIR 6419 B77G		1.257	

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

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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.

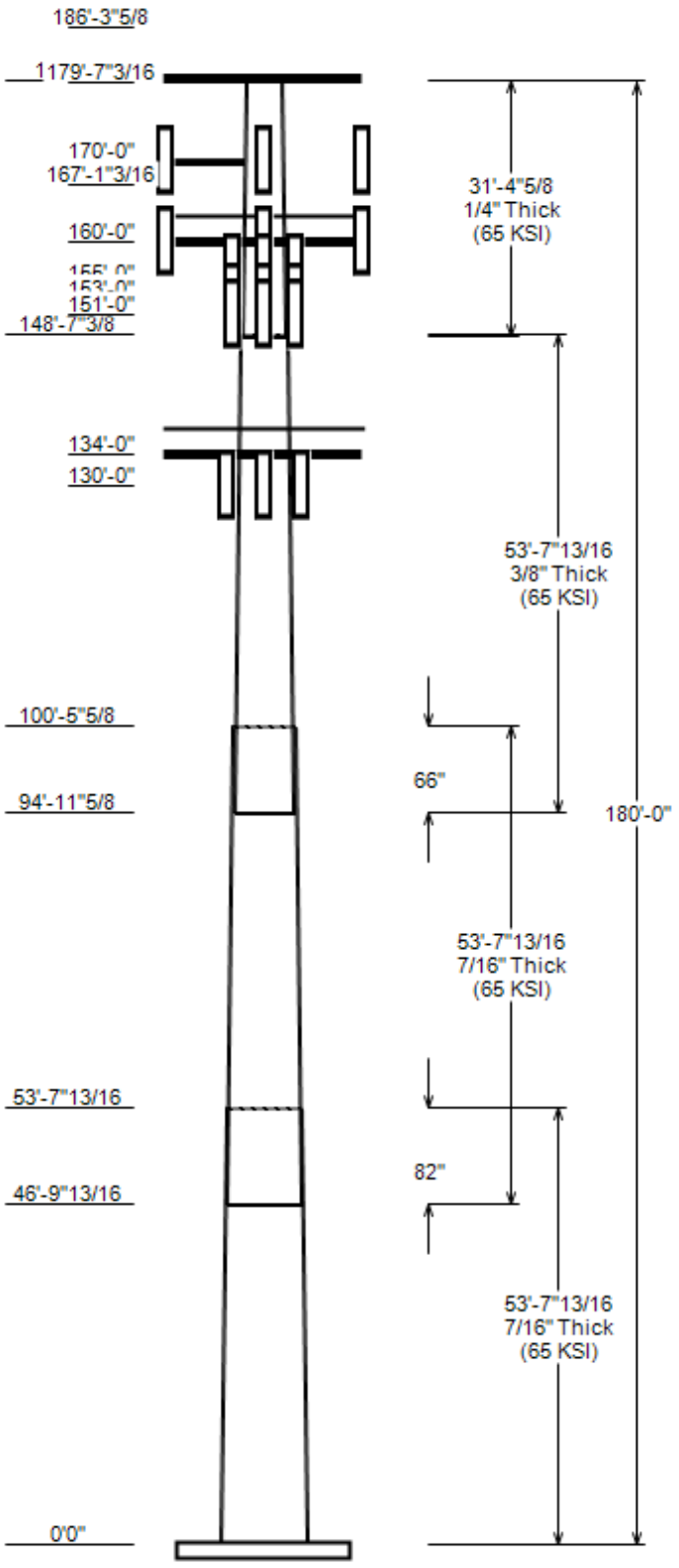
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with 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 :	310972, WATERFORD REBUILD CT	Height :	180 ft
Client :	AT&T MOBILITY	Base Width :	62.45
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Nominal Wind: 127 mph wind with no ice **Topo Category:** 1

Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1

Base Elev (ft): 0.00 **Taper :** 0.22800(In/ft) **Topo Feature:**

Structure Class: II **Exposure :** B **S_s :** 0.191 **S_1** : 0.052

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	53.650	50.18	62.45	0.438		0.000	18 Sides	65
2	53.650	40.35	52.62	0.438	Slip Joint	82.000	18 Sides	65
3	53.650	30.09	42.36	0.375	Slip Joint	66.000	18 Sides	65
4	31.383	29.75	30.44	0.250	Butt Joint	0.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
186.3	186.3	2	Generic 15' Omni
180.0	180.0	1	Generic Round Low Profile Plat
179.6	179.6	1	Generic TTA
170.0	170.0	3	KMW HB-X-WM-17-65-00T-TTLNA (w
170.0	170.0	3	KMW HB-X-WM-17-65-00T
170.0	170.0	1	Side Arms
167.2	167.2	3	Samsung B2/B66A RRH-BR049
167.1	167.1	3	Samsung B5/B13 RRH-BR04C
160.0	160.0	3	Commscope CBC78T-DS-43-2X
160.0	160.0	3	Samsung MT6407-77A
160.0	160.0	2	RFS DB-T1-6Z-8AB-0Z
160.0	160.0	6	Commscope JAHH-65B-R3B
160.0	160.0	1	Generic Round Platform with Ha
155.0	155.0	3	Ericsson AIR 6449 B77D/ C-Band
153.0	153.0	6	Andrew APTDC-BDFDM-DBW
153.0	153.0	6	Powerwave Allgon 7020.00 Dual
153.0	156.0	1	Raycap DC6-48-60-18-8F
153.0	153.0	1	Raycap DC6-48-60-18-8F ("Squid
153.0	156.0	3	Ericsson RRUS 4478 B14 (15")
153.0	153.0	3	Ericsson RRUS 4449 B5, B12
153.0	156.0	3	Ericsson RRUS 32 B30 (60 lbs)
153.0	156.0	3	Ericsson RRUS 32 B66A
153.0	156.0	3	Ericsson RRUS 32 B2
153.0	153.0	3	Ericsson RRUS E2 B29
153.0	153.0	1	Raycap DC9-48-60-24-8C-EV
153.0	156.0	3	Kathrein Scala 80010965
153.0	153.0	1	Flat Platform w/ Round Handrai
153.0	153.0	3	Quintel QD6616-7
151.0	151.0	3	Ericsson AIR 6419 B77G
134.0	134.0	1	Perfect Vision PV-LPP12M-HR-12
130.0	130.0	3	Ericsson Radio 4449 B71 B85A
130.0	130.0	3	Ericsson RRUS 4415 B66
130.0	130.0	3	Ericsson 4424 B25
130.0	130.0	3	Ericsson Air6449 B41
130.0	130.0	3	RFS APX16DWV-16DWVS-E-A20
130.0	130.0	3	RFS APXVAARR24_43-U-NA20

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	186.0	1 5/8" Coax	No
0.0	170.0	1 5/8" Coax	No

JOB INFORMATION			
Asset :	310972, WATERFORD REBUILD CT	Height :	180 ft
Client :	AT&T MOBILITY	Base Width :	62.45
Code :	ANSI/TIA-222-H	Shape :	18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	160.0	1 5/8" Coax	No
0.0	160.0	1 5/8" (1.63"-41.3mm) Fiber	No
0.0	153.0	2" conduit	No
0.0	153.0	2" conduit	No
0.0	153.0	1 1/4" Coax	No
0.0	153.0	0.96" (24.3mm) Cable	No
0.0	153.0	0.92" (23.4mm) Cable	No
0.0	153.0	0.78" (19.7mm) 8 AWG 6	No
0.0	153.0	0.41" (10.3mm) Fiber	No
0.0	130.0	1 5/8" Hybriflex	No

LOAD CASES

1.2D + 1.0W	127 mph wind with no ice
0.9D + 1.0W	127 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	4486.59	35.78	70.29
0.9D + 1.0W	4426.94	35.76	52.71
1.2D + 1.0Di + 1.0Wi	1060.34	8.54	88.60
1.2D + 1.0Ev + 1.0Eh	255.38	1.76	70.60
0.9D - 1.0Ev + 1.0Eh	251.11	1.76	48.89
1.0D + 1.0W	888.81	7.14	58.62

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)

ANALYSIS PARAMETERS

Location:	New London County,CT	**Height:**	180 ft
Type and Shape:	Custom, 18 Sides	**Base Diameter:**	62.45 in
Manufacturer:	Undetermined	**Top Diameter:**	23.26 in
K_d (non-service):	0.95	**Taper:**	0.2280 in/ft
K_e:	1.00	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	**Design Wind Speed w/o Ice:**	127 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	94.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	2.70
T_L (sec):	6	**P:**	1	**C_s:**	0.030
S_s:	0.191	**S_1:**	0.052	**C_s Max:**	0.030
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.204	**S_{d1}:**	0.083		

LOAD CASES

1.2D + 1.0W	127 mph wind with no ice
0.9D + 1.0W	127 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.65	0.4375	65		0.00	14,165	62.45	0.000	86.11	41,837.0	23.41	142.74	50.18	53.65	69.07	21,592.9	18.46	114.70	0.2287
2-18	53.65	0.4375	65	Slip	82.00	11,672	52.62	46.820	72.46	24,925.7	19.44	120.27	40.35	100.47	55.42	11,153.0	14.50	92.22	0.2287
3-18	53.65	0.3750	65	Slip	66.00	7,789	42.36	94.970	49.97	11,126.0	18.15	112.95	30.09	148.62	35.36	3,944.1	12.38	80.23	0.2287
								148.61								2,573.7			
4-18	31.38	0.2500	65	Butt	0.00	2,529	30.44	7	23.95	2,757.8	19.70	121.75	29.75	180.00	23.41		19.22	119.00	0.0219
					Shaft Weight	36,155													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
186.30	Generic 15' Omni	2	1.00	0.000	40.00	4.500	1.00	116.96	8.134	1.00
180.00	Generic Round Low Profile Plat	1	1.00	0.000	1875.00	21.700	1.00	2425.91	34.760	1.00
179.60	Generic TTA	1	0.80	0.000	10.00	1.200	0.50	34.46	1.693	0.50
170.00	KMW HB-X-WM-17-65-00T	3	0.80	0.000	30.00	1.950	0.70	79.13	2.685	0.70
170.00	Side Arms	1	1.00	0.000	560.00	8.500	1.00	876.42	13.303	1.00
170.00	KMW HB-X-WM-17-65-00T-TTLNA (w	3	0.80	0.000	15.90	0.967	0.50	33.51	1.440	0.50
167.20	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.875	0.50	127.48	2.485	0.50
167.10	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	108.90	2.484	0.50
160.00	Samsung MT6407-77A	3	0.75	0.000	81.60	4.709	0.61	150.02	5.729	0.61
160.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	0.000	44.00	4.800	0.50	128.49	5.754	0.50
160.00	Commscope JAHH-65B-R3B	6	0.75	0.000	60.60	9.113	0.69	196.41	10.975	0.69
160.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3587.33	43.609	1.00
160.00	Commscope CBC78T-DS-43-2X	3	0.75	0.000	20.70	0.552	0.50	35.53	0.893	0.50
155.00	Ericsson AIR 6449 B77D/ C-Band	3	0.75	0.000	81.60	4.028	0.70	159.62	4.947	0.70
153.00	Quintel QD6616-7	3	0.75	0.000	130.00	51.400	0.64	325.68	58.586	0.64
153.00	Flat Platform w/ Round Handrai	1	1.00	0.000	2000.00	34.800	1.00	2932.02	51.017	1.00
153.00	Kathrein Scala 80010965	3	0.75	3.000	97.60	13.814	0.62	275.94	15.855	0.62
153.00	Raycap DC9-48-60-24-8C-EV	1	0.75	0.000	16.00	4.788	0.50	102.36	5.772	0.50
153.00	Ericsson RRUS 32 B2	3	0.75	3.000	53.00	2.743	0.50	102.20	3.525	0.50
153.00	Ericsson RRUS 32 B66A	3	0.75	3.000	50.70	2.720	0.50	99.73	3.498	0.50
153.00	Ericsson RRUS 32 B30 (60 lbs)	3	0.75	3.000	60.00	2.692	0.50	107.53	3.465	0.50
153.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	114.11	2.593	0.50
153.00	Ericsson RRUS 4478 B14 (15")	3	0.75	3.000	59.40	1.650	0.50	92.64	2.217	0.50
153.00	Raycap DC6-48-60-18-8F ("Squid	1	0.75	0.000	31.80	1.470	0.50	73.07	1.937	0.50
153.00	Raycap DC6-48-60-18-8F	1	0.75	3.000	20.00	1.260	0.50	55.22	1.700	0.50
153.00	Powerwave Allgon 7020.00 Dual	6	0.75	0.000	2.20	0.339	0.50	9.03	0.613	0.50
153.00	Andrew APTDC-BDFDM-DBW	6	0.75	0.000	1.30	0.102	0.50	3.75	0.259	0.50
153.00	Ericsson RRUS E2 B29	3	0.75	0.000	60.00	3.145	0.50	114.10	3.920	0.50
151.00	Ericsson AIR 6419 B77G	3	0.75	0.000	66.10	3.797	0.65	130.94	4.677	0.65
134.00	Perfect Vision PV-LPP12M-HR-12	1	1.00	0.000	2117.00	34.400	1.00	3021.63	54.790	1.00
130.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	385.93	22.681	0.63
130.00	RFS APX16DWV-16DWVS-E-A20	3	0.75	0.000	40.70	6.586	0.60	117.48	8.009	0.60
130.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	193.57	6.725	0.63
130.00	Ericsson 4424 B25	3	0.75	0.000	86.00	2.052	0.50	133.92	2.672	0.50
130.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	114.53	2.208	0.50
130.00	Ericsson RRUS 4415 B66	3	0.75	0.000	46.00	1.650	0.50	74.46	2.208	0.50
Totals	Num Loadings: 36	97			14,218.10			24,085.31		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	186.00	2	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	SPOK HOLDINGS
0.00	170.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CLEARWIRE COR
0.00	160.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	160.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	VERIZON WIREL
0.00	153.00	6	1 1/4" Coax	1.55	0.63	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	153.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	153.00	3	0.41" (10.3mm) Fiber	0.41	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	153.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	153.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	153.00	2	0.96" (24.3mm) Cable	0.96	0.88	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	153.00	1	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	130.00	5	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	T-MOBILE

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	62.450	86.109	41,837.00	23.41	142.74	73.9	1319.5	0.0	0.0
5.00		0.4375	61.307	84.521	39,565.00	22.95	140.13	74.4	1271.1	0.0	1,451.5
10.00		0.4375	60.163	82.933	37,376.80	22.48	137.52	75	1223.6	0.0	1,424.5
15.00		0.4375	59.020	81.345	35,270.80	22.02	134.90	75.5	1177.1	0.0	1,397.5
20.00		0.4375	57.876	79.758	33,245.40	21.56	132.29	76	1131.4	0.0	1,370.5
25.00		0.4375	56.733	78.170	31,299.10	21.10	129.67	76.6	1086.6	0.0	1,343.5
30.00		0.4375	55.589	76.582	29,430.30	20.64	127.06	77.1	1042.8	0.0	1,316.5
35.00		0.4375	54.446	74.994	27,637.40	20.18	124.45	77.7	999.8	0.0	1,289.4
40.00		0.4375	53.302	73.406	25,918.80	19.72	121.83	78.2	957.8	0.0	1,262.4
45.00		0.4375	52.159	71.818	24,273.00	19.26	119.22	78.7	916.6	0.0	1,235.4
46.82	Bot - Section 2	0.4375	51.743	71.242	23,692.70	19.09	118.27	78.9	901.9	0.0	442.2
50.00		0.4375	51.015	70.231	22,698.40	18.80	116.61	79.3	876.4	0.0	1,545.6
53.65	Top - Section 1	0.4375	51.055	70.287	22,752.60	18.81	116.70	79.3	877.8	0.0	1,745.2
55.00		0.4375	50.747	69.858	22,338.80	18.69	115.99	79.4	867.0	0.0	321.9
60.00		0.4375	49.603	68.270	20,849.90	18.23	113.38	80	827.9	0.0	1,175.0
65.00		0.4375	48.460	66.682	19,428.70	17.77	110.76	80.5	789.7	0.0	1,148.0
70.00		0.4375	47.316	65.094	18,073.60	17.31	108.15	81	752.3	0.0	1,121.0
75.00		0.4375	46.173	63.506	16,783.00	16.85	105.54	81.6	715.9	0.0	1,094.0
80.00		0.4375	45.029	61.919	15,555.30	16.38	102.92	82.1	680.4	0.0	1,067.0
85.00		0.4375	43.886	60.331	14,389.00	15.92	100.31	82.6	645.8	0.0	1,040.0
90.00		0.4375	42.742	58.743	13,282.60	15.46	97.70	82.6	612.1	0.0	1,013.0
94.97	Bot - Section 3	0.4375	41.606	57.166	12,241.10	15.01	95.10	82.6	579.5	0.0	979.5
95.00		0.4375	41.599	57.155	12,234.30	15.00	95.08	82.6	579.3	0.0	12.2
100.00		0.4375	40.455	55.567	11,242.70	14.54	92.47	82.6	547.4	0.0	1,797.3
100.47	Top - Section 2	0.3750	41.098	48.469	10,155.60	17.56	109.60	80.7	486.7	0.0	165.2
105.00		0.3750	40.062	47.235	9,399.50	17.07	106.83	81.3	462.1	0.0	738.2
110.00		0.3750	38.918	45.874	8,610.20	16.54	103.78	82	435.8	0.0	792.1
115.00		0.3750	37.775	44.513	7,866.30	16.00	100.73	82.6	410.2	0.0	768.9
120.00		0.3750	36.631	43.152	7,166.60	15.46	97.68	82.6	385.3	0.0	745.8
125.00		0.3750	35.488	41.791	6,509.70	14.92	94.63	82.6	361.3	0.0	722.6
130.00		0.3750	34.344	40.430	5,894.20	14.39	91.58	82.6	338.0	0.0	699.5
134.00		0.3750	33.429	39.341	5,430.70	13.96	89.14	82.6	320.0	0.0	542.9
135.00		0.3750	33.201	39.069	5,318.80	13.85	88.53	82.6	315.5	0.0	133.4
140.00		0.3750	32.057	37.708	4,782.00	13.31	85.49	82.6	293.8	0.0	653.1
145.00		0.3750	30.914	36.347	4,282.70	12.77	82.44	82.6	272.9	0.0	630.0
148.62	Top - Section 3	0.3750	30.086	35.363	3,944.10	12.38	80.23	82.6	258.2	0.0	441.3
148.62	Bot - Section 4	0.2500	30.438	23.953	2,757.80	19.70	121.75	78.2	178.5	0.0	
150.00		0.2500	30.407	23.929	2,749.50	19.68	121.63	78.2	178.1	0.0	112.7
151.00		0.2500	30.385	23.912	2,743.50	19.67	121.54	78.3	177.8	0.0	81.4
153.00		0.2500	30.342	23.877	2,731.60	19.64	121.37	78.3	177.3	0.0	162.6
155.00		0.2500	30.298	23.842	2,719.70	19.61	121.19	78.3	176.8	0.0	162.4
160.00		0.2500	30.188	23.755	2,690.10	19.53	120.75	78.4	175.5	0.0	404.9
165.00		0.2500	30.079	23.668	2,660.60	19.45	120.31	78.5	174.2	0.0	403.4
167.10		0.2500	30.033	23.632	2,648.40	19.42	120.13	78.6	173.7	0.0	169.0
167.20		0.2500	30.031	23.630	2,647.80	19.42	120.12	78.6	173.7	0.0	8.0
170.00		0.2500	29.969	23.581	2,631.50	19.37	119.88	78.6	172.9	0.0	224.9
175.00		0.2500	29.860	23.494	2,602.50	19.30	119.44	78.7	171.7	0.0	400.5
179.60		0.2500	29.759	23.415	2,576.00	19.23	119.04	78.8	170.5	0.0	367.1
180.00		0.2500	29.750	23.408	2,573.70	19.22	119.00	78.8	170.4	0.0	31.9
									Totals:		36,154.9

Load Case: 1.2D + 1.0W 127 mph wind with no ice 26 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.29	-35.78	0.00	-4,486.6	0.00	4,486.59	5,724.86	1,511.21	8,464.29	7,310.45	0	0	0.627
5.00	-68.14	-35.39	0.00	-4,307.7	0.00	4,307.69	5,660.52	1,483.35	8,155.05	7,094.08	0.08	-0.15	0.620
10.00	-66.02	-35.00	0.00	-4,130.8	0.00	4,130.75	5,594.64	1,455.48	7,851.55	6,878.85	0.32	-0.3	0.613
15.00	-63.93	-34.61	0.00	-3,955.8	0.00	3,955.77	5,527.21	1,427.61	7,553.81	6,664.88	0.72	-0.46	0.606
20.00	-61.88	-34.22	0.00	-3,782.7	0.00	3,782.73	5,458.23	1,399.75	7,261.83	6,452.28	1.28	-0.61	0.598
25.00	-59.86	-33.84	0.00	-3,611.6	0.00	3,611.63	5,387.70	1,371.88	6,975.60	6,241.15	2	-0.77	0.590
30.00	-57.87	-33.45	0.00	-3,442.4	0.00	3,442.45	5,315.62	1,344.01	6,695.12	6,031.61	2.89	-0.93	0.582
35.00	-55.92	-33.05	0.00	-3,275.2	0.00	3,275.20	5,242.00	1,316.15	6,420.40	5,823.77	3.96	-1.09	0.574
40.00	-54.00	-32.63	0.00	-3,110.0	0.00	3,109.97	5,166.82	1,288.28	6,151.44	5,617.74	5.19	-1.26	0.565
45.00	-52.14	-32.32	0.00	-2,946.8	0.00	2,946.84	5,090.09	1,260.41	5,888.23	5,413.62	6.59	-1.42	0.555
46.82	-51.45	-32.10	0.00	-2,888.1	0.00	2,888.13	5,061.83	1,250.29	5,794.02	5,339.96	7.15	-1.48	0.552
50.00	-49.34	-31.77	0.00	-2,785.9	0.00	2,785.94	5,011.82	1,232.55	5,630.77	5,211.53	8.17	-1.59	0.545
53.65	-46.98	-31.49	0.00	-2,670.0	0.00	2,669.99	5,014.60	1,233.53	5,639.74	5,218.61	9.44	-1.72	0.522
55.00	-46.46	-31.20	0.00	-2,627.5	0.00	2,627.48	4,993.21	1,226.00	5,571.16	5,164.39	9.93	-1.77	0.519
60.00	-44.66	-30.71	0.00	-2,471.5	0.00	2,471.47	4,913.03	1,198.14	5,320.81	4,964.96	11.87	-1.93	0.508
65.00	-42.89	-30.21	0.00	-2,317.9	0.00	2,317.91	4,831.29	1,170.27	5,076.21	4,767.80	13.98	-2.09	0.496
70.00	-41.17	-29.71	0.00	-2,166.8	0.00	2,166.85	4,748.00	1,142.41	4,837.38	4,573.03	16.25	-2.25	0.483
75.00	-39.47	-29.20	0.00	-2,018.3	0.00	2,018.31	4,663.17	1,114.54	4,604.29	4,380.75	18.7	-2.42	0.470
80.00	-37.82	-28.68	0.00	-1,872.3	0.00	1,872.32	4,576.78	1,086.67	4,376.96	4,191.07	21.33	-2.58	0.456
85.00	-36.19	-28.16	0.00	-1,728.9	0.00	1,728.91	4,482.28	1,058.81	4,155.39	3,998.26	24.12	-2.75	0.441
90.00	-34.61	-27.65	0.00	-1,588.1	0.00	1,588.09	4,364.31	1,030.94	3,939.57	3,789.55	27.09	-2.91	0.428
94.97	-33.09	-27.34	0.00	-1,450.8	0.00	1,450.79	4,247.13	1,003.26	3,730.89	3,587.77	30.2	-3.07	0.413
95.00	-33.05	-27.12	0.00	-1,449.9	0.00	1,449.88	4,246.34	1,003.07	3,729.51	3,586.43	30.22	-3.08	0.413
100.00	-30.55	-26.73	0.00	-1,314.3	0.00	1,314.30	4,128.37	975.21	3,525.20	3,388.91	33.53	-3.24	0.396
100.47	-30.30	-26.49	0.00	-1,301.8	0.00	1,301.82	3,522.29	850.63	3,128.95	2,947.41	33.85	-3.25	0.451
105.00	-29.09	-26.00	0.00	-1,181.7	0.00	1,181.73	3,456.99	828.98	2,971.68	2,818.45	37	-3.4	0.429
110.00	-27.78	-25.47	0.00	-1,051.8	0.00	1,051.76	3,383.49	805.09	2,802.93	2,678.30	40.65	-3.56	0.402
115.00	-26.50	-24.95	0.00	-924.4	0.00	924.39	3,307.10	781.21	2,639.10	2,539.42	44.47	-3.73	0.373
120.00	-25.26	-24.44	0.00	-799.6	0.00	799.62	3,205.99	757.32	2,480.21	2,385.76	48.46	-3.88	0.344
125.00	-24.05	-23.92	0.00	-677.4	0.00	677.44	3,104.87	733.43	2,326.25	2,236.89	52.6	-4.03	0.312
130.00	-21.33	-20.96	0.00	-557.8	0.00	557.85	3,003.76	709.55	2,177.23	2,092.82	56.89	-4.17	0.275
134.00	-18.03	-18.90	0.00	-474.0	0.00	474.03	2,922.87	690.44	2,061.56	1,981.02	60.43	-4.26	0.246
135.00	-17.81	-18.62	0.00	-455.1	0.00	455.13	2,902.64	685.66	2,033.13	1,953.55	61.32	-4.29	0.240
140.00	-16.76	-18.11	0.00	-362.0	0.00	362.01	2,801.53	661.78	1,893.97	1,819.07	65.87	-4.4	0.206
145.00	-15.73	-17.66	0.00	-271.4	0.00	271.45	2,700.41	637.89	1,759.75	1,689.39	70.52	-4.49	0.167
148.62	-15.00	-17.39	0.00	-207.6	0.00	207.57	2,627.27	620.62	1,665.73	1,598.58	73.95	-4.55	0.136
148.62	-15.00	-17.39	0.00	-207.6	0.00	207.57	1,686.34	420.37	1,146.21	1,046.99	73.95	-4.55	0.209
150.00	-14.79	-17.27	0.00	-183.5	0.00	183.51	1,685.18	419.95	1,143.91	1,045.22	75.27	-4.57	0.186
151.00	-14.43	-16.85	0.00	-166.2	0.00	166.24	1,684.35	419.65	1,142.25	1,043.94	76.23	-4.59	0.169
153.00	-10.12	-9.16	0.00	-128.1	0.00	128.09	1,682.68	419.04	1,138.93	1,041.37	78.15	-4.62	0.129
155.00	-9.63	-8.50	0.00	-109.8	0.00	109.77	1,681.01	418.43	1,135.62	1,038.81	80.09	-4.64	0.112
160.00	-5.43	-4.48	0.00	-67.2	0.00	67.24	1,676.83	416.90	1,127.36	1,032.42	84.98	-4.69	0.068
165.00	-4.93	-4.12	0.00	-44.8	0.00	44.83	1,672.63	415.38	1,119.13	1,026.04	89.9	-4.72	0.047
167.10	-4.48	-3.88	0.00	-36.2	0.00	36.18	1,670.87	414.74	1,115.68	1,023.36	91.98	-4.73	0.038
167.20	-4.18	-3.62	0.00	-35.8	0.00	35.79	1,670.78	414.71	1,115.52	1,023.23	92.08	-4.73	0.038
170.00	-3.14	-2.53	0.00	-25.7	0.00	25.66	1,668.42	413.85	1,110.93	1,019.67	94.85	-4.74	0.027
175.00	-2.69	-2.05	0.00	-13.0	0.00	13.01	1,664.19	412.33	1,102.76	1,013.30	99.81	-4.75	0.014
179.60	-2.25	-1.76	0.00	-3.6	0.00	3.58	1,660.29	410.92	1,095.27	1,007.46	104.38	-4.75	0.005
180.00	0.00	-1.57	0.00	-2.9	0.00	2.88	1,659.95	410.80	1,094.62	1,006.95	104.78	-4.75	0.003

Load Case: 0.9D + 1.0W 127 mph wind with no ice 25 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-52.71	-35.76	0.00	-4,426.9	0.00	4,426.94	5,724.86	1,511.21	8,464.29	7,310.45	0	0	0.615
5.00	-51.07	-35.32	0.00	-4,248.2	0.00	4,248.17	5,660.52	1,483.35	8,155.05	7,094.08	0.08	-0.15	0.608
10.00	-49.46	-34.88	0.00	-4,071.6	0.00	4,071.58	5,594.64	1,455.48	7,851.55	6,878.85	0.31	-0.3	0.601
15.00	-47.87	-34.45	0.00	-3,897.2	0.00	3,897.18	5,527.21	1,427.61	7,553.81	6,664.88	0.71	-0.45	0.594
20.00	-46.31	-34.02	0.00	-3,724.9	0.00	3,724.93	5,458.23	1,399.75	7,261.83	6,452.28	1.26	-0.6	0.586
25.00	-44.78	-33.60	0.00	-3,554.8	0.00	3,554.81	5,387.70	1,371.88	6,975.60	6,241.15	1.97	-0.76	0.578
30.00	-43.27	-33.18	0.00	-3,386.8	0.00	3,386.80	5,315.62	1,344.01	6,695.12	6,031.61	2.85	-0.92	0.570
35.00	-41.78	-32.74	0.00	-3,220.9	0.00	3,220.91	5,242.00	1,316.15	6,420.40	5,823.77	3.9	-1.08	0.562
40.00	-40.33	-32.29	0.00	-3,057.2	0.00	3,057.20	5,166.82	1,288.28	6,151.44	5,617.74	5.11	-1.24	0.553
45.00	-38.92	-31.97	0.00	-2,895.8	0.00	2,895.75	5,090.09	1,260.41	5,888.23	5,413.62	6.5	-1.4	0.543
46.82	-38.40	-31.73	0.00	-2,837.7	0.00	2,837.68	5,061.83	1,250.29	5,794.02	5,339.96	7.04	-1.46	0.540
50.00	-36.80	-31.38	0.00	-2,736.7	0.00	2,736.66	5,011.82	1,232.55	5,630.77	5,211.53	8.05	-1.57	0.533
53.65	-35.02	-31.11	0.00	-2,622.1	0.00	2,622.11	5,014.60	1,233.53	5,639.74	5,218.61	9.3	-1.69	0.510
55.00	-34.62	-30.80	0.00	-2,580.1	0.00	2,580.11	4,993.21	1,226.00	5,571.16	5,164.39	9.78	-1.74	0.507
60.00	-33.26	-30.29	0.00	-2,426.1	0.00	2,426.11	4,913.03	1,198.14	5,320.81	4,964.96	11.69	-1.9	0.496
65.00	-31.92	-29.78	0.00	-2,274.6	0.00	2,274.65	4,831.29	1,170.27	5,076.21	4,767.80	13.76	-2.06	0.484
70.00	-30.61	-29.25	0.00	-2,125.8	0.00	2,125.78	4,748.00	1,142.41	4,837.38	4,573.03	16	-2.22	0.472
75.00	-29.33	-28.73	0.00	-1,979.5	0.00	1,979.51	4,663.17	1,114.54	4,604.29	4,380.75	18.41	-2.38	0.459
80.00	-28.07	-28.20	0.00	-1,835.9	0.00	1,835.86	4,576.78	1,086.67	4,376.96	4,191.07	20.99	-2.54	0.445
85.00	-26.84	-27.68	0.00	-1,694.8	0.00	1,694.84	4,482.28	1,058.81	4,155.39	3,998.26	23.74	-2.7	0.431
90.00	-25.64	-27.15	0.00	-1,556.4	0.00	1,556.45	4,364.31	1,030.94	3,939.57	3,789.55	26.65	-2.86	0.417
94.97	-24.50	-26.86	0.00	-1,421.6	0.00	1,421.61	4,247.13	1,003.26	3,730.89	3,587.77	29.71	-3.02	0.403
95.00	-24.47	-26.62	0.00	-1,420.7	0.00	1,420.71	4,246.34	1,003.07	3,729.51	3,586.43	29.74	-3.02	0.403
100.00	-22.59	-26.25	0.00	-1,287.6	0.00	1,287.63	4,128.37	975.21	3,525.20	3,388.91	32.99	-3.18	0.386
100.47	-22.40	-26.01	0.00	-1,275.4	0.00	1,275.38	3,522.29	850.63	3,128.95	2,947.41	33.3	-3.2	0.440
105.00	-21.48	-25.51	0.00	-1,157.5	0.00	1,157.49	3,456.99	828.98	2,971.68	2,818.45	36.4	-3.34	0.418
110.00	-20.48	-24.98	0.00	-1,030.0	0.00	1,029.96	3,383.49	805.09	2,802.93	2,678.30	39.98	-3.5	0.392
115.00	-19.52	-24.46	0.00	-905.0	0.00	905.04	3,307.10	781.21	2,639.10	2,539.42	43.73	-3.66	0.363
120.00	-18.58	-23.95	0.00	-782.7	0.00	782.72	3,205.99	757.32	2,480.21	2,385.76	47.65	-3.81	0.335
125.00	-17.67	-23.43	0.00	-663.0	0.00	662.99	3,104.87	733.43	2,326.25	2,236.89	51.72	-3.96	0.303
130.00	-15.67	-20.52	0.00	-545.8	0.00	545.82	3,003.76	709.55	2,177.23	2,092.82	55.93	-4.09	0.267
134.00	-13.22	-18.52	0.00	-463.8	0.00	463.75	2,922.87	690.44	2,061.56	1,981.02	59.4	-4.19	0.239
135.00	-13.06	-18.24	0.00	-445.2	0.00	445.23	2,902.64	685.66	2,033.13	1,953.55	60.28	-4.21	0.233
140.00	-12.27	-17.74	0.00	-354.0	0.00	354.02	2,801.53	661.78	1,893.97	1,819.07	64.74	-4.32	0.200
145.00	-11.50	-17.31	0.00	-265.3	0.00	265.31	2,700.41	637.89	1,759.75	1,689.39	69.31	-4.41	0.162
148.62	-10.96	-17.05	0.00	-202.7	0.00	202.72	2,627.27	620.62	1,665.73	1,598.58	72.67	-4.47	0.132
148.62	-10.96	-17.05	0.00	-202.7	0.00	202.72	1,686.34	420.37	1,146.21	1,046.99	72.67	-4.47	0.202
150.00	-10.80	-16.93	0.00	-179.1	0.00	179.13	1,685.18	419.95	1,143.91	1,045.22	73.97	-4.49	0.179
151.00	-10.53	-16.52	0.00	-162.2	0.00	162.20	1,684.35	419.65	1,142.25	1,043.94	74.91	-4.5	0.163
153.00	-7.43	-8.93	0.00	-124.7	0.00	124.71	1,682.68	419.04	1,138.93	1,041.37	76.8	-4.53	0.125
155.00	-7.08	-8.28	0.00	-106.8	0.00	106.84	1,681.01	418.43	1,135.62	1,038.81	78.7	-4.56	0.107
160.00	-3.99	-4.36	0.00	-65.4	0.00	65.43	1,676.83	416.90	1,127.36	1,032.42	83.5	-4.6	0.066
165.00	-3.63	-4.01	0.00	-43.6	0.00	43.64	1,672.63	415.38	1,119.13	1,026.04	88.33	-4.63	0.045
167.10	-3.29	-3.77	0.00	-35.2	0.00	35.22	1,670.87	414.74	1,115.68	1,023.36	90.37	-4.64	0.036
167.20	-3.07	-3.52	0.00	-34.8	0.00	34.85	1,670.78	414.71	1,115.52	1,023.23	90.46	-4.64	0.036
170.00	-2.31	-2.46	0.00	-25.0	0.00	24.99	1,668.42	413.85	1,110.93	1,019.67	93.18	-4.65	0.026
175.00	-1.98	-1.99	0.00	-12.7	0.00	12.71	1,664.19	412.33	1,102.76	1,013.30	98.05	-4.66	0.014
179.60	-1.66	-1.71	0.00	-3.6	0.00	3.56	1,660.29	410.92	1,095.27	1,007.46	102.54	-4.66	0.005
180.00	0.00	-1.57	0.00	-2.9	0.00	2.88	1,659.95	410.80	1,094.62	1,006.95	102.93	-4.66	0.003

Load Case: 1.2D + 1.0Di + 1.0Wi		50 mph wind with 1" radial ice			25 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-88.60	-8.54	0.00	-1,060.3	0.00	1,060.34	5,724.86	1,511.21	8,464.29	7,310.45	0	0	0.161
5.00	-86.24	-8.44	0.00	-1,017.6	0.00	1,017.64	5,660.52	1,483.35	8,155.05	7,094.08	0.02	-0.04	0.159
10.00	-83.87	-8.35	0.00	-975.4	0.00	975.42	5,594.64	1,455.48	7,851.55	6,878.85	0.08	-0.07	0.157
15.00	-81.53	-8.25	0.00	-933.7	0.00	933.67	5,527.21	1,427.61	7,553.81	6,664.88	0.17	-0.11	0.155
20.00	-79.21	-8.16	0.00	-892.4	0.00	892.41	5,458.23	1,399.75	7,261.83	6,452.28	0.3	-0.14	0.153
25.00	-76.93	-8.06	0.00	-851.6	0.00	851.62	5,387.70	1,371.88	6,975.60	6,241.15	0.47	-0.18	0.151
30.00	-74.67	-7.97	0.00	-811.3	0.00	811.31	5,315.62	1,344.01	6,695.12	6,031.61	0.68	-0.22	0.149
35.00	-72.45	-7.87	0.00	-771.5	0.00	771.48	5,242.00	1,316.15	6,420.40	5,823.77	0.93	-0.26	0.146
40.00	-70.27	-7.76	0.00	-732.2	0.00	732.15	5,166.82	1,288.28	6,151.44	5,617.74	1.22	-0.3	0.144
45.00	-68.12	-7.68	0.00	-693.3	0.00	693.34	5,090.09	1,260.41	5,888.23	5,413.62	1.56	-0.34	0.141
46.82	-67.35	-7.63	0.00	-679.4	0.00	679.39	5,061.83	1,250.29	5,794.02	5,339.96	1.69	-0.35	0.141
50.00	-65.07	-7.54	0.00	-655.1	0.00	655.10	5,011.82	1,232.55	5,630.77	5,211.53	1.93	-0.38	0.139
53.65	-62.49	-7.47	0.00	-627.6	0.00	627.57	5,014.60	1,233.53	5,639.74	5,218.61	2.23	-0.4	0.133
55.00	-61.92	-7.40	0.00	-617.5	0.00	617.48	4,993.21	1,226.00	5,571.16	5,164.39	2.34	-0.42	0.132
60.00	-59.85	-7.28	0.00	-580.5	0.00	580.46	4,913.03	1,198.14	5,320.81	4,964.96	2.8	-0.45	0.129
65.00	-57.82	-7.15	0.00	-544.1	0.00	544.08	4,831.29	1,170.27	5,076.21	4,767.80	3.3	-0.49	0.126
70.00	-55.82	-7.02	0.00	-508.3	0.00	508.33	4,748.00	1,142.41	4,837.38	4,573.03	3.83	-0.53	0.123
75.00	-53.87	-6.89	0.00	-473.2	0.00	473.22	4,663.17	1,114.54	4,604.29	4,380.75	4.41	-0.57	0.120
80.00	-51.95	-6.76	0.00	-438.8	0.00	438.78	4,576.78	1,086.67	4,376.96	4,191.07	5.03	-0.61	0.116
85.00	-50.07	-6.62	0.00	-405.0	0.00	405.00	4,482.28	1,058.81	4,155.39	3,998.26	5.69	-0.65	0.113
90.00	-48.23	-6.49	0.00	-371.9	0.00	371.88	4,364.31	1,030.94	3,939.57	3,789.55	6.38	-0.69	0.109
94.97	-46.44	-6.41	0.00	-339.7	0.00	339.66	4,247.13	1,003.26	3,730.89	3,587.77	7.12	-0.72	0.106
95.00	-46.42	-6.35	0.00	-339.4	0.00	339.44	4,246.34	1,003.07	3,729.51	3,586.43	7.12	-0.72	0.106
100.00	-43.64	-6.25	0.00	-307.7	0.00	307.69	4,128.37	975.21	3,525.20	3,388.91	7.9	-0.76	0.101
100.47	-43.39	-6.19	0.00	-304.8	0.00	304.77	3,522.29	850.63	3,128.95	2,947.41	7.97	-0.76	0.116
105.00	-41.95	-6.06	0.00	-276.7	0.00	276.72	3,456.99	828.98	2,971.68	2,818.45	8.72	-0.8	0.110
110.00	-40.39	-5.92	0.00	-246.4	0.00	246.42	3,383.49	805.09	2,802.93	2,678.30	9.57	-0.84	0.104
115.00	-38.87	-5.79	0.00	-216.8	0.00	216.80	3,307.10	781.21	2,639.10	2,539.42	10.47	-0.88	0.097
120.00	-37.39	-5.65	0.00	-187.9	0.00	187.86	3,205.99	757.32	2,480.21	2,385.76	11.41	-0.91	0.090
125.00	-35.94	-5.51	0.00	-159.6	0.00	159.61	3,104.87	733.43	2,326.25	2,236.89	12.39	-0.95	0.083
130.00	-31.54	-4.91	0.00	-132.0	0.00	132.04	3,003.76	709.55	2,177.23	2,092.82	13.39	-0.98	0.074
134.00	-27.22	-4.38	0.00	-112.4	0.00	112.42	2,922.87	690.44	2,061.56	1,981.02	14.23	-1	0.066
135.00	-26.95	-4.31	0.00	-108.0	0.00	108.03	2,902.64	685.66	2,033.13	1,953.55	14.44	-1.01	0.065
140.00	-25.65	-4.17	0.00	-86.5	0.00	86.50	2,801.53	661.78	1,893.97	1,819.07	15.51	-1.03	0.057
145.00	-24.38	-4.05	0.00	-65.7	0.00	65.66	2,700.41	637.89	1,759.75	1,689.39	16.6	-1.06	0.048
148.62	-23.48	-3.97	0.00	-51.0	0.00	51.03	2,627.27	620.62	1,665.73	1,598.58	17.41	-1.07	0.041
148.62	-23.48	-3.97	0.00	-51.0	0.00	51.03	1,686.34	420.37	1,146.21	1,046.99	17.41	-1.07	0.063
150.00	-23.21	-3.94	0.00	-45.5	0.00	45.53	1,685.18	419.95	1,143.91	1,045.22	17.72	-1.08	0.057
151.00	-22.62	-3.84	0.00	-41.6	0.00	41.59	1,684.35	419.65	1,142.25	1,043.94	17.95	-1.08	0.053
153.00	-15.21	-2.28	0.00	-33.1	0.00	33.08	1,682.68	419.04	1,138.93	1,041.37	18.4	-1.09	0.041
155.00	-14.40	-2.12	0.00	-28.5	0.00	28.52	1,681.01	418.43	1,135.62	1,038.81	18.86	-1.09	0.036
160.00	-7.85	-1.19	0.00	-17.9	0.00	17.90	1,676.83	416.90	1,127.36	1,032.42	20.01	-1.11	0.022
165.00	-7.10	-1.09	0.00	-12.0	0.00	11.96	1,672.63	415.38	1,119.13	1,026.04	21.18	-1.11	0.016
167.10	-6.44	-1.02	0.00	-9.7	0.00	9.68	1,670.87	414.74	1,115.68	1,023.36	21.67	-1.12	0.013
167.20	-6.02	-0.96	0.00	-9.6	0.00	9.57	1,670.78	414.71	1,115.52	1,023.23	21.69	-1.12	0.013
170.00	-4.36	-0.68	0.00	-6.9	0.00	6.89	1,668.42	413.85	1,110.93	1,019.67	22.35	-1.12	0.009
175.00	-3.64	-0.54	0.00	-3.5	0.00	3.49	1,664.19	412.33	1,102.76	1,013.30	23.52	-1.12	0.006
179.60	-2.95	-0.46	0.00	-1.0	0.00	0.99	1,660.29	410.92	1,095.27	1,007.46	24.6	-1.12	0.003
180.00	0.00	-0.40	0.00	-0.8	0.00	0.81	1,659.95	410.80	1,094.62	1,006.95	24.7	-1.12	0.001

Load Case: 1.0D + 1.0W 60 mph Wind with No Ice 24 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-58.62	-7.14	0.00	-888.8	0.00	888.81	5,724.86	1,511.21	8,464.29	7,310.45	0	0	0.132
5.00	-56.89	-7.06	0.00	-853.1	0.00	853.10	5,660.52	1,483.35	8,155.05	7,094.08	0.02	-0.03	0.130
10.00	-55.20	-6.97	0.00	-817.8	0.00	817.82	5,594.64	1,455.48	7,851.55	6,878.85	0.06	-0.06	0.129
15.00	-53.53	-6.89	0.00	-783.0	0.00	782.95	5,527.21	1,427.61	7,553.81	6,664.88	0.14	-0.09	0.127
20.00	-51.89	-6.81	0.00	-748.5	0.00	748.51	5,458.23	1,399.75	7,261.83	6,452.28	0.25	-0.12	0.126
25.00	-50.27	-6.73	0.00	-714.5	0.00	714.47	5,387.70	1,371.88	6,975.60	6,241.15	0.4	-0.15	0.124
30.00	-48.69	-6.64	0.00	-680.8	0.00	680.84	5,315.62	1,344.01	6,695.12	6,031.61	0.57	-0.18	0.122
35.00	-47.13	-6.56	0.00	-647.6	0.00	647.62	5,242.00	1,316.15	6,420.40	5,823.77	0.78	-0.22	0.120
40.00	-45.59	-6.47	0.00	-614.8	0.00	614.82	5,166.82	1,288.28	6,151.44	5,617.74	1.03	-0.25	0.118
45.00	-44.09	-6.41	0.00	-582.5	0.00	582.46	5,090.09	1,260.41	5,888.23	5,413.62	1.31	-0.28	0.116
46.82	-43.55	-6.36	0.00	-570.8	0.00	570.82	5,061.83	1,250.29	5,794.02	5,339.96	1.41	-0.29	0.116
50.00	-41.83	-6.29	0.00	-550.6	0.00	550.56	5,011.82	1,232.55	5,630.77	5,211.53	1.62	-0.32	0.114
53.65	-39.89	-6.24	0.00	-527.6	0.00	527.59	5,014.60	1,233.53	5,639.74	5,218.61	1.87	-0.34	0.109
55.00	-39.49	-6.18	0.00	-519.2	0.00	519.16	4,993.21	1,226.00	5,571.16	5,164.39	1.97	-0.35	0.108
60.00	-38.05	-6.08	0.00	-488.3	0.00	488.26	4,913.03	1,198.14	5,320.81	4,964.96	2.35	-0.38	0.106
65.00	-36.63	-5.98	0.00	-457.9	0.00	457.86	4,831.29	1,170.27	5,076.21	4,767.80	2.77	-0.41	0.104
70.00	-35.24	-5.88	0.00	-428.0	0.00	427.97	4,748.00	1,142.41	4,837.38	4,573.03	3.22	-0.45	0.101
75.00	-33.88	-5.77	0.00	-398.6	0.00	398.59	4,663.17	1,114.54	4,604.29	4,380.75	3.7	-0.48	0.098
80.00	-32.54	-5.67	0.00	-369.7	0.00	369.73	4,576.78	1,086.67	4,376.96	4,191.07	4.22	-0.51	0.095
85.00	-31.23	-5.57	0.00	-341.4	0.00	341.38	4,482.28	1,058.81	4,155.39	3,998.26	4.77	-0.54	0.092
90.00	-29.95	-5.46	0.00	-313.6	0.00	313.55	4,364.31	1,030.94	3,939.57	3,789.55	5.36	-0.58	0.090
94.97	-28.70	-5.40	0.00	-286.4	0.00	286.43	4,247.13	1,003.26	3,730.89	3,587.77	5.98	-0.61	0.087
95.00	-28.69	-5.36	0.00	-286.2	0.00	286.25	4,246.34	1,003.07	3,729.51	3,586.43	5.98	-0.61	0.087
100.00	-26.62	-5.28	0.00	-259.5	0.00	259.47	4,128.37	975.21	3,525.20	3,388.91	6.63	-0.64	0.083
100.47	-26.43	-5.23	0.00	-257.0	0.00	257.01	3,522.29	850.63	3,128.95	2,947.41	6.7	-0.64	0.095
105.00	-25.45	-5.13	0.00	-233.3	0.00	233.29	3,456.99	828.98	2,971.68	2,818.45	7.32	-0.67	0.090
110.00	-24.39	-5.03	0.00	-207.6	0.00	207.61	3,383.49	805.09	2,802.93	2,678.30	8.04	-0.7	0.085
115.00	-23.35	-4.93	0.00	-182.5	0.00	182.46	3,307.10	781.21	2,639.10	2,539.42	8.8	-0.74	0.079
120.00	-22.34	-4.82	0.00	-157.8	0.00	157.82	3,205.99	757.32	2,480.21	2,385.76	9.59	-0.77	0.073
125.00	-21.35	-4.72	0.00	-133.7	0.00	133.70	3,104.87	733.43	2,326.25	2,236.89	10.4	-0.8	0.067
130.00	-18.95	-4.14	0.00	-110.1	0.00	110.09	3,003.76	709.55	2,177.23	2,092.82	11.25	-0.82	0.059
134.00	-16.11	-3.73	0.00	-93.5	0.00	93.54	2,922.87	690.44	2,061.56	1,981.02	11.95	-0.84	0.053
135.00	-15.93	-3.68	0.00	-89.8	0.00	89.81	2,902.64	685.66	2,033.13	1,953.55	12.13	-0.85	0.051
140.00	-15.04	-3.58	0.00	-71.4	0.00	71.42	2,801.53	661.78	1,893.97	1,819.07	13.03	-0.87	0.045
145.00	-14.17	-3.49	0.00	-53.5	0.00	53.54	2,700.41	637.89	1,759.75	1,689.39	13.95	-0.89	0.037
148.62	-13.56	-3.44	0.00	-40.9	0.00	40.92	2,627.27	620.62	1,665.73	1,598.58	14.63	-0.9	0.031
148.62	-13.56	-3.44	0.00	-40.9	0.00	40.92	1,686.34	420.37	1,146.21	1,046.99	14.63	-0.9	0.047
150.00	-13.39	-3.41	0.00	-36.2	0.00	36.16	1,685.18	419.95	1,143.91	1,045.22	14.89	-0.9	0.043
151.00	-13.06	-3.33	0.00	-32.8	0.00	32.75	1,684.35	419.65	1,142.25	1,043.94	15.08	-0.91	0.039
153.00	-8.99	-1.80	0.00	-25.2	0.00	25.20	1,682.68	419.04	1,138.93	1,041.37	15.46	-0.91	0.030
155.00	-8.55	-1.67	0.00	-21.6	0.00	21.59	1,681.01	418.43	1,135.62	1,038.81	15.84	-0.92	0.026
160.00	-4.80	-0.88	0.00	-13.2	0.00	13.22	1,676.83	416.90	1,127.36	1,032.42	16.81	-0.93	0.016
165.00	-4.36	-0.81	0.00	-8.8	0.00	8.82	1,672.63	415.38	1,119.13	1,026.04	17.78	-0.93	0.011
167.10	-3.97	-0.76	0.00	-7.1	0.00	7.12	1,670.87	414.74	1,115.68	1,023.36	18.19	-0.93	0.009
167.20	-3.71	-0.71	0.00	-7.0	0.00	7.04	1,670.78	414.71	1,115.52	1,023.23	18.21	-0.93	0.009
170.00	-2.77	-0.50	0.00	-5.0	0.00	5.05	1,668.42	413.85	1,110.93	1,019.67	18.76	-0.94	0.007
175.00	-2.37	-0.40	0.00	-2.6	0.00	2.56	1,664.19	412.33	1,102.76	1,013.30	19.74	-0.94	0.004
179.60	-1.98	-0.35	0.00	-0.7	0.00	0.71	1,660.29	410.92	1,095.27	1,007.46	20.65	-0.94	0.002
180.00	0.00	-0.31	0.00	-0.6	0.00	0.57	1,659.95	410.80	1,094.62	1,006.95	20.72	-0.94	0.001

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.191
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.052
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.204
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.083
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	2.700
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	58.620 k
Seismic Base Shear (E):	1.760 k

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
47	179.8	33	1,051	0.002	3	40
46	177.3	375	11,778	0.018	31	465
45	172.5	409	12,161	0.018	32	507
44	168.6	243	6,915	0.010	18	302
43	167.15	9	243	0.000	1	11
42	166.05	183	5,040	0.008	13	227
41	162.5	436	11,519	0.017	30	541
40	157.5	503	12,478	0.019	33	624
39	154	202	4,782	0.007	13	250
38	152	256	5,926	0.009	16	318
37	150.5	128	2,907	0.004	8	159
36	149.3083	178	3,960	0.006	10	220
35	146.8083	611	13,168	0.020	35	758
34	142.5	865	17,557	0.026	46	1,073
33	137.5	888	16,785	0.025	44	1,102
32	134.5	180	3,262	0.005	9	224
31	132	731	12,730	0.019	33	907
30	127.5	967	15,713	0.024	41	1,199
29	122.5	990	14,853	0.022	39	1,228
28	117.5	1,013	13,985	0.021	37	1,257
27	112.5	1,036	13,113	0.020	34	1,286
26	107.5	1,059	12,241	0.018	32	1,314
25	102.7333	980	10,347	0.016	27	1,216
24	100.2333	190	1,910	0.003	5	236
23	97.5	2,064	19,625	0.029	52	2,561
22	94.9833	14	126	0.000	0	17
21	92.4833	1,245	10,647	0.016	28	1,545
20	87.5	1,280	9,801	0.015	26	1,588
19	82.5	1,307	8,897	0.013	23	1,622
18	77.5	1,334	8,013	0.012	21	1,655
17	72.5	1,361	7,155	0.011	19	1,689
16	67.5	1,388	6,325	0.010	17	1,722
15	62.5	1,415	5,528	0.008	15	1,756
14	57.5	1,442	4,768	0.007	13	1,789

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
13	54.325	394	1,163	0.002	3	489
12	51.825	1,940	5,211	0.008	14	2,407
11	48.4083	1,716	4,021	0.006	11	2,129
10	45.9083	539	1,136	0.002	3	669
9	42.5	1,503	2,714	0.004	7	1,864
8	37.5	1,530	2,151	0.003	6	1,898
7	32.5	1,557	1,644	0.002	4	1,931
6	27.5	1,584	1,198	0.002	3	1,965
5	22.5	1,611	815	0.001	2	1,998
4	17.5	1,638	502	0.001	1	2,032
3	12.5	1,665	260	0.000	1	2,065
2	7.5	1,692	95	0.000	0	2,099
1	2.5	1,719	11	0.000	0	2,132
Generic 15' Omni	180	80	2,592	0.004	7	99
Generic Round Low Profile Platform	180	1,875	60,750	0.091	160	2,326
Generic TTA	179.6	10	323	0.000	1	12
KMW HB-X-WM-17-65-00T-TTLNA (w/BKT)	170	48	1,379	0.002	4	59
KMW HB-X-WM-17-65-00T	170	90	2,601	0.004	7	112
Side Arms	170	560	16,184	0.024	43	695
Samsung B2/B66A RRH-BR049	167.2	253	7,078	0.011	19	314
Samsung B5/B13 RRH-BR04C	167.1	211	5,889	0.009	15	262
Commscope CBC78T-DS-43-2X	160	62	1,590	0.002	4	77
Samsung MT6407-77A	160	245	6,267	0.009	16	304
RFS DB-T1-6Z-8AB-0Z	160	88	2,253	0.003	6	109
Commscope JAHH-65B-R3B	160	364	9,308	0.014	24	451
Generic Round Platform with Handrails	160	2,500	64,000	0.096	168	3,102
Ericsson AIR 6449 B77D/ C-Band	155	245	5,881	0.009	15	304
Andrew APTDC-BDFDM-DBW	153	8	183	0.000	0	10
Powerwave Allgon 7020.00 Dual Band RET	153	13	309	0.000	1	16
Raycap DC6-48-60-18-8F	153	20	468	0.001	1	25
Raycap DC6-48-60-18-8F ("Squid")	153	32	744	0.001	2	39
Ericsson RRUS 4478 B14 (15")	153	178	4,171	0.006	11	221
Ericsson RRUS 4449 B5, B12	153	213	4,986	0.008	13	264
Ericsson RRUS 32 B30 (60 lbs)	153	180	4,214	0.006	11	223
Ericsson RRUS 32 B66A	153	152	3,561	0.005	9	189
Ericsson RRUS 32 B2	153	159	3,722	0.006	10	197
Ericsson RRUS E2 B29	153	180	4,214	0.006	11	223
Raycap DC9-48-60-24-8C-EV	153	16	375	0.001	1	20
Kathrein Scala 80010965	153	293	6,854	0.010	18	363
Flat Platform w/ Round Handrails	153	2,000	46,818	0.070	123	2,481
Quintel QD6616-7	153	390	9,130	0.014	24	484
Ericsson AIR 6419 B77G	151	198	4,521	0.007	12	246
Perfect Vision PV-LPP12M-HR-12-96	134	2,117	38,013	0.057	100	2,627
Ericsson RRUS 4415 B66	130	138	2,332	0.004	6	171
Ericsson Radio 4449 B71 B85A	130	225	3,802	0.006	10	279
Ericsson 4424 B25	130	258	4,360	0.006	11	320
Ericsson Air6449 B41	130	312	5,273	0.008	14	387
RFS APX16DWV-16DWVS-E-A20	130	122	2,063	0.003	5	151
RFS APXVAARR24_43-U-NA20	130	384	6,485	0.010	17	476
		58,618	668,919	1.000	1,759	72,730

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
47	179.8	33	1,051	0.002	3	28
46	177.3	375	11,778	0.018	31	322
45	172.5	409	12,161	0.018	32	351
44	168.6	243	6,915	0.010	18	209
43	167.15	9	243	0.000	1	7
42	166.05	183	5,040	0.008	13	157
41	162.5	436	11,519	0.017	30	375
40	157.5	503	12,478	0.019	33	432

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	154	202	4,782	0.007	13	173
38	152	256	5,926	0.009	16	220
37	150.5	128	2,907	0.004	8	110
36	149.3083	178	3,960	0.006	10	153
35	146.8083	611	13,168	0.020	35	525
34	142.5	865	17,557	0.026	46	743
33	137.5	888	16,785	0.025	44	763
32	134.5	180	3,262	0.005	9	155
31	132	731	12,730	0.019	33	628
30	127.5	967	15,713	0.024	41	831
29	122.5	990	14,853	0.022	39	850
28	117.5	1,013	13,985	0.021	37	870
27	112.5	1,036	13,113	0.020	34	890
26	107.5	1,059	12,241	0.018	32	910
25	102.7333	980	10,347	0.016	27	842
24	100.2333	190	1,910	0.003	5	163
23	97.5	2,064	19,625	0.029	52	1,774
22	94.9833	14	126	0.000	0	12
21	92.4833	1,245	10,647	0.016	28	1,070
20	87.5	1,280	9,801	0.015	26	1,100
19	82.5	1,307	8,897	0.013	23	1,123
18	77.5	1,334	8,013	0.012	21	1,146
17	72.5	1,361	7,155	0.011	19	1,170
16	67.5	1,388	6,325	0.010	17	1,193
15	62.5	1,415	5,528	0.008	15	1,216
14	57.5	1,442	4,768	0.007	13	1,239
13	54.325	394	1,163	0.002	3	339
12	51.825	1,940	5,211	0.008	14	1,667
11	48.4083	1,716	4,021	0.006	11	1,474
10	45.9083	539	1,136	0.002	3	463
9	42.5	1,503	2,714	0.004	7	1,291
8	37.5	1,530	2,151	0.003	6	1,314
7	32.5	1,557	1,644	0.002	4	1,338
6	27.5	1,584	1,198	0.002	3	1,361
5	22.5	1,611	815	0.001	2	1,384
4	17.5	1,638	502	0.001	1	1,407
3	12.5	1,665	260	0.000	1	1,430
2	7.5	1,692	95	0.000	0	1,454
1	2.5	1,719	11	0.000	0	1,477
Generic 15' Omni	180	80	2,592	0.004	7	69
Generic Round Low Profile Platform	180	1,875	60,750	0.091	160	1,611
Generic TTA	179.6	10	323	0.000	1	9
KMW HB-X-WM-17-65-00T-TTLNA (w/BKT)	170	48	1,379	0.002	4	41
KMW HB-X-WM-17-65-00T	170	90	2,601	0.004	7	77
Side Arms	170	560	16,184	0.024	43	481
Samsung B2/B66A RRH-BR049	167.2	253	7,078	0.011	19	218
Samsung B5/B13 RRH-BR04C	167.1	211	5,889	0.009	15	181
Commscope CBC78T-DS-43-2X	160	62	1,590	0.002	4	53
Samsung MT6407-77A	160	245	6,267	0.009	16	210
RFS DB-T1-6Z-8AB-0Z	160	88	2,253	0.003	6	76
Commscope JAHH-65B-R3B	160	364	9,308	0.014	24	312
Generic Round Platform with Handrails	160	2,500	64,000	0.096	168	2,148
Ericsson AIR 6449 B77D/ C-Band	155	245	5,881	0.009	15	210
Andrew APTDC-BDFDM-DBW	153	8	183	0.000	0	7
Powerwave Allgon 7020.00 Dual Band RET	153	13	309	0.000	1	11
Raycap DC6-48-60-18-8F	153	20	468	0.001	1	17
Raycap DC6-48-60-18-8F ("Squid")	153	32	744	0.001	2	27
Ericsson RRUS 4478 B14 (15")	153	178	4,171	0.006	11	153
Ericsson RRUS 4449 B5, B12	153	213	4,986	0.008	13	183
Ericsson RRUS 32 B30 (60 lbs)	153	180	4,214	0.006	11	155
Ericsson RRUS 32 B66A	153	152	3,561	0.005	9	131
Ericsson RRUS 32 B2	153	159	3,722	0.006	10	137
Ericsson RRUS E2 B29	153	180	4,214	0.006	11	155
Raycap DC9-48-60-24-8C-EV	153	16	375	0.001	1	14
Kathrein Scala 80010965	153	293	6,854	0.010	18	252
Flat Platform w/ Round Handrails	153	2,000	46,818	0.070	123	1,719
Quintel QD6616-7	153	390	9,130	0.014	24	335
Ericsson AIR 6419 B77G	151	198	4,521	0.007	12	170
Perfect Vision PV-LPP12M-HR-12-96	134	2,117	38,013	0.057	100	1,819
Ericsson RRUS 4415 B66	130	138	2,332	0.004	6	119

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Ericsson Radio 4449 B71 B85A	130	225	3,802	0.006	10	193
Ericsson 4424 B25	130	258	4,360	0.006	11	222
Ericsson Air6449 B41	130	312	5,273	0.008	14	268
RFS APX16DWV-16DWVS-E-A20	130	122	2,063	0.003	5	105
RFS APXVAARR24_43-U-NA20	130	384	6,485	0.010	17	330
		58,618	668,919	1.000	1,759	50,367

1.2D + 1.0Ev + 1.0Eh **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.60	-1.76	0.00	-255.38	0.00	255.38	5,724.86	1,511.21	8,464	7,310.45	0.00	0.00	0.05
5.00	-68.50	-1.77	0.00	-246.56	0.00	246.56	5,660.52	1,483.35	8,155	7,094.08	0.00	-0.01	0.05
10.00	-66.43	-1.78	0.00	-237.70	0.00	237.70	5,594.64	1,455.48	7,852	6,878.85	0.02	-0.02	0.05
15.00	-64.40	-1.79	0.00	-228.79	0.00	228.79	5,527.21	1,427.61	7,554	6,664.88	0.04	-0.03	0.05
20.00	-62.40	-1.80	0.00	-219.84	0.00	219.84	5,458.23	1,399.75	7,262	6,452.28	0.07	-0.04	0.05
25.00	-60.44	-1.80	0.00	-210.86	0.00	210.86	5,387.70	1,371.88	6,976	6,241.15	0.11	-0.04	0.05
30.00	-58.50	-1.81	0.00	-201.85	0.00	201.85	5,315.62	1,344.01	6,695	6,031.61	0.17	-0.05	0.04
35.00	-56.61	-1.81	0.00	-192.82	0.00	192.82	5,242.00	1,316.15	6,420	5,823.77	0.23	-0.06	0.04
40.00	-54.74	-1.81	0.00	-183.78	0.00	183.78	5,166.82	1,288.28	6,151	5,617.74	0.30	-0.07	0.04
45.00	-54.07	-1.81	0.00	-174.75	0.00	174.75	5,090.09	1,260.41	5,888	5,413.62	0.38	-0.08	0.04
46.82	-51.94	-1.80	0.00	-171.46	0.00	171.46	5,061.83	1,250.29	5,794	5,339.96	0.41	-0.09	0.04
50.00	-49.54	-1.79	0.00	-165.73	0.00	165.73	5,011.82	1,232.55	5,631	5,211.53	0.47	-0.09	0.04
53.65	-49.05	-1.79	0.00	-159.19	0.00	159.19	5,014.60	1,233.53	5,640	5,218.61	0.55	-0.10	0.04
55.00	-47.26	-1.78	0.00	-156.78	0.00	156.78	4,993.21	1,226.00	5,571	5,164.39	0.58	-0.10	0.04
60.00	-45.50	-1.77	0.00	-147.88	0.00	147.88	4,913.03	1,198.14	5,321	4,964.96	0.69	-0.11	0.04
65.00	-43.78	-1.76	0.00	-139.04	0.00	139.04	4,831.29	1,170.27	5,076	4,767.80	0.81	-0.12	0.04
70.00	-42.09	-1.74	0.00	-130.25	0.00	130.25	4,748.00	1,142.41	4,837	4,573.03	0.95	-0.13	0.04
75.00	-40.43	-1.72	0.00	-121.55	0.00	121.55	4,663.17	1,114.54	4,604	4,380.75	1.09	-0.14	0.04
80.00	-38.81	-1.70	0.00	-112.93	0.00	112.93	4,576.78	1,086.67	4,377	4,191.07	1.25	-0.15	0.04
85.00	-37.22	-1.68	0.00	-104.42	0.00	104.42	4,482.28	1,058.81	4,155	3,998.26	1.41	-0.16	0.03
90.00	-35.68	-1.65	0.00	-96.03	0.00	96.03	4,364.31	1,030.94	3,940	3,789.55	1.59	-0.17	0.03
94.97	-35.66	-1.66	0.00	-87.82	0.00	87.82	4,247.13	1,003.26	3,731	3,587.77	1.77	-0.18	0.03
95.00	-33.10	-1.60	0.00	-87.76	0.00	87.76	4,246.34	1,003.07	3,730	3,586.43	1.77	-0.18	0.03
100.00	-32.86	-1.60	0.00	-79.77	0.00	79.77	4,128.37	975.21	3,525	3,388.91	1.97	-0.19	0.03
100.47	-31.65	-1.57	0.00	-79.03	0.00	79.03	3,522.29	850.63	3,129	2,947.41	1.99	-0.19	0.04
105.00	-30.33	-1.54	0.00	-71.93	0.00	71.93	3,456.99	828.98	2,972	2,818.45	2.17	-0.20	0.03
110.00	-29.05	-1.50	0.00	-64.25	0.00	64.25	3,383.49	805.09	2,803	2,678.30	2.39	-0.21	0.03
115.00	-27.79	-1.46	0.00	-56.74	0.00	56.74	3,307.10	781.21	2,639	2,539.42	2.62	-0.22	0.03
120.00	-26.56	-1.43	0.00	-49.42	0.00	49.42	3,205.99	757.32	2,480	2,385.76	2.85	-0.23	0.03
125.00	-25.36	-1.38	0.00	-42.30	0.00	42.30	3,104.87	733.43	2,326	2,236.89	3.10	-0.24	0.03
130.00	-22.67	-1.28	0.00	-35.38	0.00	35.38	3,003.76	709.55	2,177	2,092.82	3.36	-0.25	0.02
134.00	-19.82	-1.16	0.00	-30.28	0.00	30.28	2,922.87	690.44	2,062	1,981.02	3.57	-0.26	0.02
135.00	-18.72	-1.11	0.00	-29.12	0.00	29.12	2,902.64	685.66	2,033	1,953.55	3.62	-0.26	0.02
140.00	-17.65	-1.06	0.00	-23.57	0.00	23.57	2,801.53	661.78	1,894	1,819.07	3.90	-0.26	0.02
145.00	-16.89	-1.02	0.00	-18.27	0.00	18.27	2,700.41	637.89	1,760	1,689.39	4.18	-0.27	0.02
148.62	-16.67	-1.01	0.00	-14.57	0.00	14.57	2,627.27	620.62	1,666	1,598.58	4.38	-0.27	0.02
148.62	-16.67	-1.01	0.00	-14.57	0.00	14.57	1,686.34	420.37	1,146	1,046.99	4.38	-0.27	0.02
150.00	-16.51	-1.01	0.00	-13.16	0.00	13.16	1,685.18	419.95	1,144	1,045.22	4.46	-0.28	0.02
151.00	-15.95	-0.98	0.00	-12.16	0.00	12.16	1,684.35	419.65	1,142	1,043.94	4.52	-0.28	0.02
153.00	-10.94	-0.70	0.00	-10.21	0.00	10.21	1,682.68	419.04	1,139	1,041.37	4.64	-0.28	0.02
155.00	-10.01	-0.65	0.00	-8.80	0.00	8.80	1,681.01	418.43	1,136	1,038.81	4.75	-0.28	0.01
160.00	-5.43	-0.38	0.00	-5.55	0.00	5.55	1,676.83	416.90	1,127	1,032.42	5.05	-0.28	0.01
165.00	-5.20	-0.36	0.00	-3.65	0.00	3.65	1,672.63	415.38	1,119	1,026.04	5.35	-0.29	0.01
167.10	-4.93	-0.35	0.00	-2.89	0.00	2.89	1,670.87	414.74	1,116	1,023.36	5.48	-0.29	0.01
167.20	-4.31	-0.31	0.00	-2.85	0.00	2.85	1,670.78	414.71	1,116	1,023.23	5.48	-0.29	0.01
170.00	-2.94	-0.22	0.00	-1.99	0.00	1.99	1,668.42	413.85	1,111	1,019.67	5.65	-0.29	0.00
175.00	-2.48	-0.18	0.00	-0.91	0.00	0.91	1,664.19	412.33	1,103	1,013.30	5.96	-0.29	0.00
179.60	-2.42	-0.18	0.00	-0.07	0.00	0.07	1,660.29	410.92	1,095	1,007.46	6.23	-0.29	0.00
180.00	0.00	-0.17	0.00	0.00	0.00	0.00	1,659.95	410.80	1,095	1,006.95	6.26	-0.29	0.00

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-48.89	-1.76	0.00	-251.11	0.00	251.11	5,724.86	1,511.21	8,464	7,310.45	0.00	0.00	0.04
5.00	-47.44	-1.77	0.00	-242.31	0.00	242.31	5,660.52	1,483.35	8,155	7,094.08	0.00	-0.01	0.04
10.00	-46.01	-1.77	0.00	-233.47	0.00	233.47	5,594.64	1,455.48	7,852	6,878.85	0.02	-0.02	0.04
15.00	-44.60	-1.78	0.00	-224.60	0.00	224.60	5,527.21	1,427.61	7,554	6,664.88	0.04	-0.03	0.04
20.00	-43.21	-1.78	0.00	-215.70	0.00	215.70	5,458.23	1,399.75	7,262	6,452.28	0.07	-0.03	0.04
25.00	-41.85	-1.79	0.00	-206.79	0.00	206.79	5,387.70	1,371.88	6,976	6,241.15	0.11	-0.04	0.04
30.00	-40.52	-1.79	0.00	-197.86	0.00	197.86	5,315.62	1,344.01	6,695	6,031.61	0.16	-0.05	0.04
35.00	-39.20	-1.79	0.00	-188.93	0.00	188.93	5,242.00	1,316.15	6,420	5,823.77	0.22	-0.06	0.04
40.00	-37.91	-1.78	0.00	-180.00	0.00	180.00	5,166.82	1,288.28	6,151	5,617.74	0.29	-0.07	0.04
45.00	-37.45	-1.78	0.00	-171.08	0.00	171.08	5,090.09	1,260.41	5,888	5,413.62	0.37	-0.08	0.04
46.82	-35.97	-1.77	0.00	-167.84	0.00	167.84	5,061.83	1,250.29	5,794	5,339.96	0.41	-0.08	0.04
50.00	-34.30	-1.76	0.00	-162.19	0.00	162.19	5,011.82	1,232.55	5,631	5,211.53	0.46	-0.09	0.04
53.65	-33.97	-1.76	0.00	-155.76	0.00	155.76	5,014.60	1,233.53	5,640	5,218.61	0.54	-0.10	0.04
55.00	-32.73	-1.75	0.00	-153.38	0.00	153.38	4,993.21	1,226.00	5,571	5,164.39	0.57	-0.10	0.04
60.00	-31.51	-1.74	0.00	-144.62	0.00	144.62	4,913.03	1,198.14	5,321	4,964.96	0.68	-0.11	0.04
65.00	-30.32	-1.73	0.00	-135.93	0.00	135.93	4,831.29	1,170.27	5,076	4,767.80	0.80	-0.12	0.04
70.00	-29.15	-1.71	0.00	-127.30	0.00	127.30	4,748.00	1,142.41	4,837	4,573.03	0.93	-0.13	0.03
75.00	-28.00	-1.69	0.00	-118.76	0.00	118.76	4,663.17	1,114.54	4,604	4,380.75	1.07	-0.14	0.03
80.00	-26.88	-1.67	0.00	-110.31	0.00	110.31	4,576.78	1,086.67	4,377	4,191.07	1.22	-0.15	0.03
85.00	-25.78	-1.64	0.00	-101.97	0.00	101.97	4,482.28	1,058.81	4,155	3,998.26	1.38	-0.16	0.03
90.00	-24.71	-1.62	0.00	-93.75	0.00	93.75	4,364.31	1,030.94	3,940	3,789.55	1.55	-0.17	0.03
94.97	-24.70	-1.62	0.00	-85.72	0.00	85.72	4,247.13	1,003.26	3,731	3,587.77	1.74	-0.18	0.03
95.00	-22.92	-1.56	0.00	-85.66	0.00	85.66	4,246.34	1,003.07	3,730	3,586.43	1.74	-0.18	0.03
100.00	-22.76	-1.56	0.00	-77.85	0.00	77.85	4,128.37	975.21	3,525	3,388.91	1.93	-0.19	0.03
100.47	-21.92	-1.53	0.00	-77.12	0.00	77.12	3,522.29	850.63	3,129	2,947.41	1.95	-0.19	0.03
105.00	-21.01	-1.50	0.00	-70.17	0.00	70.17	3,456.99	828.98	2,972	2,818.45	2.13	-0.20	0.03
110.00	-20.11	-1.47	0.00	-62.67	0.00	62.67	3,383.49	805.09	2,803	2,678.30	2.34	-0.21	0.03
115.00	-19.24	-1.43	0.00	-55.34	0.00	55.34	3,307.10	781.21	2,639	2,539.42	2.56	-0.22	0.03
120.00	-18.39	-1.39	0.00	-48.20	0.00	48.20	3,205.99	757.32	2,480	2,385.76	2.80	-0.23	0.03
125.00	-17.56	-1.35	0.00	-41.25	0.00	41.25	3,104.87	733.43	2,326	2,236.89	3.04	-0.24	0.02
130.00	-15.70	-1.24	0.00	-34.51	0.00	34.51	3,003.76	709.55	2,177	2,092.82	3.29	-0.24	0.02
134.00	-13.73	-1.13	0.00	-29.53	0.00	29.53	2,922.87	690.44	2,062	1,981.02	3.50	-0.25	0.02
135.00	-12.96	-1.08	0.00	-28.40	0.00	28.40	2,902.64	685.66	2,033	1,953.55	3.55	-0.25	0.02
140.00	-12.22	-1.03	0.00	-22.99	0.00	22.99	2,801.53	661.78	1,894	1,819.07	3.82	-0.26	0.02
145.00	-11.70	-1.00	0.00	-17.82	0.00	17.82	2,700.41	637.89	1,760	1,689.39	4.09	-0.26	0.02
148.62	-11.54	-0.99	0.00	-14.22	0.00	14.22	2,627.27	620.62	1,666	1,598.58	4.29	-0.27	0.01
148.62	-11.54	-0.99	0.00	-14.22	0.00	14.22	1,686.34	420.37	1,146	1,046.99	4.29	-0.27	0.02
150.00	-11.43	-0.98	0.00	-12.85	0.00	12.85	1,685.18	419.95	1,144	1,045.22	4.37	-0.27	0.02
151.00	-11.04	-0.95	0.00	-11.87	0.00	11.87	1,684.35	419.65	1,142	1,043.94	4.43	-0.27	0.02
153.00	-7.58	-0.69	0.00	-9.97	0.00	9.97	1,682.68	419.04	1,139	1,041.37	4.54	-0.27	0.01
155.00	-6.93	-0.64	0.00	-8.60	0.00	8.60	1,681.01	418.43	1,136	1,038.81	4.65	-0.27	0.01
160.00	-3.76	-0.37	0.00	-5.42	0.00	5.42	1,676.83	416.90	1,127	1,032.42	4.94	-0.28	0.01
165.00	-3.60	-0.36	0.00	-3.57	0.00	3.57	1,672.63	415.38	1,119	1,026.04	5.24	-0.28	0.01
167.10	-3.41	-0.34	0.00	-2.82	0.00	2.82	1,670.87	414.74	1,116	1,023.36	5.36	-0.28	0.01
167.20	-2.99	-0.30	0.00	-2.79	0.00	2.79	1,670.78	414.71	1,116	1,023.23	5.37	-0.28	0.01
170.00	-2.04	-0.21	0.00	-1.95	0.00	1.95	1,668.42	413.85	1,111	1,019.67	5.53	-0.28	0.00
175.00	-1.72	-0.18	0.00	-0.89	0.00	0.89	1,664.19	412.33	1,103	1,013.30	5.83	-0.28	0.00
179.60	-1.68	-0.17	0.00	-0.07	0.00	0.07	1,660.29	410.92	1,095	1,007.46	6.10	-0.28	0.00
180.00	0.00	-0.17	0.00	0.00	0.00	0.00	1,659.95	410.80	1,095	1,006.95	6.13	-0.28	0.00

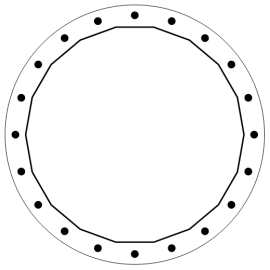
ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	35.78	0.00	70.29	0.00	0.00	4486.59	0.00	0.63
0.9D + 1.0W	35.76	0.00	52.71	0.00	0.00	4426.94	0.00	0.62
1.2D + 1.0Di + 1.0Wi	8.54	0.00	88.60	0.00	0.00	1060.34	0.00	0.16
1.2D + 1.0Ev + 1.0Eh	1.81	0.00	70.60	0.00	0.00	255.38	0.00	0.05
0.9D - 1.0Ev + 1.0Eh	1.79	0.00	48.89	0.00	0.00	251.11	0.00	0.04
1.0D + 1.0W	7.14	0.00	58.62	0.00	0.00	888.81	0.00	0.13

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 16631)

Diameter:	75	in
Shape:	Round	
Thickness:	2.75	in
Grade:	A633 Gr. E	
Yield Strength:	60	ksi
Tensile Strength:	80	ksi
Rod Detail Type:	d	
Clear Distance	3.5	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	36	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 17020]	Radial	20	2.25	69	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (20) 2.25"ø [ID 17020]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.314	32.81	10.66	-10.256	342.416	-121.44	2.70
2	0.628	27.91	20.28	0.000	0.839	135.50	2.83
3	0.942	20.28	27.91	10.256	342.416	135.50	2.70
4	1.257	10.66	32.81	19.507	1236.676	135.50	2.29
5	1.571	0.00	34.50	26.849	2342.041	135.50	1.66
6	1.885	-10.66	32.81	31.563	3236.301	135.50	0.88
7	2.199	-20.28	27.91	33.188	3577.878	135.50	0.00
8	2.513	-27.91	20.28	31.563	3236.301	135.50	0.88
9	2.827	-32.81	10.66	26.849	2342.041	135.50	1.66
10	3.142	-34.50	0.00	19.507	1236.676	135.50	2.29
11	3.456	-32.81	-10.66	10.256	342.416	135.50	2.70
12	3.770	-27.91	-20.28	0.000	0.839	135.50	2.83
13	4.084	-20.28	-27.91	-10.256	342.416	-121.44	2.70
14	4.398	-10.66	-32.81	-19.507	1236.676	-121.44	2.29
15	4.712	0.00	-34.50	-26.849	2342.041	-121.44	1.66
16	5.027	10.66	-32.81	-31.563	3236.301	-121.44	0.88
17	5.341	20.28	-27.91	-33.188	3577.878	-121.44	0.00
18	5.655	27.91	-20.28	-31.563	3236.301	-121.44	0.88
19	5.969	32.81	-10.66	-26.849	2342.041	-121.44	1.66
20	6.283	34.50	0.00	-19.507	1236.676	-121.44	2.29

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	62.45"ø x 0.4375" (18 Sides)	4486.6	70.29	35.78	1.000
Bolt Group	Original (20) 2.25"ø	4486.6	-	35.78	1.000
	TOTALS	**4486.59**	**70.29**	**35.78**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	62.45"ø x 0.4375" (18 Sides)	84.8008	-	-	40768.65	-
Bolt Group	Original (20) 2.25"ø	3.9761	3.2477	0.8393	35787.17	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	62.58	in
Point-to-Point Diameter:	63.54	in
Flat Width:	11.034	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	36	°
Bend Line Lower Limit:	1.676	rad
Bend Line Upper Limit:	2.722	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	36.396	0.00	68.812	401.7	3715.8	0.108
Corner	34.683	0.00	65.573	234.8	3541.0	0.066
Circumferential	47.124	0.00	89.093	681.9	4811.0	0.142

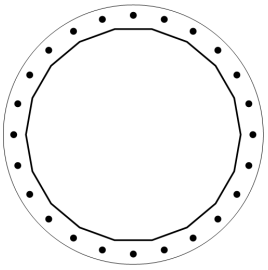
PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	20	2.25	135.4	2.8	243.6	0.580

UPPER FLANGE PLATE ANALYSIS @ 148.6167 FT

PLATE PARAMETERS (ID# 16630)

Diameter:	37.5	in
Shape:	Round	
Thickness:	2	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Pole Weld Size:	0.313	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	30	°



FLANGE BOLT PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 17021]	Radial	24	1	34.5	A325	92	120	-	-

FLANGE BOLT GEOMETRY AND APPLIED LOADS --- ORIGINAL (24) 1"ø [ID 17021]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.262	16.66	4.46	-4.303	11.244	-8.61	1.11
2	0.524	14.94	8.62	0.000	0.029	11.11	1.14
3	0.785	12.20	12.20	4.303	11.244	11.11	1.11
4	1.047	8.62	14.94	8.313	41.885	11.11	0.99
5	1.309	4.46	16.66	11.756	83.740	11.11	0.81
6	1.571	0.00	17.25	14.398	125.596	11.11	0.57
7	1.833	-4.46	16.66	16.059	156.236	11.11	0.30
8	2.094	-8.62	14.94	16.625	167.452	11.11	0.00
9	2.356	-12.20	12.20	16.059	156.236	11.11	0.30
10	2.618	-14.94	8.62	14.398	125.596	11.11	0.57
11	2.880	-16.66	4.46	11.756	83.740	11.11	0.81
12	3.142	-17.25	0.00	8.313	41.885	11.11	0.99
13	3.403	-16.66	-4.46	4.303	11.244	11.11	1.11
14	3.665	-14.94	-8.62	0.000	0.029	11.11	1.14
15	3.927	-12.20	-12.20	-4.303	11.244	-8.61	1.11
16	4.189	-8.62	-14.94	-8.313	41.885	-8.61	0.99
17	4.451	-4.46	-16.66	-11.756	83.740	-8.61	0.81
18	4.712	0.00	-17.25	-14.398	125.596	-8.61	0.57
19	4.974	4.46	-16.66	-16.059	156.236	-8.61	0.30
20	5.236	8.62	-14.94	-16.625	167.452	-8.61	0.00
21	5.498	12.20	-12.20	-16.059	156.236	-8.61	0.30
22	5.760	14.94	-8.62	-14.398	125.596	-8.61	0.57
23	6.021	16.66	-4.46	-11.756	83.740	-8.61	0.81
24	6.283	17.25	0.00	-8.313	41.885	-8.61	0.99

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	30.4375"ø x 0.25" (18 Sides)	207.6	15.00	17.39	1.000
Bolt Group	Original (24) 1"ø	207.6	-	17.39	1.000
	TOTALS	**207.57**	**15**	**17.39**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	30.4375"ø x 0.25" (18 Sides)	23.5890	-	-	2687.53	-
Bolt Group	Original (24) 1"ø	0.7854	0.6057	0.0292	2009.77	8.0

EXTERNAL UPPER FLANGE PLATE BEND LINE ANALYSIS @ 148.6167 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	30.75	in
Point-to-Point Diameter:	31.22	in
Flat Width:	5.422	in
Flat Radians:	0.349	rad

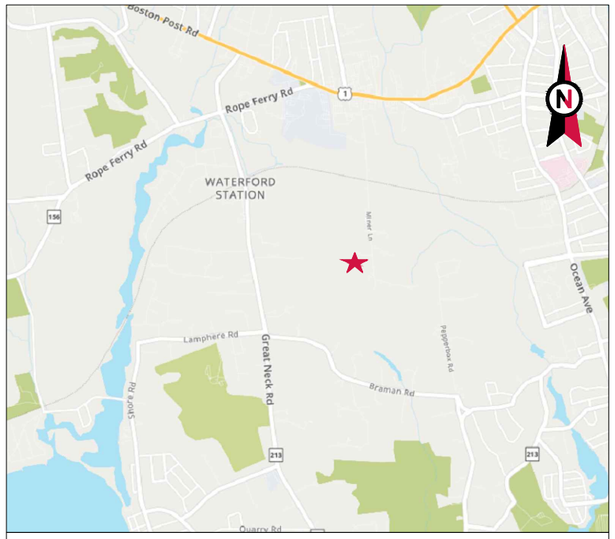
PLATE PROPERTIES

Neutral Axis:	30	°
Bend Line Lower Limit:	1.705	rad
Bend Line Upper Limit:	2.484	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	18.863	0.00	18.863	33.7	848.8	0.040
Corner	18.067	0.00	18.067	24.6	813.0	0.030
Circumferential	20.068	0.00	20.068	39.0	903.1	0.043

PLASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	24	1	11.1	1.1	54.5	0.204



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: WATERFORD REBUILD CT
ATC SITE NUMBER: 310972
AT&T PACE NUMBERS: MRCTB054364, MRCTB056375, MRCTB054596, MRCTB056402, MRCTB053282, MRCTB053531, MRCTB055737
AT&T SITE ID: CT2023
AT&T FA CODE:10034987
AT&T SITE NAME: WATERFORD
SITE ADDRESS: 15 MINER LANE, WATERFORD, CT 06385-3016

AT&T BBU ADD,5G NR 1SR CBAND,4TX4RX SOFTWARE RETROFIT, 5G NR ACTIVATION,5G NR UPGRADE 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: UNKNOWN
PHONE: UNKNOWN

TELEPHONE COMPANY: UNKNOWN
PHONE: UNKNOWN

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

PROJECT SUMMARY

SITE ADDRESS:

15 MINER LANE
WATERFORD, CT 06385-3016
COUNTY: NEW LONDON

GEOGRAPHIC COORDINATES:

LATITUDE: 41.32904616
LONGITUDE: -72.12460691
GROUND ELEVATION: 94' 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:

WATERFORD CT
15 MINER LANE
WATERFORD, CT 06385-3016

PROJECT DESCRIPTION

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

TOWER WORK:

REMOVE (9) ANTENNA(s), (3) RRH(s), (6) TMA(s), (6) TRIPLEXER(s), (1) DC6 SQUID AND (6) COAX CABLE(s)

INSTALL (9) ANTENNA(s), (3) RRH(s), (1) DC9 SQUID, (1) 0.92" DC TRUNK, (1) 0.405" FIBER TRUNK AND (1) 2" CONDUIT

EXISTING (3) ANTENNA(s), (12) RRH(s), (2) DC6 SQUID(s), (4) 0.774" DC TRUNK(s), (2) 0.957" DC TRUNK(s), (2) 0.405" FIBER TRUNK(s), (6) 1-1/4" COAX AND (4) 2" INNERDUCT(s) TO REMAIN

GROUND WORK:

REMOVE (6) RRU(s), (6) TRIPLEXER(s) AND (6) DIPLEXER(s)

INSTALL (3) RECTIFIER(s), (1) 6648 AND (1) IDLe+XCEDE

EXISTING (3) RRU(s) TO REMAIN

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 HARTFORD TAKE I-91 SOUTH TO RT 9 SOUTH TO I-95 NORTH. TAKE EXIT 75 FOR RT 1 NORTH. TAKE RT 1 TO MINER LANE IN WATERFORD, TURN RIGHT. SITE IS TOWARDS END OF ROAD IN TOWN LANDFILL ON THE RIGHT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	7/8/2022	BB
G-002	GENERAL NOTES	0	7/8/2022	BB
C-101	DETAILED SITE PLAN	0	7/8/2022	BB
C-102	DETAILED EQUIPMENT LAYOUT	0	7/8/2022	BB
C-201	TOWER ELEVATION	0	7/8/2022	BB
C-401	RF SCHEDULE AND ANTENNA INSTALLATION	0	7/8/2022	BB
C-501	CONSTRUCTION DETAILS	0	7/8/2022	BB
E-501	GROUNDING DETAILS	0	7/8/2022	BB
R-601	SUPPLEMENTAL	0		
R-602	SUPPLEMENTAL	0		
R-603	SUPPLEMENTAL	0		
R-603	SUPPLEMENTAL	0		

AT&T RAN SCOPING NOTES:

INSTALL (3) RECTIFIERS
REMOVE (3) RRUS-12 B5
REMOVE (3) RRUW
REMOVE (6) TPX-070821 TRIPLEXERS
REMOVE (6) LGP21901 DIPLEXERS

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	GD	06/27/22
0	FINALS	BB	07/08/22

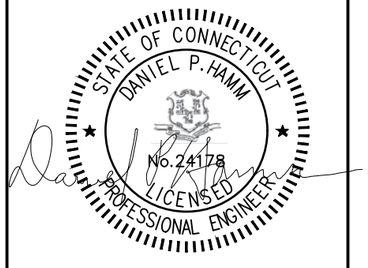
ATC SITE NUMBER:
310972

ATC SITE NAME:
WATERFORD REBUILD CT

AT&T SITE NAME:
WATERFORD

SITE ADDRESS:
15 MINER LANE
WATERFORD, CT 06385-3016

SEAL:



AT&T

ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	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.

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).

ELECTRICAL NOTES:

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

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	GD	06/27/22
0	FINALS	BB	07/08/22

ATC SITE NUMBER:
310972

ATC SITE NAME:
WATERFORD REBUILD CT

AT&T SITE NAME:
WATERFORD

SITE ADDRESS:
15 MINER LANE
WATERFORD, CT 06385-3016

SEAL:

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

AT&T

ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

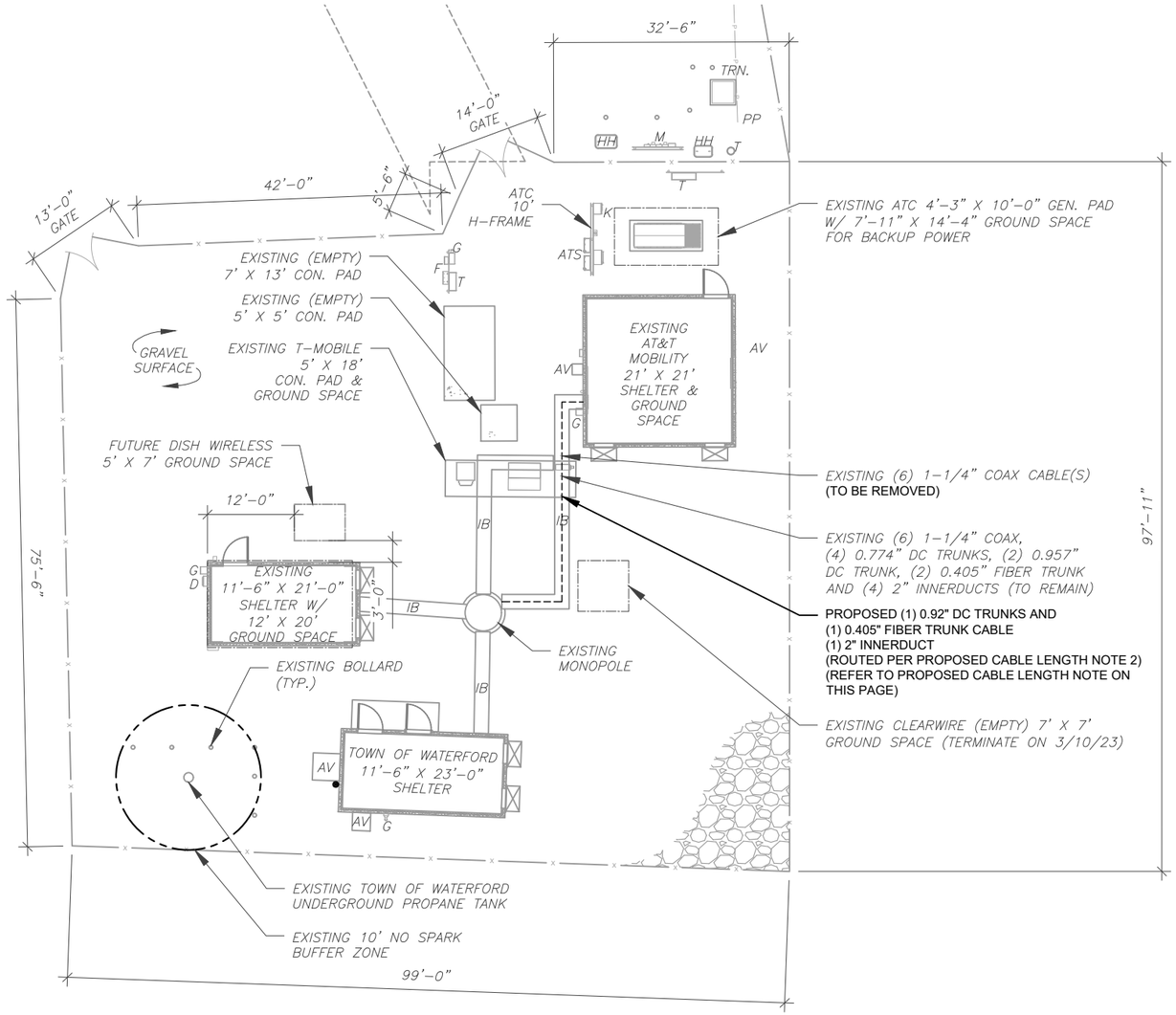
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

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

20 0 10 20

(IN FEET)
1 UNIT = 20 FEET

N

PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **175'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

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WATERFORD, CT 06385-3016

SEAL:

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

AT&T

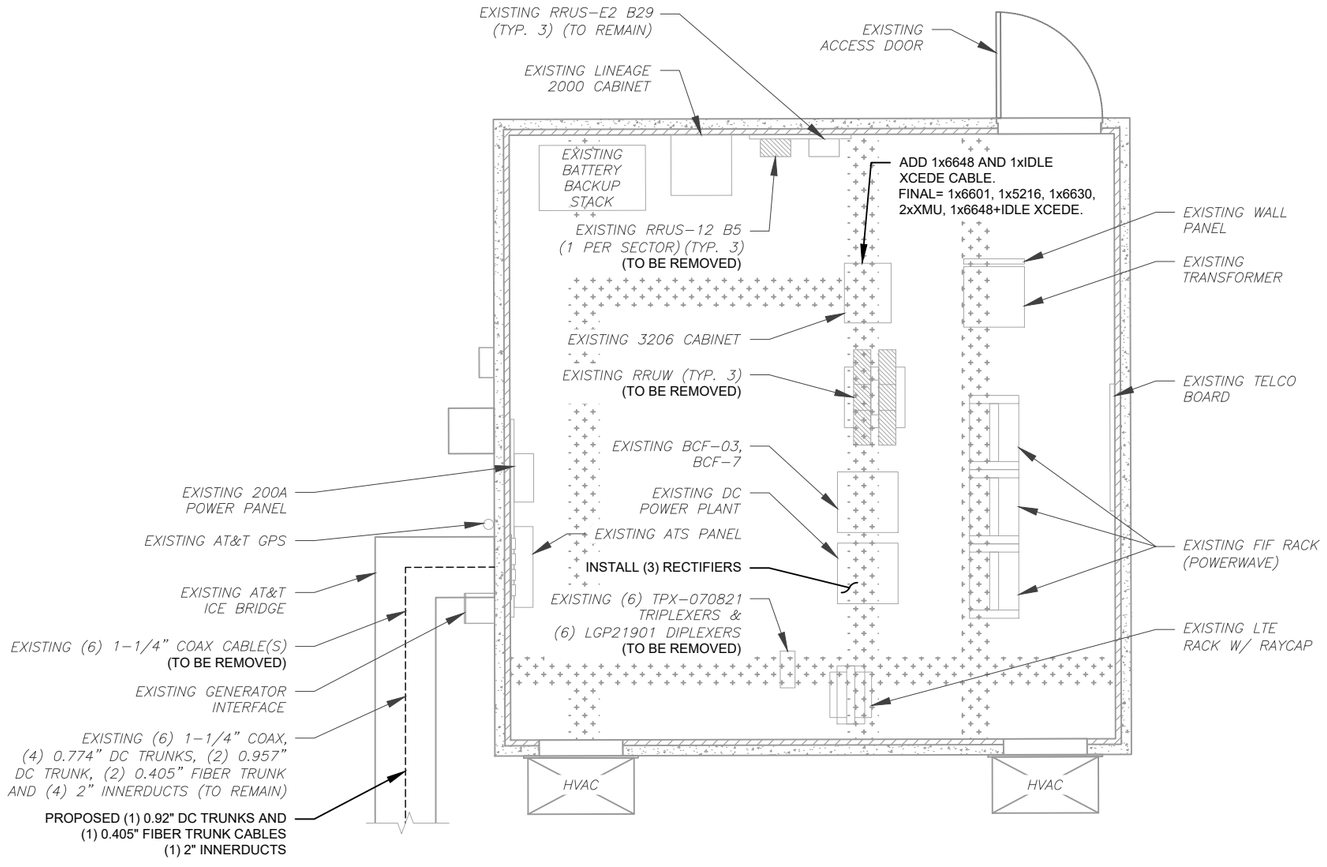
ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

AT&T RAN SCOPING NOTES:

INSTALL (3) RECTIFIERS
REMOVE (3) RRUS-12 B5
REMOVE (3) RRUW
REMOVE (6) TPX-070821 TRIPLEXERS
REMOVE (6) LGP21901 DIPLEXERS



1 DETAILED EQUIPMENT LAYOUT
SCALE: N.T.S.

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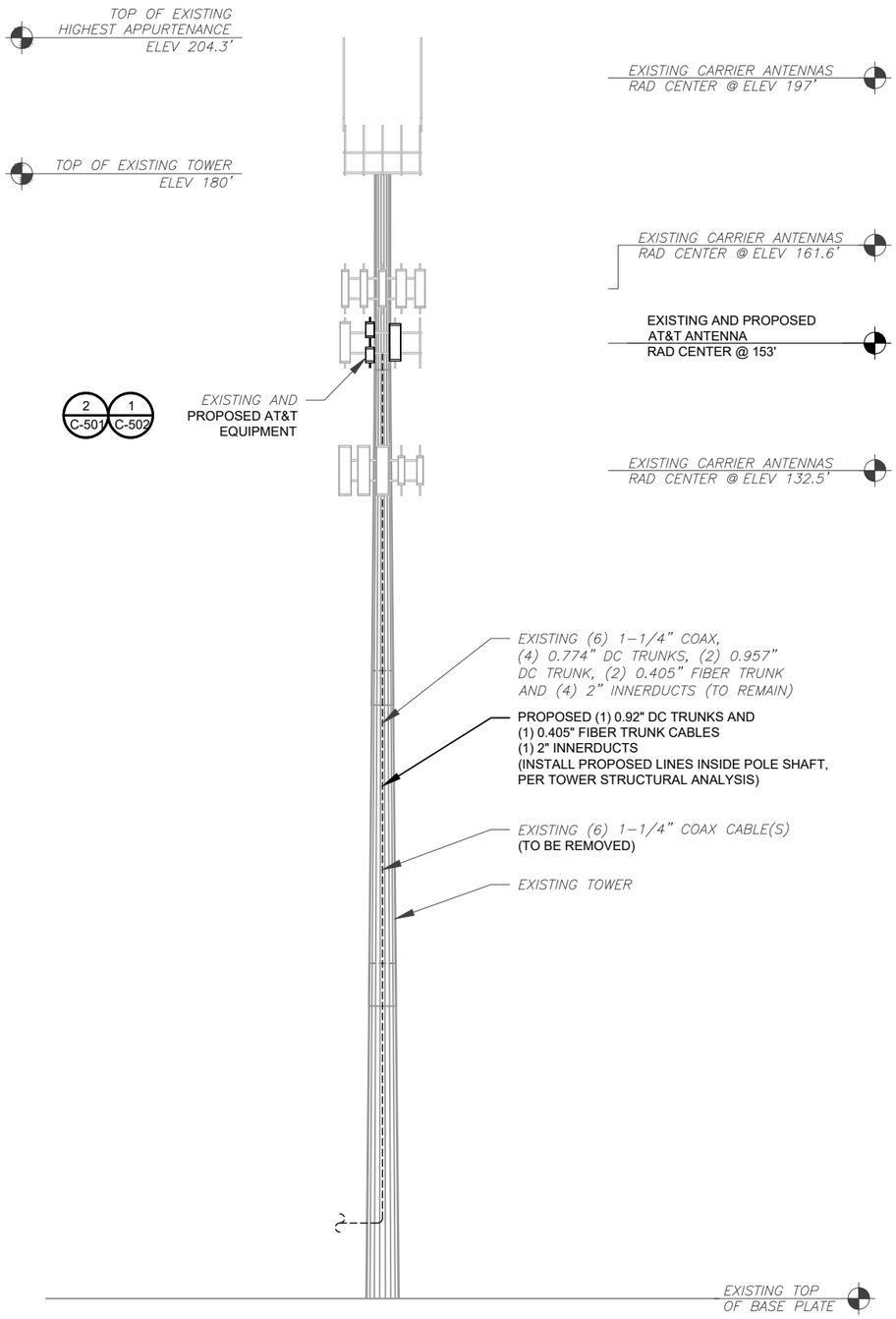
AT&T

ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

DETAILED EQUIPMENT LAYOUT

SHEET NUMBER:	REVISION:
C-102	0

PER MOUNT ANALYSIS COMPLETED BY B&T GROUP, DATED 03/24/22, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



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. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
5. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

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AT&T SITE NAME:
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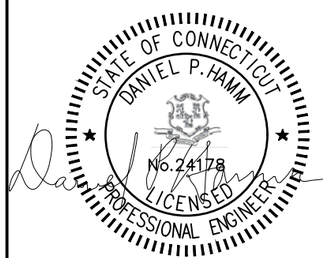
SITE ADDRESS:
15 MINER LANE
WATERFORD, CT 06385-3016

SEAL:



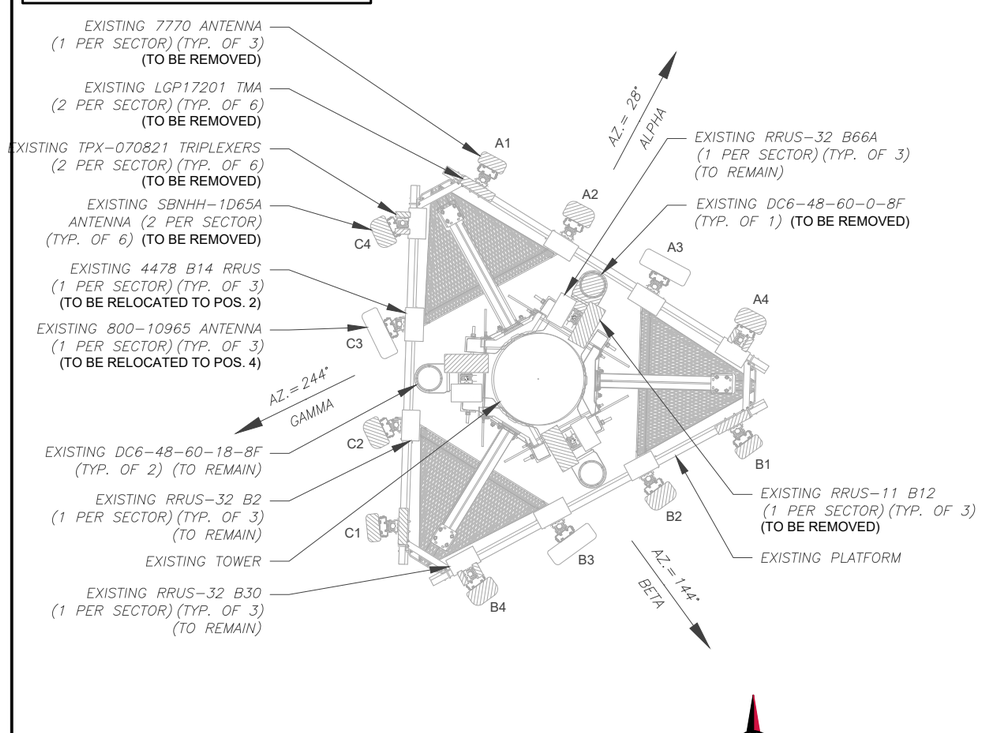
AT&T

ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

TOWER ELEVATION

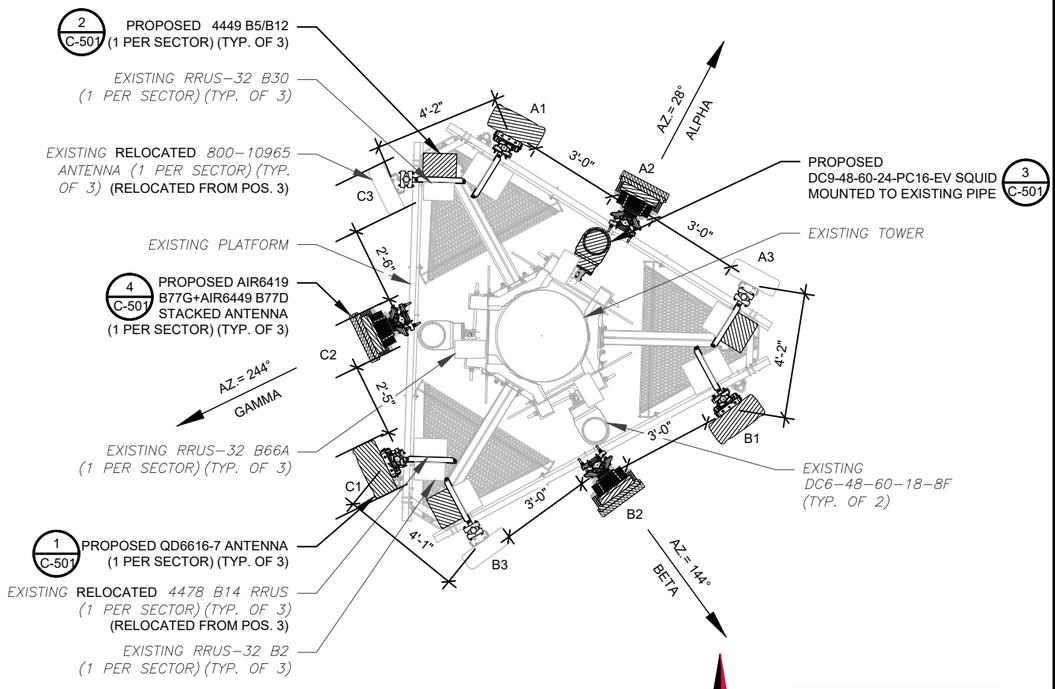
SHEET NUMBER:	REVISION:
C-201	0

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



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

PER MOUNT ANALYSIS COMPLETED BY B&T GROUP, DATED 03/24/22, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



PROPOSED RRUs MUST BE INSTALLED A MINIMUM OF 12" 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	153'	28°	A1	7770	UMTS 850/1900	RMV	(6) LGP17201 TMA	RMV
			A2	SBNHH-1D65A	LTE 700/1900	RMV	RRUS-11 B12 RRUS-32 B2	RMV RMN
			A3	800-10965	LTE 700/AWS	REL	4478 B14 RRUS-32 B66A	REL REL
			A4	SBNHH-1D65A	LTE 700/850/WCS	RMV	RRUS-E2 B29 (GROUND) RRUS-32 B30 RRUS-12 B5 (GROUND) (2) TPX-070821 TRIPLEXERS	RMN REL RMV RMV
BETA	153'	144°	B1	7770	UMTS 850/1900	RMV	(6) LGP17201 TMA	RMV
			B2	SBNHH-1D65A	LTE 700/1900	RMV	RRUS-11 B12 RRUS-32 B2	RMV RMN
			B3	800-10965	LTE 700/AWS	REL	4478 B14 RRUS-32 B66A	REL REL
			B4	SBNHH-1D65A	LTE 700/850/WCS	RMV	RRUS-E2 B29 (GROUND) RRUS-32 B30 RRUS-12 B5 (GROUND) (2) TPX-070821 TRIPLEXERS	RMN REL RMV RMV
GAMMA	153'	244°	C1	7770	UMTS 850/1900	RMV	(6) LGP17201 TMA	RMV
			C2	SBNHH-1D65A	LTE 700/1900	RMV	RRUS-11 B12 RRUS-32 B2	RMV RMN
			C3	800-10965	LTE 700/AWS	REL	4478 B14 RRUS-32 B66A	REL REL
			C4	SBNHH-1D65A	LTE 700/850/WCS	RMV	RRUS-E2 B29 (GROUND) RRUS-32 B30 RRUS-12 B5 (GROUND) (2) TPX-070821 TRIPLEXERS	RMN REL RMV RMV

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)

STATUS ABBREVIATIONS

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

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	153'		A1	QD6616-7	LTE 700/1900/AWS /5G 1900/AWS	ADD	RRUS-32 B2 4478 B14 RRUS-32 B66A RRUS-E2 B29 (GROUND)	RMN REL REL REL
	151' 155'		A2	AIR6419 B77G AIR6449 B77D	DOD C-BAND	ADD	-	-
	153'		A3	800-10965	LTE 700/WCS/5G 850	REL	RRUS 4449 B5/B12 RRUS-32 B30	ADD REL
BETA	153'		B1	QD6616-7	LTE 700/1900/AWS /5G 1900/AWS	ADD	RRUS-32 B2 4478 B14 RRUS-32 B66A RRUS-E2 B29 (GROUND)	RMN REL REL REL
	151' 155'		B2	AIR6419 B77G AIR6449 B77D	DOD C-BAND	ADD	-	-
	153'		B3	800-10965	LTE 700/WCS/5G 850	REL	RRUS 4449 B5/B12 RRUS-32 B30	ADD REL
GAMMA	153'		C1	QD6616-7	LTE 700/1900/AWS /5G 1900/AWS	ADD	RRUS-32 B2 4478 B14 RRUS-32 B66A RRUS-E2 B29 (GROUND)	RMN REL REL REL
	151' 155'		C2	AIR6419 B77G AIR6449 B77D	DOD C-BAND	ADD	-	-
	153'		C3	800-10965	LTE 700/WCS/5G 850	REL	RRUS 4449 B5/B12 RRUS-32 B30	ADD REL

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

EXISTING FIBER DISTRIBUTION/SQUID

MODEL NUMBER	STATUS
(2) DC6-48-60-18-8F	RMN
(1) DC6-48-60-0-8F	RMV

EXISTING CABLING SUMMARY

COAX	CONDUIT	DC	FIBER	STATUS
(6) 1-1/4"	(4) 2"	(4) 0.774" (2) 0.957"	(2) 0.405"	RMN
(6) 1-1/4"	–	–	–	RMV

FINAL FIBER DISTRIBUTION/SQUID

MODEL NUMBER	STATUS
(2) DC6-48-60-18-8F	RMN
DC9-48-60-24-PC16-EV	ADD

FINAL CABLING SUMMARY

COAX	CONDUIT	DC	FIBER	STATUS
(6) 1-1/4"	(4) 2"	(4) 0.774" (2) 0.957"	(2) 0.405"	RMN
-	(1) 2"	(1) 0.92"	(1) 0.405"	ADD

3 EQUIPMENT SCHEDULES

AMERICAN TOWER®

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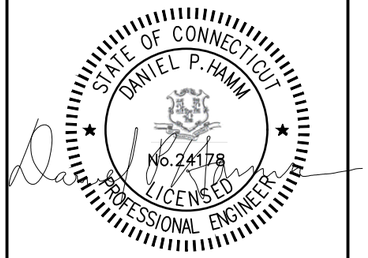
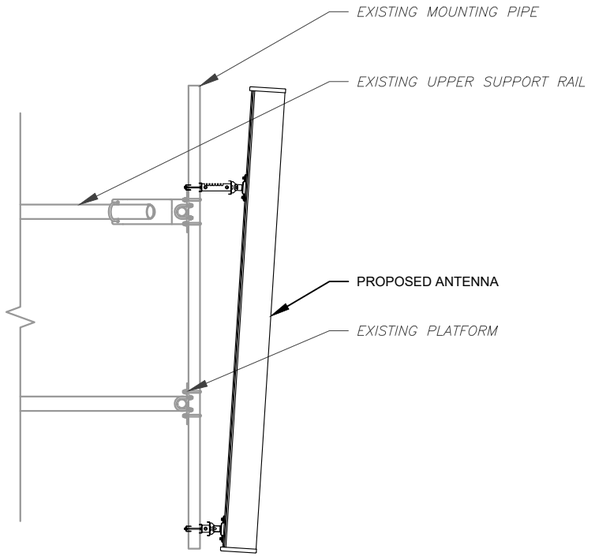


AT&T

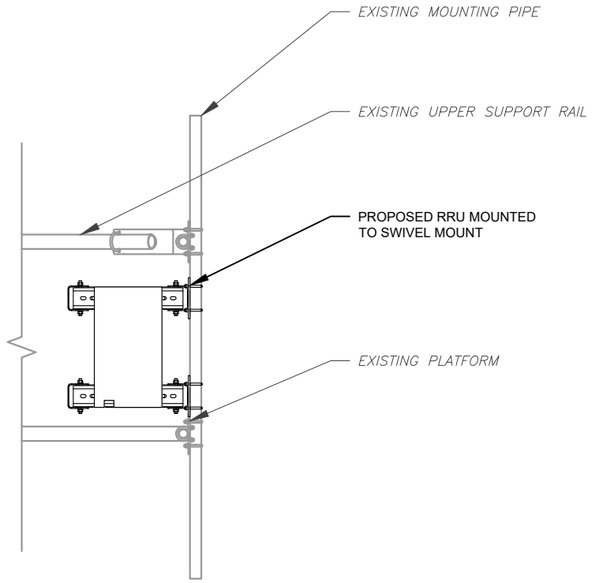
ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

RF SCHEDULE AND ANTENNA INSTALLATION

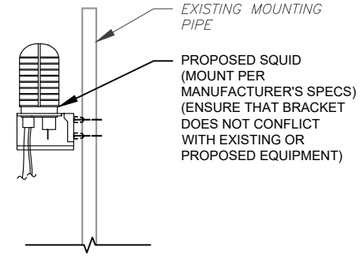
SHEET NUMBER:	REVISION:
C-401	0



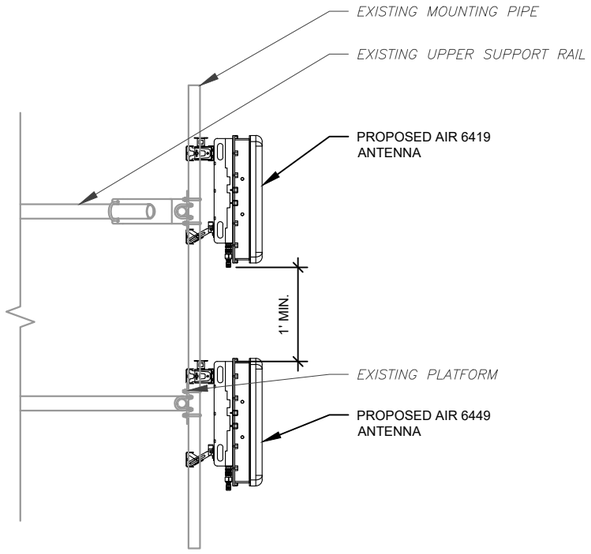
1 ANTENNA DETAIL
SCALE: N.T.S.



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



3 PROPOSED SQUID MOUNTING
SCALE: N.T.S.



4 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.

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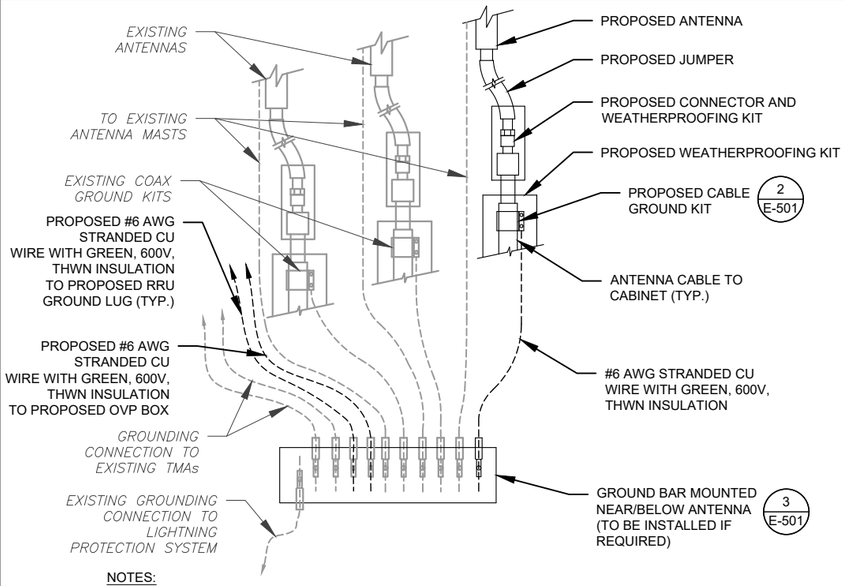
LICENSED PROFESSIONAL ENGINEER

AT&T

ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

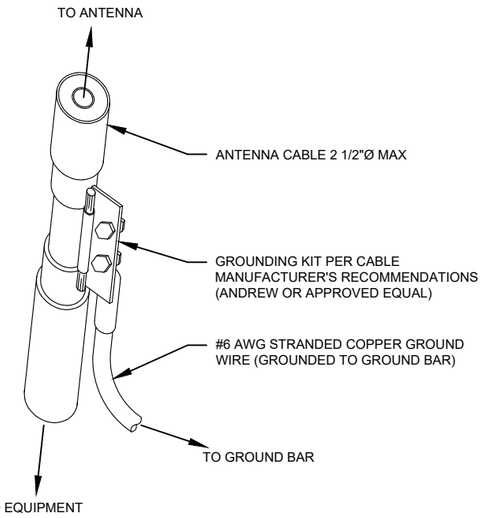


NOTES:

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.

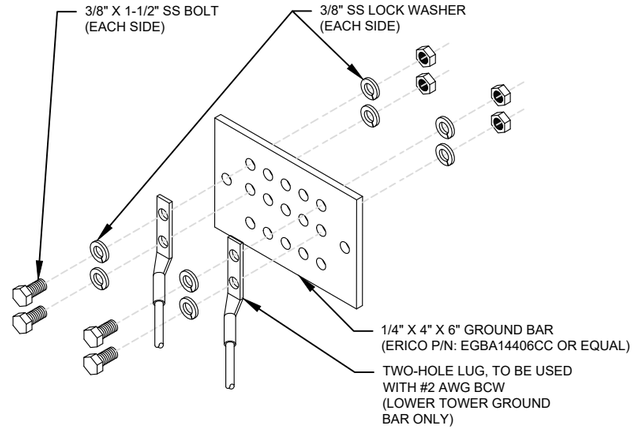


GROUND KIT NOTES:

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.

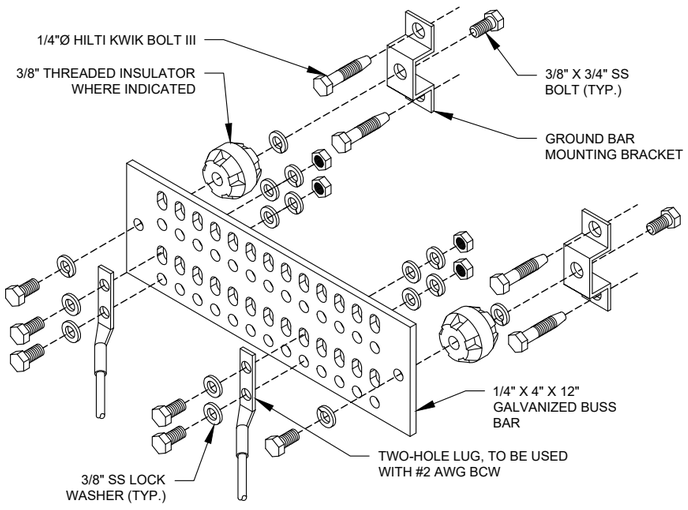


GROUND BAR NOTES:

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 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

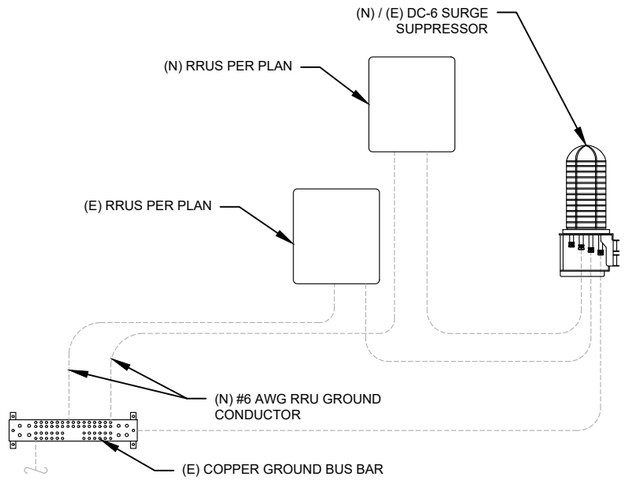


GROUND BAR NOTES

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.

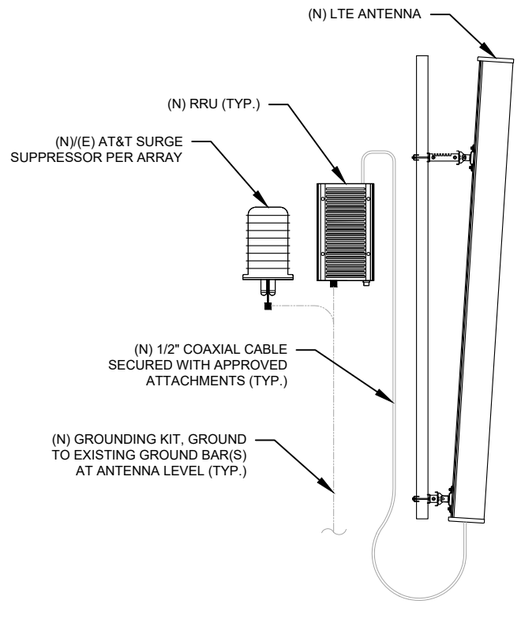
4 MAIN GROUND BAR DETAIL

SCALE: N.T.S.



5 RRU GROUNDING

SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING

SCALE: N.T.S.

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	GD	06/27/22
0	FINALS	BB	07/08/22

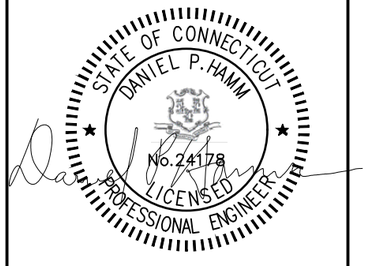
ATC SITE NUMBER:
310972

ATC SITE NAME:
WATERFORD REBUILD CT

AT&T SITE NAME:
WATERFORD

SITE ADDRESS:
15 MINER LANE
WATERFORD, CT 06385-3016

SEAL:

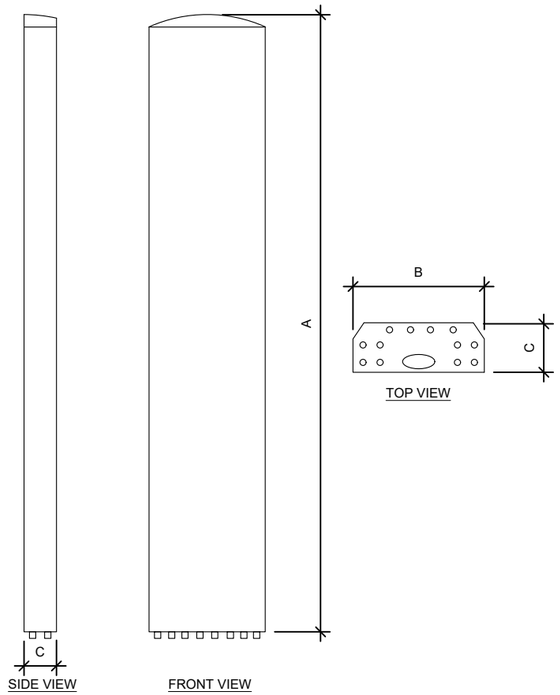


AT&T

ATC JOB NO:	13753547_G5
CUSTOMER ID:	10034987
CUSTOMER #:	CT2023

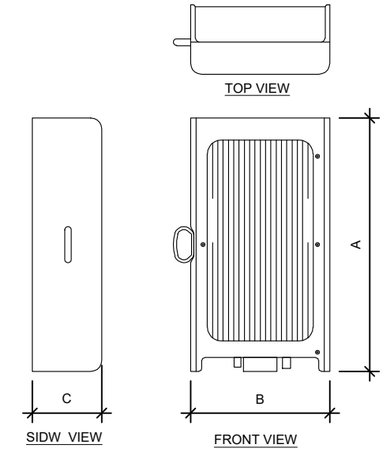
GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0



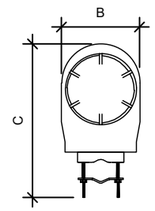
SIDE VIEW FRONT VIEW TOP VIEW

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
Air 6449 B77D	30.4"	15.9"	8.1"	81.6
AIR 6419 B77G	28.3"	16.1"	7.9"	66.1
QD6616-7	72"	22"	9.6"	66.1

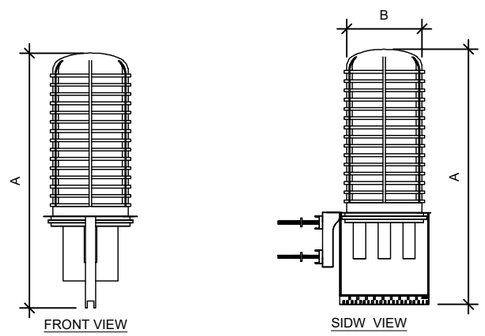


SIDW VIEW FRONT VIEW

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4449 B5, B12	17.9"	13.2"	9.4"	71.0



PLAN VIEW



FRONT VIEW SIDW VIEW

RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC9-48-60-24-8C-EV	31.4"	18.3"	10.2"	16.0

1 EQUIPMENT SPECIFICATIONS

SCALE: N.T.S.

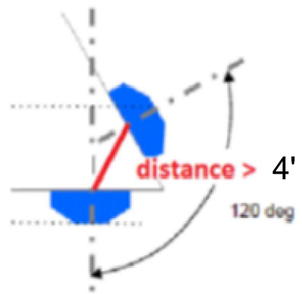
SUPPLEMENTAL

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:	REVISION:
R-602	0

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

B+T GRP

Antenna Mount Analysis Report

ATC Site Name	:	**Waterford Rebuild Ct**
ATC Site Number	:	**310972**
Engineering Number	:	**13753547_C8_01**
Mount Elevation	:	**153 ft.**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB056375**
Carrier Site Number	:	**CT2023**
Site Location	:	**15 Miner Lane** **Waterford, CT 06385** **41.32910°, -72.12460°**
County	:	**New London**
Date	:	**March 24, 2022**
Max Usage	:	**65%**
Result	:	**Pass**

Prepared By:
Matthew Williams
Project Engineer

Reviewed By:

STATE OF CONNECTICUT · CHAD TUTTLE · No. 23924 · LICENSED PROFESSIONAL ENGINEER

3-24-22

COA: PEC.0001564 Expires:02/01/2023

AMERICAN TOWER®
CORPORATION

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 153 ft.

Supporting Documents

Mount Mapping	B+T Group Project #G0160587.001.01, dated February 05 ,2022
RFDS	RFDS dated February 17 ,2022
Photos	Site photos from 2022
Other	310972_APP
	Structural Analysis Report by American Tower Corporation dated June 4, 2021

Analysis

This antenna mount was analyzed using RISA-3D v19.0.4 analysis software

Basic Wind Speed:	127 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H/ 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height:	0 ft
Crest Length:	0 ft
Spectral Response:	Ss = 0.191, S1 = 0.052
Site Class:	D – Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed. The mount 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.

[ATC Tower Services, LLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com]

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-603	0

ANTENNA POSITION 1

EMPTY

Antenna 2
LTE 700DE/ B14 / PCS /AWS

Q-7 16PORT

Low 850 +45/-45	Low 700 +45/-45	Low 700 B14 +45/-45	Low 700 B14 +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45	AWS/WCS/ PCS 4Tx/4Rx +45/-45
- +	- +	- +	- +	- +	- +	- +	- +
RET	RET	RET	RET	RET	RET	RET	RET

LTE PCS RRH

LTE AWS RRH

Antenna 3
DoD + Cband

DoD
+45/-45
- +

E// AIR C-BAND +45/-45
- +

Antenna 4
LTE 700 BC / 850 / WCS

Broadband Octo Low 700/850 +45/-45	Broadband Octo Low 700/850 +45/-45	Broadband Octo High 4Tx/4Rx +45/-45	Broadband Octo High 4Tx/4Rx +45/-45
- +	- +	- +	- +
RET	RET	RET	RET

LTE WCS RRH

Fiber/DC Demarcation Box (Squid)

Fiber/DC Demarcation Box (Squid)

Fiber/DC Demarcation Box (Squid)

(Y- Cable)

LTE RRUS-E2 700 (D/E)

DC Plant

DC Plant

DC Plant

- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12'' Vertical Separation between DoD and C Band Antenna.
- Use "Y Cable" for Dual band RRHs

6648

5216

XMU

XMU

6630

IDLe

IDLe Xcede

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-604	0

July 8, 2022

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

Re: Exempt Modification Request – AT&T Site 13753547
AT&T Wireless Telecommunications Facility @ 15 Miner Lane, Waterford, CT 06385
AKA 85 Miner Lane

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 Drawings:

- Remove nine (9) three (3) RRHs, six (6) TMAs, six (6) triplexers, one (1) DC squid and six (6) coax cables;
- Install nine (9) antennas, three (3) RRHs, one (1) D squid, one (1) DC trunk, one (1) fiber trunk and one (1) conduit.
- Ground work includes removing six (6) RRHs, six (6) triplexers and six (6) diplexers; and installing one (1) IDLE cable, and one (1) 6648.

This letter is intended to serve as the required notice to both 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 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 8, 2022

The Honorable Rob Brule
15 Rope Ferry Road
Waterford, CT 06385

Re: Exempt Modification Request – AT&T Site 13753547
AT&T Wireless Telecommunications Facility @ 15 Miner Lane, Waterford, CT 06385
AKA 85 Miner Lane

Dear First Selectman Brule:

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 Drawings:

- Remove nine (9) three (3) RRHs, six (6) TMAs, six (6) triplexers, one (1) DC squid and six (6) coax cables;
- Install nine (9) antennas, three (3) RRHs, one (1) D squid, one (1) DC trunk, one (1) fiber trunk and one (1) conduit.
- Ground work includes removing six (6) RRHs, six (6) triplexers and six (6) diplexers; and installing one (1) IDLE cable, and one (1) 6648.

This letter is intended to serve as the required notice to both the municipality's chief elected official and 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 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 8, 2022

Abby Piersall, AICP, Planning Director
15 Rope Ferry Road
Waterford, CT 06385

Re: Tower Share Application – Dish Site 14100509
Dish Wireless Telecommunications Facility @ 15 Miner Lane, Waterford, CT 06385
AKA 85 Miner Lane

Dear Director Piersall:

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 Drawings:

- Remove nine (9) three (3) RRHs, six (6) TMAs, six (6) triplexers, one (1) DC squid and six (6) coax cables;
- Install nine (9) antennas, three (3) RRHs, one (1) D squid, one (1) DC trunk, one (1) fiber trunk and one (1) conduit.
- Ground work includes removing six (6) RRHs, six (6) triplexers and six (6) diplexers; and installing one (1) IDLE cable, and one (1) 6648.

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

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WATERFORD, CT 06385

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WATERFORD, CT 06385

Get Updates ⌄

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FAQs

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